APPENDIX H-1
PHASE I ENVIRONMENTAL SITE ASSESSMENT

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ADMINISTRATIVE DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT

Daggett Solar Power Facility
San Bernardino County, California

Prepared for:

NRG Energy, Inc.

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July 20, 2018

EXECUTIVE SUMMARY

Tetra Tech, Inc. performed a Phase I Environmental Site Assessment (ESA) of the proposed Daggett Solar Power Facility (Project) for NRG Energy, Inc. (NRG or the User). The proposed Project consists of constructing and operating a utility-scale, solar photovoltaic electricity generation and energy storage facility that would produce up to 650 megawatts of power and include up to 450 megawatts of battery storage capacity on approximately 3,393 acres of land located in San Bernardino County, California (Property). The Property includes land for a proposed solar facility and two alternative routes for transmission lines. The Phase I ESA was completed in general accordance with American Society for Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property, E2247-16* and All Appropriate Inquiries Final Rule 40 Code of Federal Regulations Part 312. The objective of this Phase I ESA is to identify Recognized Environmental Conditions (RECs), Historical RECs (HRECs), and Controlled RECs (CRECs) that affect the Property.

To assess environmental conditions at the Property, Tetra Tech, Inc. reviewed site land use history, geology, hydrogeology, and environmental records for the Property and its general vicinity; conducted a visual site reconnaissance; reviewed the completed User Questionnaire; and completed telephone interviews with landowners to inquire about current environmental conditions.

The proposed Project includes Property consisting of non-contiguous parcels of land for use as a solar facility along with two alternative routes for electric transmission lines. The Property consists of agricultural fields, rural residences, outbuildings (such as barns and sheds), and a few industrial buildings. Overhead transmission lines and secondary roads traverse the Property. Adjacent properties include a solar facility and the Coolwater Generating Station to the west; the Barstow-Daggett Airport to the south; and rural agricultural and residential properties to the north and east.

Based on the site reconnaissance performed on June 19, 2018, the Environmental Data Resources, Inc. regulatory database review, historical aerial and topographic map review, landowner questionnaires, and the completed User Questionnaire, review of the California Geotracker database, and review of other documents made available, two RECs were identified as further described below.

ASTM defines a REC as:

> *The presence or likely presence of any hazardous substances or petroleum products on a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.*

Two RECs were identified during the completion of this Phase I ESA:

- **Sunray Solar Energy Project:** The solar facility (formerly the Solar Energy Generating Station II), located at 35100 Santa Fe Street in the City of Daggett and immediately adjacent to the Property, was listed on the ERNS (Emergency Response Notification System) database

for numerous spills and leaks. One record, described as “Solar Collector Assembly/Failed Flange/A Fire Ensued” was listed in 1994 without a closure date. Based on the listing, “one-hundred gallons of Other Oil Caloria Heat Transfer Oil” had been spilled and reached the water at the site. The listing did not specify whether the spill impacted surface water or groundwater. At the time that the record was entered, it was determined that the responsible party would “excavate the soil when the fire was extinguished;” however, no indication of closure was provided. Another record, dated 2014, indicates “900 gallons of heat transfer fluid was spilled due to a failed HCE tube at weld.” At the time that the record was entered, it was determined that the responsible party would excavate the soil; however, no indication of closure was provided in the listing. No additional information regarding the extent of impacts were readily ascertainable at the time of writing this report and therefore a determination could not be made on whether the releases impacted the Property. Based on the information available, the numerous documented spills and leaks are considered a REC based on reported impacts to water for a few of these spills, proximity to the Property, groundwater flow direction toward the east/southeast, and lack of closure documentation for the two listings described above. Groundwater monitoring information in the area of the solar facility was not available for review for this Phase I ESA. It is noted that groundwater depths in the area are greater than 100 feet and that construction of the proposed Project is not expected to encounter groundwater.

- **Barstow-Daggett Airport:** The Barstow-Daggett Airport is listed in the HIST Cal-Site database and is located immediately adjacent to the south of the Property. This listing indicates an open military base with a status of “Annual Workplan—Active Site.” The facility is currently administered by the San Bernardino County Department of Transportation-Airports Division. Based on the listing, building and storage space is leased to a variety of industrial users, which have included the “Federal Aviation Administration (FAA), Stuart Davis, Lundeen, and others.” The U.S. Army currently leases portions of the airport for use a heliport associated with Fort Irwin. The airport includes five former underground storage tank (UST) sites that contain nine USTs. Two waste disposal sites (Waste Disposal Site “A” and Waste Disposal Site “B”) are also located at the airport. Potential and/or confirmed hazardous waste contaminants of concern previously identified from past soil sampling conducted for the UST sites include petroleum contaminants including benzene, toluene, ethylbenzene, lead, and xylenes. Soil contaminants associated with Waste Disposal Site "A" include methylene chloride and the following metals: arsenic, barium, beryllium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Contaminants associated with Waste Disposal Site "B" include the following metals: arsenic barium, beryllium, chromium, cobalt, copper, lead, molybdenum, nickel, thallium, vanadium, and zinc. In addition, a search of the California Geotracker database (2018) lists gasoline as a potential contaminant of concern and groundwater as a potential media of concern for the airport. No additional information regarding the extent of impacts were readily ascertainable at the time of writing this report. Metal-impacted soils associated with the Waste Disposal sites represent a material threat to the Property due to wind-transport mechanisms. In addition, the releases associated with the UST sites appeared to have impacted groundwater with gasoline. Based on the information available, the soil and/or groundwater impacts at this property associated with the leaking USTs and waste disposal activities are considered a REC as contamination from these areas of the airport represents a material threat to the Property based on the proximity to the

Property, the history of contamination, groundwater flow direction toward the east/southeast, and lack of closure documentation.

ASTM defines an HREC as:

> *A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (e.g., property use restrictions, activity and use limitations [AULs], institutional controls or engineering controls).*

No HRECs were identified during the completion of this Phase I ESA.

ASTM defines a CREC as:

> *A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances allowed to remain in place subject to the implementation of required controls.*

No CRECs were identified during the completion of this Phase I ESA.

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ACRONYMS AND ABBREVIATIONS

AST	aboveground storage tank
ASTM	American Society for Testing and Materials
CA HIST Cortese	Hazardous Waste and Substance Site List
CA	California
COC	constituent of concern
CORRACTS	Corrective Action Report
CREC	Controlled Recognized Environmental Condition
EDR	Environmental Data Resources, Inc.
ENVIROSTOR	CA EnviroStor Database
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FINDS	Facility Index System/Facility Registry System
FUDS	Formerly Used Defense Sites
HREC	Historical Recognized Environmental Condition
kg	kilogram
LUST	leaking underground storage tank
MCLB	Marine Corps Logistics Base
NPL	National Priority List
NRG	NRG Energy, Inc.
Project	Daggett Solar Power Facility
Property	approximately 3,393 acres in San Bernardino County, California
RAATS	RCRA Administrative Action Tracking System
RCRA TSDF	RCRA Treatment, Storage and Disposal Facility database
RCRA	Resource Conservation and Recovery Act
RCRA-LQG	RCRA large quantity generator
RCRA-SQG	RCRA small quantity generator
REC	Recognized Environmental Condition
ROD	records of decision
SDS	Safety Data Sheet
SEMS	Superfund Enterprise Management System

ACRONYMS AND ABBREVIATIONS
(Continued)

SEMS Archive	Superfund Enterprise Management System Archive
STLC	Soluble Threshold Limit Concentration
TCE	trichloroethylene
Tetra Tech	Tetra Tech, Inc.
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Institutional Controls Sites List
User	NRG Energy, Inc.
UST	underground storage tank
UXO	unexploded ordnance sites

1.0 INTRODUCTION

1.1 PURPOSE

Tetra Tech, Inc. (Tetra Tech) performed a Phase I Environmental Site Assessment (ESA) of the proposed Daggett Solar Power Facility (Project) for NRG Energy, Inc. (NRG or the User). The proposed Project will encompass approximately 3,393 acres of land located in San Bernardino County, California (Property). The Property area boundaries and two transmission line alternative routes were provided by NRG. The Phase I ESA was completed in general accordance with American Society for Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property, E2247-16*. The objective of this Phase I ESA is to identify Recognized Environmental Conditions (RECs), Historical RECs (HRECs), and Controlled RECs (CRECs) that affect the Property.

1.2 SCOPE OF SERVICES

The scope of services was defined by Tetra Tech's proposal for the Project dated May 21, 2018. The scope included a regulatory database review, historical and physical record review, interviews, a visual non-invasive site reconnaissance of the Property and adjoining properties, telephone interviews, and preparation of this report.

1.3 SIGNIFICANT ASSUMPTIONS

Tetra Tech assumes that all information obtained from others for the Property is correct and complete. Additionally, Tetra Tech assumes that NRG and the current owner(s) and/or occupants within the Property have provided Tetra Tech with all reasonably ascertainable prior environmental information concerning the Property. In accordance with the agreed-upon scope of work for this Phase I ESA between NRG and Tetra Tech, only the exterior of residential properties and associated structures/outbuildings were evaluated on the Property. The residential properties and associated structures/outbuildings were evaluated from available and accessible public road rights-of-way. Tetra Tech assumes that the user will read this report in its entirety.

1.4 LIMITATIONS AND EXCEPTIONS OF ASSESSMENTS

The findings and conclusions presented in this report are based on the procedures described in ASTM Practice E2247-16. This report was prepared based on a review of data, as described therein, in accordance with generally accepted professional practices, applicable to work of similar nature and complexity of similar localities, at the time the services were performed. The scope of this report is limited in nature and intended to provide an evaluation of the current environmental conditions at the Property at the time of the report preparation and does not constitute definitive review of all the potential environmental impairments and situations not otherwise ascertainable from the available information and observation.

It is important to recognize that even the most comprehensive scope of services may not detect all the environmental liabilities at a particular site. Therefore, nothing herein shall be construed as a representation or certification that the Property is either fully characterized or is free of environmental impairments and/or contamination. This Phase I ESA conforms to the level of documentation required in ASTM Practice E2247-16.

To prepare this report, Tetra Tech relied upon information as discussed in the report, which it believes to be reliable. (Please also refer to the Environmental Database Resources [EDR] Disclaimer, Appendix A.) The landowner list provided by NRG did not include contact information for all of the parcels located within the Property; therefore, Tetra Tech was unable to perform interviews of all of the property owners. This is noted as a data gap for the Phase I ESA.

Tetra Tech has endeavored to meet what it believes is the applicable standard of care for the services performed and, in doing so, is obliged to advise NRG of Phase I ESA limitations. Tetra Tech believes that providing information about limitations is essential to help clients identify and thereby manage risks.

This Phase I ESA did not include any inquiry with respect to radon, methane, asbestos-containing material, lead-based paint, lead in drinking water, formaldehyde, endangered species, wetlands, subsurface investigation activities or other services or potential conditions or features not specifically identified and discussed herein. It is noted that inquiry into the above environmental issues are not required to meet ASTM Standard E2247-16. In those instances where additional services or service enhancements are included in the report as requested or authorized by the client, specific limitations attendant to those services are presented in the text of the report.

This report represents Tetra Tech's service to NRG as of the report date. In that regard, the report constitutes Tetra Tech's final document, and the text of the report may not be altered in any manner after final issuance of the same. Opinions relative to environmental conditions given in this report are based upon information derived from the most recent Property reconnaissance and from other activities described herein. NRG is herewith advised that the conditions observed by Tetra Tech are subject to change. Certain indicators of the presence of hazardous materials may have been latent or not present at the time of the most recent Property reconnaissance and may have subsequently become observable. In a similar manner, the research effort conducted for a Phase I ESA is limited.

Further, the services herein shall in no way be construed, designed or intended to be relied upon as legal interpretation or advice.

1.5 USER RELIANCE

This report is an instrument of service of Tetra Tech and includes research and a review of specified and reasonably ascertainable information and a reconnaissance of the Property to identify RECs in general accordance with ASTM Standard E2247-16. Tetra Tech's Phase I ESA was performed in accordance with generally accepted practices of the profession undertaken in similar studies at the same time and in the same geographical area, and Tetra Tech observed that degree of care and skill generally exercised by the profession under similar circumstances and conditions.

A User is defined by ASTM Practice E2247-16 as the party seeking to use Practice E2247-16 to complete an ESA of the Project area and may include a potential purchaser of land in the Project area, a potential tenant of the Project area, an owner of land in the Project area, a lender, or a Project area manager. The scope of services and the report have been completed on behalf of and for the exclusive use by NRG (the User) solely for their use and reliance in the Phase I ESA

of the Property. NRG is the only party to which Tetra Tech has explained the risks involved and which has been involved in the shaping of the scope of services needed to satisfactorily manage those risks, if any, from the NRG point of view.

Accordingly, Tetra Tech's findings and opinions related in this report may not be relied upon by any party except for NRG without the consent of Tetra Tech.

2.0 SITE DESCRIPTION

2.1 PROPERTY LOCATION

The Property is located in San Bernardino County, California, as shown on Figure 1, and includes a proposed solar facility site as well as two alternative electric transmission line routes. The Property is generally bounded by the town of Daggett approximately 0.5 mile to the west and the Mojave River, the town of Yermo, and Interstate 15 to the north. The Barstow-Daggett Airport, Route 66, and Interstate 40 are located south of the Property; and Newberry Springs and Mojave Valley are located to the east.

2.2 CURRENT USE OF PROPERTY

Current land use is primarily agricultural farming. The Property consists of undeveloped land, agricultural fields, rural residences, and farm outbuildings (such as barns and sheds). Portions of the Property are traversed by a high-voltage electric transmission line and associated approximate 1,000-foot-wide corridor that includes associated access roads.

2.3 SITE IMPROVEMENTS

Property improvements include overhead transmission lines, agricultural fields, and rural residential structures, and outbuildings (such as barns and sheds).

2.4 CURRENT USES OF ADJOINING PROPERTIES

The term adjoining property, as defined by the ASTM standard, means properties that border or are contiguous or partially contiguous with the Property, or would be so but for a street, road, or other public thoroughfare separating them. In addition to the existing gas-fired Coolwater Generating Station, the surrounding area includes transportation infrastructure, agricultural lands, undeveloped land, the 44-megawatt photovoltaic Sunray Solar Project, and the Barstow-Daggett Airport, a County-owned general aviation airport located directly south of the Property. Route 66, the National Trails Highway, is located south of the Property and Interstate 15 is located to the north. Route 66 is located between Interstate 40 and the Property. The Burlington Northern Railroad is south of the Property and the Santa Fe and Union Pacific Railroad is to the north.

3.0 USER PROVIDED INFORMATION

3.1 TITLE RECORDS

Title records were not provided to Tetra Tech by NRG. The Property is owned by private landowners.

3.2 ENVRONMENTAL LIENS, ACTIVITIES OR USE LIMITATIONS

NRG, as the User of this Phase I ESA, has indicated that it is not aware of any environmental cleanup liens against the Property that are filed or recorded under federal, tribal, state, or local law. NRG has also indicated it is not aware of any activity use limitations, such as engineering controls, or land use restrictions or institutional controls that are in place on the Property and/or have been filed or recorded in a registry under federal, state, or local law. NRG's responses to the All Appropriate Inquiry User/Landowner Questionnaires are included in Appendix B and have been incorporated into this Phase I ESA.

A search for recorded environmental cleanup liens against the Property is beyond the scope of this Phase I ESA. However, based on a review of the regulatory database information provided by EDR, facilities in the vicinity did not appear on any state or federal databases, which indicates no deed restrictions or institutional controls have been recorded for the Property (Section 4.3; Appendix A).

3.3 SPECIALIZED KNOWLEDGE

NRG, as the User of this Phase I ESA, has indicated that it does not have any specialized knowledge or experience related to the Property or nearby properties. NRG is not involved in the same line of business as the current or former occupants of the subject properties or on adjoining properties so it would have no knowledge of the chemicals and processes used by current or former occupants.

3.4 COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION

NRG, as the User of this Phase I ESA, has not indicated that it is aware of any commonly known or reasonably ascertainable information about the Property that would help the environmental professional to identify conditions indicative of releases or threatened releases. While NRG is aware that the past and current use of the majority of the Property has been for agricultural purposes, it is not aware of specific chemicals that are or may have been present on the Property, spills or chemical releases on the Property, or any cleanups that may have taken place on the Property.

3.5 VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

NRG, as the User of this Phase I ESA, has indicated that the Property is to be leased. Individual property owners will retain ownership of their property. It is NRG's opinion that the price being paid for the areas to be leased reasonably reflects the fair market value of the Property.

3.6 OWNER, PROPERTY MANAGER AND OCCUPANT INFORMATION

NRG has indicated that owners and/or occupants within the Property consist of private landowners.

3.7 REASONS FOR PERFORMING PHASE I ESA

The Phase I ESA was requested by NRG to evaluate existing environmental conditions, if any, as they pertain to the proposed construction of the Project, and to provide information to support NRG's California Environmental Quality Act (CEQA) process for the proposed Project.

4.0 RECORDS REVIEW

4.1 HISTORICAL USE INFORMATION

The purpose of the record review was to obtain and review reasonably ascertainable records that will help identify RECs. Tetra Tech contracted with EDR to conduct a search of required federal, state, and tribal databases. A copy of the EDR Area/Corridor Report, generated on June 7, 2018, is included in Appendix A of this report.

4.1.1 Ownership Information

Ownership information, including owner's name and address, of several landowners representing the larger portions of the Property was provided to Tetra Tech by NRG. This information was provided to conduct interviews to complete the landowner questionnaires (Appendix B).

4.1.2 Review of Aerial Photographs

Historical aerial photographs were reviewed for the years 1954, 1975, and 1995, as was more recent 2018 Google Earth imagery. Historical aerial photographs are included in Appendix C. The historical photographs indicate the area was used primarily for rural residential use and agricultural cropland. Indications of extensive ground disturbance in comparison to the surrounding area are visible as early as 1954 within the Property at what appears to be an agricultural operation along Power Line Road.

Large waste ponds/lagoons are located approximately 0.4 mile south of the Property as shown on Figure 2. A disposal pit was noted south of the ponds during the site reconnaissance. The ponds/lagoons and the pit are likely associated with the nearby solar facility located to the northwest or the power generation facility located farther west.

No RECs were identified from review of historical aerial photographs.

4.1.3 Review of Topographic Maps

A review of U.S. Geological Survey topographic maps for the years 1953, 1966, and 1977 indicate that the area has consisted of primarily of agricultural land. The Atchison Topeka and Santa Fe Railroad is shown south of the Property, and the Union Pacific Railroad is shown north of the Property on all the topographic maps. In 1966, the Marine Corps Supply Center appears within the boundary of the Property. The town of Yermo and the Mojave River are located immediately west of the Property. In 1977, a power plant is shown immediately west of the Property. Barstow-Daggett Airport is located to the south.

No RECs were identified during the historical topographic map review. Historical topographic maps are included in Appendix C.

4.1.4 Additional Sources

Tetra Tech reviewed previous Phase I and Phase II ESAs conducted (Westwood 2015, Tetra Tech 2009) for the adjacent solar facility property. These documents are provided in Appendix F.

A Phase I ESA for Sunray Energy, LLC Solar Energy Generating System I & II at 35100 Santa Fe St. Daggett, CA, Project No. R0006575.01 was completed by Westwood in November 2015. The Phase I ESA documented the following RECs:

- Caloria HTF use area/SEGS I. Numerous reported and de minimis releases of Caloria HTF were observed and reported.
- Caloria HTF contaminated soil stockpile Northeast of SEGS I. Temporary stockpile of soil contaminated with Caloria HTF until it can be spread in the SEGS I Caloria land treatment unit (LTU).
- Sifting/storage area for lead based paint on mirrors East of SEGS I. Fragments of broken mirrors containing lead based paint are separated from soil by sifting and stored.
- Caloria HTF LTU Between SEGS I and SEGS II (east). An unpermitted Caloria HTF LTU was used.
- Caloria HTF Tank Fire Center of SEGS I. A Caloria HTF storage tank fire occurred in February-1999. Caloria HTF contamination was subsequently detected at 35-feet below ground surface.
- Therminol HTF use area SEGS II. Numerous reported and de minimis releases of Therminol HTF.
- Therminol HTF contaminated soil stockpile Southwest of SEGS II. Temporary stockpile of soil contaminated with Therminol HTF until it can be spread in the SEGS II LTU.
- Fueling area with above ground storage tanks (ASTs) East of SEGS II. Gasoline and diesel ASTs are used to fuel equipment on the Subject Property.
- Evaporation pond 1 (north) Southeast corner of the Subject Property. The liner in the north evaporation pond is torn. Metals and salts have accumulated and are concentrated under the evaporation pond liner. Concentrations of salt were detected by MWH in soil samples above the background concentrations.

The Phase I ESA also stated that the RECs identified above are currently being further assessed with soil borings in a Westwood Phase II ESA and additional due diligence activities. The Phase II ESA was not available for review.

A Phase II ESA was performed for Cogentrix Energy, Inc. by Tetra Tech for Solar Energy Generating System I & II in February 2009. The Phase II ESA documents 9 RECs that were identified in a previous Phase I ESA. The Phase II ESA included soil sampling and included one groundwater sample collected from an existing well to further address the identified RECs. The Phase II ESA concluded that large quantities of impacted soil were present in five areas of the facility and a very low concentration of toluene was detected in the groundwater.

No other historical sources were identified or consulted.

Based on review of these documents, the existing Sunray Solar Energy Project cannot be dismissed as a REC for the Property.

4.1.5 Historical Summary

No RECs or HRECs were identified from review of historical information as is presented throughout this Phase I ESA.

4.2 PHYSICAL SETTING INFORMATION

The Property is located within the Major Land Resource Area known as the Mojave Desert, located in the Basin and Range Province of the Intermontane Plateaus (USDA 2006). The Major Land Resource Area mostly consists of broad basins, valleys, and old lakebeds; however, widely spaced mountains that trend north to south also occur throughout the area. The area includes isolated, mountain ranges are separated by an aggraded desert plain. The mountains are fault blocks that have been tilted up and long alluvial fans coalesce with dry lakebeds between some of the ranges.

4.2.1 Topography

The topography across the Property is relatively flat. Elevations range from approximately 1,880 feet above mean sea level to 1,923 feet above mean sea level. The area of the Property slopes east/northeast. Topographic maps are included in Appendix C.

4.2.2 Soil Conditions

According to the National Resources Conservation Service Web Soil Survey, primary surface soils on the Property are classified into the following general units in order of prominence within the area of the Property (NRCS 2018). Soils that cover less than 1 percent of the Property are not listed:

- Canjon Sand (over 50%);
- Halloran-Duneland Complex;
- Cajon Gravelly Sand;
- Cajon Loamy Sand;
- Riverwash;
- Kimberlina Loamy Fine Sand; and
- Halloran Sandy Loam.

4.2.3 Geology

Geology in the vicinity of the Property is primarily mapped as alluvium with areas of wind-blown sand and wash deposits along the Mojave River (CDC 2018). The northwest/southeast-trending Calico Fault traverses the area immediately east of the Property. Well-dissected alluvial fans are mapped south of Interstate 40 as are areas of the Miocene-age Barstow Formation and associated volcanic rocks, Miocene shallow intrusive rocks and Quaternary-age continental deposits are mapped north of Interstate 15.

Most of area in the immediate vicinity of the Property is underlain by Quaternary (Pleistocene to Recent) alluvial deposits on alluvial fans and valley floors. Recent alluvial fans and remnant alluvial fan terraces typically grade from boulder-strewn deposits and coarse desert pavement near the fan apex to finer grained sands, silts, and clays at the distal ends. Playas are at the lowest elevations in the closed basins. They commonly have aeolian accumulations along their downwind fringes. Water from shallow subsurface flow and from surface flows that periodically fill

the playa basins evaporates, leaving accumulations of evaporite minerals, including salts and borates. Borate minerals and boron are commonly mined from such deposits. (USDA 2006).

4.2.4 Regional Groundwater Conditions

Groundwater is an important source of agricultural and public water supply. Center-pivot irrigation is evident based on aerial imagery within the Property; and local public water supplies have been impacted by the Barstow B570 site (see Figure 2) as discussed in Section 4.3.1.

There are two aquifers located in the vicinity of the Property, the Floodplain Aquifer and the Regional Aquifer (ERM 2016; OTIE 2017). The Floodplain Aquifer is made up of the modern Mojave River alluvium, which consists of unconsolidated permeable, coarse sands and gravel extended to a depth of approximately 200 feet below ground surface (bgs). The Floodplain Aquifer is the principal aquifer system in the area and overlies the Regional Aquifer, which is approximately 500 feet bgs below the vicinity of the Property and much deeper in other areas to the east and west and consists of less permeable alluvial fan deposits and older Mojave River alluvial. Depths to groundwater in the area of the Property range from 100 to 200 feet bgs. Groundwater flow directions are to the east/southeast.

4.2.5 Floodplain and Zoning Information

The applicable Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for the Property are map numbers 06071C3975H, 06071C4000H, 06071C4600H, and 06071C4625H (effective date 8/28/2008). Based on the National Flood Hazard Map, the entire Property is within Zone D, which indicates flooding hazards for the site have not been determined. However, the Mojave River, north of the Property, has an overlay designation of “Area of Inundation” (Dam Inundation) in the County General Plan Land Use Plan’s Hazard Overlays Map. A detailed FEMA study on a portion of the Mojave River approximately 4.5 miles east classifies the Mojave River Area of Inundation as the 100-year flood zone. The detailed FEMA study area of the Mojave River also identifies an approximately 3,500-foot-wide strip on either side of the 100-year flood zone that is classified as the 500-year flood zone (HDR 2018).

4.3 REGULATORY REVIEW

The purpose of the record review is to obtain and review reasonably ascertainable records that will help identify RECs. For this review, records were obtained from EDR under inquiry number 5323533.2s (EDR 2018) on June 7, 2018. The EDR report is included in Appendix A. As noted under ASTM, information requested and not received within 20 days after the report date is not required to be incorporated into Phase I ESA reports. Remaining regulatory support data will be maintained with the Tetra Tech project file. The EDR search area, as shown on EDR Area/Corridor Report located in Appendix A, includes the Property plus a minimum 1-mile radius.

4.3.1 Federal Database Information

Sixty federal databases were searched for environmental records associated with the Property and adjoining properties within a 1-mile radius as listed in Table 1.

Table 1. Federal Databases

Federal Database Acronyms	Definition
1) NPL	National Priority List (Superfund)
2) Proposed NPL	Proposed National Priority List Sites
3) Delisted NPL	National Priority List Deletions
4) NPL LIENS	Federal Superfund Liens
5) Federal Facility	Federal Facility Site Information Listing
6) SEMS	Superfund Enterprise Management System
7) SEMS-ARCHIVE	Superfund Enterprise Management System Archive
8) CORRACTS	Corrective Action Report
9) RCRA-TSDF	RCRA Treatment, Storage and Disposal
10) RCRA-LQG	RCRA Large Quantity Generators
11) RCRA-SQG	RCRA Small Quantity Generator
12) RCRA-CESQG	RCRA-Conditionally Exempt Small Quantity Generator
13) RCRA NonGen/NLR	RCRA-Non- Generators/No Longer Regulated
14) LUCIS	Land Use Control Information System
15) US ENG CONTROLS	Engineering Controls Sites List
16) US INST CONTROLS	Sites with Institutional Controls
17) ERNS	Emergency Response Notification System
18) HMIRS	Hazardous Materials Information Reporting System
19) SPILLS 90	Spill and release records from FirstSearch
20) US BROWNFIELDS	Listing of Brownfield's Sites
21) DOD	Department of Defense
22) FUDS	Formerly Used Defense Sites
23) SCRD DRYCLEANERS	State Coalition for Remediation of drycleaners listing
24) US FIN ASSUR	Financial assurance information
25) EPA WATCH LIST	EPA Watch List
26) 2020 COR ACTION	2020 Corrective Action program list
27) TSCA	Toxic Substances Control Act
28) TRIS	Toxic Chemical Release Inventory System
29) SSTS	Section 7 Tracking Systems
30) ROD	Records of Decision
31) RMP	Risk Management Plans
32) RAATS	RCRA Administrative Action Tracking System
33) PRP	Potentially Responsible Parties
34) PADS	PCB Activity Database System
35) ICIS	Integrated Compliance Information System
36) FTTS	Federal Insecticide, Fungicide, & Rodenticide Act
37) MLTS	Material Licensing Tracking System
38) COAL ASH DOE	Steam Electric Plant Operation Data
39) COA ASH EPA	Coal Combustion Residues Surface Impoundments list
40) PCB TRANSFORMER	PCB transformer registration database
41) RADINFO	Radiation information database

Federal Database Acronyms	Definition
42) HIST FTTS	FIFRA/TSCA tracking system inspection & enforcement case listing
43) DOT OPS	Incident and accident data
44) CONSENT	Superfund (Comprehensive Environmental Response, Compensation, and Liability Act) consent decrees
45) BRS	Biennial Reporting System
46) INDIAN RESERV	Indian Reservations
47) FUSRAP	Formerly Utilized Sites Remedial Action Program
48) UMTRA	Uranium Mill Tailings Sites
49) LEAD SMELTERS	Lead Smelter sites
50) US AIRS	Aerometric Information Retrieval System facility subsystem
51) US MINES	Active mines & mineral plants database listing
52) ABANDONED MINES	Abandoned mines
53) FINDS	Facility Index System
54) UXO	Unexploded Ordinance sites
55) DOCKET HWC	Hazardous Waste Compliance docket listing
56) ECHO	Enforcement & Compliance History information
57) FUELS PROGRAM	EPA fuels program registered listing
58) US CDL	Clandestine Drug Labs
59) US BROWNFIELDS	Listing of brownfields sites
60) US HIST CDL	National Clandestine Laboratory Register

The EDR report identified 20 federal database listings within the applicable search radius distances. These listings are described by database in the following paragraphs.

NPL (National Priorities List). The NPL database identifies sites for priority cleanup under the Superfund Program. The Marine Corps Logistics Base (MCLB), Barstow B570 site (EDR focus maps 1, 7, 6, 12, and 13) is currently listed on the NPL. Groundwater is indicated to be contaminated by trichloroethylene (TCE). Depths to groundwater are listed from 10 to 25 feet. The listing states that “monitoring wells at Nebo and Yermo are contaminated with TCE.” An activated carbon system for remediation of contaminated groundwater was installed in July 1989 and was operational in November 1989. Additional entries were made for several years up to 2006; however, additional information was not provided in the listings.

Tetra Tech performed additional research to obtain available information regarding the NPL site using the California Geotracker database (2018). The most recent 5-year review document (OTIE 2017) for the site was obtained and reviewed. The full document is provided in Appendix F. Based on review of the document, groundwater is at depths of over 100 feet bgs in the area of the Property and the groundwater contaminant plumes do not extend to the Property, including the two alternative transmission line routes. Based on this information, this site listing is not considered a REC to the Property.

SEMS (Superfund Enterprise Management System). The SEMS database tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of

U.S. Environmental Protection Agency's Superfund Program across the United States. The MCLB, Barstow B570 site (EDR focus maps 1, 7, 6, 12, 13) is listed on the SEMS database. No additional information beyond what is discussed above was provided in the listing. This listing is not considered a REC to the Property based on the additional information provided in the NPL listing above.

CORRACTS (Corrective Action Report). The CORRACTS database identifies hazardous waste handlers with Resource Conservation and Recovery Act (RCRA) corrective action activity. The MCLB, Barstow B570 site (EDR focus maps 1, 7, 6, 12, and 13) is also listed as a CORRACTS site in 1994 as a "high corrective action priority." Additional information was not provided in the listing. This listing is not considered a REC to the Property based on the additional information provided in the NPL listing above.

The EPTC Coolwater site (EDR Map#F24), is listed on the CORRACTS database as of 1995. Additional information was not provided in the listing. A search of the California Geotracker database for "Daggett" indicates a site is open at the Coolwater Generating Station (shown on Figure 2) and lists potential contaminated media as groundwater (California Geotracker database 2018). Additional groundwater monitoring information (Hamilton 2018) was reviewed to evaluate the potential for groundwater contamination at the site. Based on review of the groundwater monitoring data, this listing is not considered a REC in relation to groundwater concerns.

Review of the California Geotracker database also indicated that the Coolwater Generating Station was listed as an open case under the Lahontan Regional Water Quality Control Board. A summary report prepared by ERM regarding the evaporation pond at this property is provided in Appendix F and is summarized here:

ERM. Evaporation Pond Assessment Summary Report, NRG Coolwater Generating Station. September 2016. ERM prepared an Evaporation Pond Assessment Report that summarizes the results of soil sampling and analysis conducted in accordance with the LRWQCB's approved Evaporation Impoundment Characterization Workplan, dated March 31, 2016.

The results of the soil characterization indicated that sediment that has accumulated downstream of the ponds had concentrations of several constituents of concern (COCs) that exceed background levels and the industrial risk-based screening level for arsenic. One sample slightly exceeded the Soluble Threshold Limit Concentration (STLC) concentration for selenium. The impacts were found to be focused in the surface and shallow soil and decreased rapidly with depth with the majority of impacts located downstream of Ponds 3, 4, and 5.

Based on the results found above, ERM recommended the following actions:

- In the area where the selenium concentration slightly exceeded the STLC, the surficial sediment in that area should be removed and sent off site for proper disposal as a non-RCRA California hazardous waste.

- In the remainder of the area downstream of the ponds and within the property boundary, the visibly identifiable surface sediment that has accumulated should be removed and consolidated back into the adjacent ponds.

- Once an access agreement outside the property boundary has been arranged, shallow soil sampling in a grid pattern should be implemented. The sampling should only focus on COCs that significantly exceed background concentrations.

- The data collected should be utilized to prepare a risk assessment addressing potential risks to human health and the environment and an evaluation of the potential storm water impacts from COCs.

According to agency records and owner interviews, the above recommendations have not yet been implemented. Although arsenic was found to exceed the industrial risk-based screening level, selenium was found to exceed the STLC, and regulatory closure has yet to have been granted for the evaporation pond contamination, these findings and recommendations do not represent a REC to the Property given that the ponds are not located in close proximity to the Property. However, it is noted that evidence of wind-blown migration of soil material from the area of the evaporation ponds can be observed in the historical aerial imagery.

RCRA-LQG (RCRA large quantity generator). The RCRA-LQG database includes information on sites that generate, transport, store, or treat and/or dispose of hazardous waste. LQGs generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. The MCLB, Barstow B570 site (EDR focus maps 1, 7, 6, 12, and 13) is also listed in the RCRA-LQG database as of 2016. Numerous wastes are listed including oil wastes, degreasing sludge, ignitable waste, heavy metals, and numerous solvents including methyl ethyl ketone and acetone. The facility has numerous records of violations from 1987 through 1998 with records of compliance achieved up to 1999. The most recent date of compliance evaluation/inspection is 2006 and no violations were reported. Southern California Edison Solar II (EDR Map #D21) is listed with a permit start date of 1996 for alkaline solution without metals, solid waste, waste oil, polychlorinated biphenyls, corrosive waste, solvents, lead, and benzene. No violations were listed. Based on the record of compliance, these listings are not considered RECs to the Property.

RCRA-SQG (RCRA small quantity generator). The RCRA-SQG database includes information on sites that generate, transport, store, or treat and/or dispose of hazardous waste. SQGs generate between 100 kg and 1,000 kg of hazardous waste per month. The EPTC Coolwater site (EDR focus map 7) is listed in the RCRA-SQG database as of 1999. Numerous wastes are listed including ignitable waste, lead, benzene, spent halogenated solvents, and spent nonhalogenated solvents. The facility has numerous violations from 1984 through 1993 with records of compliance achieved up to 1995. Based on the record of compliance, these listings are not considered RECs to the Property.

RCRA TSDF (RCRA Treatment, Storage and Disposal Facility database). The RCRA TSDF database includes selective information on sites that generate, transport, store, or treat and/or disposal of hazardous waste as defined by RCRA. One site, EPTC Coolwater, was listed on the RCRA TSDF database as a private handler engaged in the treatment, storage, or disposal of hazardous waste. This listing is not considered a REC to the Property.

SEMS Archive (Superfund Enterprise Management System Archive). The SEMS Archive database tracks sites that have no further interest under the Federal Superfund Program based

on available information. EPTC Coolwater was listed on the database as not on the NPL (does not qualify for the NPL based on existing information). Based on the status of this listing, this listing is not considered a REC to the Property.

US ENG CONTROLS (Engineering Controls Sites List). The US ENG CONTROLS database contains a listing of sites with engineering controls in place, including various forms of caps, building foundations, liners, and treatment methods. The MCLB, Barstow B570 site (EDR focus maps 1, 7, 6, 12, and 13) is listed in the US ENG CONTROLS database with a record of decision date of 1998. Contaminated media is listed as groundwater with the engineering control listed as "air sparging," "carbon adsorption," "extraction," "discharge," "infiltration basin/trench," and "monitoring." Contaminated media is listed as soil with the engineering control listed as "soil vapor extraction (in-situ)." Contaminated media is listed as solid waste with the engineering control listed as "cap," "consolidate," "disposal," "excavation," and "surface drainage control." This listing is not considered a REC to the Property. Although the EDR map information indicates the two transmission line alternatives traverse the NPL site, the actual boundaries of the NPL site areas do not include any portions of the Property, including the two transmission line alternatives (OTIE 2017).

US INST CONTROL (Institutional Controls Sites List). The US INST CONTROL database contains a listing of sites with institutional controls in place, including administrative measures and post remediation care requirements intended to prevent exposure to contaminants remaining on site. The MCLB, Barstow B570 site (EDR focus maps 1, 7, 6, 12, and 13) is listed in the US INST CONTROL database. The listing indicates "access restriction," "base use plan change," and "land use restriction" as of 1998. Contaminated media is listed as groundwater and solid waste. This listing is considered a REC to the Property based on the additional information provided in the NPL listing above. Although the EDR map information indicates the two transmission line alternatives traverse the NPL site, the actual boundaries of the NPL site areas do not include any portions of the Property including the two transmission line alternatives (OTIE 2017).

ROD (Records of Decision). The ROD database contains information related to ROD documents that mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup. The MCLB, Barstow B570 site (EDR focus maps 1, 7, 6, 12, and 13) is listed in the ROD database. The site was listed as currently on the NPL as of November 21, 1989, due to TCE in groundwater. An activated carbon system for drinking water wells was scheduled to be installed in July 1989. The activated system was operating as of November 21, 1989. This listing is not considered a REC to the Property based on the additional information provided in the NPL listing above.

RAATS (RCRA Administrative Action Tracking System). The RAATS database contains records based on enforcement actions issued under RCRA. The MCLB, Barstow B570 site (EDR focus maps 1, 7, 6, 12, and 13) is also listed in the RAATS database. The listing is a record of violation notifications as previously described in the RCRA-LQG section above. This listing as presented is not considered a REC to the Property.

FINDS (Facility Index System/Facility Registry System). The FINDS database contains both facility information and "pointers" to other sources of information that contain more detail. Two listings were identified from the FINDS database: Van Dam Ranch (EDR Map #1), located at

39200 Hidden Springs, is listed with a date of 2015 with no other information provided. Cleveland Farms Inc. (EDR Map #B9), located at 41313 Valley Spring Center Road, is listed with a date of 2015 with no other information provided. These listings as presented do not represent RECs to the Property.

ERNS (Emergency Response Notification System). The ERNS database records and stores information on reported releases of oil and hazardous substances. One site, 35100 Santa Fe St. (EDR Map #6) is listed for a 50-gallon oil spill because of an equipment failure that occurred in 1997. The release was indicated to have impacted soil, and a closure date was not reported. The spill location is mapped within the southwestern area of the Property. However, the address for the location of the spill incident corresponds with the existing solar facility located immediately west of the Property. The location of the solar facility is shown on Figure 2. Based on the soil media impacted and the depth to groundwater that is at least 100 feet bgs in the area of the Property, this incident is not considered a REC to the Property.

FUDS (Formerly Used Defense Sites). The FUDS database includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions. One site, Daggett Army Airfield (EDR Map #H32), was listed on the FUDS database as currently owned and operated by the County of San Bernardino, Public Works Group, Department of Airports. The airfield is shown to be located at the existing Barstow-Daggett Airport that is adjacent to the Property. This listing as presented is not considered a REC to the Property.

UXO (Unexploded Ordnance Sites). The UXO database contains a listing of unexploded ordnance site locations. Two sites were listed on the UXO database: Skeet and Harmonization Ranges (EDR Map #H33) and Pistol and Submachine Gun Range (EDR Map #H34). Both of these sites are located approximately 0.5 mile south and west of the Property and both are listed as small arms ranges. These listings are shown to be located at the existing Barstow-Daggett Airport that is adjacent to the Property. These listings as presented are not considered RECs to the Property.

CA HIST Cortese (Hazardous Waste and Substance Site List). The HIST Cortese database contains sites that are designated by the State Water Resource Control Board (LUST database sites), the Integrated Waste Board (SWF/LS database sites), and the Department of Toxic Substance Control (Calsites). The listing is no longer updated by the state agency. One site, the Coolwater Generating (EDR Map #C15), was listed on the HIST Cortese database for soil contamination related to a tank closure. The case was closed in 1989. The Coolwater Generating Station is located west of the Property. Based on the status of this listing, it is not considered a REC to the Property.

4.3.2 State and Local Database Information

Sixty-five state and local of California databases were searched for environmental records associated with the Property and adjoining properties located within a 1-mile radius as listed in Table 2.

Table 2. State Databases

State Database Acronym	Definition
1) RESPONSE	State- and tribal—equivalent NPL
2) ENVIROSTOR	State- and tribal—equivalent CERCLIS
3) SWF/LF	State- and tribal—landfill and/or solid waste disposal sites
4) LUST	State- and tribal—leaking storage tanks
5) INDIAN LUST	State- and tribal—leaking storage tanks
6) CPS-SLIC	State- and tribal—leaking storage tanks
7) FEMA UST	State- and tribal—registered storage tanks lists
8) UST	State- and tribal—registered storage tanks lists
9) AST	State- and tribal—registered storage tanks lists
10) INDIAN UST	State- and tribal—registered storage tanks lists
11) INDIAN VCP	State- and tribal—voluntary cleanup sites
12) VCP	State- and tribal—voluntary cleanup sites
13) BROWNFIELDS	State- and tribal—brownfields sites
14) WMUDS/SWAT	Local lists of landfill/solid waste disposal sites
15) SWRCY	Local lists of landfill/solid waste disposal sites
16) HAULERS	Local lists of landfill/solid waste disposal sites
17) INDIAN ODI	Local lists of landfill/solid waste disposal sites
18) DEBRIS REGION 9	Local lists of landfill/solid waste disposal sites
19) ODI	Local lists of landfill/solid waste disposal sites
20) IHS OPEN DUMPS	Local lists of landfill/solid waste disposal sites
21) HIST Cal-Sites	Local lists of hazardous waste/contaminated sites
22) SCH	Local lists of hazardous waste/contaminated sites
23) CDL	Local lists of hazardous waste/contaminated sites
24) Toxic Pits	Local lists of hazardous waste/contaminated sites
25) SWEEPS UST	Local lists of registered storage tanks
26) HIST UST	Local lists of registered storage tanks
27) CA FID UST	Local lists of registered storage tanks
28) LIENS	Local land records
29) LIENS 2	Local land records
30) DEED	Local land records
31) LDS	Land Disposal sites listing
32) MCS	Military Cleanup sites listing
33) Cortese	Hazardous waste and substances site list
34) CUPA Listings	Certified Unified Program Agency program listing
35) DRYCLEANERS	Listing of drycleaners
36) EMI	Emissions inventory data
37) ENF	Enforcement Action listing
38) Financial Assurance	Financial Assurance information listing
39) HAZNET	Facility and manifest data
40) ICE	Inspections/enforcement sites tracked in EnviroStor
41) HIST CORTESE	Hazardous waste & substance site list
42) HWP	EnviroStor permitted facilities listing

State Database Acronym	Definition
43) HWT	Registered Hazardous Waste Transporter database
44) MINES	Mines site location listing
45) MWMP	Medical Waste Management Program listing
46) NPDES	NPDES permits listing
47) PEST LIC	Pesticide regulation licenses listing
48) PROC	Certified processors database
49) Notify 65	Proposition 65 records
50) UIC	Underground injection control wells listing
51) WASTEWATER PITS	Oil wastewater pits listing
52) WDS	Waste Discharge System
53) WIP	Well Investigation Program case list
54) PROD WATER PONDS	Produced water ponds sites
55) PROJECT	Projects sites
56) UIC GEO	Underground Injection Control sites
57) OTHER OIL GAS	Other oil & gas projects sites
58) WELL STIM PROJ	Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells produced water ponds, UIC wells, water supply wells, etc.) being monitored
59) SAMPLING POINT	Sampling point—public sites
60) CIWQS	California Integrated Water Quality System
61) NON-CASE INFO	Non-Case information sites
62) MILITARY PRIV SITES	Military Privatized sites
63) EDR MGP	EDR Proprietary Manufactured Gas Plans
64) RGA LF	Recovered Government Archive Solid Waste Facilities list
65) RGA LUST	Recovered Government Archive Leaking Underground Storage Tank

The EDR report identified 31 sites on state and local databases.

RESPONSE (State Response Sites). The State Response Sites database identifies confirmed release sites where the Department of Toxic Substances Control is involved in remediation. Barstow-Daggett Airport (EDR Map #30), located adjacent to the Property, was listed in the site cleanup program. The confirmed contaminant of concern was listed as "arsenic dioxin." The status at the site was listed as "No Further Action" as of 2013. This listing is not considered a REC to the Property.

ENVIROSTOR (CA EnviroStor Database). The ENVIROSTOR database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The MCLB, Barstow B570 site (EDR focus maps 1, 7, 6, 12, and 13) is also listed in the ENVIROSTOR database. The site listing is indicative of an NPL listing and further information was not provided in the listing. This listing is not considered a REC to the Property based on the additional information provided in the NPL listing above.

Five additional sites adjacent to the Subject property were also listed on the ENVIROSTOR database:

- Reliant Energy Coolwater (EDR Map #F25)—Status is "No Further Action" as of 2014. Potential Contaminants of Concern (soil) included polychlorinated biphenyls and vanadium compounds. This listing is located west of the Property and is not considered a REC to the Property.
- Barstow-Daggett Airport (EDR Map #30)—Status is "No Further Action" as of 2013. Confirmed Contaminants of Concern (soil) included "arsenic asbestos containing materials", total petroleum hydrocarbon, lead, chromium VI, cobalt, copper and compounds, nickel, vanadium and compounds, xylene, and zinc. This listing is located adjacent to the Property and is not considered a REC to the Property.
- Daggett Airport (EDR Map #31)—Status is "Refer: RWQCB" as of 1995. The site is listed as historical and no additional information is provided. This listing is not considered a REC to the Property.
- MCSC Barstow (EDR Map #H35)—Status is "Inactive—Needs Evaluation" as of 2005. Potential contaminants of concern include explosives (UXO, MEC). This site is located within the area of the existing Barstow-Daggett Airport located adjacent to the Property and is not considered a REC to the Property.
- Modification Cntr No (EDR Map #H36)—Status is "Inactive—Needs Evaluation" as of 2005. No further information was provided. This listing is not considered a REC to the Property.

CA HAZNET. The HAZNET database contains facility and manifest data. The MCLB, Barstow B570 site (EDR focus maps 1, 7, 6, 12, and 13) is listed in the HAZNET database. The listing indicates that contaminated soil from the site cleanup would be disposed in a landfill or surface impoundment that will be closed as a landfill (to include on-site treatment and/or stabilization). This listing is associated with the NPL site listing and is not considered a REC based on the overall NPL listing information.

CA HWP (EnviroStor Permitted Facilities). The HWP database contains detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor. The MCLB, Barstow B570 site (EDR focus maps 1, 7, 6, 12, and 13) is listed in the HWP database. The listing indicates the facility is non-operating and has a "protective filer status." One additional site, Reliant Energy Coolwater LLC (EDR Map #F25), located 0.22 mile from the Property, is also listed on the HWP database. The listing indicates the facility is historical–non-operating and has a "protective filer status." These listings are not considered RECs to the Property.

WMUDS/SWAT (Waste Management Unit Database). The WMUDS/SWAT database is used by the State Water Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. Two sites were identified on the WMUDS/SWAT database on adjacent properties, SEGS I & II (EDR Map #E23), located adjacent to the west of the Property, was listed as a Category B facility, with primary wastes being designated influent or solid wastes that pose a significant threat to water quality because of their high concentrations. Coolwater Gen Station (EDR Map #29) was listed as a Category B facility with a similar waste type. These listings, as presented, are not considered RECs to the Property.

CHMIRS (California Hazardous Material Incident Report System). The CHMIRS database contains information on reported hazardous materials incidents (accidental releases or spills). "E-dates" are indicative of closure of the incidents. Four listings were identified from the CHMIRS database:

- SEGS II (EDR Map #A2) The listing indicates a date completed in February 1989 and an E-date of May 1990. Additional information was not provided in the listing. Although this listing is indicated to be located within the Property based on the EDR map, the existing solar facility is located west of the Property. This listing is not considered a REC to the Property.
- Solar Energy Generating Station II (EDR Map #A3)—The listing indicates a date completed in March 1989 and an E-date of May 1990. Additional information was not provided in the listing. Although this listing is indicated to be located within the Property based on the EDR map, the existing solar facility is located west of the Property. This listing is not considered a REC to the Property.
- 37000 East Santa Fe Street (EDR Map #4)—The listing indicates a release of 50 pounds of sodium nitrate/potassium nitrate in 1997 from the Solar 2 facility and states "substance is commonly released, hardened and reused. No soil contamination." Based on the lack of contamination, this listing is not considered a REC to the Property.
- SEGS II (EDR Map #A7)—The listing indicates a completion date of February 1989 and additional information is not provided. Although this listing is indicated to be located within the Property based on the EDR map, the existing solar facility is located west of the Property. This listing is not considered a REC to the Property.

San Bernardino County Permit. The County permit database contains permit information for facilities in San Bernardino County. Five sites on the Property were listed on the San Bernardino County Permit database:

- The abandoned hazardous waste site (41717 Silver Valley Road, EDR Map #5) is listed as an inactive facility that generated and handled hazardous waste with permit expiration dates of 2007 and 2008. This listing is indicative of historical regulatory status and is not considered a REC to the Property without additional information. Numerous ponds are located north and northeast of the EDR Map location based on aerial imagery. The site location as mapped by EDR is shown on Figure 2.
- Joe Harter Farms (EDR Map #14) is listed as an active small quantity generator with a September 2018 expiration date. This listing is indicative of active regulatory status and is not considered a REC to the Property.
- PG&E: KRGT-PGE Daggett Intertie (EDR Map #D20) is listed with an active facility status for hazardous materials and an inactive 1,320–10,000-gallon tank. This listing is indicative of active regulatory status and is not considered a REC to the Property.

Additionally, three adjacent properties were listed on the database:

- PG&E KRGT–PGE Daggett Intertie (EDR Map # D20) is listed as an active facility with a Hazardous Materials 1-3 Chemicals Special Permit that expires in November 2018. This listing is indicative of active regulatory status and is not considered a REC to the Property.
- Sunray Energy (EDR Map #E22) is listed as an inactive facility that generated hazardous materials 31-50 chemicals, was an EPCRA facility, and was a LQG. This listing is indicative of historical regulatory status and is not considered a REC to the Property.
- The Department of CA Hwy Patrol (EDR Map #28), located approximately 0.25 mile from the Property, is an inactive special handler and air operations facility. This listing is indicative of historical regulatory status and is not considered a REC to the Property.

CA HIST UST (Hazardous Substance Storage Container Database. The HIST UST database is a historical listing of UST sites. Five sites were identified from the HIST UST database:

- Silver Valley Farms (EDR Map #B11) is listed for three USTs that stored diesel in 1982.
- Cool Water Coal Gasification (EDR Map #C18) is listed for eight tanks that contained waste oil, product, waste, unleaded fuel, and diesel with a date of 1982.
- Cool Water Generating Station (EDR Map #C19) is listed for nine tanks that contained waste and product, with no dates listed.
- Solar One Generating (EDR Map #G26) is listed for one tank that contained product, with no date listed.
- Cool Water Generating (EDR Map #G27) is listed for one tank that contained waste, with no date provided.

These HIST UST sites are not considered RECs to the Property.

AST (aboveground storage tank). The AST database contains a listing of permitted ASTs. Three sites were identified from the AST database:

- Cleveland Farms Inc (EDR Map #B10) is listed with no additional information provided. This listing is located within the Property.
- Joe Harter Farms (EDR Map #14) is listed no additional information provided.
- Sunray Energy Inc. (EDR Map #E22) is listed with no additional information provided.

The AST listings are indicative of permitted ASTs and are not considered RECs to the Property.

UST (underground storage tank). The UST database contains a listing of permitted USTs. One UST site was identified from the UST database: AG-Silver Valley Farms (EDR Map #B12), which is listed with no additional information provided. The UST listing is indicative of a permitted UST and is not considered a REC to the Property.

SWEEPS UST (Statewide Environmental Evaluation and Planning System underground storage tank). The SWEEPS UST database was updated and maintained by a company in the

early 1990s but the database is no longer being updated or maintained. Three sites were identified from the SWEEPS UST database:

- Silver Valley Farms (EDR Map #B13) is listed for three USTs that contain diesel with dates as recent as 1991. This listing is located within the Property.
- Cool Water Generating Station (EDR Map #C16) is listed for one active UST that contains unleaded fuel with a most recent date of 1991.
- Cool Water Generating Station (EDR Map #C17) is listed for two active USTs that contain diesel and unleaded fuel with a most recent date of 1991.

The SWEEPS UST listings are indicative of historical USTs and are not considered RECs to the Property.

CA FID UST (Facility Inventory Database underground storage tank). The CA FID UST database contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Silver Valley Farms (EDR Map #B13) is listed with three active diesel USTs. This listing is located within the Property. This listing is not considered a REC to the Property.

LUST (leaking underground storage tank). The LUST database contains leaking underground storage tank listings. One LUST, Coolwater Generating (EDR Map #C15), is listed with a closure date in 1989 for a diesel tank release with the affected media noted as soil. This listing is located west of the Property and is not considered a REC to the Property.

Hist Cal-sites (Historical Calsites Database). The HIST Cal-Site database contains potential or confirmed hazardous substance release properties. One HIST Cal-Site, Barstow-Daggett Airport (EDR Map #30), located adjacent to the Subject Property, is listed as an open military base with a status of “Annual Workplan—Active Site.” The facility is currently administered by the San Bernardino County Department of Transportation-Airports Division. Building and storage space is leased to a variety of industrial users, which have included the Federal Aviation Administration (FAA), Stuart Davis, Lundeen, and others. The U.S. Army currently leases portions of the airport for use as a heliport associated with Fort Irwin. The airport includes five former UST sites: Fuel Depot (contains four USTs), Barracks West (contains one UST), FAA Building (contains two USTs), Gas Station (contains 1 UST), Former Radio Station (contains one UST) and two waste disposal sites. Waste Disposal Site "A" is located in the northwest portion of the Barstow-Daggett Airport. Waste Disposal Site "B" is approximately 150 feet long and 8 feet wide and is located northeastern portion of the airport. Potential/confirmed hazardous waste contaminants of concerned previously identified from past soil sampling conducted for the UST sites include: petroleum contaminants including benzene, toluene, ethylbenzene, lead, and xylenes.

Waste Disposal Site "A" waste material identified included construction debris, piles and shards of broken and melted glass, wood (some burned), wire, nails, scrap metal, piping, cans, brick, concrete, paint cans, suspected asbestos contaminated material (e.g. piping, insulation, tile and paneling), paint thinner cans and automobile parts. Past soil sampling results reported methylene chloride. The following metals were detected in the subsurface soil samples: arsenic, barium,

beryllium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Waste Disposal Site "B," a depression of unknown origin; several waste materials that included a weathered car tire and asphalt roofing shingles within a metal 5-gallon bucket were observed protruding from the soil along the edges of the depression. Past soil sampling results reported the following metals: arsenic barium, beryllium, chromium, cobalt, copper, lead, molybdenum, nickel, thallium, vanadium, and zinc.

This listing is considered a REC to the Property based on its location adjacent to the Property and groundwater flow direction that is east/southeast in the area of the Property. The airport is shown on Figure 2 (“Barstow-Daggett Airport”). In addition, a search of the California Geotracker database (2018) lists groundwater as a media of concern for the airport.

4.3.3 Tribal and EDR Proprietary Records

A review of tribal records was conducted to identify possible RECs related to tribal land on or adjacent to the Property. A search of the databases identified no facilities within the minimum search distance. Neither the Property nor the adjoining properties were listed as having a historical auto station, manufactured gas plant, or historical drycleaner locations in EDR’s Proprietary Records database.

4.3.4 Orphan Sites

Sites for which the records searched do not contain sufficient address or information to evaluate their locations relative to the search radius are considered “orphan sites.” The EDR identified 44 orphan sites for the search area. Many of the listings did not provide searchable addresses. Addresses that could be identified for the orphan sites were searched on Google Earth to determine relevance and proximity to the Property. Of the 44 orphan sites, two records of potential concern were identified:

- A site located at 35100 Santa Fe St., Daggett, California, was listed on the ERNS database for several spills and leaks. One record, described as “Solar Collector Assembly/Failed Flange/A Fire Ensued” was listed in 1994 without a closure date. One hundred gallons of “Other Oil Caloria Heat Transfer Oil” had been spilled and reached the water at the site. At the time that the record was entered, it was determined that they would excavate the soil when the fire was extinguished; however, no indication of closure was provided. In addition, 900 gallons of heat transfer fluid were spilled in 2014 due to a failed HCE tube at weld. At the time that the record was entered, it was determined that the soil would be excavated; however, no indication of closure was provided. Based on the nature and address of these incidents, it is inferred that the location is within the existing solar facility. Based on its location immediately west mile of the Property and groundwater flow to the east/southeast, these listings are considered RECs to the Property. The location of the solar facility is shown on Figure 2.
- Solar Tube Facility, located at 3700 Santa Fe Road, was listed on the CHMIRS database for a 3,400-gallon spill of salt mixture (40 percent potassium nitrate and 60 percent sodium nitrate) that occurred during loading of salt into the solar hot tank. No E-date or other indication of closure was provided. The address provided for the incident indicates it occurred significantly southwest of the Property. With further information, this listing is not considered a REC to the Property.

The remaining addresses that were searchable were found to be located a mile or more from the Property boundary and/or do not represent a REC to the Subject Property based on the specific database listing.

4.3.5 Other Records Reviewed

As documented for several listings in Section 4.3.4 above, Tetra Tech reviewed the GeoTracker Website (http://geotracker.waterboards.ca.gov) to obtain and review additional information. The GeoTracker Website provides current regulatory status and documents. In addition, Tetra Tech reviewed several documents that were made available from San Bernardino County. Tetra Tech did not review any additional records.

5.0 SITE RECONNAISSANCE

Mr. Tomo Demers, Environmental Professional for Tetra Tech, conducted a reconnaissance of the Property on June 19, 2018. Mr. Demers' resume is included in Appendix D. NRG personnel accompanied Tetra Tech during the site reconnaissance of the Property. During the site reconnaissance, Mr. Demers accessed the Property using public roads.

5.1 GENERAL SITE SETTING AND OBSERVATIONS

The Property is located in San Bernardino, California, and encompasses approximately 3,393 acres (see Figure 1). The Property includes two transmission line route alignments. Figure 2 identifies the photograph locations observed during the site reconnaissance. Additional details observed during the site reconnaissance are discussed below and documented in photographs presented in Appendix E.

5.2 SITE RECONNAISSANCE OBSERVATIONS

5.2.1 Summary of Observations

Table 3 is a summary of the observations made during the site reconnaissance conducted on June 19, 2018. Observed land uses consisted primarily of agricultural land. Scattered rural homesteads and farm structures were also observed.

Table 3. Summary of Site Reconnaissance Observations

Observation	Comments/Photographs
Structures (existing)	Various homesteads, farm structures within the area of the Property (Appendix E, Photos 15, 28, and 31).
Aboveground Storage Tanks (ASTs)	No specific ASTs were noted during the site reconnaissance.
USTs or Evidence of USTs	No USTs or evidence of USTs were noted during the site reconnaissance.
Drums or Other Containers	No drums or other containers of concern were noted during the site reconnaissance.
Chemicals or Hazardous Materials (other than de minimis quantities)	No chemicals or hazardous materials were observed during the site reconnaissance.
Evidence of Leaks, Spills, or Releases Around ASTs, USTs, and/or Chemical Storage Areas	None observed.
On-Site Septic System	None observed.
Sewage Disposal System	None observed.
Potable Water Supply	Assumed that rural residences have private potable water supply wells.
Discolored or Stained Soil or Vegetation Potentially from Hazardous Substances	None observed.
Hazardous Waste Disposal Areas	None observed.
Uncontained Debris, Refuse or Unidentified Waste Materials	None observed.

Table 3. Summary of Site Reconnaissance Observations

Observation	Comments/Photographs
Standing Water or other Liquids	None observed.
Catch Basins and Stormwater Drainage	Stormwater drainage ditches exist along some of the County roads.
Pits/Ponds/Lagoons	A pit was noted west of Powerline Road and North of Santa Fe Street. The pit is located adjacent to the Property (transmission line routes).
Waste or Wastewater Discharges	None observed.
Unusual Odors	None observed.
Stressed Vegetation	None observed.
Fill Material	None observed.
Water Wells	None observed; however, water wells may be utilized for agricultural purposes based on agricultural activities observed during the site reconnaissance.
Pad-Mounted Transformers	None observed.
Pole-Mounted Transformers	Associated with electrical distribution lines. A pole-mounted transformer observed along the western boundary of the Property (Appendix E, Photo 9).
Other Observations	Land associated with Property was observed to be primarily undeveloped land and agricultural land. Access roads were dispersed throughout the Property. Jeffrey Edwards, Site Safety Specialist for NRG escorted Tomo Demers of Tetra Tech throughout the site. Weather was 81 degrees Fahrenheit and sunny with a slight breeze.

5.2.2 Adjacent Property and Vicinity Findings

Adjacent properties primarily consist of undeveloped land, the Barstow-Daggett Airport, rural residential neighborhoods, an existing solar energy facility, and an electric generation facility. A large series of lagoons or cooling water ponds is present approximately 1 mile west of the Property and 0.11 mile north of the Property (transmission line route alignment). These lagoons/cooling water ponds are likely associated with the electric generation facility. Two lagoon disposal areas are located 0.43 mile south of the Property and immediately adjacent to the transmission line route alignments. The lagoons are likely associated with the solar facility. These facilities and associated lagoons are not considered RECs without specific indications of violations or other incidents of contamination concerns.

6.0 INTERVIEWS

6.1 USER QUESTIONNAIRE

The ASTM Standard E2247-16 requires that the users of an ESA provide certain information for incorporation into the ESA report. Therefore, in order to meet the All Appropriate Inquiry rule, NRG was asked to provide responses to questions presented in the User Questionnaire (Appendix B). No issues of concern were indicated based on the review of the questionnaire. The User stated that the purchase price (or lease price) for the Property reflects the fair market value.

6.2 LANDOWNER INTERVIEWS

Interviews were conducted with property owners via mail requesting that property owners complete an 18-question landowner questionnaire. NRG provided Tetra Tech with a list of the biggest landowners within the Subject Property. Tetra Tech notified NRG that contacting only these landowners would result in a data gap. Out of the four landowners contacted, three had completed the questionnaires via phone and email at the time this report was prepared.

The following is a summary of the information received from the landowners according to the questionnaires:

Ownership:

- Ownership 50 years or greater—0 owners
- Ownership between 31 and 50 years—2 owners
- Ownership between 11 and 30 years—1 owner
- Ownership 10 years or less—0 owners
- Ownership unknown—0 owners

Historic Land Use: Agriculture and farming.

Features Reported: Typical features reported that are associated with rural residential and agricultural use include residences, farm structures, and water wells. Other features reported include:

- Aboveground storage tanks, transformers to pumps for farm equipment and irrigation wells (Harter).
- Aboveground or underground storage tanks, dry wells, irrigation wells, injection wells, abandoned wells or monitoring wells, and tractors with hydraulic equipment. This site also maintains a Certified Unified Program Agency Annual Permit from San Bernardino County for hazardous materials “4-10” chemicals and for being a SQG. The current permit expires on November 30, 2018 (Van Dam).

Knowledge of spills, regulatory violations, or over application of agricultural related chemicals: Primary answers were “none” or “not to my knowledge” to the questions posed to landowners.

Based on a review of the landowner responses, the above-listed features are indicative of typical agricultural and rural uses and do not represent RECs to the Property.

6.3 INTERVIEWS WITH STATE AND/OR LOCAL GOVERNMENT OFFICIALS

An inquiry was submitted to the San Bernardino County website regarding potential concerns regarding the Property on June 26, 2018. As of the date of this report, the County has not responded.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Tetra Tech, Inc. performed a Phase I Environmental Site Assessment (ESA) of the proposed Daggett Solar Power Facility (Project) for NRG Energy, Inc. (NRG or the User). The proposed Project consists of constructing and operating a utility-scale, solar photovoltaic electricity generation and energy storage facility that would produce up to 650 megawatts of power and include up to 450 megawatts of battery storage capacity on approximately 3,393 acres of land located in San Bernardino County, California (Property). The Property includes land for a proposed solar facility and two alternative routes for transmission lines. The Phase I ESA was completed in general accordance with American Society for Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property, E2247-16* and All Appropriate Inquiries Final Rule 40 Code of Federal Regulations Part 312. The objective of this Phase I ESA is to identify Recognized Environmental Conditions (RECs), Historical RECs (HRECs), and Controlled RECs (CRECs) that affect the Property.

To assess environmental conditions at the Property, Tetra Tech, Inc. reviewed site land use history, geology, hydrogeology, and environmental records for the Property and its general vicinity; conducted a visual site reconnaissance; reviewed the completed User Questionnaire; and completed telephone interviews with landowners to inquire about current environmental conditions.

The proposed Project includes Property consisting of non-contiguous parcels of land for use as a solar facility along with two alternative routes for electric transmission lines. The Property consists of agricultural fields, rural residences, outbuildings (such as barns and sheds), and a few industrial buildings. Overhead transmission lines and secondary roads traverse the Property. Adjacent properties include a solar facility and the Coolwater Generating Station to the west; the Barstow-Daggett Airport to the south; and rural agricultural and residential properties to the north and east.

Based on the site reconnaissance performed on June 19, 2018, the Environmental Data Resources, Inc. regulatory database review, historical aerial and topographic map review, landowner questionnaires, and the completed User Questionnaire, review of the California Geotracker database, and review of other documents made available, two RECs were identified as further described below.

ASTM defines a REC as:

> *The presence or likely presence of any hazardous substances or petroleum products on a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.*

Two RECs were identified during the completion of this Phase I ESA:

Sunray Solar Energy Project: The solar facility (formerly the Solar Energy Generating Station II), located at 35100 Santa Fe Street in the City of Daggett and immediately adjacent to the

Property, was listed on the ERNS (Emergency Response Notification System) database for numerous spills and leaks. One record, described as “Solar Collector Assembly/Failed Flange/A Fire Ensued” was listed in 1994 without a closure date. Based on the listing, “one-hundred gallons of Other Oil Caloria Heat Transfer Oil” had been spilled and reached the water at the site. The listing did not specify whether the spill impacted surface water or groundwater. At the time that the record was entered, it was determined that the responsible party would “excavate the soil when the fire was extinguished;” however, no indication of closure was provided. Another record, dated 2014, indicates “900 gallons of heat transfer fluid was spilled due to a failed HCE tube at weld.” At the time that the record was entered, it was determined that the responsible party would excavate the soil; however, no indication of closure was provided in the listing. No additional information regarding the extent of impacts were readily ascertainable at the time of writing this report and therefore a determination could not be made on whether the releases impacted the Property. Based on the information available, the numerous documented spills and leaks are considered a REC based on reported impacts to water for a few of these spills, proximity to the Property, groundwater flow direction toward the east/southeast, and lack of closure documentation for the two listings described above. Groundwater monitoring information in the area of the solar facility was not available for review for this Phase I ESA. It is noted that groundwater depths in the area are greater than 100 feet and that construction of the proposed Project is not expected to encounter groundwater.

Barstow-Daggett Airport: The Barstow-Daggett Airport is listed in the HIST Cal-Site database and is located immediately adjacent to the south of the Property. This listing indicates an open military base with a status of “Annual Workplan—Active Site.” The facility is currently administered by the San Bernardino County Department of Transportation- Airports Division. Based on the listing, building and storage space is leased to a variety of industrial users, which have included the “Federal Aviation Administration (FAA), Stuart Davis, Lundeen, and others.” The U.S. Army currently leases portions of the airport for use a heliport associated with Fort Irwin. The airport includes five former underground storage tank (UST) sites that contain nine USTs. Two waste disposal sites (Waste Disposal Site “A” and Waste Disposal Site “B”) are also located at the airport. Potential and/or confirmed hazardous waste contaminants of concern previously identified from past soil sampling conducted for the UST sites include petroleum contaminants including benzene, toluene, ethylbenzene, lead, and xylenes. Soil contaminants associated with Waste Disposal Site "A" include methylene chloride and the following metals: arsenic, barium, beryllium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Contaminants associated with Waste Disposal Site "B" include the following metals: arsenic barium, beryllium, chromium, cobalt, copper, lead, molybdenum, nickel, thallium, vanadium, and zinc. In addition, a search of the California Geotracker database (2018) lists gasoline as a potential contaminant of concern and groundwater as a potential media of concern for the airport. No additional information regarding the extent of impacts were readily ascertainable at the time of writing this report. Metal-impacted soils associated with the Waste Disposal sites represent a material threat to the Property due to wind-transport mechanisms. In addition, the releases associated with the UST sites appeared to have impacted groundwater with gasoline. Based on the information available, the soil and/or groundwater impacts at this property associated with the leaking USTs and waste disposal activities are considered a REC as contamination from these areas of the airport represents a material threat to the Property based on the proximity to the

Property, the history of contamination, groundwater flow direction toward the east/southeast, and lack of closure documentation.

ASTM defines an HREC as:

> *A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (e.g., property use restrictions, activity and use limitations [AULs], institutional controls or engineering controls).*

No HRECs were identified during the completion of this Phase I ESA.

ASTM defines a CREC as:

> *A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances allowed to remain in place subject to the implementation of required controls.*

No CRECs were identified during the completion of this Phase I ESA.

Tetra Tech recommends that NRG consider the “shelf life” of Phase I documents in determining risk. ASTM E2247-16 states that a conforming “Phase I” report is valid for a period of 180 days, and may be updated during the 180 days to 1-year timeframe. The report is valid for use in any of the Comprehensive Environmental Response, Compensation, and Liability Act defenses ONLY if it is updated within this time frame. If greater than one year passes from the final report date, the Phase I effort would need to be repeated to remain in compliance with ASTM and the “All Appropriate Inquiry” protection.

8.0 LIMITATIONS

This report was compiled based partially on information supplied to Tetra Tech from outside sources and other information in the public domain. The conclusions and opinions herein are based on the information Tetra Tech obtained in compiling the report. This information is on file at Tetra Tech's office in Golden, Colorado. Tetra Tech makes no warranty as to the accuracy of statements made by others that may be contained in the report; nor are any other warranties or guarantees, expressed or implied, included or intended by the report except that it has been prepared in accordance with the current generally accepted practices and standards consistent with the level of care and skill exercised under similar circumstances by other professional consultants or firms performing the same or similar services. Because the facts forming the basis for the report are subject to professional interpretation and differing conclusions could be reached. Tetra Tech does not assume responsibility for discovery and elimination of hazards that could cause accidents, injuries, or damage. Compliance with submitted recommendations or suggestions does not assure elimination of hazards or fulfillment of client's obligations under local, state, or federal laws, or any modifications or changes to such laws. None of the work performed hereunder shall constitute or be represented as a legal opinion of any kind or nature, but shall be a representation of findings of fact from site reconnaissance and records examined.

9.0 SIGNTURE OF ENVIRONMENTAL PROFESSIONALS

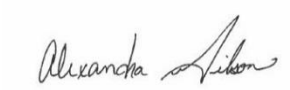
We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in S. 312.10 of this part.

We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Property. We have developed and performed the all appropriate inquires in conformation with the standards and practices set forth in 40 Code of Federal Regulations Part 312.

Prepared by

Tetra Tech, Inc.

Alexandra Gibson



Environmental Scientist

Rachel Miller

Senior Reviewer

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Figures

Daggett Solar Power Facility Phase I ESA

Figure 1
Site Location
San Bernardino County, CA
June 2018

Legend

- Project Boundary

Generator Tie-In

- Option 1
- Option 2
- Option 3

Transportation

- Interstate Highway

0 1,000 2,000 3,000 4,000 Feet
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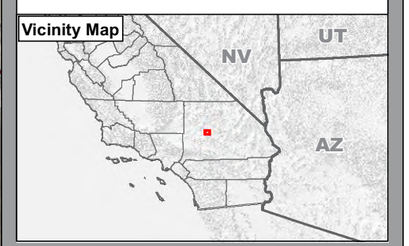
Vicinity Map



TETRA TECH

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Daggett Solar Power Facility Phase I ESA

Figure 2
Site Recon

San Bernardino County, CA

June 2018

Coolwater Generating Station 37000 Santa Fe Street

Solar Energy Generating Station II 35100 Santa Fe Street

Minneola

Valley Center

Silver Valley Road

Barstow-Daggett Airport

15

40

Legend

- Project Boundary
- Solar Facility/35100 Santa Fe Strett
- Coolwater Generating Station/37000 Santa Fe Street
- Barstow-Daggett Airport
- Former Hazardous Waste Location/Handler Location/ 41717 Silver Valley Road (EDR, 2018)
- Evaporating Ponds
- Lagoon/Pond
- Solid Waste Impoundment

Generator Tie-In

- Option 1
- Option 2
- Option 3

Transportation

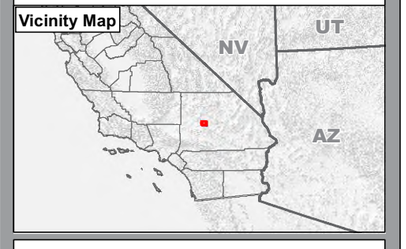
- Interstate Highway
- Local Road

Reference: Environmental Data Resources (EDR). 2018. EDR Area/Corridor Report for Daggett Solar. Inquiry Number 5323533.2s. June 7, 2018.

0 1,000 2,000 3,000 4,000 Feet

1:21,510

Vicinity Map



TETRA TECH

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Appendix A—Regulatory Database Search

Daggett Solar
San Bernardino County
Newberry Springs, CA 92365

Inquiry Number: 5323533.2s
June 07, 2018

EDR Area / Corridor Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Orphan Summary	OR-1
Government Records Searched/Data Currency Tracking	GR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

SUBJECT PROPERTY INFORMATION

ADDRESS

SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

TARGET PROPERTY SEARCH RESULTS

The Target Property was identified in the following databases.

Page Numbers and Map Identifcations refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

A review of the NPL list, as provided by EDR, and dated 12/11/2017 has revealed that there is 1 NPL site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
MCLB,BARSTOW B570 Cerclis ID:: 902790 EPA Id: CA8170024261	***BOX 110570, BLDG. 19***	***Region / 1,7,6,12,13***	***40***

Federal CERCLIS list

SEMS: Superfund Enterprise Management System

A review of the SEMS list, as provided by EDR, and dated 01/09/2018 has revealed that there is 1 SEMS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
MCLB,BARSTOW B570 Site ID: 0902790 EPA Id: CA8170024261	***BOX 110570, BLDG. 19***	***Region / 1,7,6,12,13***	***40***

EXECUTIVE SUMMARY

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

A review of the CORRACTS list, as provided by EDR, and dated 12/11/2017 has revealed that there is 1 CORRACTS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
MCLB,BARSTOW B570 EPA ID:: CA8170024261	***BOX 110570, BLDG. 19***	***Region / 1,7,6,12,13***	***40***

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

A review of the RCRA-LQG list, as provided by EDR, and dated 12/11/2017 has revealed that there is 1 RCRA-LQG site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
MCLB,BARSTOW B570 EPA ID:: CA8170024261	***BOX 110570, BLDG. 19***	***Region / 1,7,6,12,13***	***40***

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A review of the US ENG CONTROLS list, as provided by EDR, and dated 02/13/2018 has revealed that there is 1 US ENG CONTROLS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
MCLB,BARSTOW B570 EPA ID:: CA8170024261 EPA ID:: CA8170024261	***BOX 110570, BLDG. 19***	***Region / 1,7,6,12,13***	***40***

US INST CONTROL: Sites with Institutional Controls

A review of the US INST CONTROL list, as provided by EDR, and dated 02/13/2018 has revealed that there is 1 US INST CONTROL site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
MCLB,BARSTOW B570 EPA ID:: CA8170024261	***BOX 110570, BLDG. 19***	***Region / 1,7,6,12,13***	***40***

EXECUTIVE SUMMARY

Federal ERNS list

ERNS: Emergency Response Notification System

A review of the ERNS list, as provided by EDR, and dated 01/16/2018 has revealed that there is 1 ERNS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
Not reported NRC Report #: 417245	35100 SANTA FE ST	6 / 8	109

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

A review of the ENVIROSTOR list, as provided by EDR, and dated 01/30/2018 has revealed that there is 1 ENVIROSTOR site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
MCLB,BARSTOW B570 Facility Id: 80001276 Status: Refer: Other Agency	***BOX 110570, BLDG. 19***	***Region / 1,7,6,12,13***	***40***

State and tribal registered storage tank lists

UST: Active UST Facilities

A review of the UST list, as provided by EDR, has revealed that there is 1 UST site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
AG-SILVER VALLEY FAR Database: UST, Date of Government Version: 03/12/2018 Facility Id: 87014242	41313 VALLEY CENTER	B12 / 10	114

AST: Aboveground Petroleum Storage Tank Facilities

A review of the AST list, as provided by EDR, has revealed that there is 1 AST site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
CLEVELAND FARMS INC Database: AST, Date of Government Version: 07/06/2016	***41313 VALLEY CENTER***	***B10 / 10***	***112***

EXECUTIVE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there is 1 SWEEPS UST site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
SILVER VALLEY FARMS	***41313 VALLEY CENTER***	***B13 / 10***	***114***
Status: A Tank Status: A Comp Number: 27462			

HIST UST: Hazardous Substance Storage Container Database

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there is 1 HIST UST site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
SILVER VALLEY FARMS Facility Id: 00000027462	41313 VALLEY CENTER	B11 / 10	113

CA FID UST: Facility Inventory Database

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there is 1 CA FID UST site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
SILVER VALLEY FARMS	***41313 VALLEY CENTER***	***B13 / 10***	***114***
Facility Id: 36008837 Status: A			

Records of Emergency Release Reports

CHMIRS: California Hazardous Material Incident Report System

A review of the CHMIRS list, as provided by EDR, and dated 02/15/2018 has revealed that there are 4 CHMIRS sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
Not reported OES Incident Number: 904982 Date Completed: 16-FEB-89	SEGS II	A2 / 8	105
Not reported OES Incident Number: 905178	SOLAR ENERGY GENERAT	A3 / 8	106

Date Completed: 14-MAR-89			
Not reported OES Incident Number: 7-4225	37000 EAST SANTA FE	4 / 13	107
Not reported OES Incident Number: 904981 Date Completed: 16-FEB-89	SEGS II	A7 / 8	110

Other Ascertainable Records

ROD: Records Of Decision

A review of the ROD list, as provided by EDR, and dated 01/09/2018 has revealed that there is 1 ROD site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
MCLB,BARSTOW B570 EPA ID:: CA8170024261	***BOX 110570, BLDG. 19***	***Region / 1,7,6,12,13***	***40***

RAATS: RCRA Administrative Action Tracking System

A review of the RAATS list, as provided by EDR, and dated 04/17/1995 has revealed that there is 1 RAATS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
MCLB,BARSTOW B570 Status: 20 Facility ID: CA8170024261	***BOX 110570, BLDG. 19***	***Region / 1,7,6,12,13***	***40***

FINDS: Facility Index System/Facility Registry System

A review of the FINDS list, as provided by EDR, and dated 02/21/2018 has revealed that there are 2 FINDS sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
VAN DAM RANCH Registry ID:: 110066107117	39200 HIDDEN SPRINGS	1 / 8	105
CLEVELAND FARMS INC Registry ID:: 110065065501	41313 VALLEY CENTER	B9 / 10	112

HAZNET: Facility and Manifest Data

A review of the HAZNET list, as provided by EDR, and dated 12/31/2016 has revealed that there is 1 HAZNET site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
MCLB,BARSTOW B570	***BOX 110570, BLDG. 19***	***Region / 1,7,6,12,13***	***40***

EXECUTIVE SUMMARY

GEPAID: CA8170024261

HWP: EnviroStor Permitted Facilities Listing

A review of the HWP list, as provided by EDR, and dated 02/20/2018 has revealed that there is 1 HWP site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
MCLB,BARSTOW B570	***BOX 110570, BLDG. 19***	***Region / 1,7,6,12,13***	***40***
EPA Id: CA8170024261			
Cleanup Status: PROTECTIVE FILER			

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Page Numbers and Map Identifcations refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

A review of the SEMS-ARCHIVE list, as provided by EDR, and dated 01/09/2018 has revealed that there is 1 SEMS-ARCHIVE site within approximately 0.5 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
EPTC COOLWATER	***37000 SANTA FE RD.***	***N 1/8 - 1/4 (0.222 mi.)***	***F24 / 7***	***154***
Site ID: 0900943				
EPA Id: CAD000630905				

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

A review of the CORRACTS list, as provided by EDR, and dated 12/11/2017 has revealed that there is 1 CORRACTS site within approximately1 mile of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
EPTC COOLWATER	***37000 SANTA FE RD.***	***N 1/8 - 1/4 (0.222 mi.)***	***F24 / 7***	***154***

EPA ID:: CAD000630905

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

A review of the RCRA-TSDF list, as provided by EDR, and dated 12/11/2017 has revealed that there is 1 RCRA-TSDF site within approximately 0.5 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
EPTC COOLWATER EPA ID:: CAD000630905	***37000 SANTA FE RD.***	***N 1/8 - 1/4 (0.222 mi.)***	***F24 / 7***	***154***

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

A review of the RCRA-LQG list, as provided by EDR, and dated 12/11/2017 has revealed that there is 1 RCRA-LQG site within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
SOUTHERN CALIFORNIA EPA ID:: CAR000008425	37110 SANTA FE RD.	SSE 1/8 - 1/4 (0.149 mi.)	D21 / 6	124

RCRA-SQG: RCRA - Small Quantity Generators

A review of the RCRA-SQG list, as provided by EDR, and dated 12/11/2017 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
EPTC COOLWATER EPA ID:: CAD000630905	***37000 SANTA FE RD.***	***N 1/8 - 1/4 (0.222 mi.)***	***F24 / 7***	***154***

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

A review of the RESPONSE list, as provided by EDR, has revealed that there is 1 RESPONSE site within approximately1 mile of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
BARSTOW-DAGGETT AIRP AWP Facility Id: 36970009 Status: No Further Action Facility Id: 36970009	***OFF HWY40, ON HIDDEN***	***W 1/2 - 1 (0.520 mi.)***	***30 / 15***	***173***

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

A review of the ENVIROSTOR list, as provided by EDR, and dated 01/30/2018 has revealed that there are 5 ENVIROSTOR sites within approximately1 mile of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
RELIANT ENERGY COOLW	***37310 E SANTA FE RD***	***N 1/8 - 1/4 (0.222 mi.)***	***F25 / 7***	***167***
Facility Id: 36490115 Facility Id: 60001196 Status: Refer: 1248 Local Agency Status: No Further Action				
BARSTOW-DAGGETT AIRP	***OFF HWY40, ON HIDDEN***	***W 1/2 - 1 (0.520 mi.)***	***30 / 15***	***173***
Facility Id: 36970009 Status: No Further Action				
DAGGETT AIRPORT	***BARSTOW/DAGGETT AIRP***	***W 1/2 - 1 (0.614 mi.)***	***31 / 15***	***180***
Facility Id: 36450005 Status: Refer: RWQCB				
MCSC BARSTOW		S 1/2 - 1 (0.744 mi.)	H35 / 15	183
Facility Id: 80000537 Status: Inactive - Needs Evaluation				
MODIFICATION CNTR NO	(4 MILES EAST OF)	S 1/2 - 1 (0.744 mi.)	H36 / 15	184
Facility Id: 80001057 Status: Inactive - Needs Evaluation				

State and tribal leaking storage tank lists

LUST: Geotracker's Leaking Underground Fuel Tank Report

A review of the LUST list, as provided by EDR, has revealed that there is 1 LUST site within approximately 0.5 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
COOLWATER GENERATING	***37072 SANTA FE RD E***	***S 0 - 1/8 (0.117 mi.)***	***C15 / 6***	***117***
Database: LUST REG 6V, Date of Government Version: 06/07/2005 Database: LUST, Date of Government Version: 03/12/2018 Status: Completed - Case Closed Global Id: T0607100667 Close Date: 10/23/1989 Status: Case Closed				

State and tribal registered storage tank lists

AST: Aboveground Petroleum Storage Tank Facilities

A review of the AST list, as provided by EDR, has revealed that there are 2 AST sites within

approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
JOE HARTER FARMS	***33535 MINNEOLA RD***	***E 0 - 1/8 (0.068 mi.)***	***14 / 10***	***116***
Database: AST, Date of Government Version: 07/06/2016				
SUNRAY ENERGY INC	***35100 SANTA FE ST***	***E 1/8 - 1/4 (0.170 mi.)***	***E22 / 7***	***127***
Database: AST, Date of Government Version: 07/06/2016				

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

A review of the WMUDS/SWAT list, as provided by EDR, and dated 04/01/2000 has revealed that there are 2 WMUDS/SWAT sites within approximately 0.5 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
SEGS I & II - DAGGET	***35100 SANTE FE RD***	***E 1/8 - 1/4 (0.170 mi.)***	***E23 / 7***	***148***
COOLWATER GEN STATIO	***37000 SANTA FE ST***	***WSW 1/4 - 1/2 (0.258 mi.)***	***29 / 6***	***172***

Local Lists of Hazardous waste / Contaminated Sites

HIST Cal-Sites: Historical Calsites Database

A review of the HIST Cal-Sites list, as provided by EDR, and dated 08/08/2005 has revealed that there is 1 HIST Cal-Sites site within approximately1 mile of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
BARSTOW-DAGGETT AIRP	***OFF HWY40, ON HIDDEN***	***W 1/2 - 1 (0.520 mi.)***	***30 / 15***	***173***

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 2 SWEEPS UST sites within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
COOL WATER GENERATIN	37072 E SANTA FE RD	S 0 - 1/8 (0.117 mi.)	C16 / 6	119
Status: A Tank Status: A Comp Number: 66314				
COOLWATER COAL GAS P	37072 E SANTA FE RD	S 0 - 1/8 (0.117 mi.)	C17 / 6	119
Status: A Tank Status: A				

Comp Number: 58855

HIST UST: Hazardous Substance Storage Container Database

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 4 HIST UST sites within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
COOL WATER COAL GASI Facility Id: 00000058855	37072 E SANTA FE ROA	S 0 - 1/8 (0.117 mi.)	C18 / 6	120
COOL WATER GENERATIN Facility Id: 00000066314	37072 E. SANTA FE RO	S 0 - 1/8 (0.117 mi.)	C19 / 6	122
SOLAR ONE GENERATING Facility Id: 00000066329	E SANTA FE ROAD	N 1/8 - 1/4 (0.231 mi.)	G26 / 7	170
COOL WATER GENERATIN Facility Id: 00000060016	PO BOX 337	N 1/8 - 1/4 (0.231 mi.)	G27 / 7	171

Other Ascertainable Records

FUDS: Formerly Used Defense Sites

A review of the FUDS list, as provided by EDR, and dated 01/31/2015 has revealed that there is 1 FUDS site within approximately1 mile of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
DAGGETT ARMY AIRFIEL Federal Facility ID:: CA9799F5424 INST ID:: 57384		S 1/2 - 1 (0.744 mi.)	H32 / 15	181

UXO: Unexploded Ordnance Sites

A review of the UXO list, as provided by EDR, and dated 09/30/2016 has revealed that there are 2 UXO sites within approximately1 mile of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
SKEET AND HARMONIZAT		S 1/2 - 1 (0.744 mi.)	H33 / 15	183
PISTOL AND SUBMACHIN		S 1/2 - 1 (0.744 mi.)	H34 / 15	183

HIST CORTESE: Hazardous Waste & Substance Site List

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there is 1 HIST CORTESE site within approximately 0.5 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
COOLWATER GENERATING Reg Id: 6B3600079T	***37072 SANTA FE RD E***	***S 0 - 1/8 (0.117 mi.)***	***C15 / 6***	***117***

EXECUTIVE SUMMARY

HWP: EnviroStor Permitted Facilities Listing

A review of the HWP list, as provided by EDR, and dated 02/20/2018 has revealed that there is 1 HWP site within approximately1 mile of the requested target property.

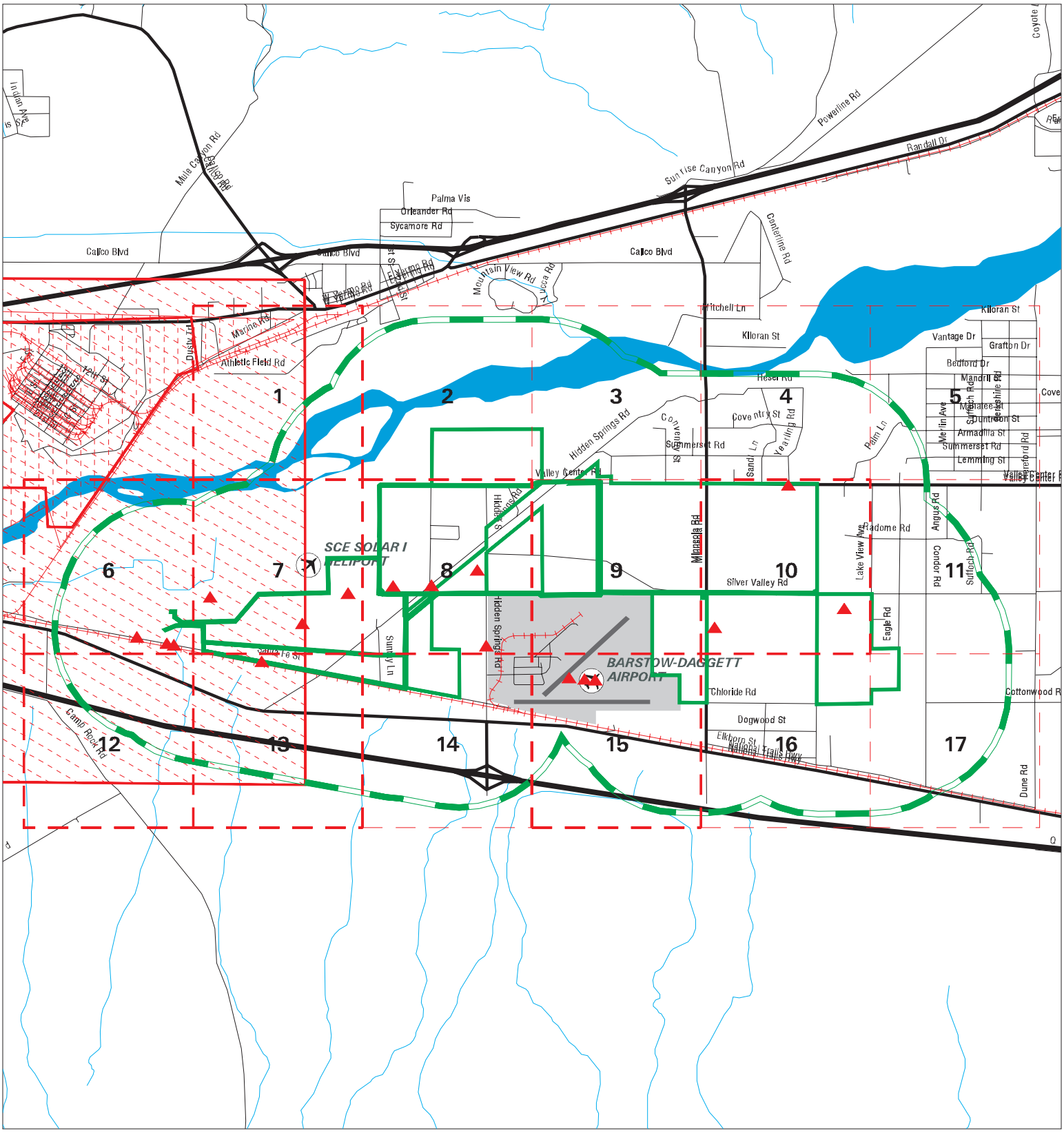
Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
RELIANT ENERGY COOLW	***37310 E SANTA FE RD***	***N 1/8 - 1/4 (0.222 mi.)***	***F25 / 7***	***167***
EPA Id: CAD000630905				
Cleanup Status: PROTECTIVE FILER				

MAPPED SITES SUMMARY

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION		
Reg / Multiple	MCLB,BARSTOW B570	BOX 110570, BLDG. 19	NPL, SEMS, CORRACTS, RCRA-LQG, US ENG CO.	TP		
1 / 8	VAN DAM RANCH	39200 HIDDEN SPRINGS	FINDS	TP		
A2 / 8		SEGS II	CHMIRS	TP		
A3 / 8		SOLAR ENERGY GENERAT	CHMIRS	TP		
4 / 13		37000 EAST SANTA FE	CHMIRS	TP		
5 / 10	ABANDONED HAZARDOUS	41717 SILVER VALLEY	San Bern. Co. Permit	TP		
6 / 8		35100 SANTA FE ST	ERNS	TP		
A7 / 8		SEGS II	CHMIRS	TP		
B8 / 10	RK FARMS	41313 VALLEY CENTER	San Bern. Co. Permit	TP		
B9 / 10	CLEVELAND FARMS INC	41313 VALLEY CENTER	FINDS	TP		
B10 / 10	CLEVELAND FARMS INC	41313 VALLEY CENTER	AST, San Bern. Co. Permit	TP		
B11 / 10	SILVER VALLEY FARMS	41313 VALLEY CENTER	HIST UST	TP		
B12 / 10	AG-SILVER VALLEY FAR	41313 VALLEY CENTER	UST	TP		
B13 / 10	SILVER VALLEY FARMS	41313 VALLEY CENTER	SWEEPS UST, CA FID UST	TP		
14 / 10	JOE HARTER FARMS	33535 MINNEOLA RD	AST, San Bern. Co. Permit	359	0.068	East
C15 / 6	COOLWATER GENERATING	37072 SANTA FE RD E	LUST, HIST CORTESE	618	0.117	South
C16 / 6	COOL WATER GENERATIN	37072 E SANTA FE RD	SWEEPS UST	618	0.117	South
C17 / 6	COOLWATER COAL GAS P	37072 E SANTA FE RD	SWEEPS UST	618	0.117	South
C18 / 6	COOL WATER COAL GASI	37072 E SANTA FE ROA	HIST UST	618	0.117	South
C19 / 6	COOL WATER GENERATIN	37072 E. SANTA FE RO	HIST UST	618	0.117	South
D20 / 6	PG&E: KRGT - PGE DAG	37101 SANTA FE RD	San Bern. Co. Permit	776	0.147	SSE
D21 / 6	SOUTHERN CALIFORNIA	37110 SANTA FE RD.	RCRA-LQG	789	0.149	SSE
E22 / 7	SUNRAY ENERGY INC	35100 SANTA FE ST	AST, CHMIRS, NPDES, San Bern. Co. Permit...	895	0.170	East
E23 / 7	SEGS I & II - DAGGET	35100 SANTE FE RD	WMUDS/SWAT, CHMIRS, LDS, ENF, CIWQS	895	0.170	East
F24 / 7	EPTC COOLWATER	37000 SANTA FE RD.	SEMS-ARCHIVE, CORRACTS, RCRA-TSDF, RCRA-	1170	0.222	North
F25 / 7	RELIANT ENERGY COOLW	37310 E SANTA FE RD	ENVIROSTOR, HWP	1170	0.222	North
G26 / 7	SOLAR ONE GENERATING	E SANTA FE ROAD	HIST UST	1218	0.231	North
G27 / 7	COOL WATER GENERATIN	PO BOX 337	HIST UST	1218	0.231	North
28 / 8	DEPT OF CA HWY PATRO	33251 HIDDEN SPRINGS	San Bern. Co. Permit	1319	0.250	East
29 / 6	COOLWATER GEN STATIO	37000 SANTA FE ST	WMUDS/SWAT, EMI	1364	0.258	WSW
30 / 15	BARSTOW-DAGGETT AIRP	OFF HWY40, ON HIDDEN	RESPONSE, ENVIROSTOR, HIST Cal-Sites	2743	0.520	West
31 / 15	DAGGETT AIRPORT	BARSTOW/DAGGETT AIRP	ENVIROSTOR, HIST CORTESE	3240	0.614	West
H32 / 15	DAGGETT ARMY AIRFIEL		FUDS	3927	0.744	South
H33 / 15	SKEET AND HARMONIZAT		UXO	3927	0.744	South
H34 / 15	PISTOL AND SUBMACHIN		UXO	3927	0.744	South
H35 / 15	MCSC BARSTOW		ENVIROSTOR	3930	0.744	South
H36 / 15	MODIFICATION CNTR NO	(4 MILES EAST OF)	ENVIROSTOR	3930	0.744	South

Key Map - 5323533.2s



SITE NAME: Daggett Solar	CLIENT: Tetra Tech EC, Inc.
ADDRESS: San Bernardino County	CONTACT: Rachel Miller
CITY/STATE: Newberry Springs CA	INQUIRY #: 5323533.2s
ZIP: 92365	DATE: 06/07/18 3:47 PM

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000	1	0	0	0	0	NR	1
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500	1	0	0	0	NR	NR	1
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	1	0	NR	NR	1
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000	1	0	1	0	0	NR	2
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	1	0	NR	NR	1
Federal RCRA generators list								
RCRA-LQG	0.250	1	0	1	NR	NR	NR	2
RCRA-SQG	0.250		0	1	NR	NR	NR	1
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500	1	0	0	0	NR	NR	1
US INST CONTROL	0.500	1	0	0	0	NR	NR	1
Federal ERNS list								
ERNS	TP	1	NR	NR	NR	NR	NR	1
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	1	NR	1
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000	1	0	1	0	4	NR	6
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		1	0	0	NR	NR	1

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250	1	0	0	NR	NR	NR	1
AST	0.250	1	1	1	NR	NR	NR	3
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	1	1	NR	NR	2
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	1	NR	1
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250	1	2	0	NR	NR	NR	3
HIST UST	0.250	1	2	2	NR	NR	NR	5
CA FID UST	0.250	1	0	0	NR	NR	NR	1
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CHMIRS	TP	4	NR	NR	NR	NR	NR	4
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	1	NR	1
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000	1	0	0	0	0	NR	1
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP	1	NR	NR	NR	NR	NR	1
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP	2	NR	NR	NR	NR	NR	2
UXO	1.000		0	0	0	2	NR	2
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP	1	NR	NR	NR	NR	NR	1

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		1	0	0	NR	NR	1
HWP	1.000	1	0	1	0	0	NR	2
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		23	7	11	1	9	0	51

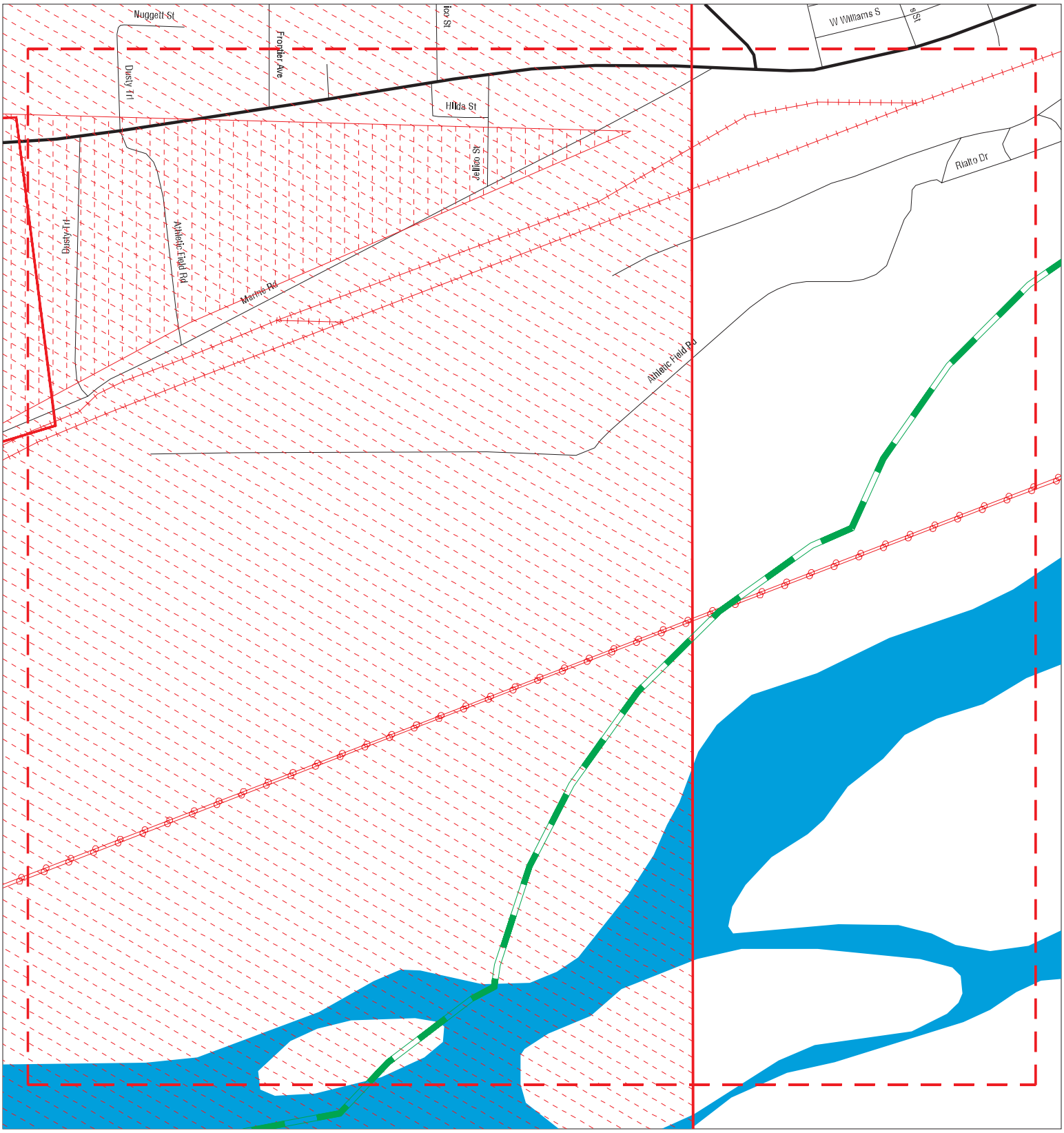
NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Focus Map - 1 - 5323533.2s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Daggett Solar	CLIENT: Tetra Tech EC, Inc.
ADDRESS: San Bernardino County	CONTACT: Rachel Miller
CITY/STATE: Newberry Springs CA	INQUIRY #: 5323533.2s
ZIP: 92365	DATE: 06/07/18

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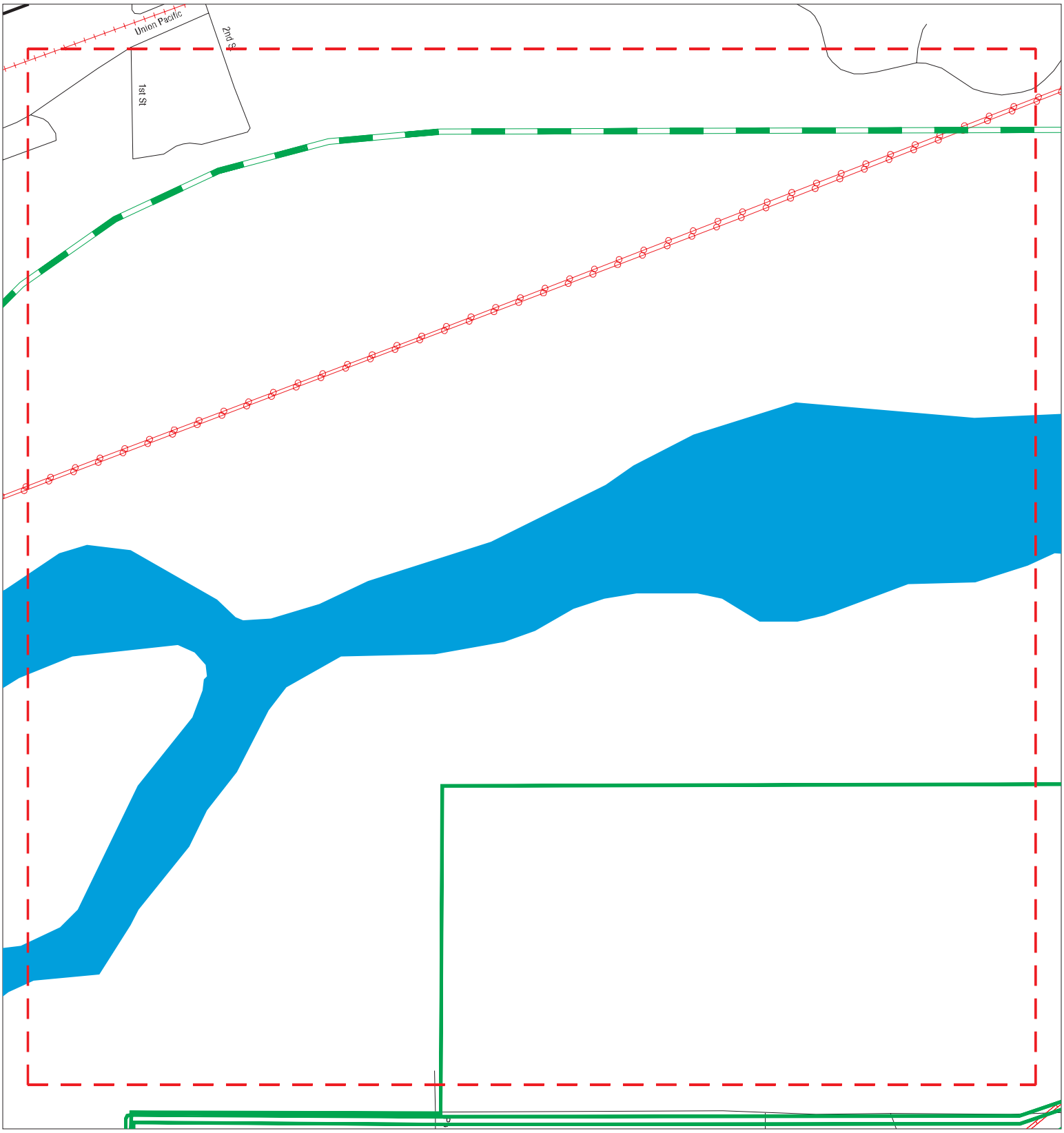
MAPPED SITES SUMMARY - FOCUS MAP 1

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
Reg / Multiple	MCLB,BARSTOW B570	BOX 110570, BLDG. 19	NPL, SEMS, CORRACTS, RCRA-LQG, US ENG CO.1	TP

Focus Map - 2 - 5323533.2s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME:	Daggett Solar	CLIENT:	Tetra Tech EC, Inc.
ADDRESS:	San Bernardino County	CONTACT:	Rachel Miller
CITY/STATE:	Newberry Springs CA	INQUIRY #:	5323533.2s
ZIP:	92365	DATE:	06/07/18

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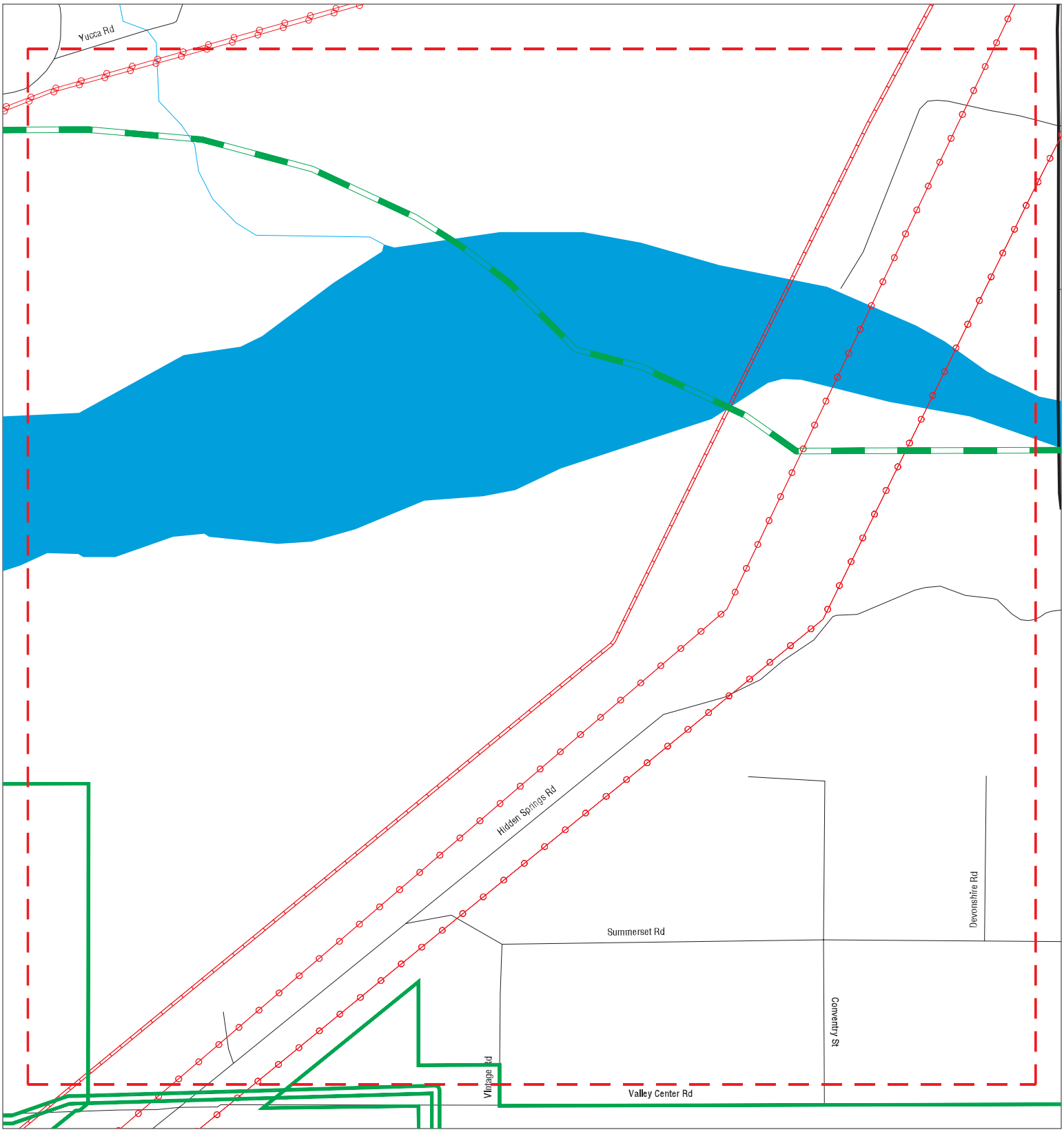
MAPPED SITES SUMMARY - FOCUS MAP 2

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

Focus Map - 3 - 5323533.2s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Daggett Solar	CLIENT: Tetra Tech EC, Inc.
ADDRESS: San Bernardino County	CONTACT: Rachel Miller
CITY/STATE: Newberry Springs CA	INQUIRY #: 5323533.2s
ZIP: 92365	DATE: 06/07/18

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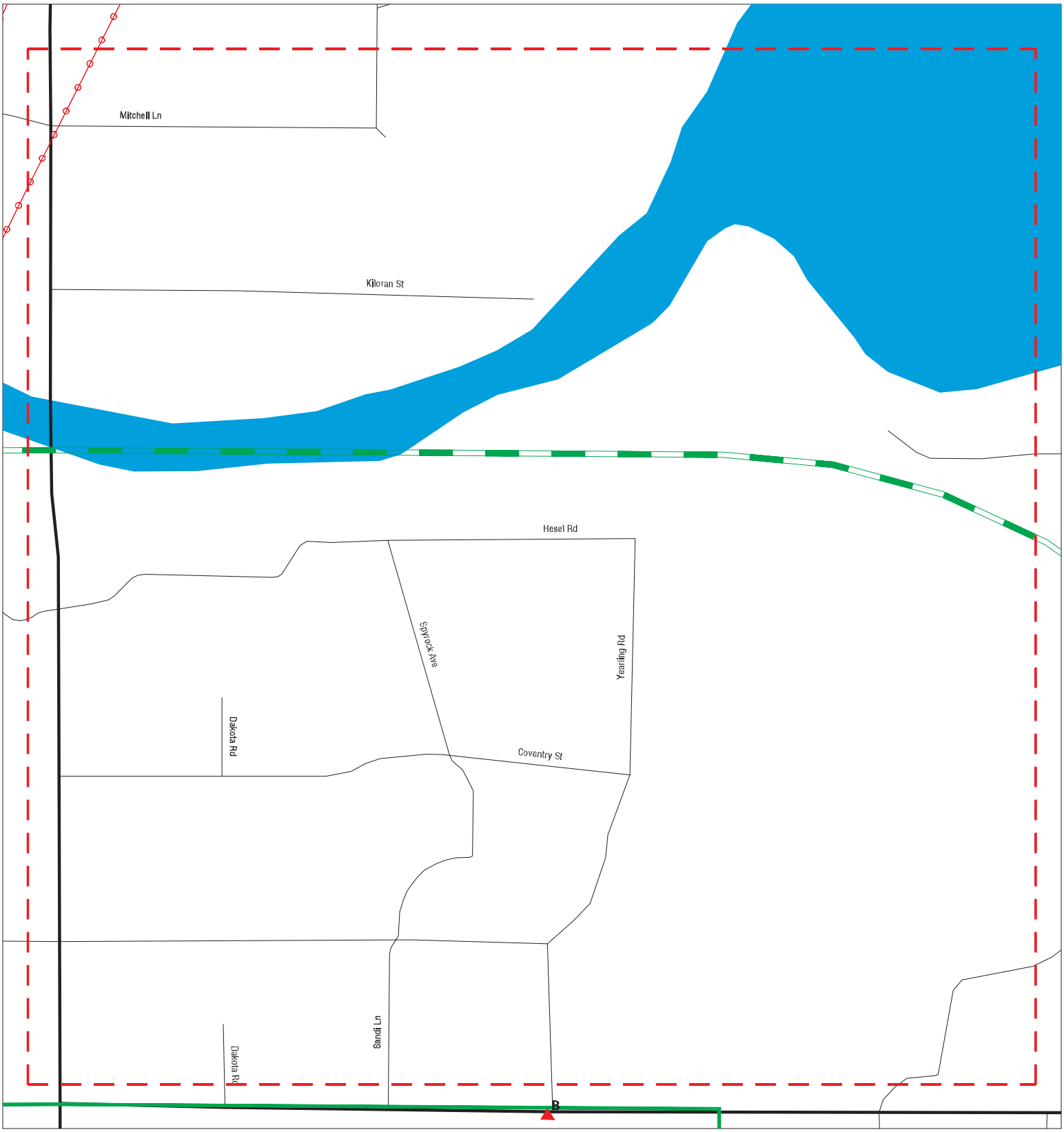
MAPPED SITES SUMMARY - FOCUS MAP 3

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

Focus Map - 4 - 5323533.2s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Daggett Solar	CLIENT: Tetra Tech EC, Inc.
ADDRESS: San Bernardino County	CONTACT: Rachel Miller
CITY/STATE: Newberry Springs CA	INQUIRY #: 5323533.2s
ZIP: 92365	DATE: 06/07/18

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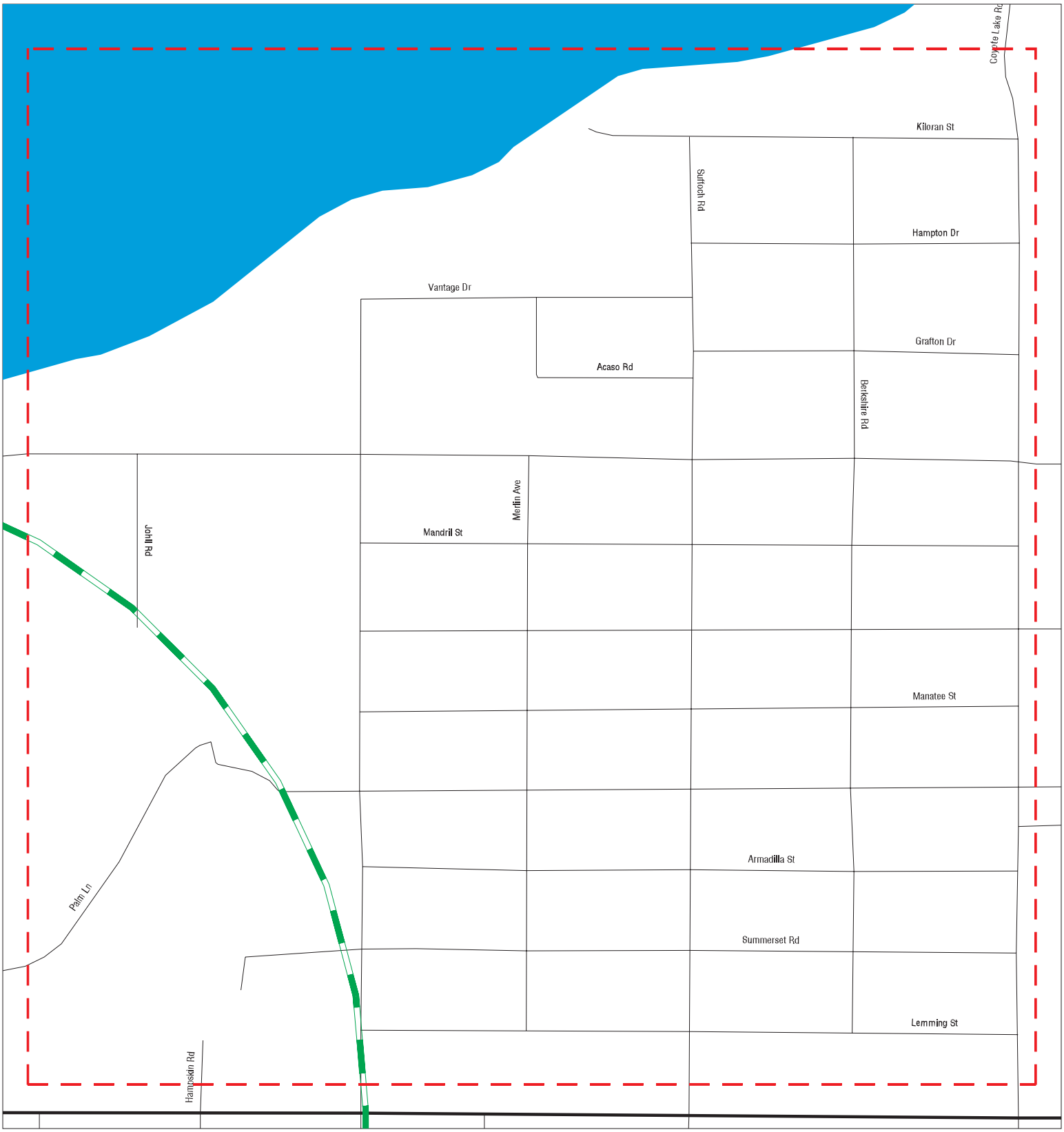
MAPPED SITES SUMMARY - FOCUS MAP 4

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

Focus Map - 5 - 5323533.2s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Daggett Solar	CLIENT: Tetra Tech EC, Inc.
ADDRESS: San Bernardino County	CONTACT: Rachel Miller
CITY/STATE: Newberry Springs CA	INQUIRY #: 5323533.2s
ZIP: 92365	DATE: 06/07/18

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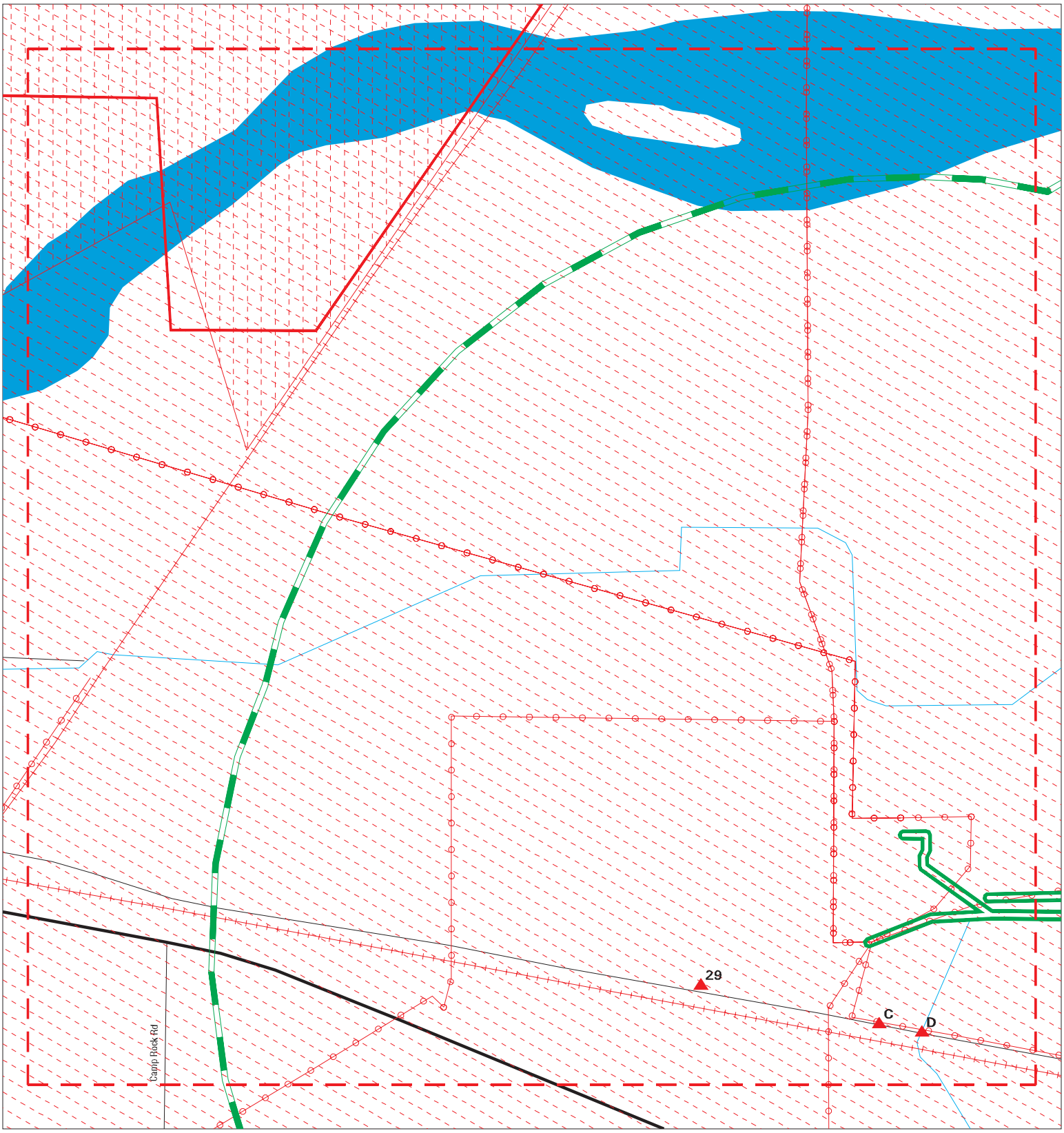
MAPPED SITES SUMMARY - FOCUS MAP 5

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

Focus Map - 6 - 5323533.2s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Daggett Solar	CLIENT: Tetra Tech EC, Inc.
ADDRESS: San Bernardino County	CONTACT: Rachel Miller
CITY/STATE: Newberry Springs CA	INQUIRY #: 5323533.2s
ZIP: 92365	DATE: 06/07/18

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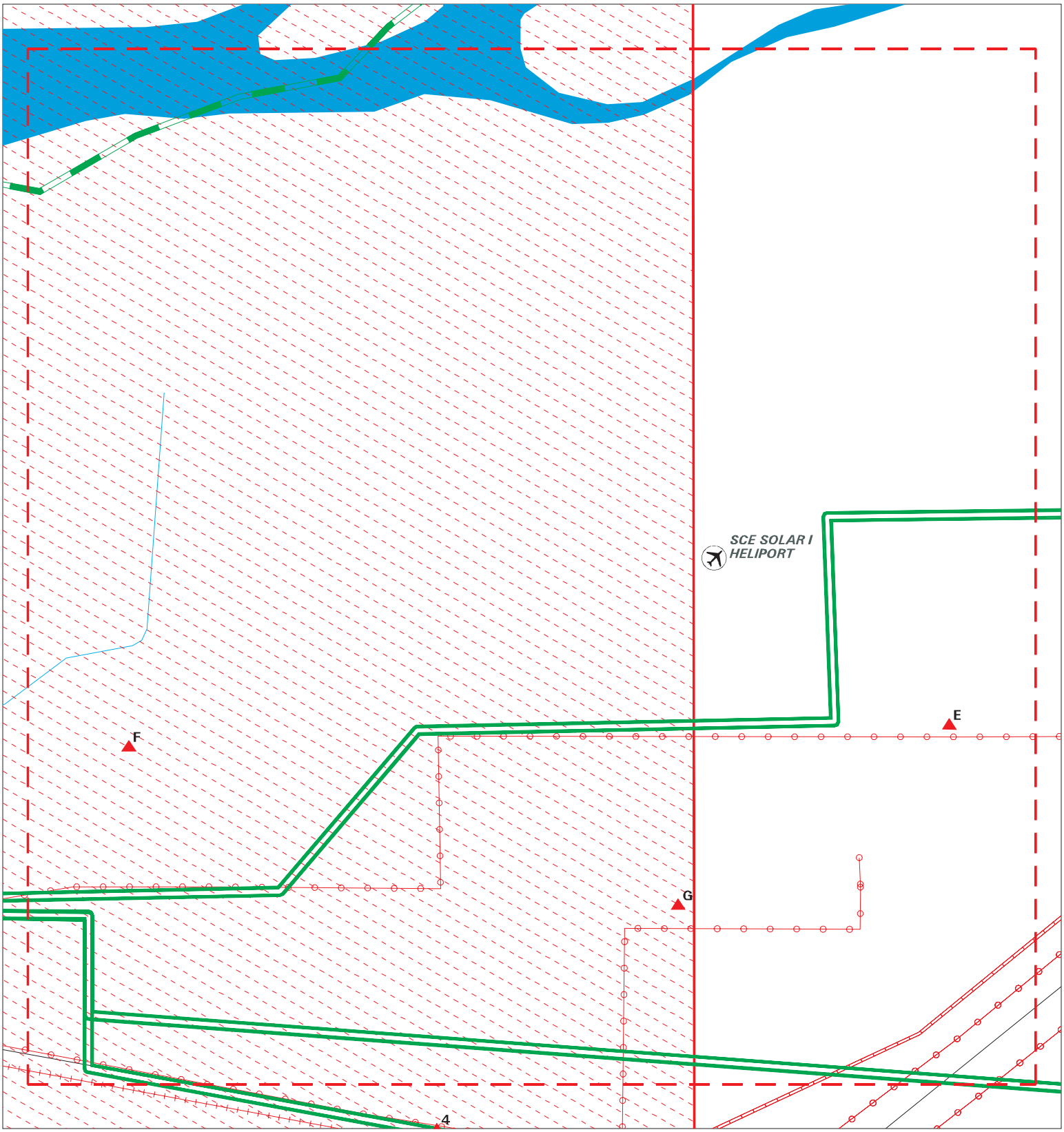
MAPPED SITES SUMMARY - FOCUS MAP 6

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION		
Reg / Multiple	MCLB,BARSTOW B570	BOX 110570, BLDG. 19	NPL, SEMS, CORRACTS, RCRA-LQG, US ENG CO. TP			
C15 / 6	COOLWATER GENERATING	37072 SANTA FE RD E	LUST, HIST CORTESE	618	0.117	South
C16 / 6	COOL WATER GENERATIN	37072 E SANTA FE RD	SWEEPS UST	618	0.117	South
C17 / 6	COOLWATER COAL GAS P	37072 E SANTA FE RD	SWEEPS UST	618	0.117	South
C18 / 6	COOL WATER COAL GASI	37072 E SANTA FE ROA	HIST UST	618	0.117	South
C19 / 6	COOL WATER GENERATIN	37072 E. SANTA FE RO	HIST UST	618	0.117	South
D20 / 6	PG&E: KRGT - PGE DAG	37101 SANTA FE RD	San Bern. Co. Permit	776	0.147	SSE
D21 / 6	SOUTHERN CALIFORNIA	37110 SANTA FE RD.	RCRA-LQG	789	0.149	SSE
29 / 6	COOLWATER GEN STATIO	37000 SANTA FE ST	WMUDS/SWAT, EMI	1364	0.258	WSW

Focus Map - 7 - 5323533.2s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Daggett Solar	CLIENT: Tetra Tech EC, Inc.
ADDRESS: San Bernardino County	CONTACT: Rachel Miller
CITY/STATE: Newberry Springs CA	INQUIRY #: 5323533.2s
ZIP: 92365	DATE: 06/07/18

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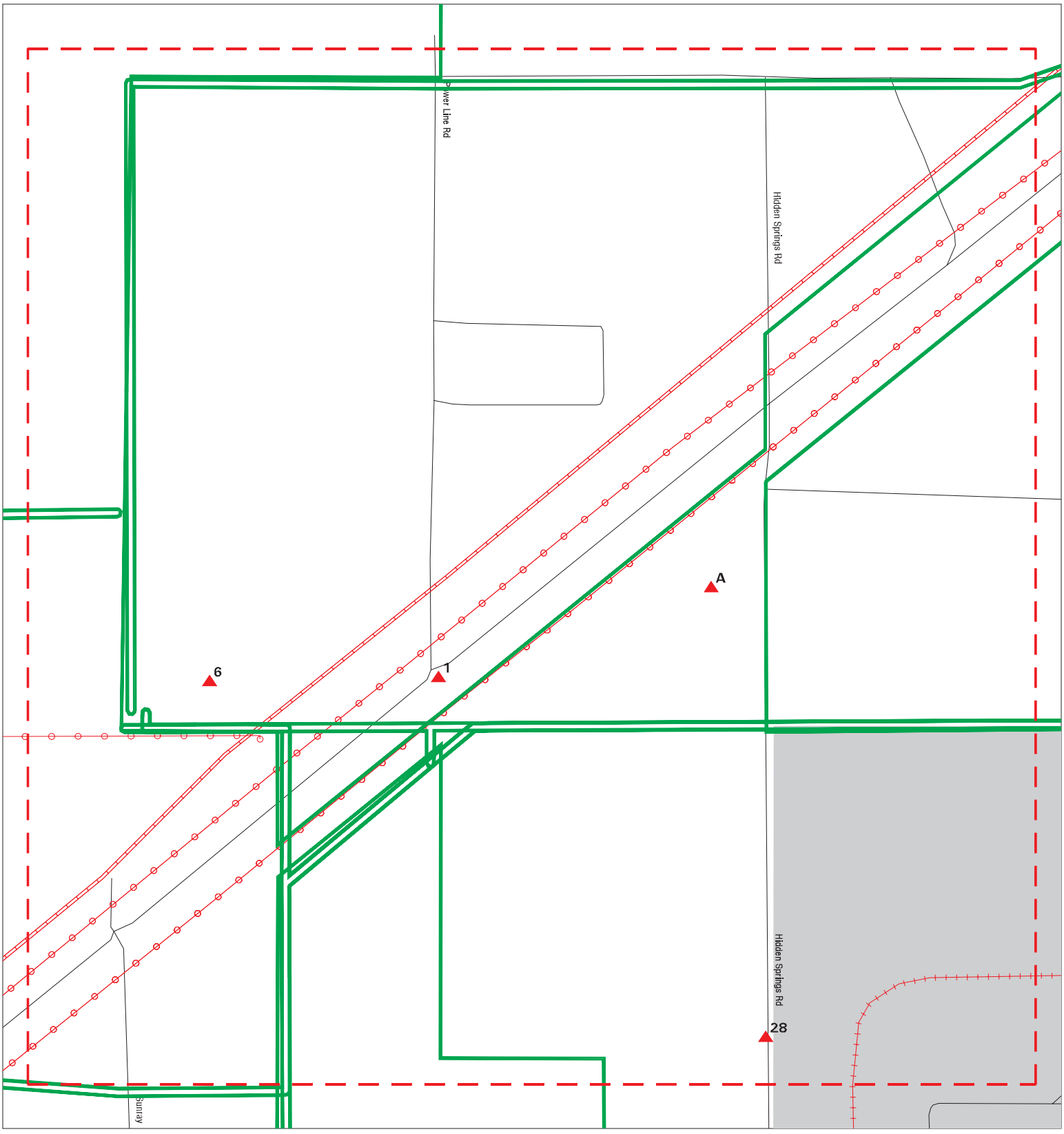
MAPPED SITES SUMMARY - FOCUS MAP 7

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION		
Reg / Multiple	MCLB,BARSTOW B570	BOX 110570, BLDG. 19	NPL, SEMS, CORRACTS, RCRA-LQG, US ENG CO. TP			
E22 / 7	SUNRAY ENERGY INC	35100 SANTA FE ST	AST, CHMIRS, NPDES, San Bern. Co. Permit...	895	0.170	East
E23 / 7	SEGS I & II - DAGGET	35100 SANTE FE RD	WMUDS/SWAT, CHMIRS, LDS, ENF, CIWQS	895	0.170	East
F24 / 7	EPTC COOLWATER	37000 SANTA FE RD.	SEMS-ARCHIVE, CORRACTS, RCRA-TSDF, RCRA-	1170	0.222	North
F25 / 7	RELIANT ENERGY COOLW	37310 E SANTA FE RD	ENVIROSTOR, HWP	1170	0.222	North
G26 / 7	SOLAR ONE GENERATING	E SANTA FE ROAD	HIST UST	1218	0.231	North
G27 / 7	COOL WATER GENERATIN	PO BOX 337	HIST UST	1218	0.231	North

Focus Map - 8 - 5323533.2s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

SITE NAME: Daggett Solar	CLIENT: Tetra Tech EC, Inc.
ADDRESS: San Bernardino County	CONTACT: Rachel Miller
CITY/STATE: Newberry Springs CA	INQUIRY #: 5323533.2s
ZIP: 92365	DATE: 06/07/18

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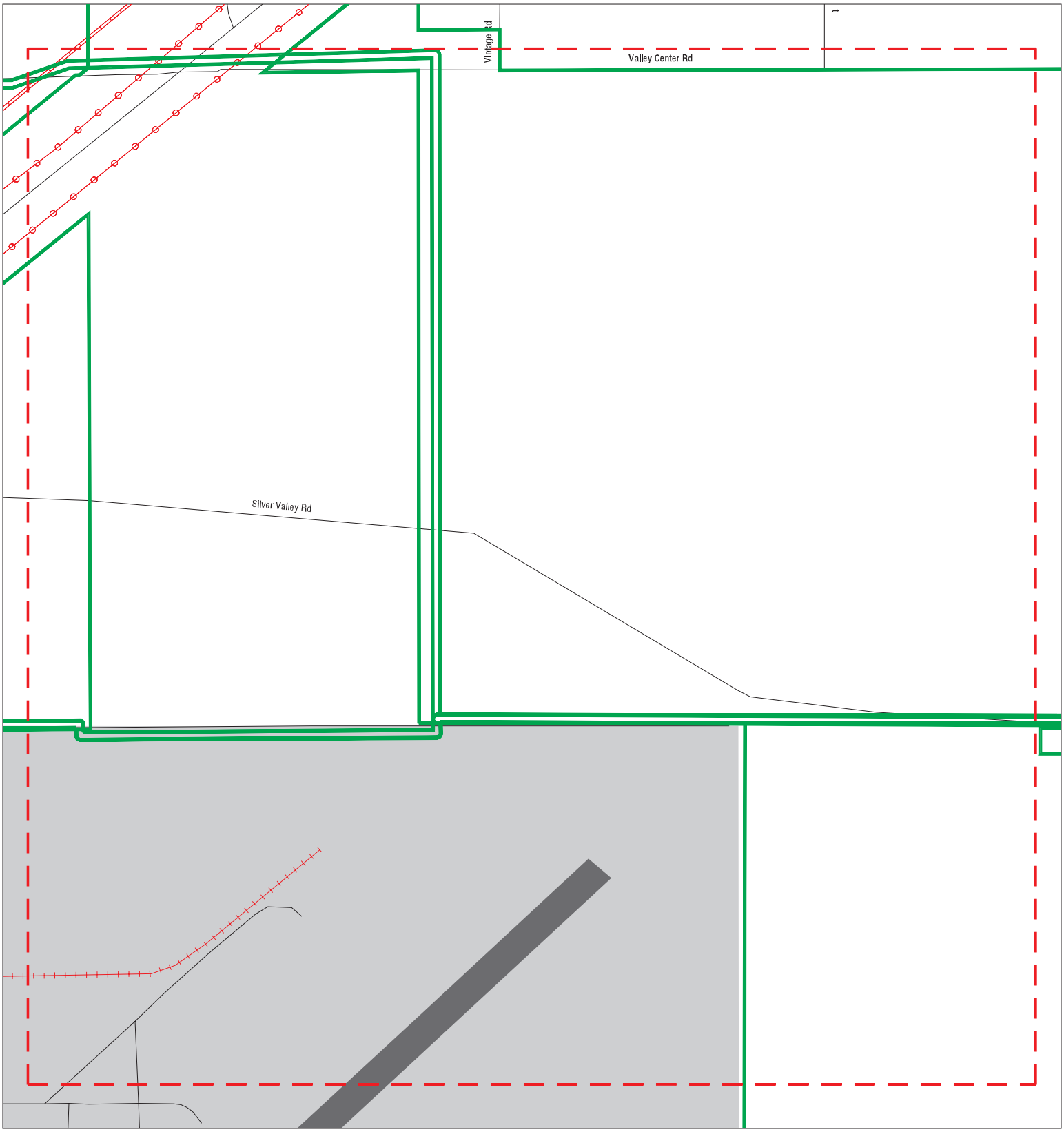
MAPPED SITES SUMMARY - FOCUS MAP 8

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
1 / 8	VAN DAM RANCH	39200 HIDDEN SPRINGS	FINDS	TP
A2 / 8		SEGS II	CHMIRS	TP
A3 / 8		SOLAR ENERGY GENERAT	CHMIRS	TP
6 / 8		35100 SANTA FE ST	ERNS	TP
A7 / 8		SEGS II	CHMIRS	TP
28 / 8	DEPT OF CA HWY PATRO	33251 HIDDEN SPRINGS	San Bern. Co. Permit	1319 0.250 East

Focus Map - 9 - 5323533.2s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Daggett Solar	CLIENT: Tetra Tech EC, Inc.
ADDRESS: San Bernardino County	CONTACT: Rachel Miller
CITY/STATE: Newberry Springs CA	INQUIRY #: 5323533.2s
ZIP: 92365	DATE: 06/07/18

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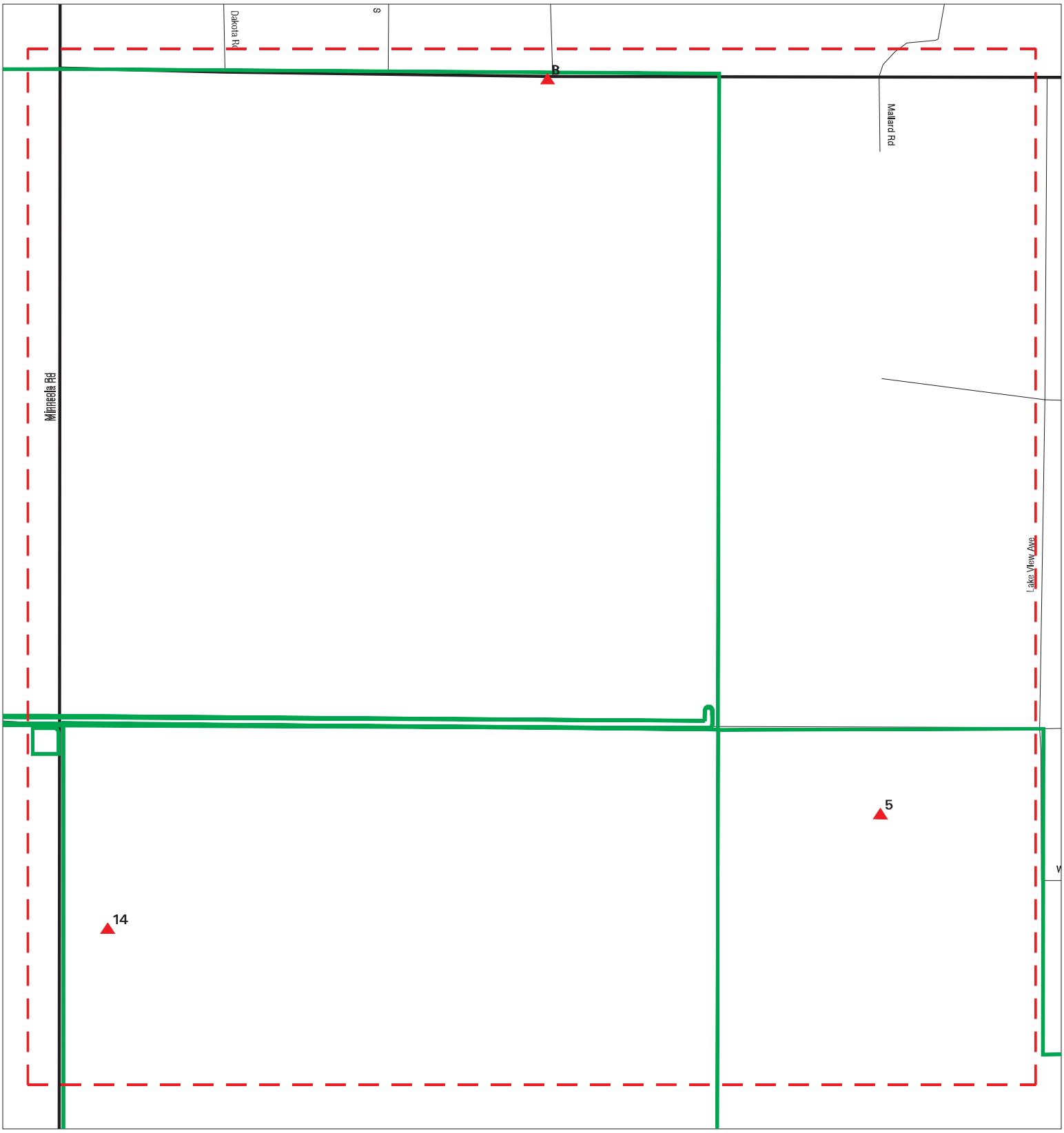
MAPPED SITES SUMMARY - FOCUS MAP 9

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

Focus Map - 10 - 5323533.2s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Daggett Solar	CLIENT: Tetra Tech EC, Inc.
ADDRESS: San Bernardino County	CONTACT: Rachel Miller
CITY/STATE: Newberry Springs CA	INQUIRY #: 5323533.2s
ZIP: 92365	DATE: 06/07/18

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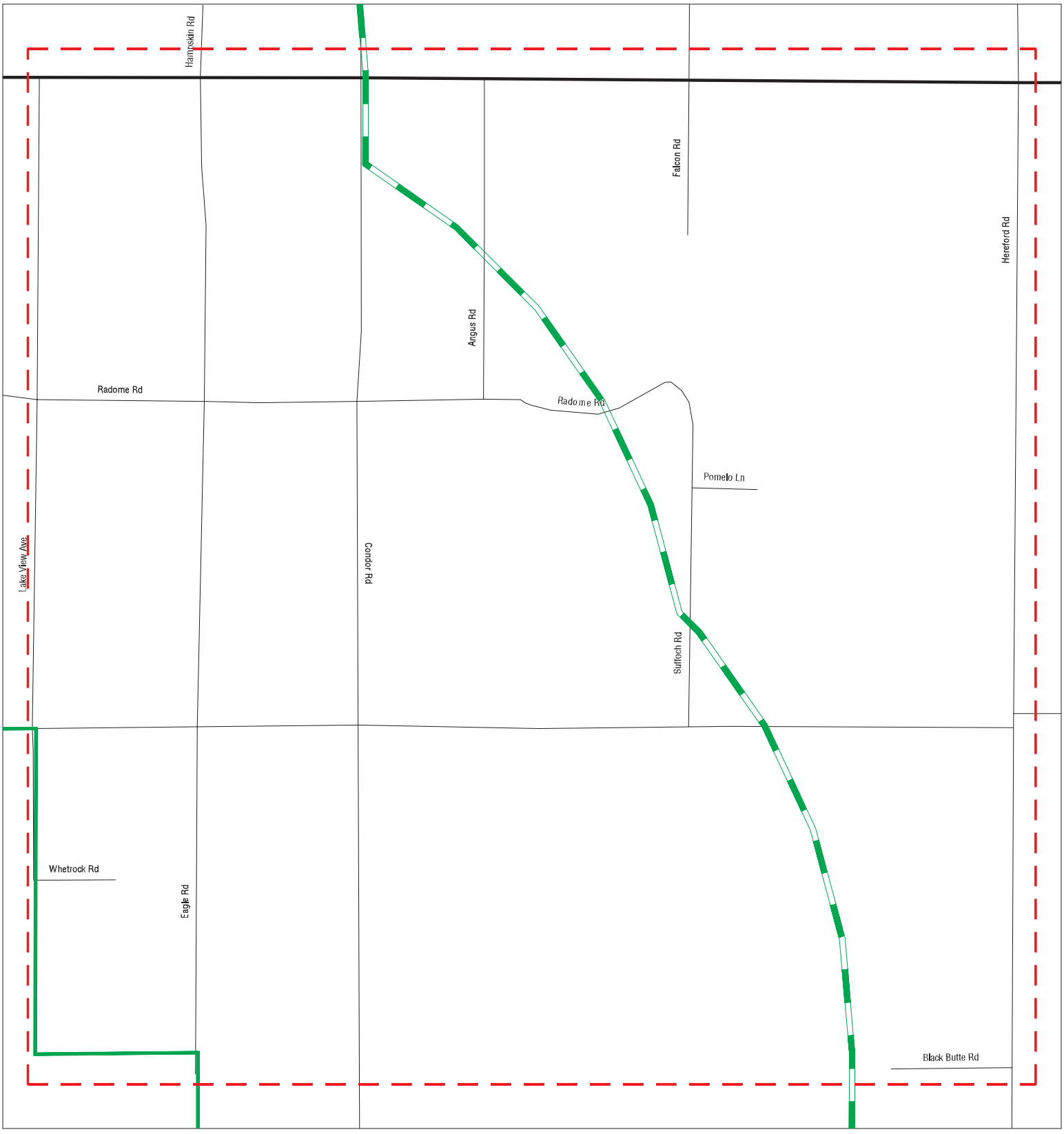
MAPPED SITES SUMMARY - FOCUS MAP 10

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
5 / 10	ABANDONED HAZARDOUS	41717 SILVER VALLEY	San Bern. Co. Permit	TP
B8 / 10	RK FARMS	41313 VALLEY CENTER	San Bern. Co. Permit	TP
B9 / 10	CLEVELAND FARMS INC	41313 VALLEY CENTER	FINDS	TP
B10 / 10	CLEVELAND FARMS INC	41313 VALLEY CENTER	AST, San Bern. Co. Permit	TP
B11 / 10	SILVER VALLEY FARMS	41313 VALLEY CENTER	HIST UST	TP
B12 / 10	AG-SILVER VALLEY FAR	41313 VALLEY CENTER	UST	TP
B13 / 10	SILVER VALLEY FARMS	41313 VALLEY CENTER	SWEEPS UST, CA FID UST	TP
14 / 10	JOE HARTER FARMS	33535 MINNEOLA RD	AST, San Bern. Co. Permit	359 0.068 East

Focus Map - 11 - 5323533.2s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Daggett Solar	CLIENT: Tetra Tech EC, Inc.
ADDRESS: San Bernardino County	CONTACT: Rachel Miller
CITY/STATE: Newberry Springs CA	INQUIRY #: 5323533.2s
ZIP: 92365	DATE: 06/07/18

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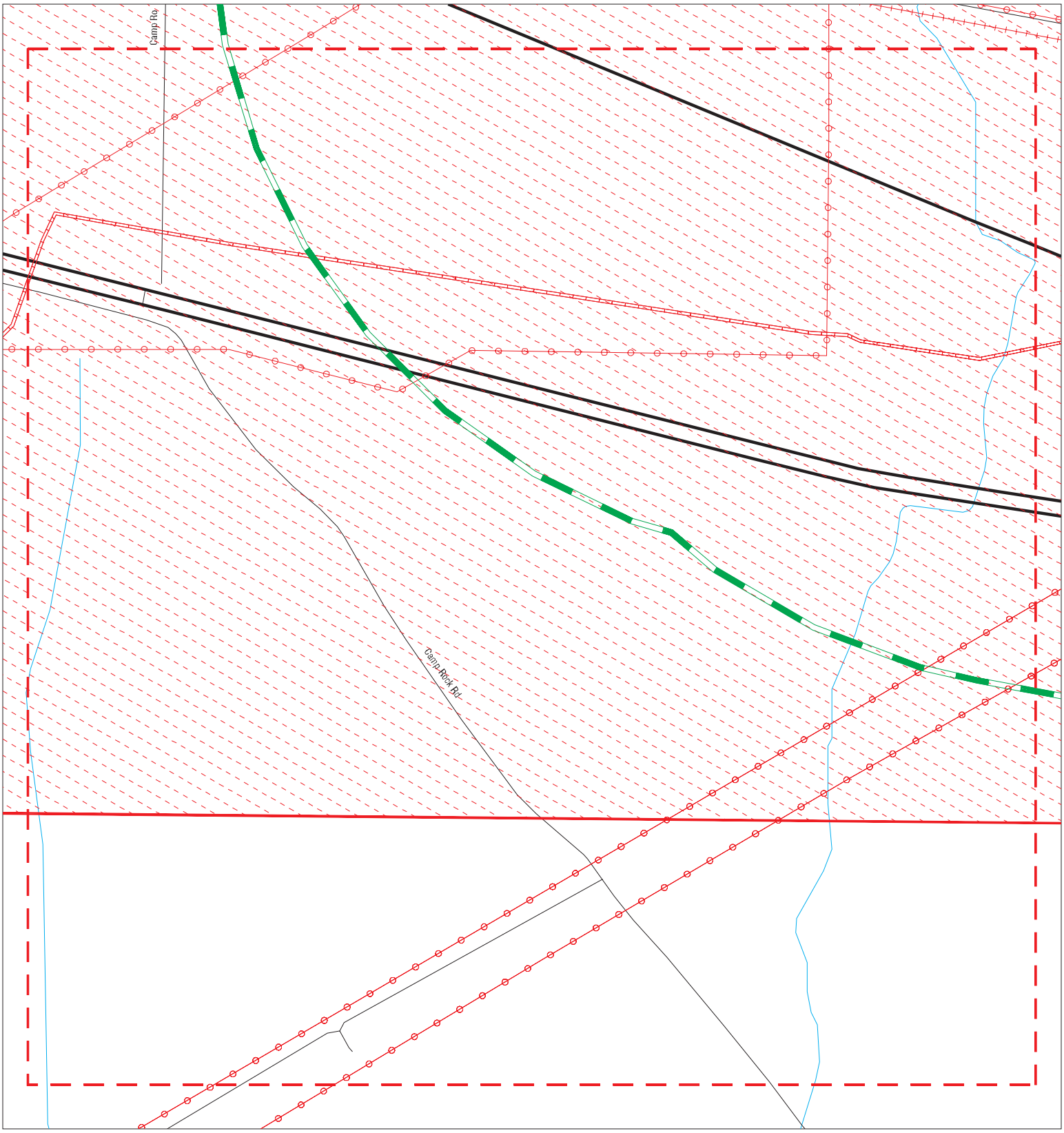
MAPPED SITES SUMMARY - FOCUS MAP 11

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

Focus Map - 12 - 5323533.2s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Daggett Solar	CLIENT: Tetra Tech EC, Inc.
ADDRESS: San Bernardino County	CONTACT: Rachel Miller
CITY/STATE: Newberry Springs CA	INQUIRY #: 5323533.2s
ZIP: 92365	DATE: 06/07/18

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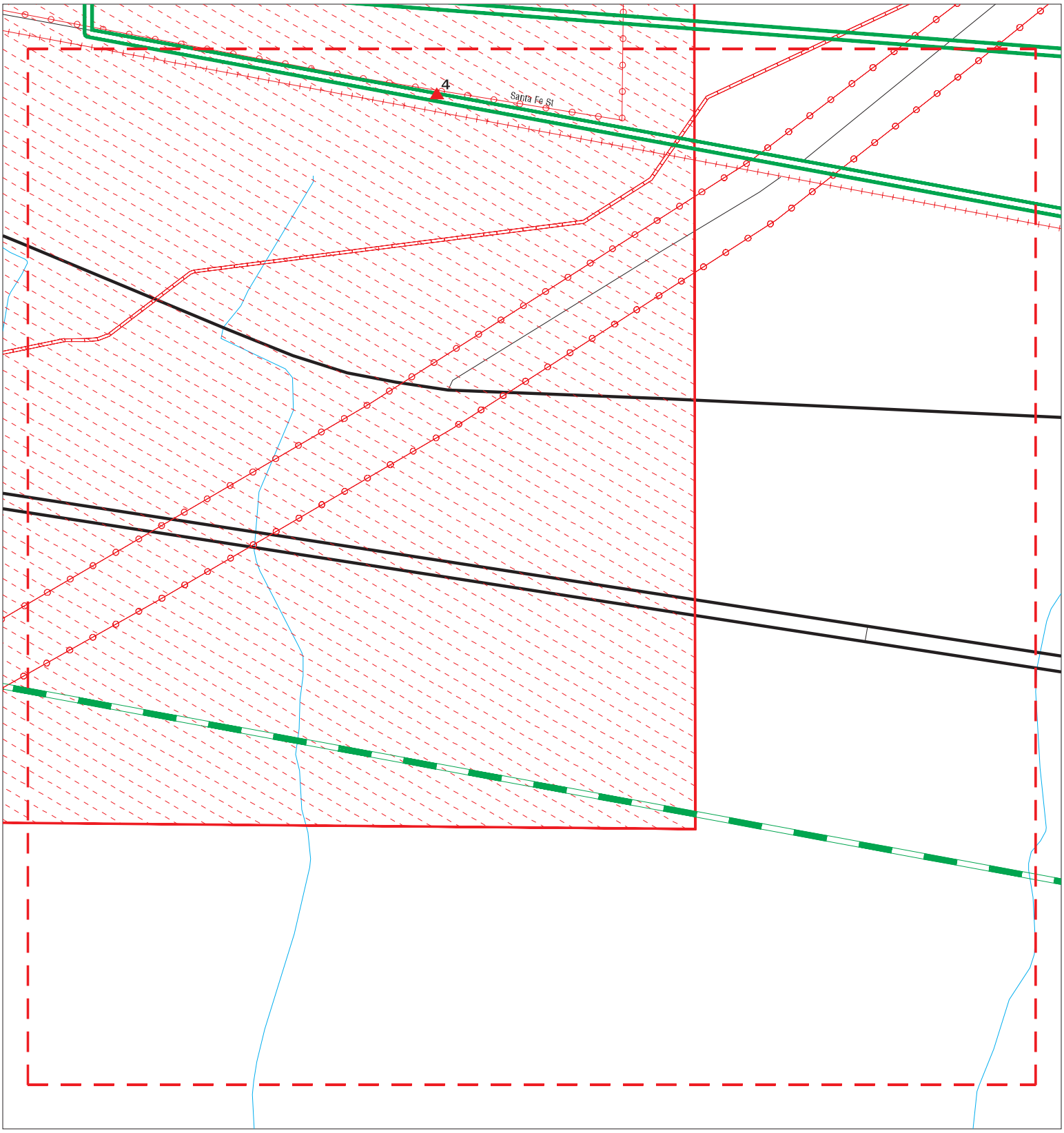
MAPPED SITES SUMMARY - FOCUS MAP 12

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
Reg / Multiple	MCLB,BARSTOW B570	BOX 110570, BLDG. 19	NPL, SEMS, CORRACTS, RCRA-LQG, US ENG CO.	TP

Focus Map - 13 - 5323533.2s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Daggett Solar	CLIENT: Tetra Tech EC, Inc.
ADDRESS: San Bernardino County	CONTACT: Rachel Miller
CITY/STATE: Newberry Springs CA	INQUIRY #: 5323533.2s
ZIP: 92365	DATE: 06/07/18

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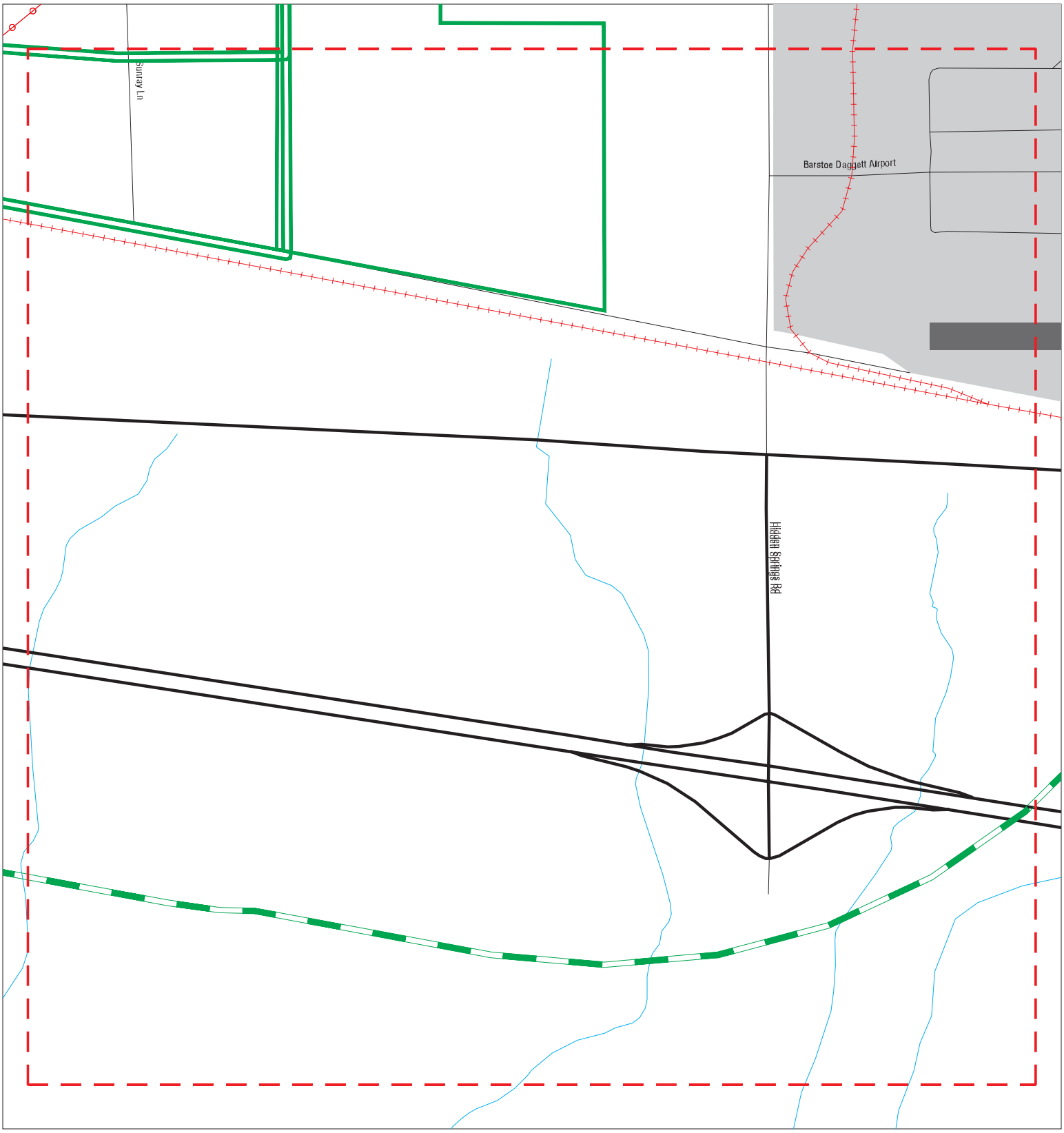
MAPPED SITES SUMMARY - FOCUS MAP 13

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
Reg / Multiple	MCLB,BARSTOW B570	BOX 110570, BLDG. 19	NPL, SEMS, CORRACTS, RCRA-LQG, US ENG CO.	TP
4 / 13		37000 EAST SANTA FE	CHMIRS	TP

Focus Map - 14 - 5323533.2s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Daggett Solar	CLIENT: Tetra Tech EC, Inc.
ADDRESS: San Bernardino County	CONTACT: Rachel Miller
CITY/STATE: Newberry Springs CA	INQUIRY #: 5323533.2s
ZIP: 92365	DATE: 06/07/18

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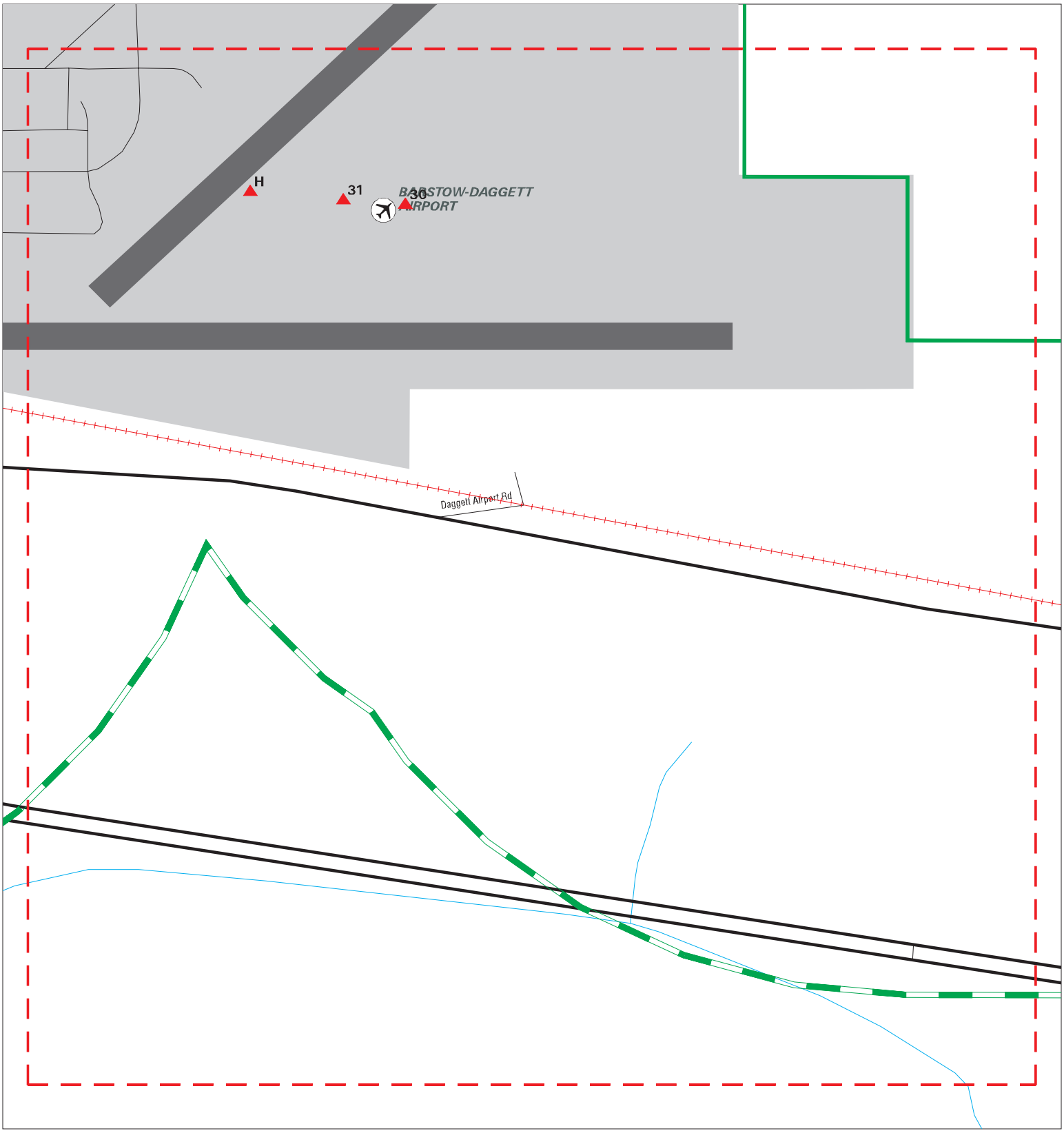
MAPPED SITES SUMMARY - FOCUS MAP 14

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

Focus Map - 15 - 5323533.2s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Daggett Solar	CLIENT: Tetra Tech EC, Inc.
ADDRESS: San Bernardino County	CONTACT: Rachel Miller
CITY/STATE: Newberry Springs CA	INQUIRY #: 5323533.2s
ZIP: 92365	DATE: 06/07/18

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MAPPED SITES SUMMARY - FOCUS MAP 15

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION		
30 / 15	BARSTOW-DAGGETT AIRP	OFF HWY40, ON HIDDEN	RESPONSE, ENVIROSTOR, HIST Cal-Sites	2743	0.520	West
31 / 15	DAGGETT AIRPORT	BARSTOW/DAGGETT AIRP	ENVIROSTOR, HIST CORTESE	3240	0.614	West
H32 / 15	DAGGETT ARMY AIRFIEL		FUDS	3927	0.744	South
H33 / 15	SKEET AND HARMONIZAT		UXO	3927	0.744	South
H34 / 15	PISTOL AND SUBMACHIN		UXO	3927	0.744	South
H35 / 15	MCSC BARSTOW		ENVIROSTOR	3930	0.744	South
H36 / 15	MODIFICATION CNTR NO	(4 MILES EAST OF)	ENVIROSTOR	3930	0.744	South

Focus Map - 16 - 5323533.2s

Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Daggett Solar	CLIENT: Tetra Tech EC, Inc.
ADDRESS: San Bernardino County	CONTACT: Rachel Miller
CITY/STATE: Newberry Springs CA	INQUIRY #: 5323533.2s
ZIP: 92365	DATE: 06/07/18

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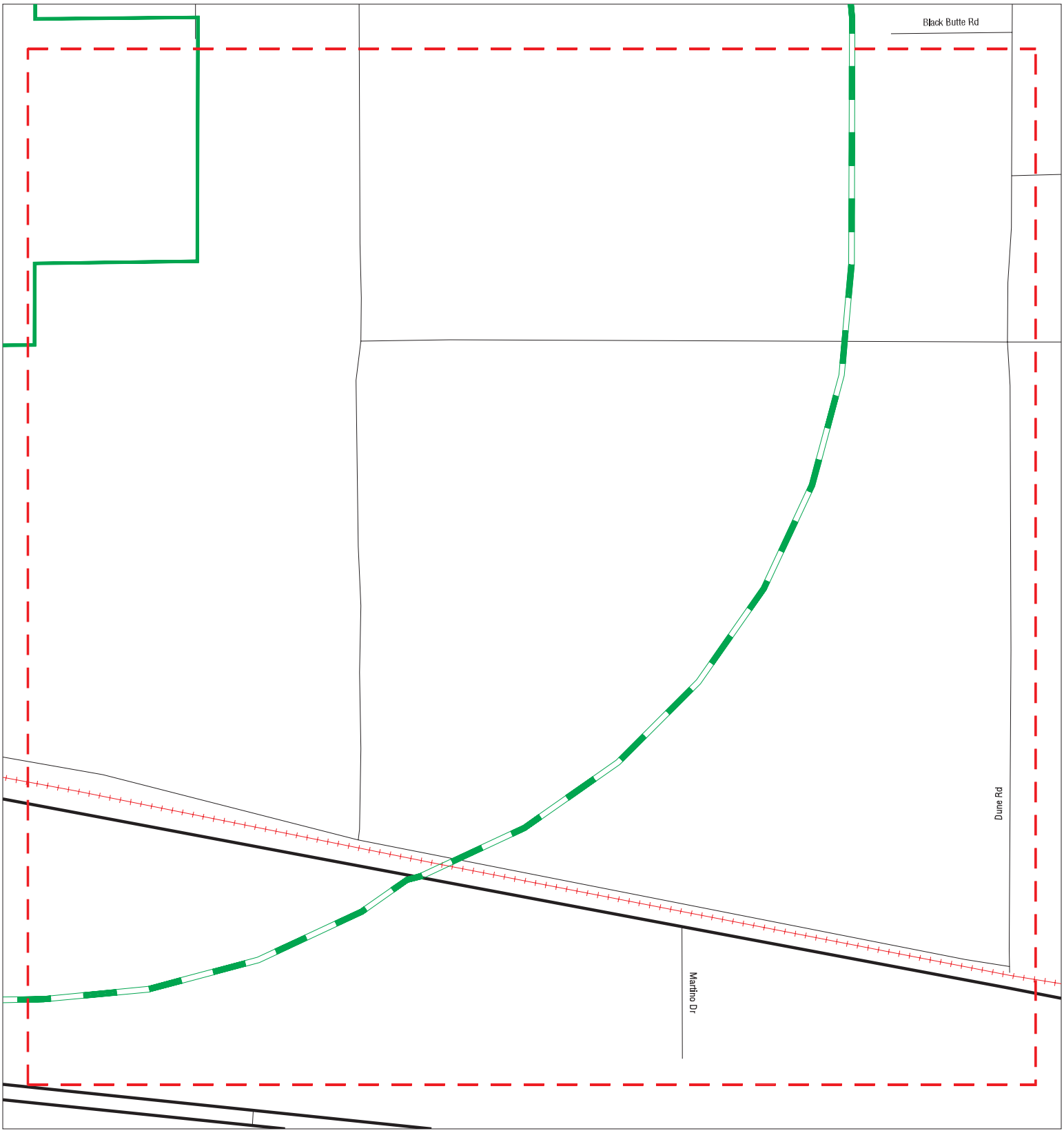
MAPPED SITES SUMMARY - FOCUS MAP 16

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

Focus Map - 17 - 5323533.2s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Daggett Solar	CLIENT: Tetra Tech EC, Inc.
ADDRESS: San Bernardino County	CONTACT: Rachel Miller
CITY/STATE: Newberry Springs CA	INQUIRY #: 5323533.2s
ZIP: 92365	DATE: 06/07/18

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MAPPED SITES SUMMARY - FOCUS MAP 17

Target Property:
SAN BERNARDINO COUNTY
NEWBERRY SPRINGS, CA 92365

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

NPL **MCLB,BARSTOW B570** **NPL** **1000389921**
Region **BOX 110570, BLDG. 196** **SEMS** **CA8170024261**
Target **BARSTOW, CA 92311** **CORRACTS**
Property **RCRA-LQG**
US ENG CONTROLS
US INST CONTROL
ENVIROSTOR
ROD
Focus Map: **RAATS**
1,7,6,12,13 **HAZNET**
HWP

NPL:

EPA ID:	CA8170024261
Cerclis ID:	902790
EPA Region:	9
Federal:	Y
Final Date:	1989-11-21 00:00:00
Site Score:	37.93
Latitude:	34.878331000000003
Longitude:	-116.9389

Category Details:

NPL Status:	Currently on the Final NPL
Category Description:	Depth To Aquifer-> 10 And <= 25 Feet
Category Value:	18

NPL Status:	Currently on the Final NPL
Category Description:	Distance To Nearest Population-> 0 And <= 1/4 Mile
Category Value:	10

Site Details:

Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
Site Status:	Final
Site Zip:	92311
Site City:	BARSTOW
Site State:	CA
Federal Site:	Yes
Site County:	SAN BERNARDINO
EPA Region:	09
Date Proposed:	07/14/89
Date Deleted:	Not reported
Date Finalized:	11/21/89

Substance Details:

NPL Status:	Currently on the Final NPL
Substance ID:	Not reported
Substance:	Not reported
CAS #:	Not reported
Pathway:	Not reported
Scoring:	Not reported

NPL Status:	Currently on the Final NPL
Substance ID:	U228
Substance:	TRICHLOROETHYLENE (TCE)
CAS #:	79-01-6
Pathway:	GROUND WATER PATHWAY
Scoring:	4

MCLB,BARSTOW B570 (Continued) **1000389921**

Summary Details:

Conditions at proposal July 14, 1989): The Barstow Marine Corps Logistics Base is in San Bernardino County, California. It is in the Mojave Desert and adjacent to the Mojave River. A portion of the base, the 1,568-acre Nebo Area, is approximately 1 mile east of the City of Barstow. It has been used for maintenance, repair, and rebuilding of supplies and equipment for the Marine Corps since 1942. Solvent wastes, including trichloroethylene TCE), were apparently generated in substantial quantities in the Nebo Area facility. Due to the lack of records, the quantities of solvents used, stored, and discharged on-site are unknown. The same activities were conducted at the 1,681-acre Yermo Area, 6 miles east of Nebo.Barstow Marine Corps Logistics Base is participating in the Installation Restoration Program IRP), established in 1978. Under this program, the Department of Defense seeks to identify, investigate, and clean up contamination from ha ardous materials. Monitoring wells at both Nebo and Yermo are contaminated with TCE, according to tests conducted in 1984-85 as part of IRP studies and by the U.S. Geological Survey. Public wells within 3 miles of ha ardous substances at the basesupply drinking water to an estimated 28,700 residents of the city of Barstow and outlying areas. The Marine Corps has completed an initial assessment/site inspection and is planning a remedial investigation/feasibility study to determinethe type and extent of contamination and identify alternatives for remedial action at both the Nebo and Yermo areas. An activated carbon system for treating contaminated drinking water wells at Yermo is scheduled to be installed in July 1989.Status November 21, 1989): The activated carbon system is now operating.

Site Status Details:

NPL Status:	Final
Proposed Date:	07/14/1989
Final Date:	11/21/1989
Deleted Date:	Not reported

Narratives Details:

NPL Name:	BARSTOW MARINE CORPS LOGISTICS BASE
City:	BARSTOW
State:	CA

SEMS:

Site ID:	902790
EPA ID:	CA8170024261
Cong District:	Not reported
FIPS Code:	6071
Latitude:	34.878331000000003
Longitude:	-116.9389
FF:	Y
NPL:	Currently on the Final NPL
Non NPL Status:	Not reported

SEMS Detail:

Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	0

MCLB,BARSTOW B570 (Continued) **1000389921**

Action Code:	HR
Action Name:	HAZRANK
SEQ:	1
Start Date:	1989-07-14 00:00:00
Finish Date:	7/14/1989
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	0
Action Code:	NP
Action Name:	PROPOSED
SEQ:	1
Start Date:	1989-07-14 00:00:00
Finish Date:	7/14/1989
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	0
Action Code:	NF
Action Name:	NPL FINL
SEQ:	1
Start Date:	1989-11-21 00:00:00
Finish Date:	11/21/1989
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	7
Action Code:	RO
Action Name:	ROD
SEQ:	5
Start Date:	2014-11-18 00:00:00
Finish Date:	11/18/2014
Qual:	R
Current Action Lead:	Fed Fac
Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE

MCLB,BARSTOW B570 (Continued) **1000389921**

NPL:	F
FF:	Y
OU:	0
Action Code:	PA
Action Name:	PA
SEQ:	1
Start Date:	1986-01-01 00:00:00
Finish Date:	5/1/1986
Qual:	H
Current Action Lead:	Fed Fac

Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	0
Action Code:	SI
Action Name:	SI
SEQ:	1
Start Date:	1986-06-01 00:00:00
Finish Date:	6/1/1986
Qual:	H
Current Action Lead:	Fed Fac

Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	7
Action Code:	LX
Action Name:	FF RD
SEQ:	5
Start Date:	2014-10-01 00:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	0
Action Code:	LV
Action Name:	FF RV
SEQ:	3
Start Date:	1994-07-18 00:00:00
Finish Date:	8/23/1994
Qual:	P
Current Action Lead:	Fed Fac

Region:	9

MCLB,BARSTOW B570 (Continued) **1000389921**

Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	1
Action Code:	LX
Action Name:	FF RD
SEQ:	1
Start Date:	1998-11-25 00:00:00
Finish Date:	7/29/2002
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	0
Action Code:	DS
Action Name:	DISCVRY
SEQ:	1
Start Date:	1980-11-01 00:00:00
Finish Date:	11/1/1980
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	5
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	3
Start Date:	1990-09-28 00:00:00
Finish Date:	1/23/1998
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	3
Action Code:	RO
Action Name:	ROD
SEQ:	2
Start Date:	1997-06-03 00:00:00
Finish Date:	6/3/1997
Qual:	Not reported

MCLB,BARSTOW B570 (Continued) **1000389921**

Current Action Lead: Fed Fac

Region: 9
Site ID: 902790
EPA ID: CA8170024261
Site Name: BARSTOW MARINE CORPS LOGISTICS BASE
NPL: F
FF: Y
OU: 5
Action Code: LV
Action Name: FF RV
SEQ: 7
Start Date: 1997-07-22 00:00:00
Finish Date: 8/21/1997
Qual: C
Current Action Lead: Fed Fac

Region: 9
Site ID: 902790
EPA ID: CA8170024261
Site Name: BARSTOW MARINE CORPS LOGISTICS BASE
NPL: F
FF: Y
OU: 0
Action Code: LV
Action Name: FF RV
SEQ: 4
Start Date: 1994-08-22 00:00:00
Finish Date: 8/26/1994
Qual: P
Current Action Lead: Fed Fac

Region: 9
Site ID: 902790
EPA ID: CA8170024261
Site Name: BARSTOW MARINE CORPS LOGISTICS BASE
NPL: F
FF: Y
OU: 3
Action Code: LX
Action Name: FF RD
SEQ: 2
Start Date: 1997-09-03 00:00:00
Finish Date: 4/7/1998
Qual: Not reported
Current Action Lead: Fed Fac

Region: 9
Site ID: 902790
EPA ID: CA8170024261
Site Name: BARSTOW MARINE CORPS LOGISTICS BASE
NPL: F
FF: Y
OU: 1
Action Code: LV
Action Name: FF RV
SEQ: 6

MCLB,BARSTOW B570 (Continued) **1000389921**

Start Date:	1995-10-27 00:00:00
Finish Date:	4/23/1998
Qual:	P
Current Action Lead:	Fed Fac
Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	2
Action Code:	RO
Action Name:	ROD
SEQ:	9
Start Date:	2006-09-28 00:00:00
Finish Date:	9/28/2006
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	5
Action Code:	RO
Action Name:	ROD
SEQ:	3
Start Date:	1998-01-23 00:00:00
Finish Date:	1/23/1998
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	1
Action Code:	RO
Action Name:	ROD
SEQ:	1
Start Date:	1998-04-22 00:00:00
Finish Date:	4/22/1998
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	5

MCLB,BARSTOW B570 (Continued) **1000389921**

Action Code:	LX
Action Name:	FF RD
SEQ:	3
Start Date:	1998-09-18 00:00:00
Finish Date:	1/18/1999
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	5
Action Code:	LY
Action Name:	FF RA
SEQ:	3
Start Date:	1999-05-21 00:00:00
Finish Date:	6/10/2002
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	3
Action Code:	LY
Action Name:	FF RA
SEQ:	2
Start Date:	1998-09-27 00:00:00
Finish Date:	8/28/2000
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	0
Action Code:	LV
Action Name:	FF RV
SEQ:	5
Start Date:	1995-07-21 00:00:00
Finish Date:	8/4/1995
Qual:	S
Current Action Lead:	Fed Fac
Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE

MCLB,BARSTOW B570 (Continued) **1000389921**

NPL:	F
FF:	Y
OU:	0
Action Code:	LV
Action Name:	FF RV
SEQ:	2
Start Date:	1993-07-19 00:00:00
Finish Date:	8/18/1993
Qual:	C
Current Action Lead:	Fed Fac
Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	3
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	2
Start Date:	1990-09-28 00:00:00
Finish Date:	6/3/1997
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	6
Action Code:	OM
Action Name:	OM
SEQ:	3
Start Date:	2002-06-10 00:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	4
Action Code:	OM
Action Name:	OM
SEQ:	2
Start Date:	2000-08-28 00:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	9

MCLB,BARSTOW B570 (Continued) **1000389921**

Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	1
Action Code:	OM
Action Name:	OM
SEQ:	1
Start Date:	2006-09-28 00:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	1
Action Code:	LY
Action Name:	FF RA
SEQ:	1
Start Date:	1998-04-23 00:00:00
Finish Date:	9/28/2006
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	1
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	1
Start Date:	1990-09-28 00:00:00
Finish Date:	4/22/1998
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	9
Site ID:	902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	0
Action Code:	LV
Action Name:	FF RV
SEQ:	1
Start Date:	1992-11-24 00:00:00
Finish Date:	6/14/1993
Qual:	S

MCLB,BARSTOW B570 (Continued) **1000389921**

Current Action Lead: Fed Fac

Region: 9
Site ID: 902790
EPA ID: CA8170024261
Site Name: BARSTOW MARINE CORPS LOGISTICS BASE
NPL: F
FF: Y
OU: 7
Action Code: LW
Action Name: FF RI/FS
SEQ: 5
Start Date: 1990-09-28 00:00:00
Finish Date: 11/18/2014
Qual: Not reported
Current Action Lead: Fed Fac

CORRACTS:

EPA ID: CA8170024261
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19941209
Action: CA075HI - CA Prioritization, Facility or area was assigned a high corrective action priority
NAICS Code(s): 92811
National Security
Original schedule date: Not reported
Schedule end date: Not reported

RCRA-LQG:

Date form received by agency: 09/07/2016
Facility name: MCLB,BARSTOW [B570]
Facility address: BOX 110570, BLDG. 196
NEBO
BARSTOW, CA 92311
EPA ID: CA8170024261
Contact: MIGUEL ARANDAGUILLEN
Contact address: BOX 110570, BLDG. 196 NEBO
BARSTOW, CA 92311
Contact country: US
Contact telephone: 760-403-4494
Contact email: MIGUEL.ARANDAGUILLEN@USMC.MIL
EPA Region: 09
Land type: Federal
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting

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from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name:	S.S. KAREGA
Owner/operator address:	BOX 110570 NEBO BARSTOW, CA 92311
Owner/operator country:	US
Owner/operator telephone:	760-577-6556
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Federal
Owner/Operator Type:	Owner
Owner/Op start date:	07/01/2015
Owner/Op end date:	Not reported

Owner/operator name:	MIGUEL ARANDAGUILLEN
Owner/operator address:	Not reported Not reported
Owner/operator country:	Not reported
Owner/operator telephone:	Not reported
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Federal
Owner/Operator Type:	Operator
Owner/Op start date:	06/01/2015
Owner/Op end date:	Not reported

Owner/operator name:	UNITED STATES MARINE CORPS
Owner/operator address:	MARINE CORPS LOGISTICS BASE CITY NOT REPORTED, CA 99999
Owner/operator country:	Not reported
Owner/operator telephone:	714-577-6719
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Federal
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	UNITED STATES MARINE CORPS
Owner/operator address:	MARINE CORPS LOGISTICS BASE BARSTOW, CA 92311
Owner/operator country:	Not reported
Owner/operator telephone:	714-577-6719
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Federal
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

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Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: 122
. Waste name: Alkaline solution without metals (pH > 12.5)

. Waste code: 181
. Waste name: Other inorganic solid waste

. Waste code: 221
. Waste name: Waste oil and mixed oil

. Waste code: 223
. Waste name: Unspecified oil-containing waste

. Waste code: 281
. Waste name: Adhesives

. Waste code: 331
. Waste name: Off-specification, aged, or surplus organics

. Waste code: 342
. Waste name: Organic liquids with metals (see 121)

. Waste code: 352
. Waste name: Other organic solids

. Waste code: 461
. Waste name: Degreasing sludge

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007

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. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Historical Generators:
Date form received by agency: 02/28/2008
Site name: MCLB, BARSTOW B170
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D011
. Waste name: SILVER

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. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Date form received by agency: 01/25/2006
Site name: MARINE CORPS LOGISTICS BASE, BARSTOW
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D005
. Waste name: BARIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D011
. Waste name: SILVER

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL

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ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Date form received by agency: 02/04/2004
Site name: MARINE CORPS LOGISTICS BASE, BARSTOW
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D011
. Waste name: SILVER

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005

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. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: U165
. Waste name: NAPHTHALENE

. Waste code: U188
. Waste name: PHENOL

. Waste code: U239
. Waste name: BENZENE, DIMETHYL- (I,T) (OR) XYLENE (I)

Date form received by agency: 01/31/2002
Site name: MARINE CORPS LOGISTICS BASE, BARSTOW
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D011
. Waste name: SILVER

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

. Waste code: D040
. Waste name: TRICHLORETHYLENE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

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. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: U044
. Waste name: CHLOROFORM (OR) METHANE, TRICHLORO-

. Waste code: U052
. Waste name: CRESOL (CRESYLIC ACID) (OR) PHENOL, METHYL-

. Waste code: U188
. Waste name: PHENOL

. Waste code: U210
. Waste name: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE

. Waste code: U220
. Waste name: BENZENE, METHYL- (OR) TOLUENE

Date form received by agency: 10/12/2000
Site name: MCLB, BARSTOW, NEBO
Classification: Large Quantity Generator

Date form received by agency: 04/15/1999
Site name: NEBO, MCLB, BARSTOW, CA
Classification: Large Quantity Generator

Date form received by agency: 09/01/1996
Site name: USMC BARSTOW LOGISTICS BASE NEBO
Classification: Large Quantity Generator

Date form received by agency: 03/28/1996
Site name: NEBO ANNEX, MCLB, BARSTOW, CA
Classification: Large Quantity Generator

Date form received by agency: 03/24/1994
Site name: USMC MCLB BARSTOW NEBO ANNEX
Classification: Large Quantity Generator

Date form received by agency: 04/09/1992

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Site name: MARINE CORPS LOGISTICS BASE -
Classification: Large Quantity Generator

Date form received by agency: 08/18/1980
Site name: USMC BARSTOW LOGISTICS BASE NEBO
Classification: Large Quantity Generator

Biennial Reports:

Last Biennial Reporting Year: 2017

Annual Waste Handled:

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.
Amount (Lbs): 1191.4

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.
Amount (Lbs): 6

Waste code: D005
Waste name: BARIUM
Amount (Lbs): 710

Waste code: D006
Waste name: CADMIUM
Amount (Lbs): 710

Waste code: D007
Waste name: CHROMIUM
Amount (Lbs): 371

Waste code: D008
Waste name: LEAD
Amount (Lbs): 790

Waste code: D035
Waste name: METHYL ETHYL KETONE
Amount (Lbs): 4134

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS

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CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Amount (Lbs): 3740

Waste code: F005
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 3740

Corrective Action Summary:
Event date: 05/01/1986
Event: LEAD AGENCY DETERMINATION

Event date: 05/01/1986
Event: PA OR CERCLA INSPECTION

Event date: 06/01/1986
Event: PA OR CERCLA INSPECTION

Event date: 12/09/1994
Event: CA PRIORITIZATION-HIGH CA PRIORITY

Facility Has Received Notices of Violations:
Regulation violated: F - 262.30-34.C
Area of violation: Generators - General
Date violation determined: 12/03/1998
Date achieved compliance: 02/27/1999
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/20/1999
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.30-34.C
Area of violation: Generators - General
Date violation determined: 12/03/1998
Date achieved compliance: 02/27/1999
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: 01/15/1999
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA

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Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.40-43.D
Area of violation: Generators - General
Date violation determined: 12/02/1998
Date achieved compliance: 02/27/1999
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/20/1999
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.40-43.D
Area of violation: Generators - General
Date violation determined: 12/02/1998
Date achieved compliance: 02/27/1999
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: 01/15/1999
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.170-177.I
Area of violation: TSD - General
Date violation determined: 01/27/1994
Date achieved compliance: 02/23/1994
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/27/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.170-177.I
Area of violation: TSD - General
Date violation determined: 01/27/1994
Date achieved compliance: 02/23/1994
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 01/27/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 1600

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Final penalty amount: 1600
Paid penalty amount: 1600

Regulation violated: F - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 12/07/1992
Date achieved compliance: 12/13/1993
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 02/25/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 2100
Final penalty amount: 2100
Paid penalty amount: 2100

Regulation violated: F - 262.40-43.D
Area of violation: Generators - General
Date violation determined: 12/07/1992
Date achieved compliance: 12/13/1993
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/07/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 264.170-177.I
Area of violation: TSD - General
Date violation determined: 12/07/1992
Date achieved compliance: 02/23/1994
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 02/25/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 2100
Final penalty amount: 2100
Paid penalty amount: 2100

Regulation violated: F - 262.40-43.D
Area of violation: Generators - General
Date violation determined: 12/07/1992
Date achieved compliance: 12/13/1993
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 02/25/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 2100
Final penalty amount: 2100

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Paid penalty amount: 2100

Regulation violated: F - 264.170-177.I
Area of violation: TSD - General
Date violation determined: 12/07/1992
Date achieved compliance: 02/23/1994
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/07/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 12/07/1992
Date achieved compliance: 12/13/1993
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/07/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.30-34.C
Area of violation: Generators - General
Date violation determined: 06/25/1992
Date achieved compliance: 08/27/1992
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 07/27/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 08/26/1991
Date achieved compliance: 05/13/1992
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/05/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

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Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 08/26/1991
Date achieved compliance: 05/13/1992
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/05/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.30-34.C
Area of violation: Generators - General
Date violation determined: 08/26/1991
Date achieved compliance: 05/13/1992
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/05/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 08/26/1991
Date achieved compliance: 05/13/1992
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/05/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60
Area of violation: Generators - General
Date violation determined: 08/26/1991
Date achieved compliance: 05/13/1992
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/05/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7

MCLB,BARSTOW B570 (Continued) **1000389921**

Area of violation: LDR - General
Date violation determined: 05/02/1990
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 05/02/1990
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 05/02/1990
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 05/02/1990
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General

MCLB,BARSTOW B570 (Continued) **1000389921**

Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/25/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 03/09/1989

MCLB,BARSTOW B570 (Continued) **1000389921**

Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/25/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995

MCLB,BARSTOW B570 (Continued) **1000389921**

Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/25/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA

MCLB,BARSTOW B570 (Continued) **1000389921**

Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL

MCLB,BARSTOW B570 (Continued) **1000389921**

Enforcement action date: 05/25/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/25/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported

MCLB,BARSTOW B570 (Continued) **1000389921**

Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/25/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/07/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/15/1989
Enf. disposition status: Not reported

MCLB,BARSTOW B570 (Continued) **1000389921**

Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/07/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/15/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement action date: 04/08/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported

MCLB,BARSTOW B570 (Continued) **1000389921**

Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement action date: 04/08/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 08/29/1991
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement action date: 04/08/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA

MCLB,BARSTOW B570 (Continued) **1000389921**

Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported

MCLB,BARSTOW B570 (Continued) **1000389921**

Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported

MCLB,BARSTOW B570 (Continued) **1000389921**

Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement action date: 04/08/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement action date: 04/08/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

MCLB,BARSTOW B570 (Continued) **1000389921**

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 08/29/1991
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 08/29/1991
Violation lead agency: EPA
Enforcement action: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement action date: 04/08/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7

MCLB,BARSTOW B570 (Continued) **1000389921**

Area of violation: LDR - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement action date: 04/08/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 08/29/1991
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General

MCLB,BARSTOW B570 (Continued) **1000389921**

Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:

Evaluation date: 06/12/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: Local

Evaluation date: 12/03/1998
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 02/27/1999
Evaluation lead agency: EPA

Evaluation date: 12/13/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 02/23/1994
Evaluation lead agency: State

Evaluation date: 10/21/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 02/23/1994
Evaluation lead agency: State

Evaluation date: 10/21/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 12/13/1993
Evaluation lead agency: State

Evaluation date: 05/21/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 08/27/1992
Evaluation lead agency: EPA Contractor/Grantee

Evaluation date: 05/07/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 05/13/1992
Evaluation lead agency: EPA

Evaluation date: 05/07/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE

MCLB,BARSTOW B570 (Continued) **1000389921**

Area of violation: Generators - General
Date achieved compliance: 05/13/1992
Evaluation lead agency: EPA

Evaluation date: 05/07/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 05/13/1992
Evaluation lead agency: EPA

Evaluation date: 05/02/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

Evaluation date: 05/02/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

Evaluation date: 05/02/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

Evaluation date: 03/09/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

Evaluation date: 03/09/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

Evaluation date: 03/09/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

Evaluation date: 03/09/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD IS-Ground-Water Monitoring
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

Evaluation date: 03/07/1989
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: TSD - General
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

MCLB,BARSTOW B570 (Continued) **1000389921**

Evaluation date: 12/07/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 10/24/1990
Evaluation lead agency: EPA

Evaluation date: 12/07/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

Evaluation date: 12/07/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 10/24/1990
Evaluation lead agency: EPA

Evaluation date: 12/07/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 08/29/1991
Evaluation lead agency: EPA

Evaluation date: 12/07/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD IS-Ground-Water Monitoring
Date achieved compliance: 10/24/1990
Evaluation lead agency: EPA

Evaluation date: 12/07/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

US ENG CONTROLS:
EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Actual Date: 06/30/1998
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater
Engineering Control: Air Sparging
Contact Name: Not reported
Contact Phone and Ext: Not reported

MCLB,BARSTOW B570 (Continued) **1000389921**

Event Code Description: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater
Engineering Control: Carbon Adsorption
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater
Engineering Control: Discharge
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater
Engineering Control: Disposal
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater
Engineering Control: Extraction
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater
Engineering Control: Infiltration basin/trench
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater

MCLB,BARSTOW B570 (Continued) **1000389921**

Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Soil
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Soil
Engineering Control: Soil Vapor Extraction (in-situ)
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 03
Contaminated Media : Soil
Engineering Control: No Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 03
Contaminated Media : Soil
Engineering Control: No Further Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 03
Contaminated Media : Solid Waste
Engineering Control: Cap
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 002
Action Name: RECORD OF DECISION

MCLB,BARSTOW B570 (Continued) **1000389921**

Action Completion date: 06/03/1997
Operable Unit: 03
Contaminated Media : Solid Waste
Engineering Control: Consolidate
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 03
Contaminated Media : Solid Waste
Engineering Control: Disposal
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 03
Contaminated Media : Solid Waste
Engineering Control: Excavation
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 03
Contaminated Media : Solid Waste
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 03
Contaminated Media : Solid Waste
Engineering Control: Surface Drainage Control
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 003
Action Name: RECORD OF DECISION
Action Completion date: 01/23/1998
Operable Unit: 05
Contaminated Media : Groundwater
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

MCLB,BARSTOW B570 (Continued) **1000389921**

Action ID: 003
Action Name: RECORD OF DECISION
Action Completion date: 01/23/1998
Operable Unit: 05
Contaminated Media : Soil
Engineering Control: Cap
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 003
Action Name: RECORD OF DECISION
Action Completion date: 01/23/1998
Operable Unit: 05
Contaminated Media : Soil
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 003
Action Name: RECORD OF DECISION
Action Completion date: 01/23/1998
Operable Unit: 05
Contaminated Media : Soil
Engineering Control: No Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Air Sparging
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Carbon Adsorption
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Containment, (N.O.S.)
Contact Name: Not reported

MCLB,BARSTOW B570 (Continued) **1000389921**

Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Discharge
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Disposal
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Extraction
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Infiltration basin/trench
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02

MCLB,BARSTOW B570 (Continued) **1000389921**

Contaminated Media : Groundwater
Engineering Control: Natural Attenuation
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Well Head Treatment
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Soil
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Soil
Engineering Control: Soil Vapor Extraction (in-situ)
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 007
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 04
Contaminated Media : Soil
Engineering Control: No Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 007
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 04
Contaminated Media : Soil
Engineering Control: No Further Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 008

MCLB,BARSTOW B570 (Continued) **1000389921**

Action Name: RECORD OF DECISION
Action Completion date: 01/23/1998
Operable Unit: 06
Contaminated Media : Groundwater
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 008
Action Name: RECORD OF DECISION
Action Completion date: 01/23/1998
Operable Unit: 06
Contaminated Media : Soil
Engineering Control: Cap
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 008
Action Name: RECORD OF DECISION
Action Completion date: 01/23/1998
Operable Unit: 06
Contaminated Media : Soil
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

Action ID: 008
Action Name: RECORD OF DECISION
Action Completion date: 01/23/1998
Operable Unit: 06
Contaminated Media : Soil
Engineering Control: No Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Event Code Description: Not reported

US INST CONTROL:
EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Access Restriction
Actual Date: 06/30/1998
Complet. Date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater
Contact Name : Not reported
Contact Phone and Ext : Not reported

MCLB,BARSTOW B570 (Continued) **1000389921**

Event Code Description: Not reported

EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Groundwater use/well drilling regulation
Actual Date: 06/30/1998
Complet. Date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater
Contact Name : Not reported
Contact Phone and Ext : Not reported
Event Code Description: Not reported

EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Base use plan change
Actual Date: 06/30/1997
Complet. Date: 06/03/1997
Operable Unit: 03
Contaminated Media : Solid Waste
Contact Name : Not reported
Contact Phone and Ext : Not reported
Event Code Description: Not reported

EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Institutional Controls, (N.O.S.)
Actual Date: 06/30/1997
Complet. Date: 06/03/1997
Operable Unit: 03
Contaminated Media : Solid Waste
Contact Name : Not reported
Contact Phone and Ext : Not reported
Event Code Description: Not reported

EPA ID: CA8170024261

MCLB,BARSTOW B570 (Continued) **1000389921**

Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Base use plan change
Actual Date: 03/31/1998
Complet. Date: 01/23/1998
Operable Unit: 05
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported
Event Code Description: Not reported

EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Land Use Restriction
Actual Date: 03/31/1998
Complet. Date: 01/23/1998
Operable Unit: 05
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported
Event Code Description: Not reported

EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Access Restriction
Actual Date: 06/30/1998
Complet. Date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Contact Name : Not reported
Contact Phone and Ext : Not reported
Event Code Description: Not reported

EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION

MCLB,BARSTOW B570 (Continued) **1000389921**

Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Groundwater use/well drilling regulation
Actual Date: 06/30/1998
Complet. Date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Contact Name : Not reported
Contact Phone and Ext : Not reported
Event Code Description: Not reported

EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Base use plan change
Actual Date: 03/31/1998
Complet. Date: 01/23/1998
Operable Unit: 06
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported
Event Code Description: Not reported

EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Land Use Restriction
Actual Date: 03/31/1998
Complet. Date: 01/23/1998
Operable Unit: 06
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported
Event Code Description: Not reported

ENVIROSTOR:
Facility ID: 80001276
Status: Refer: Other Agency
Status Date: 12/30/2010
Site Code: Not reported
Site Type: Tiered Permit
Site Type Detailed: Tiered Permit

MCLB,BARSTOW B570 (Continued) **1000389921**

Acres: 0
NPL: YES
Regulatory Agencies: SMBRP, RWQCB 6V - Lahontan, US EPA
Lead Agency: US EPA
Program Manager: Sue Hakim
Supervisor: Robert Senga
Division Branch: Cleanup Cypress
Assembly: 33
Senate: 16
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 34.87609
Longitude: -116.9536
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CA8170024261
Alias Type: EPA Identification Number
Alias Name: 80001276
Alias Type: Envirostor ID Number
Alias Name: 36970001
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Other Instrument
Completed Date: 09/28/1990
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ROD:
Full-text of USEPA Record of Decision(s) is available from EDR.

RAATS:
Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported

MCLB,BARSTOW B570 (Continued) **1000389921**

Action ID:	474
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	1 262.20(A)
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	.00
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	474
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	2 262.11
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	474
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	3 265.13(A)(1)
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990

MCLB,BARSTOW B570 (Continued) **1000389921**

Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	474
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	4 265.13(A)(2)
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	474
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	5 265.13(B)(1-7)
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	474
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	6 268.7(A)
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported

MCLB,BARSTOW B570 (Continued) **1000389921**

Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	474
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	7 265.112(A)
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	474
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	8 265.112(B)
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	474
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	9 265.15(B)(1)
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

MCLB,BARSTOW B570 (Continued) **1000389921**

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	474
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	10 265.15(B)(2)
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	474
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	11 265.15(D)
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	474
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	12 265.74(A)
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	*
Final Penalty:	.00

MCLB,BARSTOW B570 (Continued) **1000389921**

Total Prop. Penalty: .00
Comments: NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 474
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 13 265.75
Total No Cited: Not reported
Reg Type: CFR
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 1 I.A.
Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: .00
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 2 II.B.

MCLB,BARSTOW B570 (Continued) **1000389921**

Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 3 III.A.
Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 4 II.B.
Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990

MCLB,BARSTOW B570 (Continued) **1000389921**

Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 5 II.G.8
Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 6 III.M.C.1
Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 7 II.G.10
Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1

MCLB,BARSTOW B570 (Continued) **1000389921**

Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	457
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	8 262.11
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	457
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	9 III.F.
Total No Cited:	Not reported
Reg Type:	Permit
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	457
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	10 268.7(A)
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	*

MCLB,BARSTOW B570 (Continued) **1000389921**

Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 11 III.N.1.B
Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 12 III.N.1.C
Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457

MCLB,BARSTOW B570 (Continued) **1000389921**

Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	13 III.H.7.
Total No Cited:	Not reported
Reg Type:	Permit
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	457
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	14 III.I.3.
Total No Cited:	Not reported
Reg Type:	Permit
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	457
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	15 III.I.4.
Total No Cited:	Not reported
Reg Type:	Permit
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported

MCLB,BARSTOW B570 (Continued) **1000389921**

Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	457
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	16 II.I.5.
Total No Cited:	Not reported
Reg Type:	Permit
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	457
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	17 III.M.1.A.
Total No Cited:	Not reported
Reg Type:	Permit
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

HAZNET:

envid:	1000389921
Year:	2016
GEPAID:	CA8170024261
Contact:	MIGUEL ARANDAGUILLEN
Telephone:	7604034494
Mailing Name:	Not reported
Mailing Address:	PO BOX 110570
Mailing City,St,Zip:	BARSTOW, CA 923110000
Gen County:	San Bernardino
TSD EPA ID:	NVT330010000
TSD County:	99
Waste Category:	Contaminated soil from site clean-up
Disposal Method:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	8.41
Cat Decode:	Contaminated soil from site clean-up
Method Decode:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)

MCLB,BARSTOW B570 (Continued) **1000389921**

Facility County:	San Bernardino
envid:	1000389921
Year:	2016
GEPAID:	CA8170024261
Contact:	MIGUEL ARANDAGUILLEN
Telephone:	7604034494
Mailing Name:	Not reported
Mailing Address:	PO BOX 110570
Mailing City,St,Zip:	BARSTOW, CA 923110000
Gen County:	San Bernardino
TSD EPA ID:	CAD088504881
TSD County:	Orange
Waste Category:	Liquids with pH <= 2 with metals
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.081
Cat Decode:	Liquids with pH <= 2 with metals
Method Decode:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	San Bernardino
envid:	1000389921
Year:	2016
GEPAID:	CA8170024261
Contact:	MIGUEL ARANDAGUILLEN
Telephone:	7604034494
Mailing Name:	Not reported
Mailing Address:	PO BOX 110570
Mailing City,St,Zip:	BARSTOW, CA 923110000
Gen County:	San Bernardino
TSD EPA ID:	NVT330010000
TSD County:	99
Waste Category:	Latex waste
Disposal Method:	Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	0.3285
Cat Decode:	Latex waste
Method Decode:	Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Facility County:	San Bernardino
envid:	1000389921
Year:	2016
GEPAID:	CA8170024261
Contact:	MIGUEL ARANDAGUILLEN
Telephone:	7604034494
Mailing Name:	Not reported
Mailing Address:	PO BOX 110570
Mailing City,St,Zip:	BARSTOW, CA 923110000
Gen County:	San Bernardino
TSD EPA ID:	NVT330010000
TSD County:	99
Waste Category:	Off-specification, aged or surplus organics
Disposal Method:	Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	0.017

MCLB,BARSTOW B570 (Continued) **1000389921**

Cat Decode: Off-specification, aged or surplus organics
Method Decode: Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Facility County: San Bernardino

envid: 1000389921
Year: 2016
GEPAID: CA8170024261
Contact: MIGUEL ARANDAGUILLEN
Telephone: 7604034494
Mailing Name: Not reported
Mailing Address: PO BOX 110570
Mailing City,St,Zip: BARSTOW, CA 923110000
Gen County: San Bernardino
TSD EPA ID: NVT330010000
TSD County: 99
Waste Category: Other organic solids
Disposal Method: Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons: 1.134
Cat Decode: Other organic solids
Method Decode: Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Facility County: San Bernardino

Click this hyperlink while viewing on your computer to access
2410 additional CA_HAZNET: record(s) in the EDR Site Report.

HWP:
EPA Id: CA8170024261
Cleanup Status: PROTECTIVE FILER
Latitude: 34.87609
Longitude: -116.9536
Facility Type: Historical - Non-Operating
Facility Size: Not reported
Team: Not reported
Supervisor: Not reported
Site Code: Not reported
Assembly District: 33
Senate District: 16
Public Information Officer: Not reported
Public Information Officer: Not reported

Activities:
EPA Id: CA8170024261
Facility Type: Historical - Non-Operating
Unit Names: TANKSTR1
Event Description: Protective Filer Status - PROTECTIVE FILER (APPROVED)
Actual Date: 01/01/1995

EPA Id: CA8170024261
Facility Type: Historical - Non-Operating
Unit Names: TANKSTR1
Event Description: Protective Filer Status - PROTECTIVE FILER (RECEIVED)
Actual Date: 01/01/1995

1
Target Property
VAN DAM RANCH
39200 HIDDEN SPRINGS
DAGGETT, CA 92327

FINDS **1023317386**
N/A

FINDS:

Actual: 1935 ft.

Registry ID: 110066107117

Focus Map: 8

Environmental Interest/Information System
STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

A2
Target Property
SEGS II
DAGETT, CA

CHMIRS **S100279236**
N/A

Site 1 of 3 in cluster A

Actual: 1929 ft.

Focus Map: 8

CHMIRS:

OES Incident Number:	904982
OES notification:	Not reported
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**16-FEB-89**
Property Use:	600
Agency Id Number:	36709
Agency Incident Number:	02/16/89-01
Time Notified:	900
Time Completed:	900
Surrounding Area:	600
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	N
Resp Agncy Personel # Of Decontaminated:	0
Responding Agency Personel # Of Injuries:	0
Responding Agency Personel # Of Fatalities:	0
Others Number Of Decontaminated:	0
Others Number Of Injuries:	0
Others Number Of Fatalities:	0
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	JENNIFER CAMPBELL
Report Date:	21-FEB-89
Facility Telephone:	714 387-3044
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Not reported
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported

(Continued) **S100279236**

Date/Time:	Not reported
Year:	88-92
Agency:	Not reported
Incident Date:	15-FEB-89
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Not reported
Site Type:	Not reported
E Date:	03-MAY-90
Substance:	Not reported
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Not reported

A3 **CHMIRS** **S100279245**
Target Property **SOLAR ENERGY GENERATING STATION II** **N/A**
DAGGETT, CA 92327

Site 2 of 3 in cluster A

Actual: **1929 ft.**
Focus Map: **8**

CHMIRS:

OES Incident Number:	905178
OES notification:	Not reported
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**14-MAR-89**
Property Use:	600
Agency Id Number:	36709
Agency Incident Number:	03/14/89-01
Time Notified:	810
Time Completed:	930
Surrounding Area:	600
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	N
Resp Agncy Personel # Of Decontaminated:	0
Responding Agency Personel # Of Injuries:	0
Responding Agency Personel # Of Fatalities:	0
Others Number Of Decontaminated:	0
Others Number Of Injuries:	0
Others Number Of Fatalities:	0
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported

(Continued) **S100279245**

Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	JENNIFER CAMPBELL
Report Date:	14-MAR-89
Facility Telephone:	714 387-3044
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Not reported
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	88-92
Agency:	Not reported
Incident Date:	14-MAR-89
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Not reported
Site Type:	Not reported
E Date:	07-MAY-90
Substance:	Not reported
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Not reported

---

4 **CHMIRS** **S105648775**
Target Property **37000 EAST SANTA FE STREET** **N/A**
UNINCORPORATED COUNTY AREA, CA 91770

Actual: **1984 ft.**

Focus Map: 13

CHMIRS:

OES Incident Number:	7-4225
OES notification:	10/22/1997
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported

(Continued) **S105648775**

Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1997
Agency:	So CA Edison
Incident Date:	10/22/199712:00:00 AM
Admin Agency:	San Bernardino County Health Department
Amount:	Not reported
Contained:	Yes
Site Type:	Industrial Plant
E Date:	Not reported
Substance:	sodium nitrate/potasium nitrate
Gallons:	0.000000
Pounds:	50
Unknown:	0
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Released from vent at Solar 2 facility in

(Continued) **S105648775**

Daggett. Substance is commonly released, hardened and reused. No soil contamination.

---

5 **ABANDONED HAZARDOUS WASTE** **San Bern. Co. Permit** **S108724344**
Target Property **41717 SILVER VALLEY RD** **N/A**
NEWBERRY SPRINGS, CA 92365

Actual:
1888 ft.

Focus Map:
10

San Bern. Co. Permit:

Region:	SAN BERNARDINO
Facility ID:	FA0011133
Owner:	KASNER, ROBERT
Permit Number:	PT0019152
Permit Category:	HAZMAT HANDLER 0-10 EMPLOYEES (W/GEN PRMT)
Facility Status:	INACTIVE
Expiration Date:	09/30/2008

Region:	SAN BERNARDINO
Facility ID:	FA0011133
Owner:	KASNER, ROBERT
Permit Number:	PT0019151
Permit Category:	HAZARDOUS WASTE GENERATOR - 0-10 EMPLOYEES
Facility Status:	INACTIVE
Expiration Date:	09/30/2008

Region:	SAN BERNARDINO
Facility ID:	FA0011058
Owner:	ARCHIBECK, ERIC DUANE
Permit Number:	PT0019071
Permit Category:	HAZMAT HANDLER 0-10 EMPLOYEES (W/GEN PRMT)
Facility Status:	INACTIVE
Expiration Date:	11/30/2007

Region:	SAN BERNARDINO
Facility ID:	FA0011058
Owner:	ARCHIBECK, ERIC DUANE
Permit Number:	PT0019072
Permit Category:	HAZARDOUS WASTE GENERATOR - 0-10 EMPLOYEES
Facility Status:	INACTIVE
Expiration Date:	11/30/2007

---

6 **ERNS** **97417245**
Target Property **35100 SANTA FE ST** **N/A**
DAGGET, CA

Actual:
1938 ft.

Focus Map:
8

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A7
Target Property **SEGS II**
DOGGETT, CA

CHMIRS **S100216885**
N/A

Site 3 of 3 in cluster A

Actual:
1929 ft.

Focus Map:
8

CHMIRS:

OES Incident Number:	904981
OES notification:	Not reported
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**16-FEB-89**
Property Use:	600
Agency Id Number:	36709
Agency Incident Number:	02/16/89-02
Time Notified:	830
Time Completed:	830
Surrounding Area:	600
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	N
Resp Agncy Personel # Of Decontaminated:	0
Responding Agency Personel # Of Injuries:	0
Responding Agency Personel # Of Fatalities:	0
Others Number Of Decontaminated:	0
Others Number Of Injuries:	0
Others Number Of Fatalities:	0
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	JENNIFER CAMPBELL
Report Date:	21-FEB-89
Facility Telephone:	714 387-3044
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Not reported
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	88-92
Agency:	Not reported
Incident Date:	16-FEB-89
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Not reported
Site Type:	Not reported
E Date:	03-MAY-90
Substance:	Not reported
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported

(Continued) **S100216885**

Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Not reported

B8 **RK FARMS** **San Bern. Co. Permit** **S104762125**
Target **41313 VALLEY CENTER** **N/A**
Property **NEWBERRY SPRINGS, CA 92365**

Site 1 of 6 in cluster B

Actual: **1891 ft.**

Focus Map: **10**

San Bern. Co. Permit:

Region:	SAN BERNARDINO
Facility ID:	FA0000645
Owner:	KASNER, ROBERT
Permit Number:	PT0019018
Permit Category:	SPECIAL GENERATOR
Facility Status:	INACTIVE
Expiration Date:	12/31/2012

Region:	SAN BERNARDINO
Facility ID:	FA0000645
Owner:	KASNER, ROBERT
Permit Number:	PT0003501
Permit Category:	HAZMAT HANDLER 0-10 EMPLOYEES
Facility Status:	INACTIVE
Expiration Date:	12/31/2012

Region:	SAN BERNARDINO
Facility ID:	FA0000645
Owner:	KASNER, ROBERT
Permit Number:	PT0011120
Permit Category:	UST OWNERSHIP/OPERATING PERMIT (PER UST)
Facility Status:	INACTIVE
Expiration Date:	12/31/2009

Region:	SAN BERNARDINO
Facility ID:	FA0000645
Owner:	KASNER, ROBERT
Permit Number:	PT0011119
Permit Category:	UST OWNERSHIP/OPERATING PERMIT (PER UST)
Facility Status:	INACTIVE
Expiration Date:	12/31/1991

Region:	SAN BERNARDINO
Facility ID:	FA0000645
Owner:	KASNER, ROBERT
Permit Number:	PT0011121
Permit Category:	UST OWNERSHIP/OPERATING PERMIT (PER UST)

RK FARMS (Continued) **S104762125**

Facility Status: INACTIVE
Expiration Date: 12/31/1991

B9 **CLEVELAND FARMS INC** **FINDS** **1023220272**
Target **41313 VALLEY CENTER RD** **N/A**
Property **NEWBERRY SPRINGS, CA 92365**

Site 2 of 6 in cluster B

Actual: **1891 ft.**

FINDS:

Focus Map: **10**

Registry ID: 110065065501

Environmental Interest/Information System
STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

B10 **CLEVELAND FARMS INC** **AST** **S112274149**
Target **41313 VALLEY CENTER RD** **San Bern. Co. Permit** **N/A**
Property **NEWBERRY SPRINGS, CA 92365**

Site 3 of 6 in cluster B

Actual: **1891 ft.**

AST:

Focus Map: **10**

Certified Unified Program Agencies:	Not reported
Owner:	CLEVELAND, CHAD
Total Gallons:	Not reported
CERSID:	10443922
Facility ID:	FA0014864
Business Name:	CLEVELAND FARMS INC
Phone:	909 208 6499
Fax:	909 597 2977
Mailing Address:	41313 Valley Center Rd
Mailing Address City:	Newberry Springs
Mailing Address State:	CA
Mailing Address Zip Code:	92365
Operator Name:	Cleveland Farms Inc
Operator Phone:	(909) 208-6499
Owner Phone:	951 285 0858
Owner Mail Address:	16379 CHINO- CORONA RD
Owner State:	CA
Owner Zip Code:	91708
Owner Country:	United States
Property Owner Name:	Not reported
Property Owner Phone:	Not reported
Property Owner Mailing Address:	Not reported
Property Owner City:	Not reported
Property Owner Stat :	Not reported
Property Owner Zip Code:	Not reported
Property Owner Country:	Not reported
EPAID:	CAL000381377

CLEVELAND FARMS INC (Continued) **S112274149**

San Bern. Co. Permit:
Region: SAN BERNARDINO
Facility ID: FA0014864
Owner: CLEVELAND, CHAD
Permit Number: PT0025886
Permit Category: APSA FARM/CONSTRUCTION CONDITIONALLY EXEMPT
Facility Status: ACTIVE
Expiration Date: 01/31/2018

Region: SAN BERNARDINO
Facility ID: FA0014864
Owner: CLEVELAND, CHAD
Permit Number: PT0025885
Permit Category: SMALL QUANTITY GENERATOR
Facility Status: ACTIVE
Expiration Date: 01/31/2018

Region: SAN BERNARDINO
Facility ID: FA0014864
Owner: CLEVELAND, CHAD
Permit Number: PT0025884
Permit Category: HAZARDOUS MATERIALS 1-3 CHEMICALS
Facility Status: ACTIVE
Expiration Date: 01/31/2018

B11 **SILVER VALLEY FARMS** **HIST UST** **U001575287**
Target **41313 VALLEY CENTER** **N/A**
Property **NEWBERRY SPRINGS, CA 92365**

Site 4 of 6 in cluster B

Actual: **1891 ft.**

Focus Map: **10**

HIST UST:
File Number: 00029E3D
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00029E3D.pdf
Region: STATE
Facility ID: 00000027462
Facility Type: Other
Other Type: AGRICULTURE
Contact Name: Not reported
Telephone: 6192542358
Owner Name: EUGENE B. ARCHIBEK
Owner Address: 41313 VALLEY CENTER
Owner City,St,Zip: NEWBERRY SPRINGS, CA 92365
Total Tanks: 0003

Tank Num: 001
Container Num: #2
Year Installed: 1982
Tank Capacity: 00008000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Container Construction Thickness: Not reported
Leak Detection: Pressure Test

Tank Num: 002
Container Num: #3
Year Installed: 1982

SILVER VALLEY FARMS (Continued) **U001575287**

Tank Capacity: 00008000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Container Construction Thickness: Not reported
Leak Detection: Pressure Test

Tank Num: 003
Container Num: #1
Year Installed: 1982
Tank Capacity: 00004000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor, Pressure Test

Click here for Geo Tracker PDF:

B12 **AG-SILVER VALLEY FARMS** **UST** **U004050738**
Target **41313 VALLEY CENTER RD** **N/A**
Property **NEWBERRY SPRINGS, CA 92365**

Site 5 of 6 in cluster B

Actual: **1891 ft.**
Focus Map: **10**

UST:
Facility ID: 87014242
Permitting Agency: SAN BERNARDINO COUNTY
Latitude: 34.87982
Longitude: -116.75298

B13 **SILVER VALLEY FARMS** **SWEEPS UST** **S101619331**
Target **41313 VALLEY CENTER** **CA FID UST** **N/A**
Property **NEWBERRY SPRINGS, CA 92365**

Site 6 of 6 in cluster B

Actual: **1891 ft.**
Focus Map: **10**

SWEEPS UST:
Status: Active
Comp Number: 27462
Number: 9
Board Of Equalization: Not reported
Referral Date: 09-04-91
Action Date: 09-04-91
Created Date: 02-29-88
Owner Tank Id: #2
SWRCB Tank Id: 36-000-027462-000001
Tank Status: A
Capacity: 8000
Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: DIESEL
Number Of Tanks: 3

Status: Active
Comp Number: 27462
Number: 9

SILVER VALLEY FARMS (Continued) **S101619331**

Board Of Equalization: Not reported
Referral Date: 09-04-91
Action Date: 09-04-91
Created Date: 02-29-88
Owner Tank Id: #3
SWRCB Tank Id: 36-000-027462-000002
Tank Status: A
Capacity: 8000
Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: DIESEL
Number Of Tanks: Not reported

Status: Active
Comp Number: 27462
Number: 9
Board Of Equalization: Not reported
Referral Date: 09-04-91
Action Date: 09-04-91
Created Date: 02-29-88
Owner Tank Id: #1
SWRCB Tank Id: 36-000-027462-000003
Tank Status: A
Capacity: 4000
Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: DIESEL
Number Of Tanks: Not reported

CA FID UST:
Facility ID: 36008837
Regulated By: UTNKA
Regulated ID: 00027462
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: Not reported
Mail To: Not reported
Mailing Address: P O
Mailing Address 2: Not reported
Mailing City,St,Zip: NEWBERRY SPRINGS 92365
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

14
East
< 1/8
0.068 mi.
359 ft.

JOE HARTER FARMS
33535 MINNEOLA RD
NEWBERRY SPRINGS, CA 92365

AST **S102684570**
San Bern. Co. Permit **N/A**

Actual:
1902 ft.

Focus Map:
10

AST:

Certified Unified Program Agencies:	Not reported
Owner:	HARTER, JOSEPH
Total Gallons:	Not reported
CERSID:	10034677
Facility ID:	FA0000482
Business Name:	JOE HARTER FARMS
Phone:	(760) 254-2881
Fax:	Not reported
Mailing Address:	34530 MINNEOLA RD
Mailing Address City:	NEWBERRY SPRINGS
Mailing Address State:	CA
Mailing Address Zip Code:	92365
Operator Name:	Joseph Harter
Operator Phone:	760-578-9965
Owner Phone:	760-578-9965
Owner Mail Address:	34530 MINNEOLA RD
Owner State:	CA
Owner Zip Code:	92365
Owner Country:	United States
Property Owner Name:	Not reported
Property Owner Phone:	Not reported
Property Owner Mailing Address:	Not reported
Property Owner City:	Not reported
Property Owner Stat :	Not reported
Property Owner Zip Code:	Not reported
Property Owner Country:	Not reported
EPAID:	CAL000268127

San Bern. Co. Permit:

Region:	SAN BERNARDINO
Facility ID:	FA0000482
Owner:	HARTER, JOSEPH
Permit Number:	PT0017951
Permit Category:	SMALL QUANTITY GENERATOR
Facility Status:	ACTIVE
Expiration Date:	09/30/2018

Region:	SAN BERNARDINO
Facility ID:	FA0000482
Owner:	HARTER, JOSEPH
Permit Number:	PT0003745
Permit Category:	HAZARDOUS MATERIALS 4-10 CHEMICALS
Facility Status:	ACTIVE
Expiration Date:	09/30/2018

Region:	SAN BERNARDINO
Facility ID:	FA0000482
Owner:	HARTER, JOSEPH
Permit Number:	PT0026077
Permit Category:	EPCRA FACILITY
Facility Status:	INACTIVE
Expiration Date:	09/30/2013

C15 **COOLWATER GENERATING** **LUST** **S102428348**
South **37072 SANTA FE RD E** **HIST CORTESE** **N/A**
< 1/8 **DAGGETT, CA 92327**
0.117 mi.
618 ft. **Site 1 of 5 in cluster C**

Actual:
1987 ft.

Focus Map:
6

LUST Region 6V:

Region:	6V
Case Number:	6B3600079T
Leak Record:	11/24/1987
Report Date:	11/17/1987
Reported By Address:	Not reported
Responsible Party:	SCE
Operator:	SOUTHERN CA EDISON
Cross Street:	Not reported
Local Agency:	36000L
Regional Board:	6V
Chemical:	Diesel
Case Type:	Soil only
Funding:	Not reported
Enforce Type:	EF
How Found:	Tank Closure
How Stopped:	Not reported
Cause of Leak:	UNK
Leak Source:	UNK
Global ID:	T0607100667
Stop Date:	Not reported
Leak Confirm:	Not reported
Submit Workplan:	Not reported
Prelim Assess:	Not reported
Pollution Char:	11/17/1987
Remed Plan:	Not reported
Remed Action:	Not reported
Monitoring:	Not reported
Close Date:	10/23/1989
Discovered:	Not reported
Enforce Date:	6/3/1993
Review Date:	3/28/1989
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
MTBE class:	*
Max MTBE Grnd Wtr:	Not reported
Max MTBE Soil:	Not reported
MTBE Counts:	0
MTBE Fuel:	0
MTBE Tested:	NRQ
Organization Name:	Not reported
Status:	Case Closed
Contact:	Not reported
Interim Action:	Not reported
Pilot Program:	LUST
Lat/Long:	34.8456653 / -116.7768058
Staff Initials:	KD
Local Agency Staff:	RR1
Lead Agency:	Local Agency
Summary:	RESEARCHING
Basin Number:	LOWER MOJAVE RIVER V
Beneficial:	Not reported
Priority:	Not reported

COOLWATER GENERATING (Continued) **S102428348**

UST Cleanup Fund ID: Not reported
Suspended: Not reported
Local Case Number: 90175
Amount: Not reported
Abate Method: Not reported
Water System: Not reported
Well Name: Not reported
Distance: 6262.66084
Wst Disch Reqrmnt Global ID: Not reported
Wst Disch Reqrmnt Name: Not reported

LUST:
Lead Agency: SAN BERNARDINO COUNTY
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607100667
Global Id: T0607100667
Latitude: 34.8456653
Longitude: -116.7768058
Status: Completed - Case Closed
Status Date: 10/23/1989
Case Worker: Not reported
RB Case Number: 6B3600079T
Local Agency: Not reported
File Location: Local Agency
Local Case Number: 90175
Potential Media Affect: Soil
Potential Contaminants of Concern: Diesel
Site History: Not reported

LUST:
Global Id: T0607100667
Contact Type: Regional Board Caseworker
Contact Name: JEHIEL CASS
Organization Name: LAHONTAN RWQCB (REGION 6V)
Address: 15095 Armagosa Road, Building 2, Suite 210
City: VICTORVILLE
Email: jehiel.cass@waterboards.ca.gov
Phone Number: 7602412434

LUST:
Global Id: T0607100667
Action Type: ENFORCEMENT
Date: 06/03/1993
Action: * Historical Enforcement

Global Id: T0607100667
Action Type: Other
Date: 11/17/1987
Action: Leak Reported

LUST:
Global Id: T0607100667
Status: Open - Case Begin Date
Status Date: 11/17/1987

Global Id: T0607100667

COOLWATER GENERATING (Continued) **S102428348**

Status: Open - Site Assessment
Status Date: 11/17/1987

Global Id: T0607100667
Status: Completed - Case Closed
Status Date: 10/23/1989

HIST CORTESE:
Region: CORTESE
Facility County Code: 36
Reg By: LTNKA
Reg Id: 6B3600079T

C16 **COOL WATER GENERATING STATION** **SWEEPS UST** **S106924899**
South **37072 E SANTA FE RD** **N/A**
< 1/8 **DAGGETT, CA 92327**
0.117 mi.
618 ft. **Site 2 of 5 in cluster C**

Actual:
1987 ft.

Focus Map:
6

SWEEPS UST:
Status: Active
Comp Number: 66314
Number: 9
Board Of Equalization: Not reported
Referral Date: 08-28-91
Action Date: 08-28-91
Created Date: 02-29-88
Owner Tank Id: 433
SWRCB Tank Id: 36-000-066314-000001
Tank Status: A
Capacity: 1
Active Date: 07-08-88
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: 1

C17 **COOLWATER COAL GAS PLANT** **SWEEPS UST** **S106924901**
South **37072 E SANTA FE RD** **N/A**
< 1/8 **DAGGETT, CA 92327**
0.117 mi.
618 ft. **Site 3 of 5 in cluster C**

Actual:
1987 ft.

Focus Map:
6

SWEEPS UST:
Status: Active
Comp Number: 58855
Number: 1
Board Of Equalization: 44-021272
Referral Date: 08-28-91
Action Date: 08-28-91
Created Date: 02-29-88
Owner Tank Id: (405)
SWRCB Tank Id: 36-000-058855-000002
Tank Status: A
Capacity: 10000

COOLWATER COAL GAS PLANT (Continued) **S106924901**

Active Date:	07-01-85
Tank Use:	M.V. FUEL
STG:	P
Content:	DIESEL
Number Of Tanks:	1
Status:	Not reported
Comp Number:	58855
Number:	Not reported
Board Of Equalization:	44-021272
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Owner Tank Id:	Not reported
SWRCB Tank Id:	36-000-058855-000001
Tank Status:	Not reported
Capacity:	10000
Active Date:	Not reported
Tank Use:	M.V. FUEL
STG:	PRODUCT
Content:	REG UNLEADED
Number Of Tanks:	1

C18 **COOL WATER COAL GASIFICATION** **HIST UST** **U001574736**
South **37072 E SANTA FE ROAD** **N/A**
< 1/8 **DAGGETT, CA 92327**
0.117 mi.
618 ft. **Site 4 of 5 in cluster C**

Actual:
1987 ft.

Focus Map:
6

HIST UST:

File Number:	00029CEF
URL:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00029CEF.pdf
Region:	STATE
Facility ID:	00000058855
Facility Type:	Other
Other Type:	ELECTRIC
Contact Name:	Not reported
Telephone:	6192542992
Owner Name:	COOL WATER COAL GASIFICATION
Owner Address:	37072 E. SANTA FE ROAD
Owner City,St,Zip:	DAGGETT, CA 92327
Total Tanks:	0008
Tank Num:	001
Container Num:	(398)
Year Installed:	Not reported
Tank Capacity:	00007500
Tank Used for:	WASTE
Type of Fuel:	Not reported
Container Construction Thickness:	14
Leak Detection:	None
Tank Num:	002
Container Num:	(399)
Year Installed:	Not reported
Tank Capacity:	00005000
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL

COOL WATER COAL GASIFICATION (Continued) **U001574736**

Container Construction Thickness: 12
Leak Detection: None

Tank Num: 003
Container Num: (400)
Year Installed: Not reported
Tank Capacity: 00004000
Tank Used for: WASTE
Type of Fuel: Not reported
Container Construction Thickness: 12
Leak Detection: None

Tank Num: 004
Container Num: (401)
Year Installed: Not reported
Tank Capacity: 00005500
Tank Used for: WASTE
Type of Fuel: Not reported
Container Construction Thickness: 12
Leak Detection: None

Tank Num: 005
Container Num: (402)
Year Installed: 1983
Tank Capacity: 00200000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: 18
Leak Detection: None

Tank Num: 006
Container Num: (404)
Year Installed: 1982
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Container Construction Thickness: Not reported
Leak Detection: None

Tank Num: 007
Container Num: (405)
Year Installed: 1982
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Container Construction Thickness: Not reported
Leak Detection: None

Tank Num: 008
Container Num: (403)
Year Installed: Not reported
Tank Capacity: 00015000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: 12
Leak Detection: None

COOL WATER COAL GASIFICATION (Continued) **U001574736**

Click here for Geo Tracker PDF:

C19 **COOL WATER GENERATING STATION** **HIST UST** **U001574738**
South **37072 E. SANTA FE ROAD** **N/A**
< 1/8 **DAGGETT, CA 92327**
0.117 mi.
618 ft. **Site 5 of 5 in cluster C**

Actual:
1987 ft.

Focus Map:
6

HIST UST:

File Number:	Not reported
URL:	Not reported
Region:	STATE
Facility ID:	00000066314
Facility Type:	Other
Other Type:	ELECTRIC UTILITY
Contact Name:	ROMAN AGUILAR
Telephone:	6192542921
Owner Name:	SOUTHERN CALIFORNIA EDISON COM
Owner Address:	2244 WALNUT GROVE AVENUE
Owner City,St,Zip:	ROSEMEAD, CA 91770
Total Tanks:	0009
Tank Num:	001
Container Num:	527
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	WASTE
Type of Fuel:	5
Container Construction Thickness:	X
Leak Detection:	None
Tank Num:	002
Container Num:	433
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	WASTE
Type of Fuel:	1
Container Construction Thickness:	X
Leak Detection:	None
Tank Num:	003
Container Num:	476
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	X
Leak Detection:	None
Tank Num:	004
Container Num:	477
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	PRODUCT
Type of Fuel:	06
Container Construction Thickness:	Not reported
Leak Detection:	None

COOL WATER GENERATING STATION (Continued) **U001574738**

Tank Num:	005
Container Num:	478
Year Installed:	Not reported
Tank Capacity:	00000300
Tank Used for:	WASTE
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	None

Tank Num:	006
Container Num:	479
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	WASTE
Type of Fuel:	06
Container Construction Thickness:	Not reported
Leak Detection:	None

Tank Num:	007
Container Num:	480
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	None

Tank Num:	008
Container Num:	481
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	None

Tank Num:	009
Container Num:	482
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	WASTE
Type of Fuel:	06
Container Construction Thickness:	Not reported
Leak Detection:	None

D20 **PG&E: KRGT - PGE DAGGETT INTERTIE** **San Bern. Co. Permit** **S103368683**
SSE **37101 SANTA FE RD** **N/A**
1/8-1/4 **DAGGETT, CA 92327**
0.147 mi.
776 ft. **Site 1 of 2 in cluster D**

Actual:
1988 ft.

Focus Map:
6

San Bern. Co. Permit:

Region:	SAN BERNARDINO
Facility ID:	FA0004249
Owner:	Pacific Gas & Electric Company
Permit Number:	PT0009244
Permit Category:	HAZARDOUS MATERIALS 1-3 CHEMICALS SPECIAL
Facility Status:	ACTIVE

PG&E: KRGT - PGE DAGGETT INTERTIE (Continued) **S103368683**

Expiration Date: 11/30/2018

Region: SAN BERNARDINO
Facility ID: FA0004249
Owner: Pacific Gas & Electric Company
Permit Number: PT0026298
Permit Category: APSA 1,320-10,000 GAL FAC CAPACITY
Facility Status: INACTIVE
Expiration Date: 11/30/2013

D21 **SOUTHERN CALIFORNIA EDISON SOLAR II** **RCRA-LQG** **1001085519**
SSE **37110 SANTA FE RD.** **CAR000008425**
1/8-1/4 **DAGGETT, CA 92327**
0.149 mi.
789 ft. **Site 2 of 2 in cluster D**

Actual:
1985 ft.

Focus Map:
6

RCRA-LQG:
Date form received by agency: 06/10/2010
Facility name: SOUTHERN CALIFORNIA EDISON SOLAR II
Facility address: 37110 SANTA FE RD.
DAGGETT, CA 92327
EPA ID: CAR000008425
Mailing address: P.O. BOX 800
ROSEMEAD, CA 91770
Contact: STANLEY L MARSH
Contact address: 2244 WALNUT GROVE AVE. GO1, QUAD 3A
ROSEMEAD, CA 91770
Contact country: US
Contact telephone: 626-302-9711
Contact email: STANLEY.MARSH@SCE.COM
EPA Region: 09
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:
Owner/operator name: SOUTHERN CALIFORNIA EDISON
Owner/operator address: 2244 WALNUT GROVE AVE.
ROSEMEAD, CA 91770
Owner/operator country: US
Owner/operator telephone: 626-302-9711
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 04/04/1996

SOUTHERN CALIFORNIA EDISON SOLAR II (Continued) **1001085519**

Owner/Op end date: Not reported

Owner/operator name: SOUTHERN CALIFORNIA EDISON
Owner/operator address: Not reported
Not reported
Owner/operator country: Not reported
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 04/04/1996
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: 122
. Waste name: Alkaline solution without metals (pH > 12.5)

. Waste code: 181
. Waste name: Other inorganic solid waste

. Waste code: 214
. Waste name: Unspecified solvent mixture

. Waste code: 221
. Waste name: Waste oil and mixed oil

. Waste code: 223
. Waste name: Unspecified oil-containing waste

. Waste code: 261
. Waste name: Polychlorinated biphenyls and material containing PCB’s

. Waste code: 791
. Waste name: Liquids with pH < 2

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002

SOUTHERN CALIFORNIA EDISON SOLAR II (Continued) **1001085519**

. Waste name: CORROSIVE WASTE

. Waste code: D008
. Waste name: LEAD

. Waste code: D018
. Waste name: BENZENE

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Historical Generators:
Date form received by agency: 09/01/1996
Site name: SOLAR I I PROJECT
Classification: Small Quantity Generator

Date form received by agency: 01/19/1996
Site name: SOLAR I I PROJECT
Classification: Large Quantity Generator

Date form received by agency: 01/19/1996
Site name: SOLAR I I PROJECT
Classification: Large Quantity Generator

Date form received by agency: 01/19/1996
Site name: SOLAR I I PROJECT
Classification: Large Quantity Generator

Violation Status: No violations found

E22
East
1/8-1/4
0.170 mi.
895 ft.

SUNRAY ENERGY INC
35100 SANTA FE ST
DAGGETT, CA 92327

Site 1 of 2 in cluster E

AST **S103989872**
CHMIRS **N/A**
NPDES
San Bern. Co. Permit
CIWQS

Actual:
1945 ft.

Focus Map:
7

AST:

Certified Unified Program Agencies:	Not reported
Owner:	COGENTRIX LLC
Total Gallons:	Not reported
CERSID:	10044616
Facility ID:	FA0006101
Business Name:	SUNRAY ENERGY INC
Phone:	760-577-9932
Fax:	Not reported
Mailing Address:	PO Box 338
Mailing Address City:	DAGGETT
Mailing Address State:	CA
Mailing Address Zip Code:	92327
Operator Name:	Cogentrix Power Management LLC
Operator Phone:	(800)800-1331
Owner Phone:	(704) 525-3800
Owner Mail Address:	9405 ARROWPOINT BLVD
Owner State:	NC
Owner Zip Code:	Not reported
Owner Country:	United States
Property Owner Name:	Not reported
Property Owner Phone:	Not reported
Property Owner Mailing Address:	Not reported
Property Owner City:	Not reported
Property Owner Stat :	Not reported
Property Owner Zip Code:	Not reported
Property Owner Country:	Not reported
EPAID:	CAL000344479

CHMIRS:

OES Incident Number:	13-5525
OES notification:	09/04/2013
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Other
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Gal(s)
Other:	Not reported
Date/Time:	810
Year:	2013
Agency:	Sunrey Energy
Incident Date:	9/4/2013
Admin Agency:	San Bernardino County Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Caloria (Mineral Oil / Chevron HT)
Quantity Released:	150
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Caller states substance was released due to tube failure. Caller states substance released to a soil area in a solar field. Caller states clean-up is in progress.
OES Incident Number:	4-5422
OES notification:	09/24/2014
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Other
Cleanup By:	No
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Type:	PETROLEUM
Measure:	Gal(s)
Other:	Not reported
Date/Time:	1100
Year:	2014
Agency:	SunRay Energy Inc
Incident Date:	9/24/2014
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Heat Transfer Fluid
Quantity Released:	100
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	No
#2 Pipeline:	No
#3 Pipeline:	No
#1 Vessel >= 300 Tons:	No
#2 Vessel >= 300 Tons:	No
#3 Vessel >= 300 Tons:	No
Evacs:	No
Injuries:	Mechanical
Fatals:	No

SUNRAY ENERGY INC (Continued) **S103989872**

Comments:	Not reported
Description:	Mechanical failure of a valve caused this to the soil. The release was within a solar field. No waterways were affected.
OES Incident Number:	4-5662
OES notification:	10/05/2014
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Merchant/Business
Cleanup By:	No
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Type:	PETROLEUM
Measure:	Gal(s)
Other:	Not reported
Date/Time:	815
Year:	2014
Agency:	Sunray
Incident Date:	10/5/2014
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Chevron, Heat Transfer Fluid, Caloria
Quantity Released:	200

SUNRAY ENERGY INC (Continued) **S103989872**

Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	No
#2 Pipeline:	No
#3 Pipeline:	No
#1 Vessel >= 300 Tons:	No
#2 Vessel >= 300 Tons:	No
#3 Vessel >= 300 Tons:	No
Evacs:	No
Injuries:	Mechanical
Fatals:	No
Comments:	Not reported
Description:	RP states that a tube failure caused the release. Cleanup is in progress.
OES Incident Number:	1-4791
OES notification:	08/12/2011
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Other
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Gal(s)
Other:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

Date/Time:	719
Year:	2011
Agency:	Sun Ray Energy
Incident Date:	8/12/2011
Admin Agency:	San Bernardino County Health Department
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Coolant
Quantity Released:	200
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	The substance spilled from a valve after a maintenance operation.
OES Incident Number:	09659
OES notification:	Not reported
OES Date:	8/21/1995
OES Time:	12:31:24 PM
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	dagget leasing corp.
Containment:	Not reported
What Happened:	Not reported
Type:	PETROLEUM
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1995
Agency:	dagget leasing corp
Incident Date:	1220 21AUG95
Admin Agency:	Not reported
Amount:	no spill-fire only
Contained:	NO
Site Type:	OTHER
E Date:	Not reported
Substance:	chevron heat transfer oil
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	some type of heat transfer pump oil transfer that allowed the release of the fluid that caught fire. no release, fire has been extinguished by on site fire dept.
OES Incident Number:	12700
OES notification:	Not reported
OES Date:	3/9/1996
OES Time:	01:20:24 PM
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	daggett leasing corp
Containment:	Not reported
What Happened:	Not reported
Type:	PETROLEUM
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1996
Agency:	daggett leasing corp
Incident Date:	1215 09Mar96
Admin Agency:	Not reported
Amount:	50-75 gals
Contained:	NO
Site Type:	OTHER
E Date:	Not reported
Substance:	caloria chevron heat transfer fluid
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	flex hose failure.
OES Incident Number:	15-0215
OES notification:	01/12/2015
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	None
Spill Site:	Other
Cleanup By:	On-Site Personnel
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Type:	CHEMICAL
Measure:	Gal(s)
Other:	Not reported
Date/Time:	1440
Year:	2015
Agency:	SunRay Energy
Incident Date:	01/12/2015
Admin Agency:	San Bernardino County Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	None
E Date:	Not reported
Substance:	Therminal Heat Transfer Fluid
Quantity Released:	100
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	No
#2 Pipeline:	No
#3 Pipeline:	No
#1 Vessel >= 300 Tons:	No
#2 Vessel >= 300 Tons:	No

SUNRAY ENERGY INC (Continued) **S103989872**

#3 Vessel >= 300 Tons:	No
Evacs:	No
Injuries:	No
Fatals:	No
Comments:	Not reported
Description:	Caller states human error caused the release of the substance onto soil near a power block (outside of the building). The incident involved one employee leaving several valves in the system in the open position while another employee, not knowing the status of the valves, pressurized the system causing the release. The employees immediately began to use an "evac trailer" to recover the released substance. It is unknown how much of the release has been recovered. The location of the release is in the Mojave Desert. No waterways were impacted. The staff is conducting an internal investigation to determine the extent of the release and a more thorough clean-up.
OES Incident Number:	10-7362
OES notification:	12/08/2010
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Utilities/Substation
Cleanup By:	Contractor
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

Measure:	Bbl.(s)
Other:	Not reported
Date/Time:	200
Year:	2010
Agency:	Sunray Energy
Incident Date:	12/8/2010
Admin Agency:	San Bernardino County Health Department
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Mineral oil
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Mechanical failure caused this release to soil only
OES Incident Number:	7-5117
OES notification:	12/26/1997
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1997
Agency:	DAGGETT LEASING
Incident Date:	12/26/199712:00:00 AM
Admin Agency:	San Bernardino County Health Department
Amount:	Not reported
Contained:	Yes
Site Type:	Industrial Plant
E Date:	Not reported
Substance:	THERMINOL
Gallons:	50
Unknown:	0
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	FLANGE FAILURE CAUSED THE RELEASE.
OES Incident Number:	10535
OES notification:	Not reported
OES Date:	10/17/1995
OES Time:	07:58:35 AM
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	daggett personnel
Containment:	Not reported
What Happened:	Not reported
Type:	CHEMICAL
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1995
Agency:	daggett leasing
Incident Date:	1010 16oct95
Admin Agency:	Not reported
Amount:	75 gals
Contained:	NO
Site Type:	IND PLT
E Date:	Not reported
Substance:	therminol vt-1
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	drain valve failed allowing heat exchanger to release onto bare soil.
OES Incident Number:	4-5810
OES notification:	10/12/2014
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Other
Cleanup By:	No
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Type:	PETROLEUM
Measure:	Gal(s)
Other:	Not reported
Date/Time:	2045
Year:	2014
Agency:	Sunray Energy
Incident Date:	10/12/2014
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Chevron Heat Transfer Fluid aka Caloria
Quantity Released:	1500
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	No
#2 Pipeline:	No
#3 Pipeline:	No
#1 Vessel >= 300 Tons:	No
#2 Vessel >= 300 Tons:	No

SUNRAY ENERGY INC (Continued) **S103989872**

#3 Vessel >= 300 Tons:	No
Evacs:	No
Injuries:	Mechanical
Fatals:	No
Comments:	Not reported
Description:	Per the caller a mechanical tube failure caused the spill.

NPDES:

Npdes Number:	Not reported
Facility Status:	Not reported
Agency Id:	Not reported
Region:	6B
Regulatory Measure Id:	466846
Order No:	Not reported
Regulatory Measure Type:	Construction
Place Id:	Not reported
WDID:	6B36C374957
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Not reported
Discharge Address:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
RECEIVED DATE:	12/22/2015
PROCESSED DATE:	12/22/2015
STATUS CODE NAME:	Active
STATUS DATE:	12/22/2015
PLACE SIZE:	333
PLACE SIZE UNIT:	Acres
FACILITY CONTACT NAME:	Michael Gallego
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	480-980-0091
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	michael.gallego@clenera.com
OPERATOR NAME:	Sunray Energy 2 LLC
OPERATOR ADDRESS:	PO Box 7128
OPERATOR CITY:	Boise
OPERATOR STATE:	Idaho
OPERATOR ZIP:	83707
OPERATOR CONTACT NAME:	Michael Gallego
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	480-980-0091
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	michael.gallego@clenera.com
OPERATOR TYPE:	Private Business
DEVELOPER NAME:	Sunray Energy 2 LLC
DEVELOPER ADDRESS:	PO Box 7128
DEVELOPER CITY:	Boise
DEVELOPER STATE:	Idaho
DEVELOPER ZIP:	83707
DEVELOPER CONTACT NAME:	Michael Gallego
DEVELOPER CONTACT TITLE:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

CONSTYPE LINEAR UTILITY IND:	N
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	N
CONSTYPE BELOW GROUND IND:	N
CONSTYPE CABLE LINE IND:	N
CONSTYPE COMM LINE IND:	N
CONSTYPE COMMERTIAL IND:	N
CONSTYPE ELECTRICAL LINE IND:	N
CONSTYPE GAS LINE IND:	N
CONSTYPE INDUSTRIAL IND:	N
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	N
CONSTYPE RECONS IND:	N
CONSTYPE RESIDENTIAL IND:	N
CONSTYPE TRANSPORT IND:	N
CONSTYPE UTILITY DESCRIPTION:	Solar Farm
CONSTYPE UTILITY IND:	Y
CONSTYPE WATER SEWER IND:	N
DIR DISCHARGE USWATER IND:	N
RECEIVING WATER NAME:	Mojave River
CERTIFIER NAME:	Michael Gallego
CERTIFIER TITLE:	Director of Construction
CERTIFICATION DATE:	22-DEC-15
PRIMARY SIC:	Not reported
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported

Npdes Number:	CAS000001
Facility Status:	Terminated
Agency Id:	0
Region:	6B
Regulatory Measure Id:	401601
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	6B36I022476
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	01/14/2010
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	06/30/2016
Discharge Name:	Sunray LLC
Discharge Address:	PO Box 338
Discharge City:	Daggett
Discharge State:	California
Discharge Zip:	92327
RECEIVED DATE:	Not reported
PROCESSED DATE:	Not reported
STATUS CODE NAME:	Not reported
STATUS DATE:	Not reported
PLACE SIZE:	Not reported
PLACE SIZE UNIT:	Not reported
FACILITY CONTACT NAME:	Not reported
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	Not reported
FACILITY CONTACT PHONE EXT:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

FACILITY CONTACT EMAIL:	Not reported
OPERATOR NAME:	Not reported
OPERATOR ADDRESS:	Not reported
OPERATOR CITY:	Not reported
OPERATOR STATE:	Not reported
OPERATOR ZIP:	Not reported
OPERATOR CONTACT NAME:	Not reported
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	Not reported
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	Not reported
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	Not reported
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	Not reported
RECEIVING WATER NAME:	Not reported
CERTIFIER NAME:	Not reported
CERTIFIER TITLE:	Not reported
CERTIFICATION DATE:	Not reported
PRIMARY SIC:	Not reported
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported

Npdes Number:	CAS000002
Facility Status:	Terminated
Agency Id:	0
Region:	6B
Regulatory Measure Id:	466846
Order No:	2009-0009-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	6B36C374957
Program Type:	Construction

SUNRAY ENERGY INC (Continued) **S103989872**

Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	12/22/2015
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	06/12/2017
Discharge Name:	Sunray Energy 2 LLC
Discharge Address:	PO Box 7128
Discharge City:	Boise
Discharge State:	Idaho
Discharge Zip:	83707
RECEIVED DATE:	Not reported
PROCESSED DATE:	Not reported
STATUS CODE NAME:	Not reported
STATUS DATE:	Not reported
PLACE SIZE:	Not reported
PLACE SIZE UNIT:	Not reported
FACILITY CONTACT NAME:	Not reported
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	Not reported
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	Not reported
OPERATOR NAME:	Not reported
OPERATOR ADDRESS:	Not reported
OPERATOR CITY:	Not reported
OPERATOR STATE:	Not reported
OPERATOR ZIP:	Not reported
OPERATOR CONTACT NAME:	Not reported
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	Not reported
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	Not reported
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	Not reported
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

DIR DISCHARGE USWATER IND:	Not reported
RECEIVING WATER NAME:	Not reported
CERTIFIER NAME:	Not reported
CERTIFIER TITLE:	Not reported
CERTIFICATION DATE:	Not reported
PRIMARY SIC:	Not reported
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported
Npdes Number:	Not reported
Facility Status:	Not reported
Agency Id:	Not reported
Region:	6B
Regulatory Measure Id:	401601
Order No:	Not reported
Regulatory Measure Type:	Industrial
Place Id:	Not reported
WDID:	6B36I022476
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	06/30/2016
Discharge Name:	Not reported
Discharge Address:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
RECEIVED DATE:	01/06/2010
PROCESSED DATE:	01/14/2010
STATUS CODE NAME:	Terminated
STATUS DATE:	08/19/2016
PLACE SIZE:	333
PLACE SIZE UNIT:	Acres
FACILITY CONTACT NAME:	Francisco Ruelas
FACILITY CONTACT TITLE:	EHS Coordinator
FACILITY CONTACT PHONE:	760-254-3381
FACILITY CONTACT PHONE EXT:	2180
FACILITY CONTACT EMAIL:	FranciscoRuelas@Cogentrix.com
OPERATOR NAME:	Sunray LLC
OPERATOR ADDRESS:	PO Box 338
OPERATOR CITY:	Daggett
OPERATOR STATE:	California
OPERATOR ZIP:	92327
OPERATOR CONTACT NAME:	Brad Bergman
OPERATOR CONTACT TITLE:	General Manager
OPERATOR CONTACT PHONE:	760-254-3381
OPERATOR CONTACT PHONE EXT:	2120
OPERATOR CONTACT EMAIL:	BradBergman@Cogentrix.com
OPERATOR TYPE:	Private Business
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	California
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	760-577-9932
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	N
RECEIVING WATER NAME:	Mojave River
CERTIFIER NAME:	Brad Bergman
CERTIFIER TITLE:	General Manager
CERTIFICATION DATE:	30-MAR-15
PRIMARY SIC:	4911-Electric Services
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported

San Bern. Co. Permit:

Region:	SAN BERNARDINO
Facility ID:	FA0006101
Owner:	COGENTRIX LLC
Permit Number:	PT0003849
Permit Category:	HAZARDOUS MATERIALS 31-50 CHEMICALS
Facility Status:	INACTIVE
Expiration Date:	12/31/2017

Region:	SAN BERNARDINO
Facility ID:	FA0006101
Owner:	COGENTRIX LLC
Permit Number:	PT0003850
Permit Category:	LARGE QUANTITY GENERATOR
Facility Status:	INACTIVE
Expiration Date:	12/31/2017

Region:	SAN BERNARDINO
Facility ID:	FA0006101
Owner:	COGENTRIX LLC
Permit Number:	PT0021878
Permit Category:	APSA 10,001-100,000 GAL FAC CAPACITY
Facility Status:	INACTIVE
Expiration Date:	12/31/2017

Region:	SAN BERNARDINO
Facility ID:	FA0006101
Owner:	COGENTRIX LLC
Permit Number:	PT0021779

SUNRAY ENERGY INC (Continued) **S103989872**

Permit Category: EPCRA FACILITY
Facility Status: INACTIVE
Expiration Date: 12/31/2013

CIWQS:

Agency:	Sunray Energy 2 LLC
Agency Address:	PO Box 7128, Boise, ID 83707
Place/Project Type:	Construction - Utility: Solar Farm
SIC/NAICS:	Not reported
Region:	6V
Program:	CONSTW
Regulatory Measure Status:	Terminated
Regulatory Measure Type:	Storm water construction
Order Number:	2009-0009-DWQ
WDID:	6B36C374957
NPDES Number:	CAS000002
Adoption Date:	Not reported
Effective Date:	12/22/2015
Termination Date:	06/12/2017
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	34.896067
Longitude:	-116.826964

Agency:	Sunray LLC
Agency Address:	PO Box 338, Daggett, CA 92327
Place/Project Type:	Industrial - Electric Services
SIC/NAICS:	4911
Region:	6V
Program:	INDSTW
Regulatory Measure Status:	Terminated
Regulatory Measure Type:	Storm water industrial
Order Number:	2014-0057-DWQ
WDID:	6B36I022476
NPDES Number:	CAS000001
Adoption Date:	Not reported
Effective Date:	01/14/2010
Termination Date:	06/30/2016
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	1
Violations within 5 years:	1
Latitude:	34.86464
Longitude:	-116.89281

E23 **SEGS I & II - DAGGETT** **WMUDS/SWAT** **S101612545**
East **35100 SANTE FE RD** **CHMIRS** **N/A**
1/8-1/4 **DAGGETT CA, CA 92327** **LDS**
0.170 mi. **ENF**
895 ft. **Site 2 of 2 in cluster E** **CIWQS**

Actual:
1945 ft.

Focus Map:
7

WMUDS/SWAT:

Edit Date:	Not reported
Complexity:	Category B - Any facility having a physical, chemical, or biological waste treatment system (except for septic systems with subsurface disposal), or any Class II or III disposal site, or facilities without treatment systems that are complex, such as marinas with petroleum products, solid wastes, and sewage pump out facilities.
Primary Waste:	NONCON
Primary Waste Type:	Designated/Influent or Solid Wastes that pose a significant threat to water quality because of their high concentrations (E.G., BOD, Hardness, TRF, Chloride). 'Manageable' hazardous wastes (E.G., inorganic salts and heavy metals) are included in this category.
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Base Meridian:	Not reported
NPID:	Not reported
Tonnage:	0
Regional Board ID:	Not reported
Municipal Solid Waste:	False
Superorder:	False
Open To Public:	False
Waste List:	False
Agency Type:	Private
Agency Name:	SUNRAY ENERGY INC
Agency Department:	Not reported
Agency Address:	35100 SANTA FE ST
Agency City,St,Zip:	DAGGETT CA 92327
Agency Contact:	ERIC WILLS
Agency Telephone:	7602543381
Land Owner Name:	Not reported
Land Owner Address:	Not reported
Land Owner City,St,Zip:	Not reported
Land Owner Contact:	Not reported
Land Owner Phone:	Not reported
Region:	6V
Facility Type:	Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Description:	Not reported
Facility Telephone:	Not reported
SWAT Facility Name:	Not reported
Primary SIC:	4961
Secondary SIC:	Not reported
Comments:	Not reported
Last Facility Editors:	Not reported
Waste Discharge System:	True
Solid Waste Assessment Test Program:	False
Toxic Pits Cleanup Act Program:	False
Resource Conservation Recovery Act:	False
Department of Defence:	False

SEGS I & II - DAGGETT (Continued) **S101612545**

Solid Waste Assessment Test Program:	Not reported
Threat to Water Quality:	Moderate Threat to Water Quality. A violation could have a major adverse impact on receiving biota, can cause aesthetic impairment to a significant human population, or render unusable a potential domestic or municipal water supply. Awsthetic impairment would include nuisance from a waste treatment facility.
Sub Chapter 15:	True
Regional Board Project Officer:	JJK
Number of WMUDS at Facility:	1
Section Range:	Not reported
RCRA Facility:	No
Waste Discharge Requirements:	A
Self-Monitoring Rept. Frequency:	Quarterly Submittal
Waste Discharge System ID:	6B364550001
Solid Waste Information ID:	Not reported

CHMIRS:

OES Incident Number:	06733
OES notification:	Not reported
OES Date:	2/10/1995
OES Time:	01:26:30 PM
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	daggett leasing
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1995

SEGS I & II - DAGGETT (Continued) **S101612545**

Agency:	daggett leasing
Incident Date:	2/10/95 1240
Admin Agency:	Not reported
Amount:	100 gal
Contained:	NO
Site Type:	Not reported
E Date:	Not reported
Substance:	transfer oil
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	equipment failure (Gasket)
OES Incident Number:	15-0218
OES notification:	01/12/2015
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported

SEGS I & II - DAGGETT (Continued) **S101612545**

Spill Site:	Other
Cleanup By:	Unknown
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Type:	PETROLEUM
Measure:	Gal(s)
Other:	Not reported
Date/Time:	1440
Year:	2015
Agency:	NRC
Incident Date:	01/12/2015
Admin Agency:	San Bernardino County Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Therminal BP
Quantity Released:	100
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	No
#2 Pipeline:	No
#3 Pipeline:	No
#1 Vessel >= 300 Tons:	No
#2 Vessel >= 300 Tons:	No
#3 Vessel >= 300 Tons:	No
Evacs:	No
Injuries:	No
Fatals:	No
Comments:	Not reported
Description:	Per NRC Fax: Caller is reporting that due to valves being left open there was a discharge of approximately 100 gallons of therminal BP to the ground. REMEDIAL ACTIONS, Vacuumed the free standing oil.

LDS:

Global Id:	L10001994035
Latitude:	34.85832
Longitude:	-116.8196
Case Type:	Land Disposal Site
Status:	Open
Status Date:	01/01/1965
Lead Agency:	LAHONTAN RWQCB (REGION 6T)
Caseworker:	JSS
Local Agency:	Not reported
RB Case Number:	6B364550001
LOC Case Number:	Not reported
File Location:	Not reported

SEGS I & II - DAGGETT (Continued) **S101612545**

Potential Media Affect: Not reported
EDR Link ID: L10001994035
Potential Contaminants of Concern: Not reported
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

ENF:

Region:	6B
Facility Id:	256224
Agency Name:	Sunray Land Co LLC
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	Not reported
Place Longitude:	Not reported
SIC Code 1:	4961
SIC Desc 1:	Steam and Air-Conditioning Supply
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.114
Threat To Water Quality:	2
Complexity:	B
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Cooling water: Noncontact
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	LNDISPOTH
Program Category1:	LNDISP
Program Category2:	LNDISP
# Of Programs:	1
WDID:	6B364550001
Reg Measure Id:	147581
Reg Measure Type:	WDR
Region:	6B
Order #:	96-160
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	5000

SEGS I & II - DAGGETT (Continued) **S101612545**

Status:	Active
Status Date:	06/28/2016
Effective Date:	11/08/1996
Expiration/Review Date:	11/08/2020
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	59 - Land Disposal Site not paying tipping fee
Direction/Voice:	Passive
Enforcement Id(EID):	398744
Region:	6B
Order / Resolution Number:	Not reported
Enforcement Action Type:	Staff Enforcement Letter
Effective Date:	10/16/2014
Adoption/Issuance Date:	10/16/2014
Achieve Date:	Not reported
Termination Date:	10/22/2014
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	SEL 10/16/2014 for Sunray Energy Inc
Description:	Submit spill reports for 10/5 and 10/12 discharge incidents. Reports are due 10/15 and 10/22, respectively.
Program:	LFNONOPER
Latest Milestone Completion Date:	2014-10-22
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

CIWQS:

Agency:	Sunray Energy 2 LLC
Agency Address:	Po Box 7128, Boise, ID 83707
Place/Project Type:	Other
SIC/NAICS:	4961
Region:	6V
Program:	LNDISP
Regulatory Measure Status:	Historical
Regulatory Measure Type:	WDR
Order Number:	86-005
WDID:	6B364550001
NPDES Number:	Not reported
Adoption Date:	01/09/1986
Effective Date:	01/09/1986
Termination Date:	11/08/1996
Expiration/Review Date:	01/09/1996
Design Flow:	0.114

SEGS I & II - DAGGETT (Continued) **S101612545**

Major/Minor:	Not reported
Complexity:	B
TTWQ:	2
Enforcement Actions within 5 years:	1
Violations within 5 years:	4
Latitude:	Not reported
Longitude:	Not reported
Agency:	Sunray Land Co LLC
Agency Address:	35100 Santa Fe Street, Daggett, CA 92327
Place/Project Type:	Other
SIC/NAICS:	4961
Region:	6V
Program:	LNDISPOTH
Regulatory Measure Status:	Active
Regulatory Measure Type:	WDR
Order Number:	96-160
WDID:	6B364550001
NPDES Number:	Not reported
Adoption Date:	11/08/1996
Effective Date:	11/08/1996
Termination Date:	Not reported
Expiration/Review Date:	11/08/2020
Design Flow:	0.114
Major/Minor:	Not reported
Complexity:	B
TTWQ:	2
Enforcement Actions within 5 years:	1
Violations within 5 years:	4
Latitude:	Not reported
Longitude:	Not reported

F24 **EPTC COOLWATER** **SEMS-ARCHIVE** **1015732611**
North **37000 SANTA FE RD.** **CORRACTS** **CAD000630905**
1/8-1/4 **DAGGETT, CA 92327** **RCRA-TSDF**
0.222 mi. **RCRA-SQG**
1170 ft. **Site 1 of 2 in cluster F**

Actual:
1958 ft.

Focus Map:
7

SEMS Archive:

Site ID:	900943
EPA ID:	CAD000630905
Cong District:	35
FIPS Code:	6071
FF:	N
NPL:	Not on the NPL
Non NPL Status:	NFRAP-Site does not qualify for the NPL based on existing information

SEMS Archive Detail:

Region:	9
Site ID:	900943
EPA ID:	CAD000630905
Site Name:	SO CA EDISON CO COOL WATER STA
NPL:	N
FF:	N
OU:	0
Action Code:	VS
Action Name:	ARCH SITE
SEQ:	1

EPTC COOLWATER (Continued) **1015732611**

Start Date: Not reported
Finish Date: 1988-09-01 00:00:00
Qual: Not reported
Current Action Lead: EPA Perf In-Hse

Region: 9
Site ID: 900943
EPA ID: CAD000630905
Site Name: SO CA EDISON CO COOL WATER STA
NPL: N
FF: N
OU: 0
Action Code: PA
Action Name: PA
SEQ: 1
Start Date: Not reported
Finish Date: 1988-09-01 00:00:00
Qual: N
Current Action Lead: EPA Perf

Region: 9
Site ID: 900943
EPA ID: CAD000630905
Site Name: SO CA EDISON CO COOL WATER STA
NPL: N
FF: N
OU: 0
Action Code: DS
Action Name: DISCVRY
SEQ: 1
Start Date: 1980-08-01 00:00:00
Finish Date: 1980-08-01 00:00:00
Qual: Not reported
Current Action Lead: EPA Perf

Region: 9
Site ID: 900943
EPA ID: CAD000630905
Site Name: SO CA EDISON CO COOL WATER STA
NPL: N
FF: N
OU: 0
Action Code: PA
Action Name: PA
SEQ: 2
Start Date: 1985-03-01 00:00:00
Finish Date: 1985-08-01 00:00:00
Qual: L
Current Action Lead: St Perf

CORRACTS:

EPA ID: CAD000630905
EPA Region: 09
Area Name: ENTIRE FACILITY

EPTC COOLWATER (Continued) **1015732611**

Actual Date: 19950930
Action: CA029
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

RCRA-TSDF:
Date form received by agency: 03/04/1999
Facility name: EPTC COOLWATER
Site name: COOL WATER GEN. STA.
Facility address: 37000 SANTA FE RD.
DAGGETT, CA 92327
EPA ID: CAD000630905
Mailing address: 2244 WALNUT GROVE AVE ROOM 405
ROSEMEAD, CA 91770
Contact: KATHRYN VANDERSLICE
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: 626-302-9320
Contact email: Not reported
EPA Region: 09
Land type: Private
Classification: TSDF
Description: Handler is engaged in the treatment, storage or disposal of hazardous waste

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 10/20/1998
Site name: EPTC COOLWATER
Classification: Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D008
. Waste name: LEAD

. Waste code: D018

EPTC COOLWATER (Continued) **1015732611**

. Waste name: BENZENE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Date form received by agency: 09/01/1996
Site name: EPTC COOLWATER
Classification: Large Quantity Generator

Date form received by agency: 02/27/1996
Site name: SOUTHERN CALIFORNIA EDISON
Classification: Large Quantity Generator

Date form received by agency: 03/29/1994
Site name: COOL WATER GENERATOR ST.
Classification: Large Quantity Generator

Date form received by agency: 03/28/1990

EPTC COOLWATER (Continued) **1015732611**

Site name: SO. CALIF. EDISON COOL WATER GENE
Classification: Large Quantity Generator

Corrective Action Summary:
Event date: 09/30/1995
Event: LEAD AGENCY DETERMINATION

Facility Has Received Notices of Violations:
Regulation violated: FR - 264.190-201.J
Area of violation: TSD - General
Date violation determined: 09/23/1993
Date achieved compliance: 02/01/1995
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 02/01/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 326640
Paid penalty amount: 326640

Regulation violated: FR - 264.190-201.J
Area of violation: TSD - General
Date violation determined: 09/23/1993
Date achieved compliance: 02/01/1995
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/23/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 09/23/1993
Date achieved compliance: 02/01/1995
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/23/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 09/23/1993
Date achieved compliance: 02/01/1995
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY

EPTC COOLWATER (Continued) **1015732611**

Enforcement action date: 02/01/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 326640
Paid penalty amount: 326640

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 03/27/1986
Date achieved compliance: 01/14/1992
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 03/26/1986
Date achieved compliance: 02/01/1995
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 12/19/1985
Date achieved compliance: 12/26/1985
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/12/1985
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 09/25/1985
Date achieved compliance: 10/17/1985
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/01/1985

EPTC COOLWATER (Continued) **1015732611**

Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 10/31/1984
Date achieved compliance: 11/16/1984
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/31/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 06/29/1984
Date achieved compliance: 10/04/1985
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 09/23/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 02/01/1995
Evaluation lead agency: State

Evaluation date: 09/23/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 02/01/1995
Evaluation lead agency: State

Evaluation date: 01/14/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/27/1986
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Generators - General

EPTC COOLWATER (Continued) **1015732611**

Date achieved compliance: 01/14/1992
Evaluation lead agency: EPA

Evaluation date: 03/26/1986
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Generators - General
Date achieved compliance: 02/01/1995
Evaluation lead agency: State

Evaluation date: 12/19/1985
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Generators - General
Date achieved compliance: 12/26/1985
Evaluation lead agency: State

Evaluation date: 09/25/1985
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/25/1985
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 10/17/1985
Evaluation lead agency: State

Evaluation date: 07/12/1985
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: EPA

Evaluation date: 04/17/1985
Evaluation: GROUNDWATER MONITORING EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 10/31/1984
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 11/16/1984
Evaluation lead agency: State

Evaluation date: 10/31/1984
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/29/1984
Evaluation: GROUNDWATER MONITORING EVALUATION
Area of violation: Generators - General
Date achieved compliance: 10/04/1985
Evaluation lead agency: State

EPTC COOLWATER (Continued) **1015732611**

RCRA-SQG:
Date form received by agency: 03/04/1999
Facility name: EPTC COOLWATER
Site name: COOL WATER GEN. STA.
Facility address: 37000 SANTA FE RD.
DAGGETT, CA 92327
EPA ID: CAD000630905
Mailing address: 2244 WALNUT GROVE AVE ROOM 405
ROSEMEAD, CA 91770
Contact: KATHRYN VANDERSLICE
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: 626-302-9320
Contact email: Not reported
EPA Region: 09
Land type: Private
Classification: TSDF
Description: Handler is engaged in the treatment, storage or disposal of hazardous waste

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 10/20/1998
Site name: EPTC COOLWATER
Classification: Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D008
. Waste name: LEAD

. Waste code: D018
. Waste name: BENZENE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED

EPTC COOLWATER (Continued) **1015732611**

FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Date form received by agency: 09/01/1996
Site name: EPTC COOLWATER
Classification: Large Quantity Generator

Date form received by agency: 02/27/1996
Site name: SOUTHERN CALIFORNIA EDISON
Classification: Large Quantity Generator

Date form received by agency: 03/29/1994
Site name: COOL WATER GENERATOR ST.
Classification: Large Quantity Generator

Date form received by agency: 03/28/1990
Site name: SO. CALIF. EDISON COOL WATER GENE
Classification: Large Quantity Generator

Corrective Action Summary:
Event date: 09/30/1995
Event: LEAD AGENCY DETERMINATION

EPTC COOLWATER (Continued) **1015732611**

Facility Has Received Notices of Violations:

Regulation violated: FR - 264.190-201.J
Area of violation: TSD - General
Date violation determined: 09/23/1993
Date achieved compliance: 02/01/1995
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 02/01/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 326640
Paid penalty amount: 326640

Regulation violated: FR - 264.190-201.J
Area of violation: TSD - General
Date violation determined: 09/23/1993
Date achieved compliance: 02/01/1995
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/23/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 09/23/1993
Date achieved compliance: 02/01/1995
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/23/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 09/23/1993
Date achieved compliance: 02/01/1995
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 02/01/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 326640
Paid penalty amount: 326640

EPTC COOLWATER (Continued) **1015732611**

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 03/27/1986
Date achieved compliance: 01/14/1992
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 03/26/1986
Date achieved compliance: 02/01/1995
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 12/19/1985
Date achieved compliance: 12/26/1985
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/12/1985
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 09/25/1985
Date achieved compliance: 10/17/1985
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/01/1985
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A

EPTC COOLWATER (Continued) **1015732611**

Area of violation: Generators - General
Date violation determined: 10/31/1984
Date achieved compliance: 11/16/1984
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/31/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 06/29/1984
Date achieved compliance: 10/04/1985
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 09/23/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 02/01/1995
Evaluation lead agency: State

Evaluation date: 09/23/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 02/01/1995
Evaluation lead agency: State

Evaluation date: 01/14/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/27/1986
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Generators - General
Date achieved compliance: 01/14/1992
Evaluation lead agency: EPA

Evaluation date: 03/26/1986
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Generators - General
Date achieved compliance: 02/01/1995
Evaluation lead agency: State

EPTC COOLWATER (Continued) **1015732611**

Evaluation date: 12/19/1985
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Generators - General
Date achieved compliance: 12/26/1985
Evaluation lead agency: State

Evaluation date: 09/25/1985
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/25/1985
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 10/17/1985
Evaluation lead agency: State

Evaluation date: 07/12/1985
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: EPA

Evaluation date: 04/17/1985
Evaluation: GROUNDWATER MONITORING EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 10/31/1984
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 11/16/1984
Evaluation lead agency: State

Evaluation date: 10/31/1984
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/29/1984
Evaluation: GROUNDWATER MONITORING EVALUATION
Area of violation: Generators - General
Date achieved compliance: 10/04/1985
Evaluation lead agency: State

F25 **RELIANT ENERGY COOLWATER LLC** **ENVIROSTOR** **S103655964**
North **37310 E SANTA FE RD** **HWP** **N/A**
1/8-1/4 **DAGGETT, CA 92327**
0.222 mi.
1170 ft. **Site 2 of 2 in cluster F**

Actual:
1958 ft.

Focus Map:
7

ENVIROSTOR:
Facility ID: 36490115
Status: Refer: 1248 Local Agency
Status Date: 01/29/2001
Site Code: Not reported

RELIANT ENERGY COOLWATER LLC (Continued) **S103655964**

Site Type: Evaluation
Site Type Detailed: Evaluation
Acres: Not reported
NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: Referred - Not Assigned
Division Branch: Cleanup Cypress
Assembly: 34
Senate: Not reported
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not Applicable
Latitude: 34.87235
Longitude: -116.8473
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: 36490115
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: SB 1248 Notification
Completed Date: 01/25/2001
Comments: SB 1248 San Bernardino County

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Facility ID: 60001196
Status: No Further Action
Status Date: 08/06/2014
Site Code: 400381
Site Type: Corrective Action
Site Type Detailed: Corrective Action
Acres: 626
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Steven Rounds
Supervisor: Allan Plaza
Division Branch: Cleanup Chatsworth
Assembly: 34
Senate: 16
Special Program: Not reported

RELIANT ENERGY COOLWATER LLC (Continued) **S103655964**

Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 34.85989
Longitude: -116.8560
APN: NONE SPECIFIED
Past Use: ABOVE GROUND STORAGE TANKS
Potential COC: Polychlorinated biphenyls (PCBs Vanadium and compounds
Confirmed COC: 30587-NO 30018-NO
Potential Description: SOIL
Alias Name: CAD000630905
Alias Type: EPA Identification Number
Alias Name: 400381
Alias Type: Project Code (Site Code)
Alias Name: 60001196
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Workplan
Completed Date: 06/24/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Report
Completed Date: 05/13/2014
Comments: Closure is complete.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Judicial Order
Completed Date: 02/06/1995
Comments: Order signed and recorded.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 05/13/2014
Comments: Closure Complete

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

HWP:
EPA Id: CAD000630905
Cleanup Status: PROTECTIVE FILER
Latitude: 34.86026
Longitude: -116.8550

RELIANT ENERGY COOLWATER LLC (Continued) **S103655964**

Facility Type: Historical - Non-Operating
Facility Size: Not reported
Team: Not reported
Supervisor: Not reported
Site Code: 400381
Assembly District: 33
Senate District: 16
Public Information Officer: Not reported
Public Information Officer: Not reported

Activities:
EPA Id: CAD000630905
Facility Type: Historical - Non-Operating
Unit Names: SURFIMP1
Event Description: Protective Filer Status - PROTECTIVE FILER (APPROVED)
Actual Date: 05/05/1986

EPA Id: CAD000630905
Facility Type: Historical - Non-Operating
Unit Names: SURFIMP1
Event Description: Protective Filer Status - PROTECTIVE FILER (RECEIVED)
Actual Date: 05/24/1985

Alias:
EPA Id: CAD000630905
Facility Type: Historical - Non-Operating
Alias Type: Project Code (Site Code)
Alias: 400381

EPA Id: CAD000630905
Facility Type: Historical - Non-Operating
Alias Type: Alternate Name
Alias: SCE Coolwater

EPA Id: CAD000630905
Facility Type: Historical - Non-Operating
Alias Type: Alternate Name
Alias: Solar II

G26 **SOLAR ONE GENERATING STATION** **HIST UST** **U001574745**
North **E SANTA FE ROAD** **N/A**
1/8-1/4 **DAGGETT, CA 92327**
0.231 mi.
1218 ft. **Site 1 of 2 in cluster G**

Actual:
1944 ft.

Focus Map:
7

HIST UST:
File Number: 0002A6D2
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002A6D2.pdf
Region: STATE
Facility ID: 00000066329
Facility Type: Other
Other Type: ELECTRIC UTILITY
Contact Name: A.Z. KOVACH
Telephone: 8183021801
Owner Name: SOUTHERN CALIFORNIA EDISON COM
Owner Address: 2244 WALNUT GROVE AVENUE
Owner City,St,Zip: ROSEMEAD, CA 91770

SOLAR ONE GENERATING STATION (Continued) **U001574745**

Total Tanks: 0001

Tank Num: 001
Container Num: 475
Year Installed: Not reported
Tank Capacity: 00000000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: X
Leak Detection: None

Click here for Geo Tracker PDF:

G27 **COOL WATER GENERATING STATION** **HIST UST** **U001574737**
North **PO BOX 337** **N/A**
1/8-1/4 **DAGGETT, CA 92327**
0.231 mi.
1218 ft. **Site 2 of 2 in cluster G**

Actual:
1944 ft.

Focus Map:
7

HIST UST:
File Number: 0002A6BD
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002A6BD.pdf
Region: STATE
Facility ID: 00000060016
Facility Type: Not reported
Other Type: Not reported
Contact Name: ROMAN AGUILAR
Telephone: 6192542921
Owner Name: SOUTHERN CALIFORNIA EDISON COM
Owner Address: 2244 WALNUT GROVE AVENUE
Owner City,St,Zip: ROSEMEAD, CA 91770
Total Tanks: 0001

Tank Num: 001
Container Num: 397
Year Installed: 1977
Tank Capacity: 00005200
Tank Used for: WASTE
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Visual

Click here for Geo Tracker PDF:

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28 **DEPT OF CA HWY PATROL** **San Bern. Co. Permit** **S104770571**
East **33251 HIDDEN SPRINGS RD** **N/A**
1/8-1/4 **DAGGETT, CA 92327**
0.250 mi.
1319 ft.

Actual:
1925 ft.

Focus Map:
8

San Bern. Co. Permit:
Region: SAN BERNARDINO
Facility ID: FA0006407
Owner: CHP - AIR OPERATIONS
Permit Number: PT0005997
Permit Category: SPECIAL HANDLER

DEPT OF CA HWY PATROL (Continued) **S104770571**

Facility Status: INACTIVE
Expiration Date: 08/31/2003

Region: SAN BERNARDINO
Facility ID: FA0006407
Owner: CHP - AIR OPERATIONS
Permit Number: PT0005998
Permit Category: SPECIAL GENERATOR
Facility Status: INACTIVE
Expiration Date: 08/31/2003

29
WSW
1/4-1/2
0.258 mi.
1364 ft.

COOLWATER GEN STATION
37000 SANTA FE ST
DAGGETT, CA 92327

WMUDS/SWAT **S103866748**
EMI **N/A**

Actual:
1983 ft.

Focus Map:
6

WMUDS/SWAT:

Edit Date:	Not reported
Complexity:	Category B - Any facility having a physical, chemical, or biological waste treatment system (except for septic systems with subsurface disposal), or any Class II or III disposal site, or facilities without treatment systems that are complex, such as marinas with petroleum products, solid wastes, and sewage pump out facilities.
Primary Waste:	NONCON
Primary Waste Type:	Designated/Influent or Solid Wastes that pose a significant threat to water quality because of their high concentrations (E.G., BOD, Hardness, TRF, Chloride). 'Manageable' hazardous wastes (E.G., inorganic salts and heavy metals) are included in this category.
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Base Meridian:	Not reported
NPID:	Not reported
Tonnage:	0
Regional Board ID:	Not reported
Municipal Solid Waste:	False
Superorder:	False
Open To Public:	False
Waste List:	False
Agency Type:	Private
Agency Name:	RELIANT ENERGY COOLWATER,LLC
Agency Department:	Not reported
Agency Address:	37000 SANTA FE ST
Agency City,St,Zip:	DAGGETT CA 92327
Agency Contact:	W.R. DUSENBURY
Agency Telephone:	7602545241
Land Owner Name:	Not reported
Land Owner Address:	Not reported
Land Owner City,St,Zip:	Not reported
Land Owner Contact:	Not reported
Land Owner Phone:	Not reported
Region:	6V
Facility Type:	Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.

COOLWATER GEN STATION (Continued) **S103866748**

Facility Description:	Not reported
Facility Telephone:	Not reported
SWAT Facility Name:	Not reported
Primary SIC:	4961
Secondary SIC:	Not reported
Comments:	Not reported
Last Facility Editors:	Not reported
Waste Discharge System:	True
Solid Waste Assessment Test Program:	False
Toxic Pits Cleanup Act Program:	False
Resource Conservation Recovery Act:	False
Department of Defence:	False
Solid Waste Assessment Test Program:	Not reported
Threat to Water Quality:	Major Threat to Water Quality. A violation could render unusable a ground water or surface water resource used as a significant drink water supply, require closure of an area used for contact recreation, result in long-term deleterious effects on shell fish spawning or growth areas of aquatic resources, or directly expose the public to toxic substances.
Sub Chapter 15:	True
Regional Board Project Officer:	JJK
Number of WMUDS at Facility:	1
Section Range:	Not reported
RCRA Facility:	Yes
Waste Discharge Requirements:	A
Self-Monitoring Rept. Frequency:	Semiannual Submittal
Waste Discharge System ID:	6B362036002
Solid Waste Information ID:	Not reported

EMI:

Year:	2014
County Code:	36
Air Basin:	MD
Facility ID:	104801880
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	15.563613
Reactive Organic Gases Tons/Yr:	2.9535662
Carbon Monoxide Emissions Tons/Yr:	44.02439
NOX - Oxides of Nitrogen Tons/Yr:	161.1225
SOX - Oxides of Sulphur Tons/Yr:	0.832012
Particulate Matter Tons/Yr:	5.9042704093
Part. Matter 10 Micrometers and Smllr Tons/Yr:	5.69094

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30 West 1/2-1 0.520 mi. 2743 ft.

Actual: 1919 ft.

Focus Map: 15

BARSTOW-DAGGETT AIRPORT **RESPONSE** **S103393801**
OFF HWY40, ON HIDDEN SPRINGS ROAD **ENVIROSTOR** **N/A**
BARSTOW, CA 92331 **HIST Cal-Sites**

AWP:

AWP Facility ID:	36970009
Region Code:	3
Region:	GLENDALE

BARSTOW-DAGGETT AIRPORT (Continued) **S103393801**

SMBR Branch Code:	SO
SMBR Branch Unit:	OMF-SOUTHERN CALIF
Site Name.:	BARSTOW-DAGGETT AIRPORT
Current Status Date:	09211998
Current Status:	ANNUAL WORKPLAN - ACTIVE SITE
Lead Agency Code:	DTSC
Lead Agency:	DEPT OF TOXIC SUBSTANCES CONTROL
Facility Type:	Open military facility
Awp Site Type:	OPEN MILITARY BASE
NPL:	Not Listed
Tier Of AWP Site:	Not reported
Source Of Funding:	Not reported
Responsible Staff Member:	CPLOTKIN
Supervisor Responsible:	Not reported
SIC Code:	97
Facility SIC:	NATIONAL SECURITY/INTERNATIONAL AFFAIRS
RWQCB Code:	LN
RWQCB Associated With Site:	LAHONTAN
Site Access Controlled:	Uncontrolled
Site Listed HWS List:	Not reported
Hazard Ranking Score:	Not reported
Date Site Hazard Ranked:	Not reported
Groundwater Contamination:	Not reported
# Of Contamination Sources:	0
Lat/Long:	Not reported
Lat/Long (dms):	0 0 0 / 0 0 0
Lat/long Method:	Not reported
Description Of Entity:	Not reported
State Assembly Distt Code:	34
State Senate District:	18

RESPONSE:

Facility ID:	36970009
Site Type:	State Response
Site Type Detail:	FUDS
Acres:	1099
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Sue Hakim
Supervisor:	Robert Senga
Division Branch:	Cleanup Cypress
Site Code:	400043
Site Mgmt. Req.:	NONE SPECIFIED
Assembly:	33
Senate:	16
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	08/28/2013
Restricted Use:	NO
Funding:	DERA
Latitude:	34.85388
Longitude:	-116.7861
APN:	NONE SPECIFIED
Past Use:	AIRCRAFT MAINTENANCE, AIRFIELD OPERATIONS, JET FUEL STORAGE/REFUELING, LDF
Potential COC :	Arsenic Asbestos Containing Materials (ACM Dioxin (as 2,3,7,8-TCDD

BARSTOW-DAGGETT AIRPORT (Continued) **S103393801**

	TEQ Lead TPH-diesel TPH-gas TPH-JET FUEL Chromium VI Cobalt Copper and compounds Nickel 2,3,7,8-TCDD (dioxin Toluene Vanadium and compounds Xylenes Zinc
Confirmed COC:	Arsenic Dioxin (as 2,3,7,8-TCDD TEQ Lead Vanadium and compounds 30593-NO Zinc Nickel 2,3,7,8-TCDD (dioxin 30024-NO 30025-NO 30153-NO 30154-NO 30156-NO Asbestos Containing Materials (ACM 30550-NO TPH-JET FUEL
Potential Description:	SOIL
Alias Name:	BARSTOW-DAGGETT AIRPORT
Alias Type:	Alternate Name
Alias Name:	J09CA0317
Alias Type:	Federal Facility ID
Alias Name:	110033606159
Alias Type:	EPA (FRS #)
Alias Name:	400043
Alias Type:	Project Code (Site Code)
Alias Name:	36970009
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Remedial Investigation Report
Completed Date:	02/14/2006
Comments:	Site A is closed. A workplan for hot spot removal will be submitted for Site B.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	*Site Inspection (SI) Workplan
Completed Date:	10/17/2007
Comments:	DTSC approved the final document with the emphasis that all ecological screening must meet CDFG ecological screening approach recommendation for terrestrial wildlife site-specific receptors screening. The CDFG recommendation is applicable to all California Formerly Used Defense Sites on a site specific basis.
Completed Area Name:	Sites With No Operable Unit
Completed Sub Area Name:	Three UST Sites
Completed Document Type:	Remedial Investigation / Feasibility Study
Completed Date:	03/23/2010
Comments:	DTSC approved the Final Additional Site Investigation and Risk Assessment (Report) for Three Former Underground Storage Tank Locations at Barstow-Daggett Airport, Daggett, California dated March 2010.
Completed Area Name:	Sites With No Operable Unit
Completed Sub Area Name:	Three UST Sites
Completed Document Type:	Remedial Investigation Report
Completed Date:	01/26/2005
Comments:	PHASE 2 INVESTIGATION Report- UST SITES FAA BUILDING UST 706-C2B SITE, GAS STATION UST 704-C6B SITE, BARRACKS EAST UST 723-C4J SITE
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Inventory Project Report (INPR)
Completed Date:	10/04/1991
Comments:	Not reported

BARSTOW-DAGGETT AIRPORT (Continued) **S103393801**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Inventory Project Report (INPR)
Completed Date: 12/02/1991
Comments: Not reported

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: Three UST Sites
Completed Document Type: Remedial Investigation Workplan
Completed Date: 10/28/2008
Comments: DTSC concured with the ACOE approach and investigations proposals with a consideration of some modifications to their sampling plans depending on field activities findings.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ENVIROSTOR:
Facility ID: 36970009
Status: No Further Action
Status Date: 08/28/2013
Site Code: 400043
Site Type: State Response
Site Type Detailed: FUDS
Acres: 1099
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Sue Hakim
Supervisor: Robert Senga
Division Branch: Cleanup Cypress
Assembly: 33
Senate: 16
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: DERA
Latitude: 34.85388
Longitude: -116.7861
APN: NONE SPECIFIED
Past Use: AIRCRAFT MAINTENANCE, AIRFIELD OPERATIONS, JET FUEL STORAGE/REFUELING, LDF
Potential COC: Arsenic Asbestos Containing Materials (ACM Dioxin (as 2,3,7,8-TCDD TEQ Lead TPH-diesel TPH-gas TPH-JET FUEL Chromium VI Cobalt Copper and compounds Nickel 2,3,7,8-TCDD (dioxin Toluene Vanadium and compounds Xylenes Zinc
Confirmed COC: Arsenic Dioxin (as 2,3,7,8-TCDD TEQ Lead Vanadium and compounds 30593-NO Zinc Nickel 2,3,7,8-TCDD (dioxin 30024-NO 30025-NO 30153-NO 30154-NO 30156-NO Asbestos Containing Materials (ACM 30550-NO TPH-JET FUEL

BARSTOW-DAGGETT AIRPORT (Continued) **S103393801**

Potential Description: SOIL
Alias Name: BARSTOW-DAGGETT AIRPORT
Alias Type: Alternate Name
Alias Name: J09CA0317
Alias Type: Federal Facility ID
Alias Name: 110033606159
Alias Type: EPA (FRS #)
Alias Name: 400043
Alias Type: Project Code (Site Code)
Alias Name: 36970009
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Report
Completed Date: 02/14/2006
Comments: Site A is closed. A workplan for hot spot removal will be submitted for Site B.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: *Site Inspection (SI) Workplan
Completed Date: 10/17/2007
Comments: DTSC approved the final document with the emphasis that all ecological screening must meet CDFG ecological screening approach recommendation for terrestrial wildlife site-specific receptors screening. The CDFG recommendation is applicable to all California Formerly Used Defense Sites on a site specific basis.

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: Three UST Sites
Completed Document Type: Remedial Investigation / Feasibility Study
Completed Date: 03/23/2010
Comments: DTSC approved the Final Additional Site Investigation and Risk Assessment (Report) for Three Former Underground Storage Tank Locations at Barstow-Daggett Airport, Daggett, California dated March 2010.

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: Three UST Sites
Completed Document Type: Remedial Investigation Report
Completed Date: 01/26/2005
Comments: PHASE 2 INVESTIGATION Report- UST SITES FAA BUILDING UST 706-C2B SITE, GAS STATION UST 704-C6B SITE, BARRACKS EAST UST 723-C4J SITE

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Inventory Project Report (INPR)
Completed Date: 10/04/1991
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Inventory Project Report (INPR)
Completed Date: 12/02/1991
Comments: Not reported

BARSTOW-DAGGETT AIRPORT (Continued) **S103393801**

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: Three UST Sites
Completed Document Type: Remedial Investigation Workplan
Completed Date: 10/28/2008
Comments: DTSC concured with the ACOE approach and investigations proposals with a consideration of some modifications to their sampling plans depending on field activities findings.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Calsite:
Region: GLENDALE
Facility ID: 36970009
Facility Type: OPEN
Type: OPEN MILITARY BASE
Branch: SO
Branch Name: OMF-SOUTHERN CALIF
File Name: BARSTOW-DAGGETT AIRPORT
State Senate District: 09211998
Status: ANNUAL WORKPLAN (AWP) - ACTIVE SITE
Status Name: ANNUAL WORKPLAN - ACTIVE SITE
Lead Agency: DEPT OF TOXIC SUBSTANCES CONTROL
NPL: Not Listed
SIC Code: 97
SIC Name: NATIONAL SECURITY/INTERNATIONAL AFFAIRS
Access: Uncontrolled
Cortese: Not reported
Hazardous Ranking Score: Not reported
Date Site Hazard Ranked: Not reported
Groundwater Contamination: Not reported
Staff Member Responsible for Site: CPLOTKIN
Supervisor Responsible for Site: Not reported
Region Water Control Board: LN
Region Water Control Board Name: LAHONTAN
Lat/Long Direction: Not reported
Lat/Long (dms): 0 0 0 / 0 0 0
Lat/long Method: Not reported
Lat/Long Description: Not reported
State Assembly District Code: 34
State Senate District Code: 18
Facility ID: Not reported
Activity: Not reported
Activity Name: Not reported
AWP Code: Not reported
Proposed Budget: Not reported
AWP Completion Date: Not reported
Revised Due Date: Not reported
Comments Date: Not reported
Est Person-Yrs to complete: Not reported

BARSTOW-DAGGETT AIRPORT (Continued) **S103393801**

Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	Not reported
Definition of Status:	Not reported
Liquids Removed (Gals):	Not reported
Liquids Treated (Gals):	Not reported
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	Not reported
For Industrial Reuse:	Not reported
For Residential Reuse:	Not reported
Unknown Type:	Not reported
Alternate Address:	OFF HWY40, ON HIDDEN SPRINGS ROAD
Alternate City,St,Zip:	BARSTOW, CA 92331
Background Info:	Barstow-Daggett Airport is located approximately 5 miles east of the community of Daggett and twelve miles east of the City of Bar stow. The airport is located within the lower Mojave Valley appr oximately two milessouth of the Mojave River and one north of Hig hway 40 on NationalTrails Highway. Barstow-Daggett Airport was e stablished prior to World War II. On May 4, 1942 the Federal Gove rnment entered into an agreement with San Bernardino County to le ase 1,099-acres site and operate it as a Modification Center. On November 12, 1942, the Secretary ofwar entered into an agreement with Standard Oil whereby Standard Oil agreed to install, operate and maintain lubricating oil storage and distribution facilities at the site. The Center was deactivated in 1944. Approximatel y 65 buildings and 20 other assorted structures were constructed at the facility (head quarters and flight operations buildings, h angers, barracks, sewage treatment facility, warehouses, water we lls, water and fuel storage tanks, and a gasoline servicestation. Accordingto airport personnel, the County obtained control of th e facility from the military in 1958. Between 1958 and 1960, the U.S. Army donated the airport to San Bernardino County to be use d as a County airport facility. The facility is currently admin istered by the San Bernardino County Department of Transportation - Airports Division. Building and storage space is leased to a v ariety of industrial users, which have included the Federal Aviat ion Administration (FAA), Stuart Davis, Lundeen and others. The U .S. Army currently leases portions of the airport for use a helip ort associated with Fort Irwin. Barstow-Daggett Airport consist of Five former UST sites: Fuel Depot (contains 4 USTs), Barracks West (contains 1 UST), FAA Building (contains 2 USTs), Gas Stati on (contains 1 UST), Former Radio Station (contains 1 UST) and tw o waste disposal sites. Waste Disposal Site "A" is located in the northwest portion of the Barstow-Daggett Airport. Waste Disposa l Site "B" is approximately 150 feet long and 8 feet wide and is located northeastern portion of the Airport. Potential/Confirme d Hazardous Wastes: Contaminants of concerned previously identifi ed from past soil sampling conducted for the UST Sites include: t otal petroleum hydrocarbon (TPH-gasoline), TPH-diesel, total reco verable petroleum hydrocarbon (TRPH), total extractable petroleum hydrocarbon (TEPH), total volatile petroleum hydrocarbons (TVPH) and/or benzene, toluene, ethylbenzene, lead and xylenes. MTBE w as not detected above the reporting limit in the subsurface soil

BARSTOW-DAGGETT AIRPORT (Continued) **S103393801**

samples analyzed from the UST Sites. Waste Disposal Site "A" was te material identified included construction debris, piles and sh ards of broken and melted glass, wood (some burned), wire, nails, scrap metal, piping, cans, brick, concrete, paint cans, suspecte d asbestos contaminated material (e.g. piping, insulation , tile and paneling), paint thinner cans and automobile parts. Past soil sampling results reportedmethylene chloride. The following metal s were detected in the subsurface soil samples: arsenic, barium, beryllium, chromium, cobalt, copper, lead, molybdenum, nickel, se lenium, thallium, vanadium, and zinc. Waste Disposal Site "B", a depression of unknown origin, several waste materials were observ ed protruding from the soil along the edges of the depression whi ch included a weathered car tire and asphalt roofingshingles with in a metal five-gallon bucket. Past soil sampling results reporte d the following metals: arsenic barium, beryllium, chromium, coba lt, copper, lead, molybdenum, nickel, thallium, vanadium, and zin c.

Comments Date: Not reported
Comments: Not reported
ID Name: Not reported
ID Value: Not reported
Alternate Name: BARSTOW-DAGGETT AIRPORT
Alternate Name: Barstow-Daggett Airport
Alternate Name: Not reported
Special Programs Code: Not reported
Special Programs Name: Not reported

31
West
1/2-1
0.614 mi.
3240 ft.

DAGGETT AIRPORT
BARSTOW/DAGGETT AIRPORT
DAGGETT, CA 92327

ENVIROSTOR **S100351459**
HIST CORTESE **N/A**

Actual:
1919 ft.

Focus Map:
15

ENVIROSTOR:
Facility ID: 36450005
Status: Refer: RWQCB
Status Date: 05/30/1995
Site Code: 400043
Site Type: Historical
Site Type Detailed: * Historical
Acres: Not reported
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Referred - Not Assigned
Division Branch: Cleanup Cypress
Assembly: Not reported
Senate: Not reported
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 0
Longitude: 0
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED

DAGGETT AIRPORT (Continued) **S100351459**

Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: T0607133364
Alias Type: GeoTracker Global ID
Alias Name: P43064
Alias Type: PCode
Alias Name: 400043
Alias Type: Project Code (Site Code)
Alias Name: 36450005
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

HIST CORTESE:
Region: CORTESE
Facility County Code: 36
Reg By: CALSI
Reg Id: 36450005

H32 **DAGGETT ARMY AIRFIELD** **FUDS** **1007212123**
South **N/A**
1/2-1 **OTHER, CA**
0.744 mi.
3927 ft. **Site 1 of 5 in cluster H**

Actual:
1922 ft.

Focus Map:
15

FUDS:
EPA Region: 09
Congressional District: 08
FUDS Number: J09CA0317
State: CA
Facility Name: DAGGETT ARMY AIRFIELD
Fiscal Year: 2013
City: OTHER
Federal Facility ID: CA9799F5424
Telephone: 213-452-3920
INST ID: 57384
County: SAN BERNARDINO
RAB: Not reported
CORPS_DIST: Los Angeles District (SPL)
NPL Status: Not Listed
CTC: 4075.6999999999998
Current Owner: Local Government; Private Sector
Future Prog: Not reported

DAGGETT ARMY AIRFIELD (Continued) **1007212123**

Description: Daggett Army Air Field was roughly 1,099 acres in size and located in San Bernardino County, 11 miles southeast of Barstow and four miles southeast of Daggett. The site is currently owned and operated by the County of San Bernardino, Public Works Group, Department of Airports.
Current Program: Not reported
History: Just prior to WWII, the Civil Aeronautics Administration (CAA) selected the site as an important civil airfield and negotiated a standard agreement (AP-4) with the county of San Bernardino to maintain the airfield. Shortly thereafter, the site was chosen by the War Department as a Modification Center. On 4 May 1942, the government entered into an agreement with the County to lease the 1,099-acre site (renewable annually but not beyond 30 June 1967). On or about 29 May 1942, the government and Douglas Aircraft Company, Inc. entered into a cost-plus-fixed-fee ($1.00) contract, whereby Douglas agreed to do all things necessary and incident to the procurement, furnishing, delivery, and installation of equipment, machinery, machine tools, materials, supplies and facilities for proper operation of a Modification Center, which lasted until the middle of 1994, when Army Air Forces deactivated the project. There was no evidence of the lease ever having been executed, so it is believed that Douglas occupied and used the premises without any written agreement. On 12 November, the Secretary of War and Standard Oil Co. entered into an agreement, whereby Standard Oil agreed to install, operate, and maintain lubricating oil storage and distribution facilities at the site. In addition, on 20 December 1943, the CAA was granted a permit to use and occupy two parcels of land totaling 11.2 acres at the Modification Center for a radio range and communication building site. The original permit period ended 30 June 1944; however, the lease contained a provision for annual renewal, at the option of the government, through 30 June 1967. The site was classified as surplus on 15 November 1945. The War Assets Administration assumed custody and accountability for the site on 27 June 1946, with the installation immediately transferred to the Department of Navy. The County obtained control of the facility from the military in 1958.
Latitude Degree: 34
Latitude Minute: 51
Latitude Second: 15
Latitude Direction: N
Longitude Degree: -116
Longitude Minute: 47
Longitude Second: 25
Longitude Direction: E

FUDS:
Inst ID: 57384
FUDS Number: J09CA0317
Facility Name: DAGGETT ARMY AIRFIELD
PHASE: 1
ARC: Y
DIST: SPL
MMRP: Y
MRA ID: 1

Inst ID: 57384
FUDS Number: J09CA0317
Facility Name: DAGGETT ARMY AIRFIELD
PHASE: 1
ARC: Y

DAGGETT ARMY AIRFIELD (Continued) **1007212123**

DIST:	SPL
MMRP:	Y
MRA ID:	2
Inst ID:	57384
FUDS Number:	J09CA0317
Facility Name:	DAGGETT ARMY AIRFIELD
PHASE:	1
ARC:	Y
DIST:	SPL
MMRP:	Y
MRA ID:	3

H33 **SKEET AND HARMONIZATION RANGES** **UXO** **1018150931**
South **N/A**
1/2-1 **4.5 MILES E OF DAGGETT, CA**
0.744 mi.
3927 ft. **Site 2 of 5 in cluster H**

Actual: UXO:
1922 ft.

DoD Component:	FUDS
Installation Name:	DAGGETT ARMY AIRFIELD
Facility Address 2:	Not reported
Site ID:	02OEW
Site Type:	Small Arms Range
Latitude:	34.854167
Longitude:	-116.790278

Focus Map:
15

H34 **PISTOL AND SUBMACHINE GUN RANGE** **UXO** **1023964156**
South **N/A**
1/2-1 **4.5 MILES E OF DAGGETT, CA**
0.744 mi.
3927 ft. **Site 3 of 5 in cluster H**

Actual: UXO:
1922 ft.

DoD Component:	FUDS
Installation Name:	DAGGETT ARMY AIRFIELD
Facility Address 2:	Not reported
Site ID:	04OEW
Site Type:	Small Arms Range
Latitude:	34.854167
Longitude:	-116.790278

Focus Map:
15

H35 **MCSC BARSTOW** **ENVIROSTOR** **S107736711**
South **N/A**
1/2-1 **BARSTOW, CA**
0.744 mi.
3930 ft. **Site 4 of 5 in cluster H**

Actual: ENVIROSTOR:
1922 ft.

Facility ID:	80000537
Status:	Inactive - Needs Evaluation
Status Date:	07/01/2005
Site Code:	Not reported

Focus Map:
15

MCSC BARSTOW (Continued) **S107736711**

Site Type: Military Evaluation
Site Type Detailed: FUDS
Acres: Not reported
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Douglas Bautista
Division Branch: Cleanup Cypress
Assembly: 33
Senate: 16
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: DERA
Latitude: 34.85416
Longitude: -116.7902
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: Explosives (UXO, MEC
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: Marine Corps Air Station, Barstow
Alias Type: Alternate Name
Alias Name: CA99799F598400
Alias Type: Federal Facility ID
Alias Name: J09CA1095
Alias Type: INPR
Alias Name: 80000537
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

H36 **MODIFICATION CNTR NO 1** **ENVIROSTOR** **S107736756**
South **(4 MILES EAST OF)** **N/A**
1/2-1 **DAGGETT, CA**
0.744 mi.
3930 ft. **Site 5 of 5 in cluster H**

Actual:
1922 ft.

Focus Map:
15

ENVIROSTOR:
Facility ID: 80001057
Status: Inactive - Needs Evaluation
Status Date: 07/01/2005

MODIFICATION CNTR NO 1 (Continued) **S107736756**

Site Code: Not reported
Site Type: Military Evaluation
Site Type Detailed: FUDS
Acres: Not reported
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Douglas Bautista
Division Branch: Cleanup Cypress
Assembly: 33
Senate: 16
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: DERA
Latitude: 34.85416
Longitude: -116.7902
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CA99799FA01400
Alias Type: Federal Facility ID
Alias Name: J09CA7191
Alias Type: INPR
Alias Name: 80001057
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Inventory Project Report (INPR)
Completed Date: 03/30/1999
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Count: 44 records

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
DAGGETT	S119102893	SUNRAY ENERGY 2	35100 SANTA FE ST	92327	San Bern. Co. Permit
DAGGETT	S121309850	SCE SEGS 2 SUBSTATION	1/2 MILE W/O SUNRAY LANE	92327	San Bern. Co. Permit
DAGGETT	S121309846	SCE MINNEOLA SUBSTATION	1/4 MILE W/O SUNRAY LANE & 1 MILE N/O SANTA FE ST	92327	San Bern. Co. Permit
DAGGETT	S108724309	VAN DAM RANCH	39200 HIDDEN SPRINGS	92327	San Bern. Co. Permit
DAGGETT	S104761849	AG-HARTER, JOE	34530 MINNEOLA RD	92327	San Bern. Co. Permit
DAGGETT	1018273553	SUNRAY ENERGY 2, LLC	35100 SANTA FE STREET	92327	RCRA-LQG
DAGGETT	1019899387	SUNRAY ENERGY	35100 SANTA FE STREET	92327	RCRA-LQG
DAGGETT	96325641		35100 SANTA FE	92327	ERNS
DAGGETT	96330292		35100 SANTA FE	92327	ERNS
DAGGETT	94233980		35100 SANTA FE	92327	ERNS
DAGGETT	94245045		35100 SANTA FE	92327	ERNS
DAGGETT	94242180		35100 SANTA FE	92327	ERNS
DAGGETT	95283208		35100 SANTA FE		ERNS
DAGGETT	S106932018	SEGS 1	SANTA FE RD	92327	SWEEPS UST
DAGGETT	S114001660		COOLWATER GENERATING STATION - UNIT 2, COOLING TOWER , SOUTHSIDE - 37000 SANTA FE RD.	92327	CHMIRS
DAGGETT	S105663481		ALTA POWER, 37000 EAST SANTA FE	92327	CHMIRS
DAGGETT	S105646012		SOLAR TUBE FACILITY 3700 SANTA FE ROAD	92327	CHMIRS
DAGGETT	S105884836		CT41 FUEL SKID, 37000 SANTA FE ST.	92327	CHMIRS
DAGGETT	S110979599		COOLWATER GENERATING STATION, 37000 SANTA FE RD	92327	CHMIRS
DAGGETT	S106400173		161 MM ON THE LOS ANGELES SUBDIVISION, THE NEAREST CROSS STREET IS SANTA FE		CHMIRS
DAGGETT	S105886436		SANTA FE ST. AND DAGGETT RD.		CHMIRS
DAGGETT	1000112544	LUZ ENG DAGGETT SITE OPS	EAST SANTA FE RD	92327	RCRA NonGen / NLR
DAGGETT	1016264754	LUZ ENG DAGGETT SITE OPS	EAST SANTA FE RD	92327	FINDS, ECHO
DAGGETT	1023316262	SOUTHERN CALIFORNIA EDISON MINNEOLA SUBSTATION	1/4 MI WEST O SUNRAY LANE & 5 MI NORTH O SANTA	92365	FINDS
DAGGETT	1023357564	SOUTHERN CALIFORNIA EDISON SEGS 2 SUBSTATION	1.2 MI EAST O SUNRAY LANE AND 5 MI NORTH O SANTA F	92365	FINDS
DAGGETT	S113005588	DAGGET LEASING CORP. SEGS I & II	EAST SANTA FE RD	92327	HAZNET
HARVARD STATION	S102440452	UPRR HARVARD STATION	MINNEOLA RD	92327	LUST, HIST CORTESE
HARVARD STATION	S110655024	UPRR HARVARD STATION	MINNEOLA RD	92327	LUST
HARVARD STATION	1023305672	UPRR HARVARD STATION	MINNEOLA RD	92327	FINDS
NEWBERRY SPRINGS	S108724311	ABANDONED HAZARDOUS WASTE	SILVER VALLEY RD	92365	San Bern. Co. Permit
NEWBERRY SPRINGS	S111758631		44564 VALLEY CENTER RD, SITE #300598	92365	CHMIRS
NEWBERRY SPRINGS	S114001470		ON NATIONAL TRAILS HIGHWAY, APPROXIMATELY 1/2 MILE OF MINNEOLA ROAD	92365	CHMIRS
NEWBERRY SPRINGS	S111756712		EB I-40 AT HIDDEN SPRINGS		CHMIRS
NEWBERRY SPRINGS	S116779577		NEWBERRY RD. NO SILVER VALLEY RD.		CHMIRS
NEWBERRY SPRINGS	S117331254		CROSS OF MINNEOLA ROAD @ SILVER VALLEY ROAD		CHMIRS
NEWBERRY SPRINGS	S117331273		CROSS OF MINNEOLA ROAD @ SILVER VALLEY ROAD		CHMIRS
SAN BERNARDINO COUNT	S121684857	TRACT MAP 18478	SAN BERNARDINO/MUSCOY		CIWQS
SAN BERNARDINO COUNT	S106389145		COOL WATER GENERATING STATION EAST SANTA FE ST PAGGET		CHMIRS

Count: 44 records

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
SAN BERNARDINO COUNT	S106389350		QUAIL HOLLOW S 16 T 2N R 27E (SAN BERNARDINO MERIDIAN)		CHMIRS
SAN BERNARDINO COUNT	M300003168	VULCAN MATERIALS CO.	SAN BERNARDINO (#010)		US MINES
SAN BERNARDINO COUNT	M300003174	HOLLIDAY TRUCKING, INC.	SAN BERARDINO PIT		US MINES
YERMO	S105672673		NB I15 AT MINNEOLA ON RAMP		CHMIRS
YERMO	1017413293	YERMO DISPOSAL SITE	40950 MINNEOLA ROAD	92398	FINDS
YERMO	S112961411	SUKUT EQUIPMENT INC	40950 MINNEOLA RD	92365	HAZNET

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 04/06/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 66

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Quarterly

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 66

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 02/16/2018
Date Data Arrived at EDR: 02/22/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 78

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/09/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 02/13/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/29/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 02/13/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/29/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 01/16/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 63

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent NPL

CA RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 01/30/2018
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 47

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

CA ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 01/30/2018
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 47

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

CA SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/12/2018
Date Data Arrived at EDR: 02/14/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 48

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

CA LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

CA LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 7

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

CA LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

CA LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

CA LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

CA LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

CA LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

CA LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

CA LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

CA LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

CA LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

CA CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 7

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

CA SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

CA SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

CA SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

CA SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

CA SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

CA SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

CA SLIC REG 6L: SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

CA SLIC REG 7: SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

CA SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

CA SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Varies

State and tribal registered storage tank lists

CA UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 03/08/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

CA MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

CA UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/29/2018
Number of Days to Update: 15

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Semi-Annually

CA AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 03/21/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R1: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36

Source: N/A
Telephone: N/A
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36

Source: N/A
Telephone: N/A
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36

Source: N/A
Telephone: N/A
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36

Source: N/A
Telephone: N/A
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36

Source: N/A
Telephone: N/A
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36

Source: N/A
Telephone: N/A
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36

Source: N/A
Telephone: N/A
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36

Source: N/A
Telephone: N/A
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

CA VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 01/30/2018
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 47

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Quarterly

State and tribal Brownfields sites

CA BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 38

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 01/19/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/21/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

CA WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: No Update Planned

CA SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

CA HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 02/08/2018
Date Data Arrived at EDR: 02/09/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 39

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 01/30/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 05/04/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

CA HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

CA SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 01/30/2018
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 47

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Quarterly

CA CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2017
Date Data Arrived at EDR: 08/18/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 34

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Varies

CA TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

CA SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CA UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 02/28/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 27

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Annually

CA HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CA SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 04/19/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 10

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

CA LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 01/28/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 46

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 94

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Semi-Annually

CA DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 02/08/2018
Date Data Arrived at EDR: 02/08/2018
Date Made Active in Reports: 02/08/2018
Number of Days to Update: 0

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Semi-Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 01/19/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 63

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

Records of Emergency Release Reports

CA CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 02/15/2018
Date Data Arrived at EDR: 02/20/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 42

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 04/24/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Semi-Annually

CA LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

CA MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 7

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

CA SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 05/25/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/11/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/15/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 01/11/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/02/2018
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/08/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/23/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/25/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/09/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 94

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/20/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 126

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 04/09/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 03/09/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/04/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/03/2018
Date Data Arrived at EDR: 01/04/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 99

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 79

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 04/06/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/25/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/11/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 52

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 03/02/2018
Number of Days to Update: 24

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 03/02/2018
Number of Days to Update: 24

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Varies

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem

Date of Government Version: 10/27/2009
Date Data Arrived at EDR: 11/10/2009
Date Made Active in Reports: 12/08/2009
Number of Days to Update: 28

Source: N/A
Telephone: N/A
Last EDR Contact: 11/12/1996
Next Scheduled EDR Contact: N/A
Data Release Frequency: Annually

US AIRS MINOR: Aerometric Information Retrieval System Facility Subsystem

Date of Government Version: 10/27/2009
Date Data Arrived at EDR: 11/10/2009
Date Made Active in Reports: 12/08/2009
Number of Days to Update: 28

Source: N/A
Telephone: N/A
Last EDR Contact: 11/12/1996
Next Scheduled EDR Contact: N/A
Data Release Frequency: Annually

US MINES: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

US MINES 2: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 12/20/2017
Date Data Arrived at EDR: 12/21/2017
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 92

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/21/2018
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 28

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites
A listing of unexploded ordnance site locations

Date of Government Version: 09/30/2016
Date Data Arrived at EDR: 10/31/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 73

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information
ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 01/13/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/02/2018
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 01/04/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 06/01/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/21/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 30

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 05/23/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Quarterly

Other Ascertainable Records

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CA CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 38

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

CA CUPA LIVERMORE-PLEASANTON: CUPA LIVERMORE-PLEASANTON
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 02/28/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 64

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

CA CUPA SAN FRANCISCO CO: CUPA SAN FRANCISCO CO
Cupa facilities

Date of Government Version: 04/20/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 10

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

CA DRYCLEAN AVAQMD: DRYCLEAN AVAQMD
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 03/08/2018
Date Data Arrived at EDR: 03/13/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 52

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

CA DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 03/27/2018
Date Data Arrived at EDR: 03/29/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 36

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Annually

CA DRYCLEAN SOUTH COAST: DRYCLEAN SOUTH COAST
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 03/16/2018
Date Data Arrived at EDR: 03/20/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 45

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

CA EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 03/21/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 147

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 03/23/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Varies

CA ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 54

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

CA Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 55

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

CA Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/14/2018
Date Data Arrived at EDR: 02/16/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 46

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/09/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

CA HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/12/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 97

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 04/12/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Annually

CA ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/21/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 41

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 05/23/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Quarterly

CA HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CA HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/21/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 41

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/23/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Quarterly

CA HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 01/08/2018
Date Data Arrived at EDR: 01/09/2018
Date Made Active in Reports: 02/06/2018
Number of Days to Update: 28

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 04/11/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Quarterly

CA MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

CA MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 02/27/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 42

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

CA NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 03/14/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Quarterly

CA PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 03/05/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 04/19/2018
Number of Days to Update: 45

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

CA PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

CA NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 03/23/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 38
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: No Update Planned

CA UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

CA WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Varies

CA WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Quarterly

CA WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 03/21/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Varies

CA MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

CA OTHER OIL GAS: OTHER OIL & GAS (GEOTRACKER)
Other Oil & Gas Projects sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

CA PROD WATER PONDS: PROD WATER PONDS (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

CA PROJECT: PROJECT (GEOTRACKER)
Projects sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

CA NON-CASE INFO: NON-CASE INFO (GEOTRACKER)
Non-Case Information sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

CA SAMPLING POINT: SAMPLING POINT (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

CA WELL STIM PROJ: WELL SAMP PROJ (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

CA CIWQS: The California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 03/05/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 60

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

CA UIC GEO: UIC GEO (GEOTRACKER)

Underground control injection sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

CA RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

CA RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites
A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 01/11/2018
Date Made Active in Reports: 02/22/2018
Number of Days to Update: 42

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 04/05/2018
Date Data Arrived at EDR: 04/10/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 24

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List
Cupa Facility List

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 03/15/2018
Number of Days to Update: 10

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 01/25/2018
Date Data Arrived at EDR: 01/26/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 47

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 03/26/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 02/26/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 03/15/2018
Number of Days to Update: 14

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 48

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 04/30/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 01/05/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 40

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 04/25/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 03/05/2018
Date Data Arrived at EDR: 03/08/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 39

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 04/30/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 9

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 03/06/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 03/05/2018
Date Data Arrived at EDR: 03/08/2018
Date Made Active in Reports: 04/30/2018
Number of Days to Update: 53

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 05/21/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/26/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 47

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/08/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 08/04/2017
Number of Days to Update: 56

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 02/02/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 54

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/14/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 28

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 02/06/2018
Date Data Arrived at EDR: 02/09/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 33

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 04/16/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 01/16/2018
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 56

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 01/16/2018
Date Data Arrived at EDR: 01/16/2018
Date Made Active in Reports: 02/14/2018
Number of Days to Update: 29

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 04/17/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2018
Date Data Arrived at EDR: 05/01/2018
Date Made Active in Reports: 05/14/2018
Number of Days to Update: 13

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 04/11/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/01/2018
Date Data Arrived at EDR: 01/17/2018
Date Made Active in Reports: 02/14/2018
Number of Days to Update: 28

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 04/17/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 04/11/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/10/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 54

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/04/2018
Date Data Arrived at EDR: 01/05/2018
Date Made Active in Reports: 01/18/2018
Number of Days to Update: 13

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 02/21/2018
Date Data Arrived at EDR: 02/22/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 40

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 03/30/2018
Date Data Arrived at EDR: 04/06/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 28

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 03/29/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 01/11/2018
Date Data Arrived at EDR: 01/12/2018
Date Made Active in Reports: 02/08/2018
Number of Days to Update: 27

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 15

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 03/27/2018
Date Data Arrived at EDR: 03/29/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 18

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 05/21/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 03/29/2018
Number of Days to Update: 30

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 01/31/2018
Date Data Arrived at EDR: 02/01/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 41

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 04/25/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 02/05/2018
Date Data Arrived at EDR: 02/13/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 49

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 02/05/2018
Date Data Arrived at EDR: 02/13/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 35

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 01/02/2018
Date Data Arrived at EDR: 02/07/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 49

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/08/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 03/15/2018
Date Data Arrived at EDR: 03/19/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 46
Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/15/2018
Number of Days to Update: 50
Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/05/2018
Date Data Arrived at EDR: 04/10/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 24
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/19/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 04/05/2018
Date Data Arrived at EDR: 04/10/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 24
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/19/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 01/03/2018
Date Made Active in Reports: 02/05/2018
Number of Days to Update: 33
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/04/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 01/03/2018
Date Made Active in Reports: 02/14/2018
Number of Days to Update: 42
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/04/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 11/01/2017
Date Data Arrived at EDR: 11/03/2017
Date Made Active in Reports: 11/17/2017
Number of Days to Update: 14

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 11/30/2017
Date Data Arrived at EDR: 12/01/2017
Date Made Active in Reports: 01/16/2018
Number of Days to Update: 46

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 04/06/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 03/05/2018
Date Data Arrived at EDR: 03/07/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 40

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/23/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 11

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/07/2017
Date Made Active in Reports: 12/19/2017
Number of Days to Update: 42
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 03/20/2018
Date Data Arrived at EDR: 03/22/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 43
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 11/16/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/18/2017
Number of Days to Update: 31
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 03/14/2018
Date Data Arrived at EDR: 03/20/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 45

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/15/2018
Date Data Arrived at EDR: 03/20/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 45

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing

CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List

Cupa facility list

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/20/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 27

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Annually

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 02/04/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 42

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 03/08/2018
Date Data Arrived at EDR: 03/13/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 52

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/08/2018
Date Data Arrived at EDR: 03/13/2018
Date Made Active in Reports: 03/29/2018
Number of Days to Update: 16

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 20

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 03/22/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/03/2018
Date Data Arrived at EDR: 04/06/2018
Date Made Active in Reports: 05/09/2018
Number of Days to Update: 33

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 03/22/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 02/06/2018
Date Data Arrived at EDR: 02/07/2018
Date Made Active in Reports: 03/16/2018
Number of Days to Update: 37

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 04/16/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 01/08/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 03/30/2018
Number of Days to Update: 29

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA Facility List
Cupa facilities

Date of Government Version: 01/26/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 47

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/25/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 53

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

TULARE COUNTY:

CUPA Facility List
Cupa program facilities

Date of Government Version: 03/19/2018
Date Data Arrived at EDR: 03/22/2018
Date Made Active in Reports: 04/17/2018
Number of Days to Update: 26

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/25/2018
Date Made Active in Reports: 03/16/2018
Number of Days to Update: 50

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 12/26/2017
Date Data Arrived at EDR: 01/25/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 48

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/23/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/29/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/09/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 12/26/2017
Date Data Arrived at EDR: 01/25/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 54

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/23/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 02/28/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/30/2018
Number of Days to Update: 16

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 03/27/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 31

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 03/29/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 02/01/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 47

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 04/25/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines
Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

STREET AND ADDRESS INFORMATION

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Appendix B—User and Landowner Questionnaires

TETRA TECH

Phase I ESA User AAI Questionnaire
Daggett Solar Power Facility
San Bernardino County, California

The purpose of this questionnaire is to assist us in compiling the information required by ASTM 2247-16, the standard for conducting Phase I Environmental Site Assessments. Please answer questions to the best of you ability. If an answer can not be provided, write "Unknown."

Question	Comments
1. Is the User aware of any environmental cleanup liens against the Property that are filed or recorded under federal, tribal, state or local law?	No
2. Is the User aware of any AULs, such as engineering controls, land use restrictions or institutional controls that are in place on the Property and/or have been filed or recorded in a registry under federal, state or local law?	No
3. Does the User have any specialized knowledge or experience related to the Property or nearby properties?	No
4. Is the User involved in the same line of business as the current or former occupants of the Property or on adjoining properties so that they would have knowledge of the chemicals and processes used by current or former occupants?	**No**
5. Is the User aware of any commonly known or reasonably ascertainable information about the Property that would help the environmental professional to identify conditions indicative of releases or threatened releases?	**No**
6. Is the User aware of specific chemicals that are or may have been present on the Property, spills or chemical releases on the property, or any cleanups that may have taken place on the Property?	**No**

Tetra Tech, Inc.
350 Indiana Street, Suite 500, Golden, CO 80401
Tel 303.988.2202 Fax 303.980.3539 www.tetratech.com

Question	Comments
7. Is it the User's opinion that the purchase price being paid for Property reasonably reflects the fair market value of the Property?	Yes
8. Is the User aware of any obvious indicators that point to the presence or likely presence of contamination on the Property?	**No**

Please use space below to provide additional explanation of any your responses above:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

The questionnaire was completed by:

Name of User (or Representative) Aarty Joshi

Company, Address, and Phone Number NRG Renew LLC, 100 California Street, Suite 400, San Francisco, CA 94111

Signature

Date June 12, 2018

Email Address Aarty.Joshi@nrg.com

TETRA TECH

Phase I Environmental Site Assessment
Landowner Questionnaire

NRG Energy, Inc
Daggett Solar Power Facility
San Bernardino County, California

The purpose of this questionnaire is to assist us in compiling the information required by ASTM Standard E2247-16, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Farmland or Rural Property*—the standard for conducting Phase I Environmental Site Assessments. Please answer questions to the best of your ability as a landowner involved in the project. If an answer cannot be provided, write "Unknown."

Question	Response/Comments
1. How long have you owned or occupied the *property*?	1 parcel 38 years other Parcels Approx 16 years
2. What is the approximate age of the building(s) (if any)?	Between 20-40 years
3. What was the past use of the property and any adjacent properties?	Farming
4. Have there been other tenants? If yes, what is the nature of the other tenants' operations?	yes Farming
5. Is the *property,* or *any adjoining property*, ever been used for any of the following activities: Industrial Use, gas station; motor repair; commercial printing; dry cleaners; photo-developing; junkyard or landfill; waste treatment, storage, disposal, processing, or recycling? *(if yes, please provide brief explanation)*	No

Tetra Tech, Inc.
350 Indiana Street, Suite 500, Golden, CO 80401
Tel 303.217.5700 Fax 303.980.3539 www.tetratech.com

Question	Response/Comments
6. Are there or had there been any accumulations of damaged or discarded automotive batteries, pesticides, paints, drums, or chemicals? *(if yes, please describe and provide general locations)*	No
7. Has fill dirt been brought onto the *property* from off-site sources? *(if yes, please provide origin of fill, when it was brought on the property.)*	No
8. Are there or have there been any pits, ponds, lagoons, cisterns, cesspools, or septic systems located on the *property* in connection with waste treatment, waste disposal, or are likely to contain hazardous substances or petroleum products? *(if yes, please provide when and where pits, lagoons, or ponds were located on property)*	Septic Systems for mobile Homes on Property
9. Is there any stained soil or significantly stained paved areas on the *property*? *(if yes, please provide location and source of staining)*	No
10. Are there or have there been any aboveground or underground storage tanks located on the *property*?	yes Above ground
11. Are there or have there been any vent pipes, fill pipes, or access ways protruding from the ground or *adjacent* to any *structure* located on the *property*?	No
12. Is the property served by either a private well or non-public water system? *(if "yes", go to 13; if "no" go to 14)*	Private well

Question	Response/Comments
13. Have contaminants been identified in the well, or has the well been designated as contaminated?	NO
14. Are there any dry wells, irrigation wells, injection wells, abandoned wells, or monitoring wells located on the subject property?	Irrigation Wells
15. Do you know of any environmental site assessment of the property that indicated the presence of hazardous substances or petroleum products? *(If yes, please explain – Do you have documentation of this assessment?)*	No
16. Does the *property* discharge wastewater, other than storm water, into a sanitary sewer system? *(if yes, please indicate what is discharged and where it is discharged)*	No
17. Have any of the following been dumped, buried, or burned on the *property*? Hazardous substances or petroleum products, unidentified waste materials, tires, automotive or industrial batteries or any other waste materials.	No
18. Is there a transformer, capacitor, or any hydraulic equipment on the *property*?	S.C.E. Transformers to pumps Farm Equipment

Please use space below to provide additional explanation of any your responses above:

The questionnaire was completed by:

Name of User (or Representative) JOE HARTER

Company, Address, and Phone Number 34530 Minneola Rd. Newberry Springs, CA 92365

Signature Joe Harter

Date 6-22-18

Email Address Haymkrs@gmail.com

TETRA TECH

Phase I Environmental Site Assessment
Landowner Questionnaire

NRG Energy, Inc
Daggett Solar Power Facility
San Bernardino County, California

The purpose of this questionnaire is to assist us in compiling the information required by ASTM Standard E2247-16, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Farmland or Rural Property*—the standard for conducting Phase I Environmental Site Assessments. Please answer questions to the best of your ability as a landowner involved in the project. If an answer cannot be provided, write "Unknown."

Question	Response/Comments
1. How long have you owned or occupied the *property*?	**10-12 years**
2. What is the approximate age of the building(s) (if any)?	**None**
3. What was the past use of the property and any adjacent properties?	**Vacant lot**
4. Have there been other tenants? If yes, what is the nature of the other tenants' operations?	**None**
5. Is the *property,* or *any adjoining property*, ever been used for any of the following activities: Industrial Use, gas station; motor repair; commercial printing; dry cleaners; photo-developing; junkyard or landfill; waste treatment, storage, disposal, processing, or recycling? *(if yes, please provide brief explanation)*	**No**

Tetra Tech, Inc.
350 Indiana Street, Suite 500, Golden, CO 80401
Tel 303.217.5700 Fax 303.980.3539 www.tetratech.com

Question	Response/Comments
6. Are there or had there been any accumulations of damaged or discarded automotive batteries, pesticides, paints, drums, or chemicals? *(if yes, please describe and provide general locations)*	**No**
7. Has fill dirt been brought onto the *property* from off-site sources? *(if yes, please provide origin of fill, when it was brought on the property.)*	**None**
8. Are there or have there been any pits, ponds, lagoons, cisterns, cesspools, or septic systems located on the *property* in connection with waste treatment, waste disposal, or are likely to contain hazardous substances or petroleum products? *(if yes, please provide when and where pits, lagoons, or ponds were located on property)*	**No**
9. Is there any stained soil or significantly stained paved areas on the *property*? *(if yes, please provide location and source of staining)*	**No**
10. Are there or have there been any aboveground or underground storage tanks located on the *property*?	**No**
11. Are there or have there been any vent pipes, fill pipes, or access ways protruding from the ground or *adjacent* to any *structure* located on the *property*?	**No**
12. Is the property served by either a private well or non-public water system? *(if "yes", go to 13; if "no" go to 14)*	**No**

Question	Response/Comments
13. Have contaminants been identified in the well, or has the well been designated as contaminated?	**N/A**
14. Are there any dry wells, irrigation wells, injection wells, abandoned wells, or monitoring wells located on the subject property?	**No**
15. Do you know of any environmental site assessment of the property that indicated the presence of hazardous substances or petroleum products? *(If yes, please explain – Do you have documentation of this assessment?)*	**No studies of that nature on property**
16. Does the *property* discharge wastewater, other than storm water, into a sanitary sewer system? *(if yes, please indicate what is discharged and where it is discharged)*	**No**
17. Have any of the following been dumped, buried, or burned on the *property*? Hazardous substances or petroleum products, unidentified waste materials, tires, automotive or industrial batteries or any other waste materials.	**No**
18. Is there a transformer, capacitor, or any hydraulic equipment on the *property*?	**No**

Please use space below to provide additional explanation of any your responses above:

Farm fields (used for agriculture) are located on either side of the property.

The questionnaire was completed by:

Name of User (or Representative)	Robert Kasner	**Company, Address, and Phone Number**	711 S. Carson Street, Suite 4 Carson City, NV 89701
Signature	*Completed via phone by Alexandra Gibson*	**Date**	6/19/18
Email Address	Not provided.		

Phase I Environmental Site Assessment
Landowner Questionnaire

NRG Energy, Inc
Daggett Solar Power Facility
San Bernardino County, California

The purpose of this questionnaire is to assist us in compiling the information required by ASTM Standard E2247-16, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Farmland or Rural Property*—the standard for conducting Phase I Environmental Site Assessments. Please answer questions to the best of your ability as a landowner involved in the project. If an answer cannot be provided, write "Unknown."

Question

Response/Comments

- How long have you owned or occupied the *property*?

38 Years

- What is the approximate age of the building(s) (if any)?

38 Years

- What was the past use of the property and any adjacent properties?

Alfalfa Fields

- Have there been other tenants? If yes, what is the nature of the other tenants' operations?

No

- Is the *property*, or *any adjoining property*, ever been used for any of the following activities:

Industrial Use, gas station; motor repair; commercial printing; dry cleaners; photo-developing; junkyard or landfill; waste treatment, storage, disposal, processing, or recycling?

No

(if yes, please provide brief explanation)

- Are there or had there been any accumulations of damaged or discarded automotive batteries, pesticides, paints, drums, or chemicals?

No

(if yes, please describe and provide general locations)

- Has fill dirt been brought onto the *property* from off-site sources?

No

(if yes, please provide origin of fill, when it was brought on the property.)

- Are there or have there been any pits, ponds, lagoons, cisterns, cesspools, or septic systems located on the *property* in connection with waste treatment, waste disposal, or are likely to contain hazardous substances or petroleum products?

Residential Septic

(if yes, please provide when and where pits, lagoons, or ponds were located on property)

- Is there any stained soil or significantly stained paved areas on the *property*?

No

(if yes, please provide location and source of staining)

- Are there or have there been any aboveground or underground storage tanks located on the *property*?

Yes

- Are there or have there been any vent pipes, fill pipes, or access ways protruding from the ground or *adjacent* to any *structure* located on the *property*?

No

- Is the property served by either a private well or non-public water system?

Yes

(if "yes", go to 13; if "no" go to 14)

- Have contaminants been identified in the well, or has the well been designated as contaminated?

No

- Are there any dry wells, irrigation wells, injection wells, abandoned wells, or monitoring wells located on the subject property?

Yes

- Do you know of any environmental site assessment of the property that indicated the presence of hazardous substances or petroleum products?

Yes

(If yes, please explain – Do you have documentation of this assessment?)

Annual Permit from SBC CUPA

- Does the *property* discharge wastewater, other than storm water, into a sanitary sewer system?

No

(if yes, please indicate what is discharged and where it is discharged)

- Have any of the following been dumped, buried, or burned on the *property*?

Hazardous substances or petroleum products, unidentified waste materials, tires, automotive or industrial batteries or any other waste materials.

No

- Is there a transformer, capacitor, or any hydraulic equipment on the *property*?

Yes

Please use space below to provide additional explanation of any your responses above:
Tractors with hydraulics

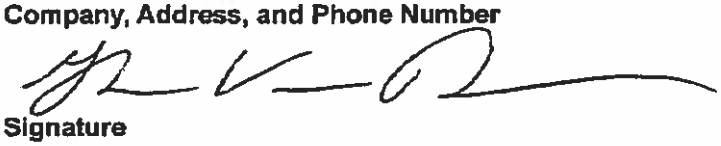
The questionnaire was completed by:

Glen Van Dam

Name of User
(or Representative)

3190 Cottonwood Ave
San Jacinto CA 92582
(951) 203-6832

Company, Address, and Phone Number



Signature

June 21, 2018

Date

gvandam@verizon.net

Email Address

SAN BERNARDINO COUNTY CUPA
CERTIFIED UNIFIED PROGRAM AGENCY
ANNUAL PERMIT

EP AP2 AR-21000

DICK VAN DAM
VAN DAM RANCH
3180 COTTONWOOD
SAN JACINTO, CA 92582

This Unified Permit is hereby issued to:
VAN DAM RANCH
39200 HIDDEN SPRINGS
DAGGETT, CA 92327

CERS ID: 10052236

Permit is issued to Facility: FA0011065 for a period not to exceed one year from effective date.

Effective Date: 12/1/2017 **Expiration Date: 11/30/2018**

CUPA Facility Type: 5012-CUPA ANNUAL ADMIN PERMIT PROGRAM FEE-LEVEL 2

Permit Number	Program Element	Related ID
PT0019085	4243 HAZARDOUS MATERIALS 4-10 CHEMICALS	PR0018039
PT0019086	4453 SMALL QUANTITY GENERATOR	PR0018040

SAN BERNARDINO COUNTY
CUPA

Permitted by:
San Bernardino County CUPA
620 South "E" Street
San Bernardino, CA 92415-0153
(909) 386-8401

Mike Horton, Fire Marshal

THIS PERMIT IS NOT TRANSFERABLE AND IS ISSUED CONDITIONALLY UPON ADHERENCE TO THE REQUIREMENTS LISTED ON THE BACK OF THIS PERMIT. THIS FORM MUST BE DISPLAYED CONSPICUOUSLY ON THE PREMISES.

TETRA TECH

Phase I Environmental Site Assessment
Landowner Questionnaire

NRG Energy, Inc
Daggett Solar Power Facility
San Bernardino County, California

The purpose of this questionnaire is to assist us in compiling the information required by ASTM Standard E2247-16, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Farmland or Rural Property*—the standard for conducting Phase I Environmental Site Assessments. Please answer questions to the best of your ability as a landowner involved in the project. If an answer cannot be provided, write "Unknown."

Question	Response/Comments
1. How long have you owned or occupied the *property*?	
2. What is the approximate age of the building(s) (if any)?	
3. What was the past use of the property and any adjacent properties?	
4. Have there been other tenants? If yes, what is the nature of the other tenants' operations?	
5. Is the *property,* or *any adjoining property*, ever been used for any of the following activities: Industrial Use, gas station; motor repair; commercial printing; dry cleaners; photo-developing; junkyard or landfill; waste treatment, storage, disposal, processing, or recycling? *(if yes, please provide brief explanation)*	

Tetra Tech, Inc.
350 Indiana Street, Suite 500, Golden, CO 80401
Tel 303.217.5700 Fax 303.980.3539 www.tetratech.com

Question	Response/Comments
6. Are there or had there been any accumulations of damaged or discarded automotive batteries, pesticides, paints, drums, or chemicals? *(if yes, please describe and provide general locations)*	
7. Has fill dirt been brought onto the *property* from off-site sources? *(if yes, please provide origin of fill, when it was brought on the property.)*	
8. Are there or have there been any pits, ponds, lagoons, cisterns, cesspools, or septic systems located on the *property* in connection with waste treatment, waste disposal, or are likely to contain hazardous substances or petroleum products? *(if yes, please provide when and where pits, lagoons, or ponds were located on property)*	
9. Is there any stained soil or significantly stained paved areas on the *property*? *(if yes, please provide location and source of staining)*	
10. Are there or have there been any aboveground or underground storage tanks located on the *property*?	
11. Are there or have there been any vent pipes, fill pipes, or access ways protruding from the ground or *adjacent* to any *structure* located on the *property*?	
12. Is the property served by either a private well or non-public water system? *(if "yes", go to 13; if "no" go to 14)*	

Question	Response/Comments
13. Have contaminants been identified in the well, or has the well been designated as contaminated?	
14. Are there any dry wells, irrigation wells, injection wells, abandoned wells, or monitoring wells located on the subject property?	
15. Do you know of any environmental site assessment of the property that indicated the presence of hazardous substances or petroleum products? *(If yes, please explain – Do you have documentation of this assessment?)*	
16. Does the *property* discharge wastewater, other than storm water, into a sanitary sewer system? *(if yes, please indicate what is discharged and where it is discharged)*	
17. Have any of the following been dumped, buried, or burned on the *property*? Hazardous substances or petroleum products, unidentified waste materials, tires, automotive or industrial batteries or any other waste materials.	
18. Is there a transformer, capacitor, or any hydraulic equipment on the *property*?	

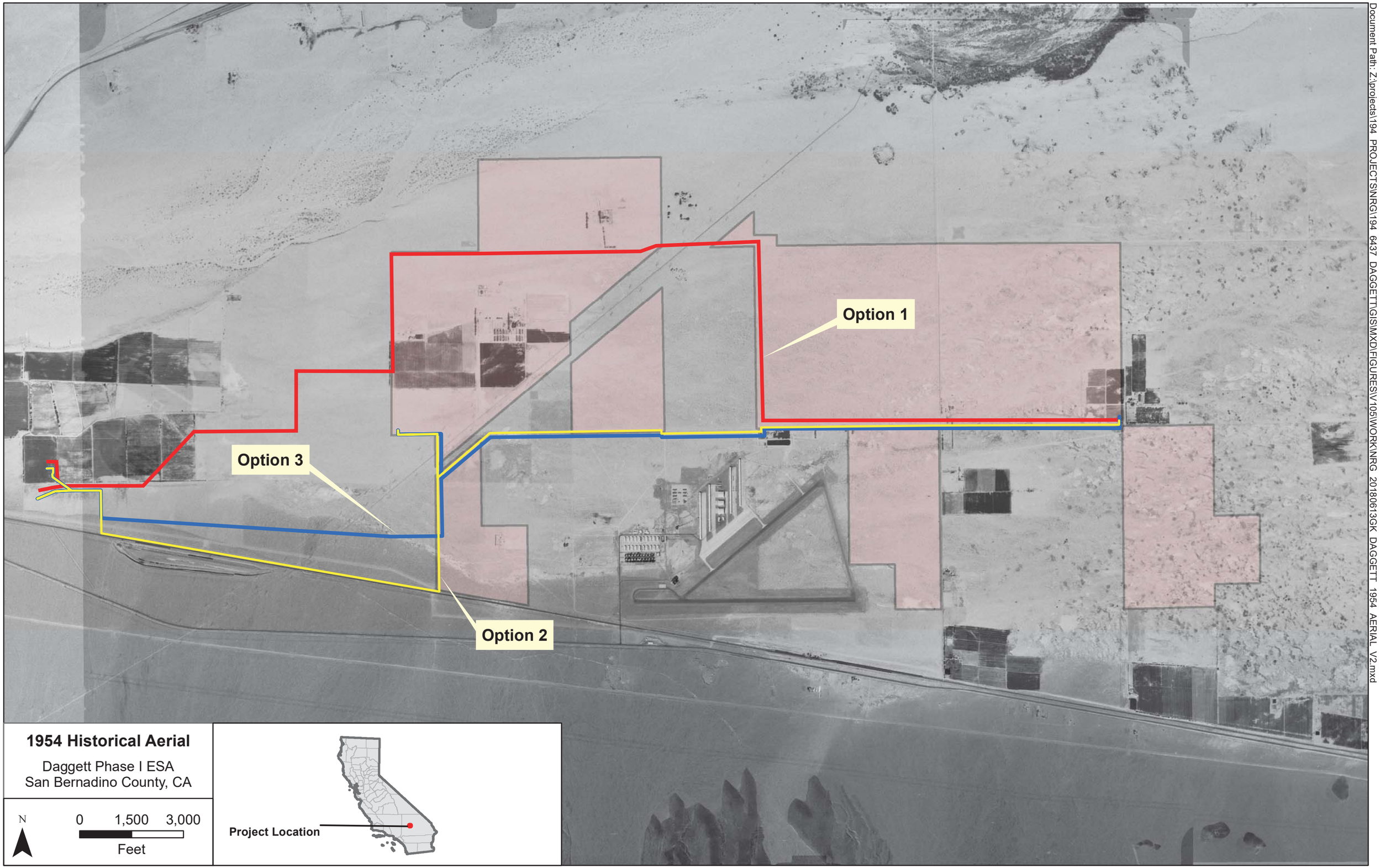
Please use space below to provide additional explanation of any your responses above:

_____
_____
_____
_____
_____
_____
_____
_____
_____

The questionnaire was completed by:

Name of User (or Representative)		**Company, Address, and Phone Number**	
Signature		**Date**	
Email Address			

Appendix C—Historical Aerials and Topographic Maps



1954 Historical Aerial

Daggett Phase I ESA
San Bernadino County, CA

N

0 1,500 3,000

Feet

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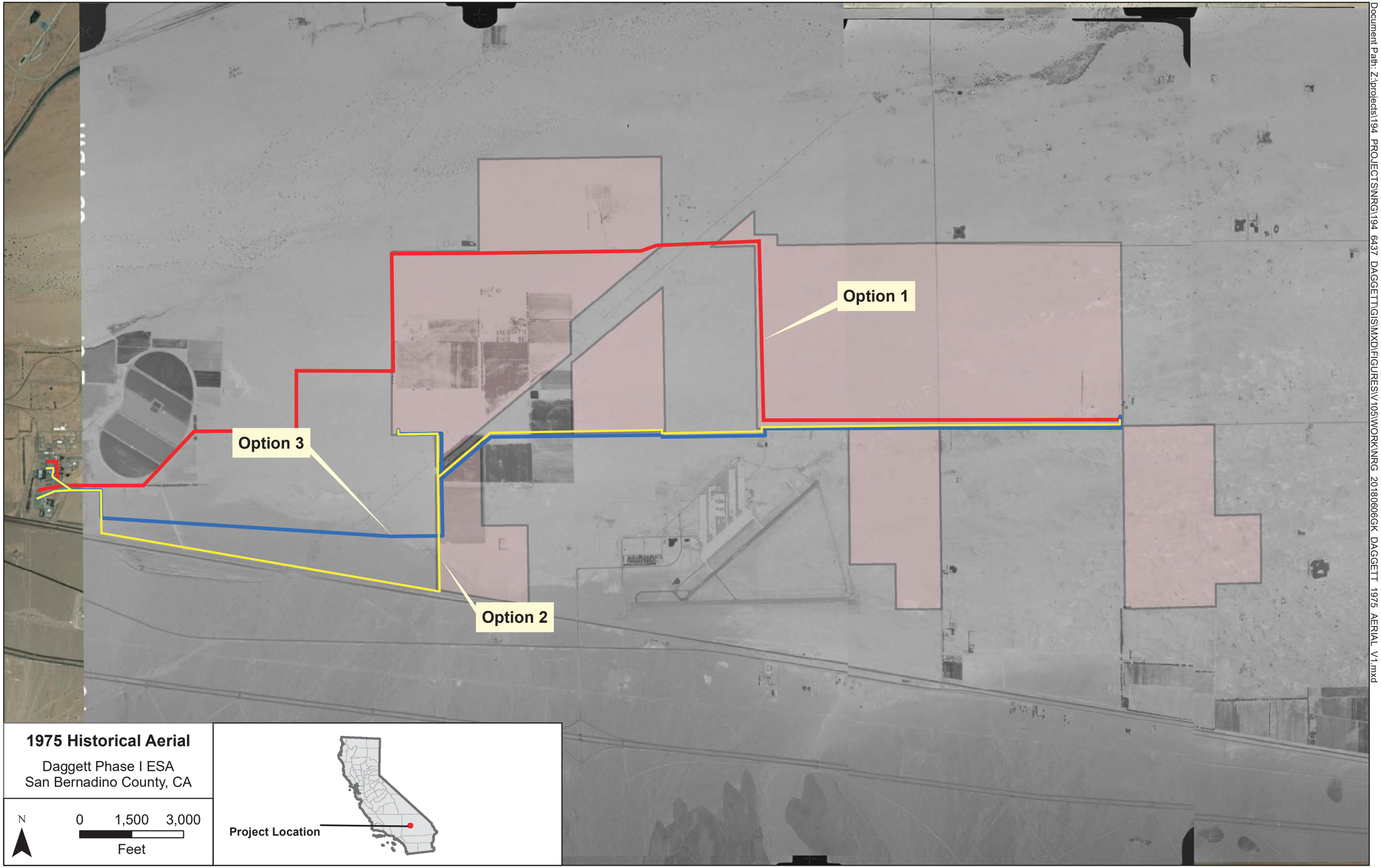

1975 Historical Aerial

Daggett Phase I ESA
San Bernadino County, CA

N

0 1,500 3,000

Feet

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Option 1

Option 3

Option 2

1995 Historical Aerial

Daggett Phase I ESA
San Bernadino County, CA

N

0 1,500 3,000

Feet

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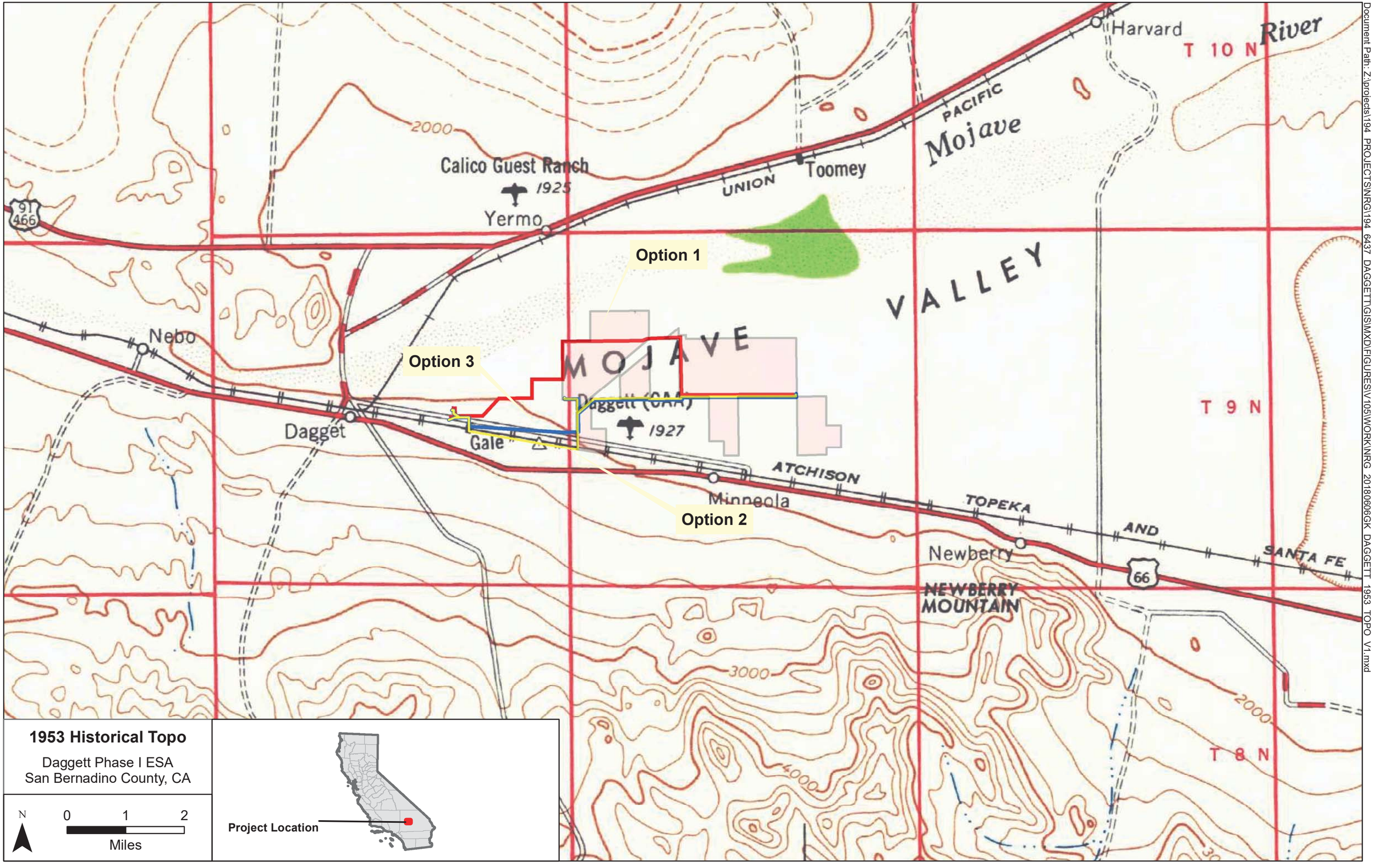

1953 Historical Topo

Daggett Phase I ESA
San Bernadino County, CA

N

0 1 2

Miles

Document Path: Z:\projects\194 PROJECTS\NRG\1194 6437 DAGGETT\GIS\MXD\FIGURES\V105\WORK\NRG 20180606GK DAGGETT 1953 TOPO V1.mxd

Option 1

Option 2

Option 3

MOJAVE VALLEY

MARINE CORPS SUPPLY CENTER (YERMO AREA)

MARINE CORPS SUPPLY CENTER (DAGGETT AREA)

MARINE CORPS SUPPLY CENTER (NEBO AREA)

Calico MOUNTAINS

Mojave River

Yermo

Water Tower

Cemetery

Power line

UNION PA

Camp Cady

Newberry School

Daggett (CAA)

Daggett

ATCHISON TOPEKA & SANTA FE

Newberry Community Church

Newberry

40

15

2000

2300

2690

1862

1927

2108

1895

3625

4064

4882

5094

3775

1966 Historical Topo

Daggett Phase I ESA
San Bernadino County, CA

N

0 1 2

Miles

Project Location

Document Path: Z:\projects\194 PROJECTS\NRG\194 6437 DAGGETT\GIS\MXD\FIGURES\V105\WORK\NRG 20180606GK DAGGETT 1953 TOPO V1.mxd

Option 1

Option 2

Option 3

1977 Historical Topo

Daggett Phase I ESA
San Bernadino County, CA

N

0 1 2

Miles

Project Location

Document Path: Z:\projects\194_PROJECTS\NRG\194_6437_DAGGETT\GIS\MXD\FIGURES\V105\WORK\NRG_20180606GK_DAGGETT_1953_TOPO_V1.mxd

Appendix D—Resumes of Environmental Professionals

Experience Summary

Ms. Miller has 16 years of experience in the preparation, coordination, and management of Environmental Assessments (EAs), Environmental Impact Statements (EISs), and Categorical Exclusion (CatEx) documents conducted under the National Environmental Policy Act (NEPA) documents for proposed roads, energy projects, federal facilities, and federally funded projects. During the last five years, her duties have also included the siting, permitting, and obtaining various environmental clearances for utilities and energy projects such as substations, transmission lines, and energy generation.

Other duties and assignments have focused on documentation, evaluation, and mitigation of environmental resources, including hazardous and contaminated materials, water resources, soils/geology, wetlands, social and economic characteristics, land use, and recreational resources in relation to potential project impacts. As necessary, mitigation actions and permitting activities were coordinated, reviewed, and implemented.

As a project manager and resource specialist, she interacts and coordinates with numerous state, federal, and local agencies. Environmental evaluations include documentation of standards, applicable regulations and guidelines, and conformity with various plans and local programs.

Prior to employment with Tetra Tech, she performed similar NEPA and permitting consulting work for 12 years, and was Superfund Unit Chief with the Kansas Department of Health and Environment (KDHE) for 8 years prior to that. Her work at KDHE involved individual management oversight of investigation and remediation projects, staff oversight, coordination with other agencies, negotiation of legal contracts with responsible parties, U.S. Environmental Protection Agency (EPA) grant management, and management of the state Superfund program.

As a project and program manager, Ms. Miller has coordinated and led project teams; produced, updated, and prioritized project scopes of work, schedules, and contracts, including cost spreadsheets; and provides clients with consistent and effective communication including verbal and written progress reports. Her successful management style is performed through attention to detail, quality assurance/ quality control methods, prioritization of tasks to meet deadlines, and efficiency in team assignments and oversight.

Education

MS, Water Resources Science, University of Kansas, 1987
BS, Geology, University of Kansas, 1980

Registrations/Certifications

Registered Professional Geologist, WY, Number PG-3367, Updated 1/1/13

Corporation Project Experience

Deputy Project Manager/Senior Environmental Planner, August 2011–Present
Xcel Energy, West Main Relocation Project, Larimer County, Colorado

Tetra Tech is conducting route analyses, biological and cultural resource analyses, and 1041 and Areas and Activities of State Interest permit applications for Boulder and Larimer counties, for Xcel Energy. Public Service Company of Colorado, an Xcel Energy Company, proposes to install an upgrade to its facilities along existing or new easements from the Boulder-Larimer County line to a terminus north of the town of Wellington. These facilities range in size from 4-inch, 6-inch, and 16-inches and generally serve as transmission facilities typically operating at high pressure. Tetra Tech is conducting route analyses, resource analyses, Areas and Activities of State Interest permit applications for Boulder and Larimer counties, Colorado, and public involvement activities to support the project. In addition to

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permit services, Tetra Tech is also providing construction biological and environmental monitoring services and assisting Public Service Company with agency and local government consultation.

Responsibilities include assisting the project manager in the identification of permitting requirements and drafting the permit application. Ms. Miller conducted regulatory, environmental, and community research for and prepared the Larimer County Location and Extent Permit Application and 1041 Permit Application. Document lead for the city of Fort Collins Natural Areas Department (NAD) Easements or Rights of Way Permit Application Document lead; conducted research (regulatory, environmental, and community) for and prepared the Boulder County 1041 Permit Application and the draft South Larimer 1041 Permit Application. Follow-up project support work will include responding to referral comments and preparation of supporting permit applications.

Document Lead/Senior Environmental Planner
Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline, May 2013–Present
Tetra Tech is preparing a Federal Energy Regulatory Commission (FERC) EIS for the construction and operation of an LNG terminal and a new 231.82-mile, 36-inch diameter interstate natural gas transmission system and related facilities. The proposed system would extend from the proposed Jordan Cove, Oregon to interconnect with two interstate natural gas pipelines near Malin, Oregon. Ms. Miller provides review of geology and groundwater resource reports and submitted supporting documents and writes the related EIS sections for the proposed project.

Document Lead/Senior Environmental Planner
Lavaca Bay LNG Project, March 2013–Present
Tetra Tech is preparing FERC Resource Reports for the proposed development, construction, and operation of liquefied natural gas (LNG) terminal facilities to be located on a parcel of land on the South Peninsula of Point Comfort within the Port of Port Lavaca-Point Comfort, Texas, along the Gulf of Mexico; and an approximately 29-mile-long, 42-inch-diameter pipeline header system (pipeline) to transport natural gas from existing pipeline systems to the LNG terminal facilities. Ms. Miller prepared the soils and geology resources reports and continues to address FERC and agency comments regarding the reports and supporting information.

Document Lead/Senior Environmental Planner
Columbia Gas Transmission, LLC East Side Expansion Project, August 2013–Present
Tetra Tech is preparing a FERC EA for the construction and operation of two natural gas looping pipelines and related facilities in Chester County, Pennsylvania, and Gloucester County, New Jersey, as well as lesser areas in New York and Maryland. The project schedule includes initiation of construction in November 2014 and to place the facilities in-service by September 2015. Ms. Miller is providing review of Resource Report and supporting information submittals, and will write the geology and groundwater EA sections.

Project Lead/Senior Environmental Planner, March 2013–August 2013
Phase I Environmental Site Assessments – NextEra Minco III Wind Farm (Caddo, Canadian, and Grady Counties, Oklahoma) and Xcel Energy Rocky Flats Natural Gas Pipeline Replacement (Jefferson County, Colorado)
Ms. Miller coordinated and completed the work for two Phase I ESAs including project coordination, background research, document preparation, property owner interviews, and site reconnaissance activities.

Senior Environmental Planner, August 2011–August 2012
Tri-State Generation and Transmission Association, Inc., Carey Substation, Weld County, Colorado
Tetra Tech prepared the resource analyses, environmental assessment for the Rural Utility Service, and the Areas and Activities of State Interest permit application for Weld County, Colorado to support a new electrical substation proposed by Tri-State Generation and Transmission Association. Tetra Tech conducted a biological resources assessment and conducted informal consultation for the project with the US Fish and Wildlife Service and the Colorado Division of Parks and Wildlife.

Document Lead/Senior Environmental Planner
Cherokee Pipeline, June 2011–August 2012
Public Service Company of Colorado is proposing to construct approximately 34 miles of new 24-inch steel natural gas transmission pipeline between the Cherokee Generating Station in Adams County, Colorado and terminating at the Fort Lupton Metering Facility in Weld County, Colorado. Construction is expected to begin in 2013 and the pipeline is expected to be in operation by October 2014. Tetra Tech is preparing the route selection study, land use and environmental permit applications, and environmental documentation required for approval of the project. Tetra Tech prepared the pipeline route selection study and is developing four land use permit applications, three state permit applications, one federal permit application, and numerous additional local permit applications.

Ms. Miller conducted regulatory, environmental, and community research for and prepared the Adams County 1041 Permit Application. Follow-up work included responding to referral comments and preparing supporting permit applications.

Document Lead/Senior Environmental Planner
Cherokee Station June 2011–August 2012
Public Service Company of Colorado is converting the Cherokee Station coal-fired power plant to natural gas in response to Colorado's 2010 Clean Air-Clean Jobs legislation. Cherokee Station is located north of downtown Denver, Colorado, adjacent to the South Platte River. Tetra Tech was selected to conduct the environmental resource analyses and Areas and Activities of State Interest (1041)/Conditional Use Permit applications required by Adams County, Colorado to support the Cherokee Generating Station Repowering Project. Tetra Tech conducted economic, biological, cultural, and transportation impact analyses for the permit applications.

Ms. Miller conducted regulatory, environmental, and community research for and prepared the Adams County 1041 Permit Application. Follow-up work included responding to referral comments and preparation of supporting permit applications."

Senior Environmental Planner/Resource Specialist, May 2011–Present
Cogentrix Energy, LLC, Quail Brush Power Project, City of San Diego, California
Cogentrix proposed construction of approximately a 100 megawatt natural gas-fired peaking facility near the eastern boundary of the city of San Diego, California. Project facilities include the peaking plant, a transmission line, switchyard, and natural gas pipeline.

Ms. Miller's responsibilities include task lead and resource specialist for the following CEC AFC sections: socioeconomics and transportation.

Senior Environmental Planner, May 2011–Present
PSCo Cherokee Station–Adams County Permitting
Public Service Company of Colorado is converting the Cherokee Station coal-fired power plant to natural gas in response to Colorado's 2010 Clean Air-Clean Jobs legislation. Cherokee Station is located north of downtown Denver, Colorado, adjacent to the South Platte River. Tetra Tech was selected to

conduct the environmental resource analyses and Areas and Activities of State Interest (1041)/ Conditional Use Permit applications required by Adams County, Colorado to support the Cherokee Generating Station Repowering Project. Tetra Tech conducted economic, biological, cultural, and transportation impact analyses for the permit applications

Senior Environmental Planner, December 2010–Complete
Lucky Corridor
Lucky Corridor, LLC has proposed construction of approximately 130 miles of new 500-kilovolt transmission line in northern New Mexico to better link renewable energy and gas resources with energy export markets. Tetra Tech is preparing Standard Form 299 Permit applications for the project for rights-of-way across federal lands.

Senior Environmental Planner/Resource Lead, April 2010–November 2011
Edwards to Meadow Mountain
Public Service Company of Colorado built a new natural gas transmission pipeline to meet rapidly growing needs in the Avon/Eagle-Vail region. The Edwards-Meadow Mountain Gas Pipeline Project was a system upgrade that replaced the existing 60-year-old, six- , eight-, and 12-inch natural gas pipelines located in Eagle County, Colorado, underneath the eastbound lane of U.S. Highway 6 with a new high-pressure pipeline. Tetra Tech completed the following permit applications for the Project: Eagle County Special Use Permit; Eagle County Permit to Construct in the Public Right-of-Way; Town of Avon 1041 Permit; Air Pollution Emission Notice and Construction Permit; CDOT Utility Permit; and consultation with the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, State Historic Preservation Office, and Colorado Division of Wildlife.

Ms. Miller's involvement in the project has included acting as the resource lead for water resources, soils, geologic hazards, hazardous materials, and transportation, as well as assisting in the overall organization and preparation of local and federal permit applications.

Deputy Project Manager/Senior Environmental Planner, January 2010–January 2012
Saguache Solar Energy
The Saguache Solar Energy Project is a proposed 200-megawatt solar thermal facility site in Saguache County, Colorado, proposed by the applicant, to be a project company formed by SolarReserve. The project will be developed within approximately 6,200 acres of privately owned land being optioned by SolarReserve in Saguache County, in south-central Colorado. The project site is located in the San Luis Valley, where the state's best solar resources exist. The San Luis Valley is identified as one of two solar power generation development areas in the state of Colorado. Tetra Tech is providing support services for approval of the project through the Saguache County 1041 permitting process.

Responsibilities include assisting the project manager with the budget, invoices, add services, scheduling, project meetings, coordination with SolarReserve and Saguache County, review of documents (1041 permit requirements and other deliverables), and with production of draft and final project deliverables.

Senior Environmental Planner/Resource Specialist, December 2009–Present
Shell WindEnergy, Inc., Hermosa West Wind Energy Project, Albany County, Wyoming
The Hermosa West Wind Energy Project, located in Albany County, Wyoming, is being developed by Shell WindEnergy on an 11,125-acre site near the town of Tie Siding. The Project would consist of up to 200 wind turbines with a combined generating capacity of up to 300 megawatts. Shell WindEnergy is requesting to interconnect the Project with the existing Craig to Ault 345-kilovolt transmission line owned and operated in part by Western Area Power Administration. Tetra Tech is preparing the environmental impact statement and conducting public involvement activities for the Project.

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Responsibilities include task lead and resource specialist for the following EIS sections: environmental justice, socioeconomics, and geology, minerals, and soils.

Senior Environmental Planner/Resource Specialist, December 2009–October 2010
NextEra Energy Resources, LLC, Black Canyon Solar Energy Project, Alamosa County, Colorado
Project consists of a 30-megawatt photovoltaic solar energy-generating facility and associated 1.5-mile transmission line in Alamosa County, Colorado. Tetra Tech prepared a Critical Issues Analysis, Phase I Environmental Site Assessment, and Areas and Activities of State Interest Permit (1041 Permit) application. Tasks included development of the 1041 permit application, engineering support, visual simulations, coordination with the Colorado Division of Wildlife and U.S. Fish and Wildlife Service, preparation for and attendance at a community meeting, preparation for and attendance at a Board of County Commissioners hearing for the project, and coordination with Alamosa County.

Responsibilities include task lead and resource specialist for the following 1041 permit application sections: socioeconomics and geology, minerals, and soils.

Deputy Project Manager, November 2009–January 2011
BP Wind Energy North America, Inc., Cedar Creek II Wind Farm Project, Weld County, Colorado
Tetra Tech provided a variety of local (1041 permit) and state permitting and transportation services and also performed biological and cultural surveys to BP Wind Energy Services for the Cedar Creek II Wind Farm Project, a 300-megawatt wind energy generation facility in Weld County, Colorado. Tetra Tech also assisted BP with the development and evaluation of site alternatives of wind facilities, and consultation with Weld County planning officials and state agencies regarding environmental concerns and post-construction environmental and cultural monitoring. Tetra Tech also sited and permitted a 14-mile 230-kilovolt transmission line and interconnection substation. Ancillary services included GIS mapping; analysis of impacts to environmental and social resources; analysis of impacts related to the temporary batch plant; protocol level field surveys for wetlands and cultural and historic resource assessment; Phase I Environmental Site Assessment for the Project area and transmission line; sampling of a water well; preparation of drainage reports, traffic studies, and meteorological tower applications; and preparation and attendance at Weld County hearings.

Responsibilities include assisting the project manager with the budget, invoices, add services, scheduling, project meetings, coordination with BP and Weld County, review of documents (1041 permit requirements and pre-construction deliverables), and with production of draft and final project deliverables.

Document Lead/Senior Environmental Planner, 2012 - Present
Xcel Larimer–Boulder Counties, CO
Public Service Company of Colorado proposes to install an upgrade to its facilities along existing or new easements from the Boulder–Larimer County line to a terminus north of the town of Wellington. These facilities range in size from 4-inch or 6-inch to 16-inches and generally serve as transmission facilities typically operating at high pressure. Tetra Tech is conducting route analyses, resource analyses, Areas and Activities of State Interest permit applications for Boulder and Larimer counties, Colorado, and public involvement activities to support the project.

Ms. Miller conducted regulatory, environmental, and community research for and prepared the Larimer County Location and Extent Permit Application and 1041 Permit Application. Document lead for the city of Fort Collins Natural Areas Department (NAD) Easements or Rights of Way Permit Application Document lead; conducted research (regulatory, environmental, and community) for and prepared the draft Boulder County 1041 Permit Application. Follow-up project support work includes responding to referral comments and preparation of supporting permit applications.

Senior Environmental Planner, August 2011 – August 2012
Tri-State Generation and Transmission Association, Inc., Carey Substation, Weld County, CO
Tetra Tech prepared the resource analyses, environmental assessment for the Rural Utility Service, and the Areas and Activities of State Interest permit application for Weld County, Colorado to support a new electrical substation proposed by Tri-State Generation and Transmission Association. Tetra Tech conducted a biological resources assessment and conducted informal consultation for the project with the US Fish and Wildlife Service and the Colorado Division of Parks and Wildlife.

Select Project Experience

Project and Program Management
Organized and managed projects for clients as well as projects and programs for the state of Kansas. Activities included grant applications and grant management and tracking budgets and program performance. Ms. Miller has worked with numerous public and private entities to implement and achieve program goals. Her creative approach to setting up and scheduling projects has received enthusiastic feedback from her supervisors and clients. Public involvement activities have consisted of formal presentations, question/answer sessions, surveys, and formal comment–response documents.

Permitting for Renewable Energy Generation Projects
Ms. Miller has managed and acted as the document and resource lead for NEPA requirements and local permitting solar, wind, electric transmission lines, and natural gas pipeline projects in Colorado, Arizona, Texas, and Oklahoma.

Resource and Task Lead Support for Energy Projects
Ms. Miller has performed essential resource and task lead duties (water resources, socioeconomics, geology and soils, hazardous materials, environmental justice) associated with numerous small and large-scale projects (electric transmission lines, natural gas pipelines, and substations) in Colorado, Wisconsin, Michigan, Oklahoma, Texas, Oregon, Pennsylvania, New Jersey, and Idaho.

Previous Experience

Project and Program Management
Organized and managed projects for clients as well as projects and programs for the state of Kansas. Activities included grant applications and grant management and tracking budgets and program performance. Ms. Miller has worked with numerous public and private entities to implement and achieve program goals. Her creative approach to setting up and scheduling projects has received enthusiastic feedback from her supervisors and clients. Public involvement activities have consisted of formal presentations, question/answer sessions, surveys, and formal comment–response documents.

Regulatory Oversight Projects—Ms. Miller performed regulatory project management oversight duties for the following short list of environmental remediation project sites:

Pester Burn Ponds National Priorities List (NPL) Site—This Remedial Investigation/Feasibility Study (RI/FS) project refinery site is located in El Dorado, Kansas. The project included innovative cleanup technologies for the remediation of refinery sludge ponds that were contaminating area groundwater and a nearby stream.

Fort Riley NPL DOE Site, Fort Riley, Kansas—This project included work with EPA and DOE as the state leads for the RI/FS process for hundreds of individual contaminated areas within this military

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installation, including underground storage tank areas, equipment maintenance areas, and ordinance/ bombing range areas.

FMC Fertilizer Plant, Lawrence, Kansas—This state voluntary cleanup project involved remediation of fertilizer-contaminated alluvial groundwater and ongoing monitoring and evaluation using groundwater modeling of the river/groundwater interface hydrological system.

Texaco Refinery, El Dorado, Kansas—This state voluntary cleanup site involved monitoring and cleanup of hydrocarbon-contaminated groundwater in and surrounding the refinery.

Boeing Plant, Wichita, Kansas—This state voluntary cleanup site involved investigation, monitoring, and cleanup of solvent (volatile organic compounds) contaminated groundwater in and surrounding the airplane manufacturing plant.

Permitting for Renewable Energy Generation Projects

Ms. Miller was the project manager for Sempra Generation's proposed six-square-mile photovoltaic solar energy facility west of Phoenix, Arizona – Mesquite Solar Project. Duties have included consulting support for securing local (Maricopa County) and state (Arizona Corporation Commission) permits for land use amendments, drainage variances, special use permits, and the State Certificate of Compatibility for the transmission line.

Resource and Task Lead Support for Energy Projects

Ms. Miller has performed essential resource and task lead duties (water resources, socioeconomics, geology and soils, environmental justice) associated with numerous large-scale projects, including the CapX 2020 Transmission Line permitting process and the NextGen Environmental Evaluation. She performed similar duties for the Garmesa Pipeline EA (a U.S. Bureau of Land Management [BLM] project) and the Idaho Power transmission line and water pipeline project EA (another BLM project).

Permitting and Siting for Substations and Transmission Lines

Ms. Miller was the project manager for acquisition of the planning permit for Xcel's Spindle Hill Switching Station in the town of Frederick, Colorado. The permit process, which is almost complete, has involved detailed landscaping, grading, and drainage features as well as the approval of two waivers through a town board hearing. Other Colorado substation permitting projects have included Xcel's Kelim Substation (Johnstown) and Xcel's Ault Substation (Weld County). She was also involved in a permit process for new Xcel transmission lines in the city of Aurora, Colorado, which includes proposed tree removal and replacement according to city landscaping guidelines. Ms. Miller also assisted in the siting study for Xcel's Arrowhead Lake Substation in Greeley, Colorado. Ms. Miller conducted resource studies for the Project Power EA 115-kV transmission line and facilities in Santa Fe, New Mexico, for the Public Service Company of New Mexico. The lead agency for the project was Taos office of the BLM. Three final transmission line routes were evaluated in the EA.

I-70 Mountain Corridor Programmatic EIS (PEIS)

Ms. Miller performed an analysis of existing and future water supply requirements in the corridor for the evaluation of indirect impacts in relation to future corridor growth. She was also responsible for the preparation of the regulated and hazardous materials, social and economic values, land use, and water resources (including water quality) portions of the PEIS. Ms. Miller also worked with the U.S. Forest Service to formulate and implement a methodology for analysis of indirect impacts to recreation resources. Mine wastes from historical mining in the corridor have contaminated soil and streams along I-70. She assisted in coordination with the Colorado Department of Public Health and Environment, Colorado Department of Transportation (CDOT), and EPA for a Memorandum of Agreement that would address the handling of mine waste contamination in soil and groundwater. She assisted in the

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creation of a land use and watershed-based methodology to evaluate cumulative impacts to environmental resources and community values that received positive comments from EPA. Ms. Miller was also a major participant in the categorization, organization, internal review, and response formation process associated with public comments received on the draft PEIS.

GSA NEPA Projects

Ms. Miller performed resource studies, due diligence studies, and project management duties for numerous GSA NEPA projects. She acted as the consulting project manager of an EA for a border station in Roosville, Montana, which resulted in a Finding of No Significant Impact (FONSI) for the replacement/upgrade of this aging rural border station. Her project management experience included completion of several GSA CatEx checklist reports following the GSA Public Buildings Service's NEPA desk guide. Ms. Miller completed various NEPA resource studies (geology, water resources, wetlands, floodplains, land use, and hazardous materials) for GSA projects in Salt Lake City, Utah; Helena, Montana (Federal Judicial Court Building); Sweetgrass, Montana; Fort Collins, Colorado (APHIS Research Building); and the Denver Federal Center (Building 25 Renovation CatEx). She also completed several Phase I and Phase II ESA studies for GSA, including border station projects in Sweetgrass and Roosville, Montana.

Powers Boulevard EA

Ms. Miller prepared a methodology for the analysis of water quality impacts in this highly urbanized and growing transportation corridor project in Colorado Springs, Colorado. Issues of concern included increased stormwater runoff from increased impervious surface areas, sedimentation, and subsequent changes to stream channels and surface water quality. The analysis used a long-range stormwater quality model to evaluate existing and future pollutant loads in numerous subbasins through the corridor using land use data and project design data. Numerous permanent best management practices (dry detention basins) are proposed that would collect runoff from the highway as well as from adjacent areas in the subbasins.

Over the River EA

Ms. Miller coordinated issue discussions and prepared the following EA sections for this controversial project: air quality, noise, floodplains, engineering safety, geology, soils, hazardous materials, water resources, wild and scenic rivers, farmlands, and hydrology and water rights. She also prepared public comment summaries based on public scoping meetings for the project.

Broadway Viaduct CatEx, Denver

Ms. Miller conducted an extensive environmental analysis of hazardous materials and water resources along a proposed roadway improvement corridor of I-25 for CDOT. Because the corridor is densely populated by industry and commercial business, researching of possible limitations for design options included a comprehensive search for potentially contaminated sites. She also completed the materials management plan used by the CDOT contractor during project construction.

Various NEPA

Ms. Miller has also contributed to numerous NEPA studies including U.S. Highway 34 EA and State Highway 402 EA, Loveland, Colorado; Rock Springs, Wyoming, viaduct replacement EA; Broomfield Flatirons/U.S. 36 Interchange EA (water resources, wetlands, environmental contaminants studies); Black Hawk, Colorado/SH-119 improvements (wetlands, environmental contaminants studies); and East Belt Interchange Corridor, Casper, Wyoming. Several of these projects included project management duties.

Discipline Codes

Project Manager, Primary

Hydrologist
Planner: Urban/Regional
Environmental Scientist
Geologist

Skill Set

NEPA
Environmental Assessments
Environmental Impact Studies
Environmental Geology
Environmental Permitting
Geologic Hazard Evaluations
Groundwater Sampling
Hydrology
Licensing of Power Projects
NEPA Assessments
NPDES Permitting
Permitting
CERCLA
RCRA
Sampling & Analysis Planning
State Programs
Borings and Wells—Monitoring Well Installation
Borings and Wells—Soil Classification/Logging
Dense Non Aqueous Phase Liquids (DNAPL)
Hydrogeology—Pump Test Analysis
Hydrogeology—Slug Test Analysis
Hydrogeology—Water Quality
Hydrogeology—Water Supply
Hydrology—Water Quality
Light Non Aqueous Phase Liquids (LNAPL)
Sampling—Groundwater
Sampling—Sediment
Sampling—Soil
Sampling—Water Level Measurements
Underground Storage Tanks/Refineries
Economics
Land Use
Planning
Public Involvement
Recreation
Siting
Socioeconomics
Stormwater

Professional References

Tricia Bernhardt, Senior Environmental Planner/Project Manager, Tetra Tech EC, 303-980-3727, tricia.bernhardt@tetratech.com
Tim Tetherow, Environmental Division Manager, J.F. Sato and Associates, 720-299-6651
Rick Bean, Remedial Section Chief, Kansas Department of Health and Environment, 785-296-1675

Related Company Information

Payroll Number: 527274
Employment Status: Part-Time
Preferred First Name: Rachel
Office Location: Lakewood, CO
Hire Date: 12/14/09
Years with Other Firms: 12
Years with Current Firm: 4
Total Years' Experience: 16
Supervisor: Stephanie Phippen, Senior Geoscientist
Office Phone: (303) 980-3600
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Fax: (303) 980-3539
E-mail Address: rachel.miller@tetratech.com
Other E-mail Address (if any):
Resume Last Revised: 11/12/2013

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Appendix E—Photo Log Documentation

Appendix E - Photographic Documentation
Daggett Solar Facility
Daggett, CA

Photo: 1 **Description:** View looking south towards Santa Fe Street.	

Photo: 2 **Description:** View looking southeast towards Santa Fe Street.	

Photo: 3 **Description:** View looking north.	

Photo: 4 **Description:** View of neighboring slag pit looking southwest.	

Photo: 5 **Description:** View of transmission line looking north.	

Photo: 6 **Description:** View of transmission line looking northeast.	

Photo: 7 **Description:** View of transmission line looking west.	

Photo: 8 **Description:** View looking northwest.	

Photo: 9 **Description:** View looking south.	

Photo: 10 **Description:** View of transmission line and east adjacent agricultural land looking northeast.	

Photo: 11 **Description:** View of existing agricultural looking northeast.	

Photo: 12 **Description:** View of neighboring solar facility looking west.	

Photo: 13 **Description:** View looking northeast.	

Photo: 14 **Description:** View looking south.	

Photo: 15 **Description:** View looking northwest, associated agricultural building pictured.	

Photo:16 **Description:** View looking north.	

Photo: 17 **Description:** View of transmission line looking east.	

Photo: 18 **Description:** View looking southwest.	

Photo: 19 **Description:** View of adjacent agricultural looking west.	

Photo: 20 **Description:** View looking south.	

Photo: 21 **Description:** View of Barstow-Daggett Airport looking southwest.	

Photo: 22 **Description:** View looking east.	

Photo: 23 **Description:** View of agricultural land looking southeast.	

Photo: 24 **Description:** View of agricultural land looking south.	

Photo: 25 **Description:** View of agricultural land looking north.	

Photo: 26 **Description:** View of agricultural land looking north.	

Photo: 27 **Description:** View looking north.	

Photo: 28 **Description:** View of single-family residence and agricultural land looking southwest.	

Photo: 29 **Description:** View looking northeast of agricultural building.	

Photo: 30 **Description:** View of adjacent building from Mineloa Road, looking south.	

Photo: 31 **Description:** View looking southeast, single-family residence and associated agricultural building pictured.	

Photo: 32 **Description:** View looking south.	

Photo: 33 **Description:** View of north adjacent single-family residence, looking north.	

Photo: 34 **Description:** View looking southwest.	

Photo: 35 **Description:** View looking southeast.	

Photo: 36 **Description:** View looking northeast.	

Photo: 37 **Description:** View looking west.	

Photo: 38 **Description:** View of north adjacent Koi Farm property, looking north.	

Photo: 39 **Description:** View of agricultural land, looking northwest.	

Photo: 40 **Description:** View of agricultural land, looking west.	

Appendix F—Relevant Documents

Appendix F—Relevant Documents

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132-5190

5090
Ser OPAE30.LW/151
July 31, 2017

Mary Aycock
Attn: SFD-8-2
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105

Sue Hakim
Cal-EPA – Department of Toxic Substances
5796 Corporate Avenue
Cypress, CA 90630

Alonzo Poach
California Regional Water Quality Control Board - Lahontan Region
15095 Amargosa Road
Building 2, Suite 210
Victorville, CA 92392

SUBJECT: DRAFT FOURTH FIVE YEAR REVIEW REPORT, OPERABLE UNITS 1 THROUGH 7, MARINE CORPS LOGISTICS BASE BARSTOW, CALIFORNIA

Dear Ms. Aycock, Ms. Hakim, and Mr. Poach:

The Department of Navy is pleased to submit the Draft Fourth Five Year Review Report, Operable Units 1 through 7, Marine Corps Logistics Base Barstow, California for your review. Please provide your comments by October 2, 2017.

If you have any questions, please contact Ms. Lindsey White, Remedial Project Manager, at lindsey.e.white@navy.mil or (619) 532-4451.

Sincerely,

Theresa L Morley

THERESA MORLEY
By direction of the
Commanding Officer

Copy to: CO, MCLB Barstow (Attn: I&L Department, Environmental Division – Mr. James Debenedetti)

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DRAFT FOURTH FIVE YEAR REVIEW REPORT
OPERABLE UNITS 1 THROUGH 7
MARINE CORPS LOGISTICS BASE BARSTOW, BARSTOW, CALIFORNIA

DCN: OTIE-1818-0006-0001; Date: 31 July 2017

DISTRIBUTION LIST

U.S. EPA Region 9 SFD-8-2, Attn: Mary Aycock 75 Hawthorne Street San Francisco, CA, 94105 Phone: 415-972-3289	2 Hard Copies 2 CDs full document
California Regional Water Quality Control Board Lahontan Region - Victorville Branch Office Attn: Alonzo Poach 15095 Amargosa Road Building 2, Suite 210 Victorville, CA 92394 Phone: 760-241-7365	1 Hard Copy 1 CD full document
Cal-DTSC - Department of Toxic Substances Attn: Sue Hakim 5796 Corporate Ave. Cypress, CA 90630 Phone: 714-484-5381	1 CD full document, broken into maximum 30 megabyte (MB) sections for upload into EnviroStor
Lindsey White, Code OPAE.LW 937 North Harbor Drive NAVFAC Southwest Marine Corps IPT Building 1, Floor 3 San Diego, CA 92132 Phone: 619-532-4451	1 Hard Copy (Change Pages from Pre-Draft) 1 CD
Marine Corps Logistics Base Barstow Attn: James Debenedetti Environmental Division - I & L Department, Building 196 Barstow, California 92311-5050 Phone: 760-577-6523	2 Hard Copies (Change Pages from Pre-Draft) 1 Hard Copy for Base CO 2 CDs
Diane Silva Naval Facilities Engineering Command, Southwest Naval Base San Diego 2965 Mole Road, Building 3519 San Diego, CA 92136 Phone: 619- 532-1280	Per EWI #4 work instruction

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DRAFT

FOURTH FIVE-YEAR REVIEW REPORT
OPERABLE UNITS 1-7
MARINE CORPS LOGISTICS BASE BARSTOW
Barstow, California

CONTRACT NUMBER: N39430-16-D-1818
CONTRACT TASK ORDER: 0006

DCN: OTIE-1818-0006-0001

PREPARED FOR:

Naval Facilities Engineering Command
ENGINEERING AND EXPEDITIONARY WARFARE CENTER

1220 Pacific Highway, Building 127
Room 112
San Diego, California 92132

PREPARED BY:

OTIE
An Oneida Nation Company

317 E. Main Street
Ventura, California 93001

31 JULY 2017

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DECLARATION OF ACCEPTANCE FOR
OUS 1 – 7 FOURTH FIVE-YEAR REVIEW REPORT – 2017
MARINE CORPS LOGISTICS BASE
BARSTOW, CALIFORNIA

Pursuant to the delegation of the authority in Sections 2(d) and 11(g) of the Executive Order 12580, and U.S. Department of Defense Instruction 4715.7 of 22 April 1996, the U.S. Department of the Navy is the approval authority for Comprehensive Environmental Response, Compensation, and Liability Act Five-Year Reviews conducted at sites under its jurisdiction, custody, or control.

Sekou S. Karega
Colonel, U.S. Marine Corps
Commanding Officer

Date

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EXECUTIVE SUMMARY

Introduction

This report presents the results of the Fourth Five-Year Review for seven operable units (OUs) located at the Marine Corps Logistics Base (MCLB) Barstow located near Barstow, California. This report has been prepared by the United States Department of the Navy (DON) in support of the Installation Restoration Program (IRP) being conducted at the MCLB Barstow. The IRP was developed by the Department of Defense (DOD) to clean up contamination at military facilities caused by past use, storage, handling, and disposal of hazardous and other potentially toxic substances. The review period of this report is October 2012 through September 2017, with a trigger review date of 11 December 2012.

Authority of Conducting Five-Year Reviews

The DON is the lead agency for conducting five-year reviews at the MCLB Barstow (the Base) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The DON has prepared this Five-Year Review pursuant to CERCLA Section (§)121(c) and the National Contingency Plan (NCP). In addition, the United States Environmental Protection Agency's (U.S. EPA's) Five-Year Review Guidance (U.S. EPA, 2001) and DON's policy for conducting CERCLA five-year reviews (DON, 2011) were extensively used in preparation of this Five-Year Review report. The Five-Year Review is required because hazardous substances, pollutants, or contaminants remain on Base above levels that allow for unlimited use and unrestricted exposure.

According to the NCP, Five-Year Review reports are to be completed and signed within five years of the trigger date for a site when, upon the completion of the Remedial Actions (RAs) at a site, hazardous substances, pollutants, or contaminants will remain above levels that allow for unlimited use and unrestricted exposure. The OUs 1 and 2 Record of Decision (ROD) (JEG, 1998a), signed 22 April 1998, required the first statutory Five-Year Review of these OUs to be completed by 22 April 2003. In accordance with DON's policy, the trigger date for the statutory Five-Year Review of OUs 3 and 4 was 9 September 1998. The trigger date for the statutory Five-Year Review of OUs 5 and 6 was 23 January 1998. To streamline and synchronize the five-year reviews of OUs 1 – 6, the First Five-Year Review was completed and signed on 30 December 2002. The trigger date for subsequent five-year reviews is the signature date of the prior five-year review. Hence the second Five-Year Review was signed on 19 December 2007 (DON, 2007), the Third Five-Year Review was signed on 11 December 2012 (DON, 2012), and the Fourth Five-Year Review is due in December 2017. The Fourth Five-Year Review will incorporate OU 7, for which the ROD was signed in December 2014. The Five-Year Review schedule is consistent with § 27.3 of the Federal Facility Agreement (FFA) between the DON, U.S. EPA Region 9, the California Department of Toxic Substances Control (DTSC), and the California Regional Water Quality Control Board - Lahontan Region (RWQCB-Lahontan Region).

Site Background and History

The MCLB Barstow is located in San Bernardino County, California, within the central Mojave Desert, approximately 135 miles northeast of Los Angeles. The MCLB Barstow consists of two areas: the Yermo Annex, which is 7 miles east of Barstow, California, between Interstates 15 and 40; and the Nebo Main Base, which includes the Rifle Range, is 3.5 miles east of Barstow and intersected by Interstate 40.

In November 1989, the Base was placed on the CERCLA National Priorities List (NPL) due to the presence of soil and groundwater contamination. Soil and groundwater at the MCLB Barstow are currently being cleaned up under the IRP. The MCLB Barstow IRP follows federal and state regulations in its investigation and cleanup of Base contamination. The DON is the lead DOD authority responsible for conducting the site investigation and cleanup at the MCLB Barstow. The DON's investigation and cleanup efforts are being conducted in conjunction with the U.S. EPA, the Regional Water Quality Control Board – Lahontan Region (RWQCB-Lahontan Region), and the State of California Environmental Protection Agency's Department of Toxic Substances Control (DTSC).

The IRP divides the Base (Yermo Annex and Nebo Main Base) into seven OUs. Each OU is divided into a number of CERCLA Areas of Concern (CAOCs). OUs 1 and 2 comprise groundwater contamination beneath the Yermo Annex and Nebo Main Base, respectively. Groundwater contamination is primarily due to dissolved volatile organic compounds (VOCs). OUs 3 and 5 comprise soil contamination sites at the Yermo Annex, and OUs 4 and 6 comprise soil contamination sites at Nebo Main Base. Soil contamination is primarily due to VOCs, metals, pesticides, polychlorinated biphenyls (PCBs), and polynuclear aromatic hydrocarbons (PAHs). OU 7 comprises soil, soil vapor, and groundwater contamination sites at Nebo Main Base and soil contamination sites at the Yermo Annex. Groundwater and soil vapor contamination are primarily due to VOCs, and soil contamination is primarily due to VOCS, semi-volatile organic compounds (SVOCs), metals, pesticides, PCBs, and PAHs. RODs were signed in 1997 for OUs 3 and 4; in 1998 for OUs 1 and 2 and OUs 5 and 6; and in 2014 for OU 7. Remedial actions are underway at both Yermo Annex and Nebo Main Base; land use controls/institutional controls (LUCs/ICs) have also been implemented at all seven OUs.

Five-Year Review Questions

The Fourth Five-Year Review evaluates the remedies implemented at each of the CAOCs at OUs 1-7 by answering the following questions:

Question A: Is the remedy functioning as intended by the RODs?

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and Remedial Action Objectives (RAOs) used at the time of the remedy selection still valid?

Question C: Has any other information come to light that could call in to question the protectiveness of the remedy?

Through the process of answering the review questions for each of the selected remedies, issues are identified and a determination is made if the remedies are protective of human health and the environment. Recommendations for follow-up actions, with milestone dates for implementation, are made to address identified concerns for short-term or long-term protectiveness of the remedies.

The following Five-Year Review Summary forms provide a synopsis of the OUs, remedies in place, previously-identified issues, protectiveness statements, and recommendations.

SITE IDENTIFICATION		
Site name (from WasteLAN) Marine Corps Logistics Base Barstow		
U.S. EPA ID (from WasteLAN) CA8170024261 (Nebo Main Base); CA8170090023 (Yermo Annex)		
Region: 09	**State:** CA	**City/County**: Barstow / San Bernardino County

SITE STATUS	
NPL status: ☒ Final ☐ Deleted ☐ Other (specify) _____	
Remediation status (choose all that apply): ☐ Under Construction ☒ Operating ☐ Complete	
Multiple OUs? ☒ YES ☐ NO	Construction completion dates: OU 1 (1998); OU 2 (1999 and 2007); OU3 (1999), OU4 (1999), OU 5 (2001), OU 6 (1999), OU 7 (in remedial design phase)
Has site been put into reuse? ☐ YES ☒ NO	

REVIEW STATUS	
Reviewing agency: ☐ U.S. EPA ☐ State ☐ Tribe ☒ Other Federal Agency: U. S. Department of the Navy	
Author name: Ms. Lindsey White, PE	
Author Title: Remedial Project Manager	**Author affiliation:** Naval Facilities Engineering Command, Southwest
Review period: October 2012 to September 2017	
Date(s) of inspection: 13 – 14 March 2017	
Type of review: ☒ Statutory ☐ Policy ☐ Post-SARA ☐ Pre-SARA ☐ NPL-Removal only ☐ Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead ☐ Regional Discretion	
Review number: ☐ 1 (first) ☐ 2 (second) ☐ 3 (third) ☒ 4 (fourth) ☐ Other (specify) _____	
Triggering action: ☐ Actual RA On-site Construction at OU__ ☐ Construction Completion ☐ Other (specify)_____	☐ Actual RA Start at OU #_____ ☒ Previous Five-Year Review Report
Triggering action date: 12 / 11 / 2012	
Due date (five years after triggering action date): 12 / 11 / 2017	

FIVE-YEAR REVIEW SUMMARY FORM – OU 1 (Yermo Annex)

OU 1 consists of CAOC 37, which is the groundwater at Yermo Annex. The remedy for OU 1 was established in the OUs 1 and 2 ROD signed in 1998. The ROD addresses three groundwater VOC plumes identified as the CAOC 26, Yermo North, and Yermo South plumes, portions of which extend off Base. The ROD identified perchloroethylene (also called tetrachloroethene, perc, or PCE), trichloroethylene (TCE) and 1,1-dichloroethene (1,1-DCE) as contributing the most to estimated cancer risk and non-cancer health effects. The selected remedy is air sparging/soil vapor extraction (AS/SVE) to remove contaminant mass and groundwater extraction and treatment to provide hydraulic containment, and well-head treatment at two on-Base wells and two off-Base private residential wells. The implemented remedy includes the CAOC 26 AS/SVE and CAOC 16 AS/SVE systems, Groundwater Extraction and Treatment System (GETS), and granular-activated carbon (GAC) treatment to on-Base wells YDW-5 and YDW-6, and GAC treatment at the two off-Base residential wells. The GETS comprises 13 extraction wells, GAC treatment of extracted groundwater, and infiltration of treated water through two infiltration galleries. The remedial systems were installed during 1996 to 1998. The CAOC 26 AS/SVE system was shut down in 1998 after meeting remedial objectives; all surface remedial equipment was removed from this CAOC in 2015. The CAOC 16 AS/SVE system and GETS remain in operation. During the review period, only three extraction wells were operated to hydraulically contain the remaining OU 1 plume, called the "*Yermo North Plume*". A portion of the Yermo North plume remains off-site.

The OU 1 remedy also includes:

- Maintenance and monitoring of GAC treatment systems on two on-Base drinking water production wells and two off-Base private residential wells;
- Annual monitoring of groundwater VOCs at CAOCs 15/17, 16, 20, 23, 26, and 35;
- Groundwater monitoring to determine if dissolved metals, particularly chromium and nickel, are site-related contaminants in the CAOC 16 area;
- ICs/LUCs incorporated in the Base Master Plan to prevent use of Base groundwater within contaminated zones; and
- Notification of San Bernardino County regarding off-Base migration of contaminated groundwater.

Issues Identified during the Fourth Five-Year Review:

1. The OU 1 pump and treat remedy is not achieving containment of the off-Base contaminant plume. Data gaps in the off-base monitoring well network inhibit evaluation of plume dynamics, concentration distribution, and trends;
2. The long-term persistence of the Yermo North plume suggests the presence of a remaining contaminant mass at CAOCs 16, 15/17 and possibly 35. The existing soil vapor extraction (SVE) system may be located too far from the residual contaminant mass to effectively reduce vadose zone concentrations. The AS system has become ineffective due to declining water levels;
3. Off-site exposure to Base groundwater plume is not suspected, however the two off-base residential wells treatment systems are not currently in operation. The Yount private well went dry in May 2016 and the Hodges well appears to be inoperable based on inspections from the public right-of-way. The DON does not have a current access agreement to the Hodges property to perform direct inspection of the well and treatment system despite repeated attempts to contact the property owner who does not live on-site. An occasional resident/trespasser has

FIVE-YEAR REVIEW SUMMARY FORM – OU 1 (Yermo Annex)

been observed at the Hodges residence.

4. The CAOC 26 groundwater and vadose zone remedies are completed; no further monitoring is required; and
5. OU 1 groundwater chromium and nickel data indicate these metals are consistently below maximum contaminant levels and no further monitoring is required.

Recommendations and Follow-up Actions:

1. Perform a data gaps investigation of the Yermo North plume to improve delineation of the northern and off-site extent.
2. Investigate the residual contaminant mass in the vadose zone at CAOCs 16, 15/17, and 35; based on the results optimize the SVE system to ensure long-term effectiveness of the remedy. Turn off the AS portion of the remedy as it is no longer effective.
3. Maintain contact with Yount residence on status of their private well. Continue to pursue access agreement with off-Base Hodges property owner; the situation is being elevated to the DON legal counsel who will review and pursue options to gain access to the Hodges property to ascertain status of the well and GAC system, and to make necessary repairs (if the well is operable) to meet requirements of the ROD. Additionally, upon securing access to the property, the DON will provide notification to the occupants regarding potentially contaminated groundwater.
4. Document in the Administrative Record that the response action at CAOC 26 for vadose zone and groundwater is completed and no further monitoring is required; and
5. Document in the Administrative Record that detected metals in OU 1 groundwater do not require a response action or any further monitoring.

Protectiveness Statement:

The OU 1 (CAOC 37) groundwater remedy is protective of human health and the environment. Current protectiveness is not affected by the identified issues because of the ongoing operation of the remedial systems. Future protectiveness of the remedy would be better ensured through remedy optimization and addressing the existing data gaps in vadose zone and groundwater contaminant extent.

Other Comments:

The exposure assumptions, toxicity data, cleanup levels, and RAOs used for OU 1 at the time of the remedy selection are still valid.

FIVE-YEAR REVIEW SUMMARY FORM – OU 2 (Nebo Main Base)

OU 2 consists of CAOC 38, which is the groundwater at Nebo Main Base. CAOC 38 includes two dissolved VOC plumes identified as Nebo North and Nebo South. The selected remedy for the Nebo North plume is AS/SVE treatment of VOCs in the source area and natural attenuation to reduce contamination in groundwater downgradient of the source area. The Nebo North remedy included a "*fail-safe*" pump and

FIVE-YEAR REVIEW SUMMARY FORM – OU 2 (Nebo Main Base)

treat system (Nebo GETS) to prevent off-Base migration; however this system was no longer needed and was decommissioned in 2015. The Nebo North plume source area (former Building 50, CAOC 10.12) was treated with AS/SVE until RAOs were met and the system was shutdown with regulatory approval in April 2011. The AS/SVE system is maintained in standby-mode and periodically operated to address rebound in soil vapor concentrations in the former wash pad area as a protective measure for groundwater. The Nebo North plume area has decreased significantly with only one well exhibiting VOC concentrations above the MCLs during the review period.

The remedy selected for the Nebo South plume in the OU 2 ROD, signed in 2006, is AS/SVE to reduce soil vapor and groundwater VOC concentrations. A portion of the plume extended off-Base; however, off-Base groundwater concentrations have been below MCLs since at least 2003. The Nebo South plume has been significantly reduced in extent and concentration, but a small residual plume near the Base boundary persists.

The OU 2 remedy also includes:

- Monitoring associated with CAOC 7 Strata 1 and 2 (capped in-place wastes in the southern part of Nebo Main Base). Groundwater impacts related to CAOC 7 Stratum 1 are now under a cleanup remedy selected in the OU 7 ROD, which was signed in 2014;
- Monitoring for pesticides (specifically, dieldrin) in groundwater at CAOCs 1, 2, 3, and 14 in the northern part of Nebo Main Base; however, pesticide monitoring ceased in 2009 due to long-term monitoring results indicating no detectable concentrations; and
- ICs/LUCs that prevent installation of drinking water wells within the plume areas at Nebo North and Nebo South, and that restrict use of the area around Nebo South area; the Base Master Plan (BMP) incorporates these ICs/LUCs.

Issues Identified during the Fourth Five-Year Review:

1. Nebo North soil vapor VOC concentrations in a small area of the Former Building 50 source zone have been addressed with targeted SVE treatment; the rebounding concentrations are declining and continued targeted SVE is not warranted;
2. The Nebo North plume has attenuated except for a small residual groundwater PCE plume that appears to be related to former underground storage tanks (UST T-22A/B) and/or industrial operations at Warehouse 4 (CAOC 10.5) and/or Building 22. The PCE source area was not identified in the OUs 1 and 2 ROD. Groundwater concentrations of PCE are on an increasing trend at a monitoring well downgradient from UST T-22A/B; and
3. The Nebo South AS/SVE system prevents off-site migration and has reduced the extent of the VOC plume. The persistence of small residual plume areas indicates vadose zone source may be beyond the SVE radius of influence.

Recommendations and Follow-up Actions:

1. Nebo North: Discontinue further SVE in the former source area;
2. Nebo North: Perform a limited subsurface investigation to identify the source for the increasing PCE groundwater concentrations downgradient from UST T-22A/B. Prepare a Memorandum to File to add the UST T-22A/B source area to the OUs 1 and 2 ROD with an appropriate response action if necessary based on the additional data; and

FIVE-YEAR REVIEW SUMMARY FORM – OU 2 (Nebo Main Base)

3. Nebo South: Conduct a data gaps investigation to identify potential residual vadose zone source upgradient of the residual plume and optimize the AS/SVE remedy as necessary.

Protectiveness Statement:

The remedial actions at OU 2 (CAOC 38) Nebo North and Nebo South are currently protective of human health and the environment. Optimization measures to address the small residual but persistent plumes will ensure long-term protectiveness and effectiveness.

Other Comments:

The exposure assumptions, toxicity data, cleanup levels, and RAOs used for OU 2 at the time of the remedy selection are still valid.

FIVE-YEAR REVIEW SUMMARY FORM – OU 3 (Yermo Annex)

OU 3 consists of the shallow soils at Yermo Annex at CAOCs 18, 20, 23, and 34. The selected remedies under the OUs 3 and 4 ROD (signed 1997) include LUCs for CAOCs 18, 20, 23, and 34 and concrete caps constructed at portions of CAOCs 20 and 23. The LUCs are implemented through the Base Master Plan; the CAOC 20 and 23 caps are regularly maintained. Groundwater monitoring for CAOCs 20 and 23 is performed annually as part of the OU 1 long-term monitoring program. CAOC 20 groundwater samples are to be analyzed for the OU 1 COCs plus radiological parameters and four rounds of monitoring results evaluated to determine if this CAOC is a source of contaminants to groundwater.

Issues Identified during the Fourth Five-Year Review:

- CAOC 20: No issues for the ICs/LUCs portion of remedy. One additional round of groundwater radiological data is needed to complete the ROD-required assessment. VOCs were not detected in six rounds of downgradient groundwater monitoring; metals are consistently below maximum contaminant levels. Based on data evaluations in this five-year review, CAOC 20 is contributing neither metals nor VOCs contamination to groundwater at the site.

Recommendations and Follow-up Actions:

- CAOC 20: Collect one additional round of radiological data and evaluate per the ROD; report evaluation results in next annual groundwater monitoring report. Cease further monitoring for metals and VOCs.

Protectiveness Statement:

The OU 3 remedies at CAOCs 18, 20, 23, and 34 are currently protective of human health and the environment.

Other Comments:

The exposure assumptions, toxicity data, cleanup levels, and RAOs used for OU 3 at the time of the remedy selection are still valid.

FIVE-YEAR REVIEW SUMMARY FORM – OU 4 (Nebo Main Base)

OU 4 consists of the shallow soils at the Nebo Main Base at CAOCs 2, 5, 9, and 11. No further action (NFA) was selected for CAOC 9, and no further action with land-use controls were selected for CAOCs 2, 5, and 11.

Issues Identified during the Fourth Five-Year Review:

- None

Recommendations and Follow-up Actions:

- None

Protectiveness Statement:

The OU 4 remedy of LUCs only at CAOCs 2, 5, and 11 continue to be protective of human health and the environment.

Other Comments:

The exposure assumptions, toxicity data, cleanup levels, and RAOs used for OU 4 at the time of the remedy selection are still valid.

FIVE-YEAR REVIEW SUMMARY FORM – OU 5 (Yermo Annex)

OU 5 consist of the shallow soils at Yermo Annex at CAOCs 15/17, 16, 19, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 35, and 36. CAOC 25 was eliminated from the RI as not requiring additional investigation/remediation. Remedies selected in the OUs 5 and 6 ROD for OU 5 are:

- NFA for CAOCs 19, 22, 24, 27, 28, 29, 30, 31, 32, 35 Stratum 1 (east portion) and Stratum 2, and 36;
- LUCs/ICs only for CAOC 21
- LUCs/ICs for CAOCs 15/17and 26, with groundwater addressed under OU 1;
- LUCs for CAOC 16, consisting of preservation of the existing hardstand, with vadose zone and groundwater contamination addressed under OU 1;
- A cap and LUCs for CAOC 35 Stratum 1 Zone 1, which is an inactive Class III Landfill located in the northeastern portion of the Yermo Annex. Groundwater monitoring is performed under OU 1; and
- CAOC 32 (Stratum 2) was found during the 3rd Five Year Review to have a soil contaminant (Aroclor 1242) above a new risk-based screening level; therefore LUCs were implemented for this CAOC in a BMP Amendment published in 2015.

Issues Identified during the Fourth Five-Year Review:

- No issues identified.

FIVE-YEAR REVIEW SUMMARY FORM – OU 5 (Yermo Annex)

Recommendations and Follow-up Actions:

- None. (See recommendations made for the vadose zone and groundwater at CAOCs 16, 15/17, and 35 under OU 1.)

Protectiveness Statement:

The selected remedies at OU 5 are currently protective of human health and the environment because the ongoing maintenance of CAOC 16 hardstand and CAOC 35 Stratum 1 Zone 1 landfill cap prevents direct contact with subsurface contamination and landfill wastes.

Other Comments: The exposure assumptions, toxicity data, cleanup levels, and RAOs used for OU 5 at the time of the remedy selection are still valid.

FIVE-YEAR REVIEW SUMMARY FORM – OU 6 (Nebo Main Base)

OU 6 consists of the shallow soils at Nebo Main Base at CAOCs 1, 3, 4, 6, 7, 8, 12, 13, 14, and 33. Of these, CAOC 33 (at Rifle Range) was eliminated from the RI as not requiring further investigation. The selected remedies under the OUs 5 and 6 ROD for this OU include:

- NFA for CAOCs 4, 6, 8, 12, and 13; groundwater cleanup at CAOC 6 ("Nebo South" plume) is covered under OU 2 (CAOC 38);
- CAOCs 1, 3 and 14: LUCs consisting of modifications to the Base Master Plan to ensure Environmental Division review prior to land-use changes; and
- CAOC 7 Strata 1 and 2: Armored native soil cap, engineering controls, and LUCs; cap and ECs are regularly maintained; groundwater monitoring is performed annually or once every five years depending on analyte.

I**ssues Identified during the Fourth Five-Year Review:**

- None

Recommendations and Follow-up Actions:

- None. (See OU 7 for vadose zone and groundwater considerations at CAOC 7 Stratum 1.)

Protectiveness Statement:

The selected remedies at OU 6 continue to be protective of human health and the environment because the ongoing maintenance of caps and engineering controls at CAOC 7 Strata 1 and 2 and LUCs at the other OU 6 CAOCs. The long-term protectiveness of the remedy CAOC 7 Stratum 1 will be assured by implementation of the vadose zone and groundwater cleanup remedy under OU 7.

FIVE-YEAR REVIEW SUMMARY FORM – OU 6 (Nebo Main Base)

Other Comments:

The exposure assumptions, toxicity data, cleanup levels, and RAOs used for OU 6 at the time of the remedy selection are still valid.

FIVE-YEAR REVIEW SUMMARY FORM – OU 7 (Yermo Annex, Nebo Main Base)

OU 7 comprises 18 sites including: CAOCs 9.60, 9.68, and Y-7 TA-12 at the Yermo Annex; and CAOCs 10, N-2 Area 1, 10.38/10.39 Units 1 - 7 (soils only), 10.38/10.39 Unit 7(groundwater), CAOC 7 Stratum 1 (soil vapor and groundwater), 10.12, 10.27, 10.35, 10.37, 10.3, 10.4, 10.5, 10.49, and 10.80, and NPZ-14 groundwater area at the Nebo Main Base. The selected remedies were:

- Monitored natural attenuation (MNA) with LUCs for groundwater at CAOC 10.38/10.39 Unit 7, NPZ-14, and CAOC 7 Stratum 1. SVE to remove contaminants from the vadose zone was also selected for CAOC 7 Stratum 1;
- Removal of lead-contaminated soil from CAOC 10 (in remedial design phase); LUCs including signage (implemented);
- Removal of lead shot and clay target debris, removal of PCB-contaminated soil from CAOC N-2 Area 1 (in remedial design phase). LUCs including signage (implemented);
- LUCs only for CAOCs 9.60, 9.68, 10.12, 10.27, 10.35, 10.37, 10.38/10.39 Units 1 through 6 (and Unit 7 soils), 10.3, 10.4, 10.5, 10.49, and 10.80; and
- NFA for Y-7 TA-12 (Yermo Annex).

Issues Identified during the Fourth Five-Year Review:

- Based on the available data for the three MNA sites, groundwater COC concentrations are not declining at a discernible rate; however, the MNA remedies are protective (no significant plume changes, no migration) at all three sites. A time-frame for MNA to meet the RAOs could not be established.
- The SVE portion of the remedy at CAOC 7 Stratum 1 is in the remedial design phase; implementation of SVE will ensure long-term effectiveness and protectiveness of the MNA groundwater remedy at this site.
- Data gaps in the monitoring well networks at CAOC 7 Stratum 1 and CAOC 10.38/10.39 Unit 7 lent some uncertainty to the MNA data evaluations for these two sites.
- The sources of groundwater contamination are not identified at CAOC 10.38/10.39 Unit 7 or the NPZ-14 groundwater area, lending uncertainty to the MNA data evaluations.

Recommendations and Follow-up Actions:

- Install additional monitoring well(s) at CAOC 7 Stratum 1 and CAOC 10.38/10.39 Unit 7 to improve the MNA monitoring network at these two sites; and
- Investigate the sources of groundwater contamination at CAOC 10.38/10.39 Unit 7 and NPZ-14 groundwater area.

FIVE-YEAR REVIEW SUMMARY FORM – OU 7 (Yermo Annex, Nebo Main Base)

Protectiveness Statement:

The OU 7 remedies are currently protective of human health and the environment. Long-term protectiveness will be better assured with improved understanding of the sources for the contaminated groundwater at two of the MNA sites (CAOC 10.38/10.39 Unit 7 and NPZ-14).

Other Comments:

The exposure assumptions, toxicity data, cleanup levels, and RAOs used for OU 7 at the time of the remedy selection are still valid.

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ACRONYMS AND ABBREVIATIONS

%	percent
§	Section
1,1-DCE	1,1-dichloroethene
µg/L	micrograms per liter
AGMR	Annual Groundwater Monitoring Report
amsl	above mean sea level
ARAR	applicable or relevant and appropriate requirement
AS/SVE	air sparging/soil vapor extraction
bgs	below ground surface
BMP	Base Master Plan
BEI	Bechtel Environmental, Inc.
BNI	Bechtel National, Inc.
CAOC	CERCLA Area of Concern
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CDHS	California Department of Health Services
CDPH	California Department of Public Health
CDWR	California Department of Water Resources
CFR	Code of Federal Regulations
COC	contaminants of concern
DOD	Department of Defense
DON	Department of the Navy
DTSC	Department of Toxic Substances Control
ER	Environmental Restoration
ERFA	Extended RFA
FFA	Federal Facility Agreement
FS	Feasibility Study
ft/ft	feet per foot
FWENC	Foster Wheeler Environmental Corporation
GAC	granular activated carbon
GETS	Groundwater Extraction and Treatment System
GEW	groundwater extraction well

ACRONYMS AND ABBREVIATIONS

GIS	Geographic Information System
HERO	California Department of Toxic Substances Control, Office of Human and Ecological Risk
HHRA	Human Health Risk Assessment
IC	institutional control
IRIS	Integrated Risk Information System
IRP	Installation Restoration Program
IWTP	Industrial Wastewater Treatment Plant
JEG	Jacobs Engineering Group
LUC	land use control
MCL	maximum contaminant level
MCLB	Marine Corps Logistics Base
MDMC	Marine Depot Maintenance Command
MDAQMD	Mojave Desert Air Quality Management District
MEC	munitions and explosives of concern
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
NAVFAC SW	Naval Facilities Engineering Command Southwest
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFA	no further action
NPL	National Priorities List
O&M	Operations and Maintenance
OCP	organochlorine pesticide
OEHHA	Office of Environmental Health Hazards Assessments
OHM	OHM Remediation Services Corporation
OTIE	Oneida Total Integrated Enterprises
OU	Operable Unit
PAH	polynuclear aromatic hydrocarbon
PCBs	polychlorinated biphenyls
PCE	tetrachloroethene (perchloroethylene, perc)
pCi/L	picocuries per liter
PRG	Preliminary Remediation Goal

ACRONYMS AND ABBREVIATIONS

RA	remedial action
RAO	Remedial Action Objective
RAR	Remedial Action Report
RCRA	Resource Conservation and Recovery Act
RFA	RCRA facility assessment
RI	Remedial Investigation
ROD	Record of Decision
ROI	radius of influence
RPM	Remedial Project Manager
RSL	Regional Screening Level
RWQCB	Regional Water Quality Control Board
SAP	Sampling and Analysis Plan
SVOC	semivolatile organic compound
TBC	to be considered
TCE	trichloroethene
TCRA	time-critical removal action
TEF	Technical and Economic Feasibility
TICs	tentatively identified compounds
TN&A	T N & Associates
TPH	total petroleum hydrocarbons
TPH-d	total petroleum hydrocarbons as diesel
TRPH	total recoverable petroleum hydrocarbons
TtEC	Tetra Tech EC, Inc.
TtFW	Tetra Tech FW, Inc.
URS	URS Corporation
USC	United States Code
U.S. EPA	U.S. Environmental Protection Agency
UU/UE	unlimited use/unrestricted exposure
VOC	volatile organic compound
WDR	waste discharge requirement

1.0 INTRODUCTION

1.1 OVERVIEW

The Department of the Navy (DON) is conducting environmental restoration activities at the Marine Corps Logistics Base, Barstow, California (the MCLB Barstow or the Base), as part of the Installation Restoration Program (IRP). The IRP was established by the Department of Defense (DOD) to identify, evaluate, and control the spread of contaminants from historical hazardous waste sites at military installations. The DON is the lead federal agency responsible for conducting the site investigation and cleanup at the MCLB Barstow. The DON's investigation and cleanup efforts are being conducted in conjunction with the U.S. Environmental Protection Agency (U.S. EPA), Region 9, Regional Water Quality Control Board – Lahontan Region (RWQCB - Lahontan Region), and the State of California Environmental Protection Agency's Department of Toxic Substances Control (DTSC) through a Federal Facility Agreement (FFA). All of these entities are collectively referred to as FFA Parties, and their representatives as FFA Remedial Project Managers (RPMs).

The MCLB Barstow is located in San Bernardino County, California, within the central Mojave Desert approximately 135 miles northeast of Los Angeles (Figure 1-1). The MCLB Barstow consists of two areas: the Yermo Annex, which is 7 miles east of Barstow between Interstates 15 and 40 (Figures 1-1 and 1-2); and the Nebo Main Base, which includes the Rifle Range, is 3.5 miles east of Barstow and intersected by Interstate 40 (Figures 1-1 and 1-3). Soil and groundwater at both Yermo Annex and Nebo Main Base have been impacted by contaminants and are being remediated under the IRP.

This Fourth Five-Year Review Report has been prepared by the Naval Facilities Engineering Command Southwest (NAVFAC SW) in accordance with the DON's Five-Year Review policy (DON, 2011) and U.S. EPA Comprehensive Five-Year Review Guidance (U.S. EPA, 2001). This report summarizes the status and evaluates the continued protectiveness of the remedies in place at the MCLB Barstow.

1.2 PURPOSE OF THE FOURTH FIVE-YEAR REVIEW REPORT

The purpose of this Fourth Five-Year Review Report is to evaluate the implementation and performance of the remedies in place at the MCLB Barstow and to verify whether the remedies continue to remain protective of human health and the environment. This Report includes the methods, findings, and conclusions of the Fourth Five-Year Review Report. In addition, issues found during the review are identified, and recommendations to address them are presented in this Report. This Report also discusses how the issues identified during the Third Five-Year Review have been addressed.

Consistent with Executive Order 12580, the Secretary of Defense is responsible for ensuring that Five-Year Reviews are conducted at all qualifying DOD cleanup sites. The DON has prepared this Fourth Five-Year Review Report pursuant to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), §121 and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA §121 states:

> If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in

> accordance with Sections 104 or 106, the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

The NCP, 42 United States Code (USC), §9621(c), implementing regulations at 40 Code of Federal Regulations (CFR) Part 300.430(f)(4)(ii), provides:

> If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after initiation of the selected remedial action.

According to the *Navy/Marine Corps Policy for Conducting Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Five-Year Reviews* (DON, 2011):

> a. A Five-Year Review shall be conducted at an Environmental Restoration (ER) site (Installation Restoration and Munitions Response) if the remedial action objectives (RAO) selected for a remedial action will result in any hazardous substances, pollutants, contaminants, or munitions and explosives of concern (MEC) remaining at the site above levels that allow for unlimited use/unrestricted exposure (UU/UE).
>
> b. If a remedial action will result in UU/UE, but the response action will not be completed within five years (if the first remedial site on an installation) or before the next Five-Year Review for other sites on the installation, then DON will conduct Five-Year Reviews during the remedial action operations (RAO) phase, as appropriate. When UU/UE is achieved, it will be documented in one subsequent Five-Year Review.

A Five-Year Review is required at the MCLB Barstow because hazardous substances, pollutants, or contaminants remain on Base above levels that allow for UU/UE. This is the Fourth Five-Year Review Report for the MCLB Barstow.

1.3 REVIEW INITIATION AND COMPLETION

The trigger for the MCLB Barstow Five-Year Review is the date of the prior Five-Year Review signing (December 11, 2012). The Fourth Five-Year Review period is October 2012 through September 2017, and the review must be completed by the end of calendar year 2017.

1.4 DOCUMENT ORGANIZATION

This Five-Year Review Report is organized as follows:

- **Section 1.0 Introduction.** Provides the purpose and authorization for conducting the Five-Year Review, states who conducted the review, the number of the review, when the review was initiated and completed, the review period, trigger and due dates;
- **Section 2.0 Site Organization and Chronology.** Provides the MCLB Barstow IRP organization by Operable Unit (OU) and CERCLA Area of Concern (CAOC), and summarizes the site chronology;
- **Section 3.0 Background.** For Yermo Annex and Nebo Main Base, describes the physical characteristics including regional setting, climate, geology, and hydrogeology. Due to the

number of OUs and CAOCs reviewed, this section directs the reader to where to find additional background information in subsequent sections of the report;

- **Section 4.0 Five-Year Review Process.** Describes the Five-Year Review process, including administrative components, the review team, schedule, community involvement, and the technical assessment process for each of the OUs;
- **Section 5.0 Technical Assessments and Findings – Yermo Annex.** For each CAOC subject to Five-Year Review at the Yermo Annex, describes the RAOs, selected remedies including land use controls (LUCs), remedy implementation, and current status. Reviews issues identified during the prior and current Five Year Reviews. Presents the technical assessment of remedial progress and LUCs compliance, as applicable. Presents recommendations including follow-up actions to ensure protectiveness, including responsible parties and schedule. For CAOCs with LUCs only, provides a review of any actions at those sites during the review period;
- **Section 6.0 Technical Assessments and Findings – Nebo Main Base.** Same as Section 5.0, but for Nebo Main Base sites;
- **Section 7.0 Protectiveness Statements, Issues, and Recommendations.** Provides statement of the short-term and long-term protectiveness of the remedies and summarizes issues and recommendations from Sections 5 and 6;
- **Section 8.0 Next Review.** Proposes the date for the next review; and
- **Section 9.0 References.** Provides a list of documents cited in this report.

2.0 SITE ORGANIZATION AND CHRONOLOGY

2.1 ORGANIZATION OF THE OPERABLE UNITS

To organize the CERCLA site characterization and cleanup process, the MCLB Barstow has been divided into seven OUs. Each OU comprises several CERCLA Areas of Concern (CAOCs), as summarized on Figure 2-1. For the locations of the OUs and CAOCs, please refer to Figures 1-2 through 1-3. A short description of the OUs follows.

- **OU 1** – Addresses groundwater contamination at Yermo Annex:
  - Comprises CAOC 37; historically, three comingled groundwater VOC plumes were present at the Yermo Annex with sources (or potential sources) identified as CAOCs 16, 15/17, 35, and 26.
- **OU 2** – Addresses groundwater contamination at Nebo Main Base:
  - Comprises CAOC 38, consisting of the Nebo North and Nebo South (CAOC 6) plumes.
- **OU 3** – Addresses shallow soil contamination at Yermo Annex:
  - Comprises CAOCs 18, 20, 21, 23, and 34.
- **OU 4** – Addresses shallow soil contamination at Main Base:
  - Comprises CAOCs 2, 5, 9 and 11.
- **OU 5** – Addresses shallow soil contamination at Yermo Annex:
  - Comprises CAOCs 15/17, 16, 19, 22, 24 through 32, 35, and 36.

- **OU 6** – Addresses shallow soil contamination at Nebo Main Base:
  - Comprises CAOCs 1, 3, 4, 6, 7, 8, 10, 12, 13, 14, and 33.
- **OU 7** – Addresses the remaining sites not covered by OUs 1-6:
  - At Yermo Annex, OU 7 comprises CAOCs 9.60, 9.68 and Y-7 TA-12; and
  - At Nebo Main Base, OU 7 comprises CAOCs 10, N-2 Area 1, 10.38/10.39 Units 1-7, CAOC 7 Stratum 1 (soil vapor and groundwater), 10.12, 10.27, 10.35, 10.37, 10.3, 10.4, 10.5, 10.49, and 10.80, and the NPZ-14 groundwater area.

2.2 RECORDS OF DECISION

Records of Decision (RODs) have been signed for OUs 1-6, as follows:

- *Operable Units 1 and 2, Final Record of Decision, Marine Corps Logistics Base, Barstow, California* (OUs 1 and 2 ROD) (DON 1998a);
- *OU 2 Nebo South: Final Record of Decision, Nebo South Groundwater – Operable Unit 2, Marine Corps Logistics Base, Barstow, California* (OU 2 Nebo South ROD) (DON 2006);
- *OUs 3 and 4: Operable Units 3 and 4, Final Record of Decision, Marine Corps Logistics Base, Barstow, California* (OUs 3 and 4 ROD) (DON 1997);
- *OUs 5 and 6: Operable Units 5 and 6, Final Record of Decision, Marine Corps Logistics Base, Barstow, California* (OUs 5 and 6 ROD) (DON 1998b); and
- *OU 7 Final Record of Decision, Operable Unit 7, Marine Corps Logistic Base, Barstow, California* (DON 2014).

Selected remedies can be broadly classified into the following three categories:

1. No further action (NFA);
2. Requiring institutional controls and/or land-use controls (ICs/LUCs) to protect human health and the environment; and
3. Requiring remedial action (RA).

Those CAOCs closed with NFA in their respective RODs do not require Five-Year Reviews. There are no IRP-related restrictions for land use at NFA sites.

CAOC with ICs or LUCs generally require a Five-Year Review to ensure actions at these sites have not violated the intentions of those LUCs, causing the remedy to fail to meet effectiveness or protective standards. A number of CAOCs in the RODs signed in 1997 – 1998 were identified as requiring no action accept Base Master Plan modifications consisting of a site history, location data, description residual contaminants present, and the requirement that the MCLB Barstow Environmental Division be contacted prior to land use changes or invasive activities at these CAOCs. The so-defined BMP modifications serve the same purpose as ICs or LUCs. Therefore, for the purposes of this Five Year Review, CAOCs with selected remedies of “no action with BMP modifications” are identified as CAOCs with “LUCs only” remedies in this report.

Groundwater contamination related to soil CAOCs in OUs 3, 4, 5, and 6 is addressed under OU 1 (Yermo Annex), OU 2 (Nebo Main Base), or OU 7 (Nebo Main Base).

Some of the CAOCs are further divided into strata (discrete lateral areas of contamination) and zones (vertical depths of contamination in soil); where relevant those strata or zones are described in this report.

The CAOCs, OUs to which they belong, and Five-Year Review requirements are summarized in Table 2-1; the organization of OUs and CAOCs is charted on Figure 2-1.

2.3 DESCRIPTION OF OPERABLE UNITS 1 - 7

2.3.1 OU 1 Yermo Annex Groundwater

OU 1 consists of CAOC 37, which is the groundwater at Yermo Annex. The remedy for OU 1 was established in the OUs 1 and 2 ROD signed in 1998. The ROD addresses three comingled groundwater VOC plumes identified as the CAOC 26, Yermo North, and Yermo South plumes. The primary VOCs affecting groundwater are perchloroethylene (also called tetrachloroethene or PCE) and trichloroethene (TCE). Site location and the current extent of the Yermo Annex groundwater contaminant plume are shown on Figure 2-2.

The OU 1 groundwater selected remedy includes removing contaminants by air sparging/soil vapor extraction (AS/SVE) and a Groundwater Extraction and Treatment System (GETS). The GETS includes extraction wells, treatment of extracted groundwater through granular-activated carbon (GAC), and infiltration of treated water back into the aquifer. The remedial systems were installed during 1996 to 1998. The CAOC 26 AS/SVE system was shut down in 1998 after meeting remedial objectives and was decommissioned in March 2015. The CAOC 16 AS/SVE system remains in operation. During the review period, due to significant reductions in the CAOC 26 and Yermo South plumes, only three extraction wells were operated to meet the containment objectives.

The OU 1 remedy also includes:

- GAC treatment systems on two on-Base drinking water production wells and two off-Base residential wells. The GAC treatment systems are maintained and monitored on a regular basis;
- A provision for four off-site extraction wells if hydraulic containment is not achieved at the Base boundary;
- Groundwater monitoring for CAOCs under other OUs, specifically CAOCs 15/17, 16, 23, 26, and 35;
- Monitoring to determine if dissolved metals are site-related contaminants in the CAOC 16 area;
- An institutional control (IC) to prevent use of Base groundwater within contaminated zones unless treated; and
- Notification of San Bernardino County regarding off-Base migration of contaminated groundwater.

2.3.2 OU 2 Nebo Main Base Groundwater

OU 2 consists of CAOC 38, which is the groundwater at Nebo Main Base. CAOC 38 includes two dissolved VOC plumes identified as Nebo North and Nebo South. The selected remedy for the Nebo North Plume is AS/SVE treatment of VOCs in the source area, with natural attenuation to reduce contamination in groundwater downgradient of the source area. The Nebo North remedy also included a "*fail-safe*" pump and treat system (Nebo GETS) to prevent off-Base migration; the Nebo GETS was decommissioned in March 2015 after FFA approval of the recommendation made in the previous five year review. The Nebo North plume source area (former Building 50) was treated with AS/SVE until RAOs were met and the

system shutdown with regulatory approval in April 2011; the system is maintained in standby-mode and periodically operated to address rebound in soil vapor concentrations as a protective measure for groundwater. The Nebo North plume area has decreased significantly with only one well exhibiting VOC levels above the MCLs in November 2016. Site locations and current plume extents are shown on Figure 2-3.

The remedy selected for the Nebo South plume in the OU 2 ROD, signed in 2006, is AS/SVE to reduce soil vapor and groundwater VOC concentrations. A portion of the plume extended off-base; however, off base groundwater concentrations have been below MCLs since at least 2003. Focused operation and major repairs of the AS/SVE system during the review period have resulted in significant reduction of the Nebo South Plume.

The OU 2 remedy also includes:

- LUCs incorporated into the BMP that prevent installation of drinking water wells within the contaminant plume areas, and
- Restriction of land use in the Nebo South area.

2.3.3 OU 3 Yermo Annex Soils

OU 3 consists of the shallow soils at Yermo Annex for which environmental data existed prior to the RI and includes CAOCs 18, 20, 23, and 34. The selected remedies under the OUs 3 and 4 ROD (signed 1997) include LUCs for CAOCs 18, 20, 23, and 34 and concrete caps constructed at CAOCs 20 and 23. The LUCs are implemented through the BMP; the CAOCs 20 and 23 caps are regularly maintained. Groundwater monitoring for CAOCs 20 and 23 is performed annually under OU 1. Locations are shown on Figure 1-2.

2.3.4 OU 4 Nebo Main Base Soils

OU 4 is the shallow soils at Nebo Main Base for which data existed prior to the RI and includes CAOCs 2, 5, 9, and 11. NFA was selected for CAOC 9; LUCs only were selected for CAOCs 2, 5, and 11. Locations are shown on Figure 1-3.

2.3.5 OU 5 Yermo Annex Soils

OU 5 consists of the shallow soils at Yermo Annex for which data did not exist prior to the RI and includes CAOCs 15/17, 16, 19, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 35, and 36. CAOC 25 was eliminated from the RI as not requiring further investigation. The remedies selected in the OUs 5 and 6 ROD for this OU includes:

- NFA for CAOCs 19, 22, 24, 27, 28, 29, 30, 31, 32, 35 Stratum 1 (east portion) and Stratum 2, and 36;
- LUCs only for CAOCs 15/17, 21, and 26;
- LUCs for CAOC 16, consisting of preservation of the existing hardstand (vadose zone and groundwater under OU 1);
- A cap and engineering controls (ECs) were selected for CAOC 35 Stratum 1 Zone 1 which is an inactive Class III Landfill located in the northeastern portion of the Yermo Annex; and
- LUCs to prevent land use change without prior review were recently implemented at CAOC 32 Stratum 2 as recommended in the Third Five Year Review (DON 2012).

Site locations for CAOCs with remedies in place including LUCs-only are shown on Figure 1-2.

2.3.6 OU 6 Nebo Main Base Soils

OU 6 is the shallow soils at Nebo Main Base for which data did not exist prior to the RI and consists of CAOCs 1, 3, 4, 6, 7, 8, 12, 13, 14, and 33. Of these, CAOC 33 was eliminated from the RI as not requiring further investigation. The selected remedies under the OUs 5 and 6 ROD for this OU include:

- NFA for CAOCs 1, 3, 4, 6, 8, 12, and 13
- LUCs only for CAOCs 1, 3, and 14;
- LUCs and ECs were selected and implemented for the native soil caps at CAOC 7 Strata 1 and 2. The cap and ECs are regularly maintained; groundwater monitoring is performed under OU 2; and
- Groundwater cleanup at CAOC 6 ("Nebo South" plume) is covered under OU 2.

Site locations for CAOCs with remedies in place including LUCs-only are shown on Figure 1-3.

2.3.7 OU 7 Yermo Annex and Nebo Main Base Soils and Groundwater

OU 7 addresses the remaining sites not covered by the OUs 1-6 RODs and is comprised of 18 sites:

- Soil sites with LUCs only at Yermo Annex including CAOCs 9.60 and 9.68 (Figure 1-2).
- NFA at Y 7 TA-12 (Yermo Annex) (not shown on a figure as no five-year review is required);
- Soil sites with LUCs only at Nebo Main Base including CAOCs 10.38/10.39 Units 1-6, 10.12, 10.27, 10.35, 10.37, 10.3, 10.4, 10.5, 10.49, and 10.80 (Figure 1-4);
- Soil remediation with LUCs was selected for CAOCs 10 and N-2 Area 1 (Figure 1-4); and
- Three groundwater sites at Nebo Main Base including CAOC 7 Stratum 1 (soil vapor and groundwater), CAOC 10.38/10.39 Unit 7, and the NPZ-14 groundwater area (Figure 1-4). Monitored natural attenuation (MNA) with LUCs to prevent groundwater use was selected as the remedy for the three groundwater sites. Additionally, SVE to address soil vapor contamination was selected for CAOC 7 Stratum 1.

2.4 Governing Plans for Remedies In Place

The current governing plans for the remedies in place at OUs 1 – 7 are referenced in the technical assessment sections for Yermo Annex (Section 5) and Nebo Main Base (Section 6).

2.5 Operable Unit Chronologies

The chronology presented in Table 2-2 identifies significant events pertaining to OUs 1-7. The history of the IRP prior to the designation of OUs is also included. Additional Base history is available in the RODs or other documents available from the DON's Administrative Record for the MCLB Barstow.

3.0 BACKGROUND

3.1 History of The MCLB Barstow

The MCLB Barstow was originally established at the Nebo Main Base location as the United States Marine Corps Depot of Supplies, in December 1942, the Depot served as a storage site for supplies and equipment needed for Fleet Marine Forces in the Pacific theater during World War II. In October 1946,

the base had outgrown its facilities and 2,000 acres of land approximately seven miles east of the Nebo Main Base were annexed from the United States Army (Yermo Annex).

In March 1961, the Depot Maintenance Activity was established at the Base. In November 1978, the Base was re-designated to its present title of the MCLB Barstow to emphasize its broad logistics support mission. The MCLB Barstow consists of the Nebo Main Base and the Yermo Annex, both of which are used for the staging, storage, and maintenance of supplies and equipment used by the United States Marine Corps and other branches of the Department of Defense.

3.2 PRIOR INVESTIGATIONS AND REGULATORY ACTION

Beginning in the mid-1980s, the DON conducted a series of studies at the MCLB Barstow as part of the DON Assessment and Control of Installation Pollutants Program to determine the presence of contamination in soil and groundwater. An initial assessment study was conducted to evaluate past practices of hazardous waste handling, storage, and disposal and to identify areas representing a potential threat to human health and the environment. The initial assessment study identified 33 potential sites of contamination through record searches, employee interviews, and site surveys. These sites are referred to as CAOCs and are currently being addressed under the base CERCLA program.

On 15 November 1989, the EPA placed the MCLB Barstow on the National Priorities List due to the presence of soil and groundwater contamination on the Base. Environmental contamination at the MCLB Barstow is being addressed through the DOD IRP under the CERCLA with the exception of contamination associated with underground fuel tanks, which is being addressed outside the IRP under regulatory oversight of the RWQCB - Lahontan Region.

A FFA under CERCLA §120 was signed on 24 October 1990 by the DON, the U.S. EPA, the DTSC, and the RWQCB - Lahontan Region. The FFA provides a procedural framework for the signatories to ensure implementation of response actions to achieve appropriate cleanup levels.

A Resource Conservation and Recovery Act (RCRA) facility assessment (RFA) was begun in 1991 to comply with the schedule set forth in the 1990 FFA. The RFA process at the MCLB Barstow included a preliminary review, visual site inspection, and sampling visits to identify releases or potential releases that may require further action or investigation. The RFA was completed in 1997; based on the findings of the RFA, an Extended RFA (ERFA) was performed from 2000 to 2001. Subsequent to the RFA/ERFA reports, seven OUs were established and the environmental investigation and cleanup activities were shifted to the CERCLA program. Remedial investigations and feasibility studies (RI/FS) were conducted by the DON for OUs 1 – 7, leading to the RODs listed in Section 2.2.

3.3 SITE PHYSICAL SETTING

This section describes the physical setting and conceptual site model of the Yermo Annex and Nebo Main Base. The MCLB Barstow location is shown on Figure 1-1, and the individual bases are shown on Figures 1-2 and 1-3.

3.3.1 Climate

The Barstow area is characterized by intense summer heat; minimal rainfall and low humidity; strong winds; periodic thunderstorms; and flash floods. Factors that tend to moderate the weather in other areas of California are absent in the Mojave Desert, resulting in an extreme climate. Temperatures range from 12 to 114 degrees Fahrenheit annually. Winds near Barstow are primarily from the west at an average annual speed of approximately 11 miles per hour.

Annual average precipitation in the Barstow area is about 4 inches per year; however, considerable year-to-year variability results in the variable discharge conditions of the Mojave River and fluctuations in the groundwater table. Precipitation in the Mojave Desert occurs primarily with the passing of weakened winter fronts from the north and the periodic development of brief, localized thunderstorms during the summer. Periodic episodes of intense rainfall create flash flood conditions (referred to as flood flows) in the Mojave River and in the intermittent washes near the Nebo Main Base and Barstow (DON, 1998b).

3.3.2 Topography

Regional topography near Barstow is dominated by broad, gently sloping surfaces formed by coalescing alluvial fans and the isolated fronts and peaks of the region's fault block mountains (DON, 1998b). Nebo Main Base was constructed near the Mojave River, where topography is relatively flat. The topographic surface at Nebo Main Base slopes north-northeast to the Mojave River. The topography overlying the Nebo Main Base North VOC groundwater plume is generally flat, with elevations between 2,025 and 2,050 feet above mean sea level (amsl) (Bechtel Environmental, Inc., [BEI] 2003).

The topography at Yermo Annex gently slopes to the south from the Calico Mountains and east from Elephant Mountain, towards the Mojave River. Topographic elevations at Yermo Annex are relatively flat and generally range between 1,950 and 1,960 feet amsl (U.S. Geological Survey [USGS] 2012b and 2012c).

3.3.3 Geology and Hydrogeology

The MCLB Barstow is within the Mojave Desert Geomorphic Province (DON, 1998b). This province is a wedge-shaped unit bounded by the Garlock Fault on the north and the San Andreas Fault on the southwest. The approximate eastern boundary is the Bristol-Granite Mountains fault zone in the eastern Mojave Desert. At this diffuse boundary, the Mojave Desert merges with the Basin and Range Geomorphic Province.

Regional geology is characterized by the following stratigraphic units: a basement complex of pre Tertiary granitic and metamorphic rocks; undifferentiated Tertiary continental volcanic and sedimentary rocks; Tertiary-Quaternary older and younger alluvial-fan deposits; Quaternary older alluvium; Quaternary younger and recent Mojave River alluvium.

The MCLB Barstow is located within the Mojave River Valley Basin hydrogeologic system, which consists of two primary aquifers: the regional aquifer composed of Pliocene and younger alluvial fan deposits and; the Mojave River aquifer composed of Pleistocene and younger river channel and floodplain deposits (California Department of Water Resources [CDWR], Planning and Local Assistance, 2004). The regional aquifer underlies and surrounds the floodplain aquifer. Most of the water from production wells in the area is from the Mojave River aquifer. Further detail on the geology of the MCLB Barstow is provided in the remedial investigation reports and ROD.

The MCLB Barstow is within the Mojave Basin Area, an adjudicated groundwater basin. The annual Watermaster report for 2015 - 2016 illustrates the region-wide groundwater elevation declines in the Baja subarea of the Basin in which the Base is located (Mojave Water Agency, 2017). The report indicates water levels in the Baja subarea show continued declines, without significant recovery after storms, due to over pumping and limited recharge. Further detail on the hydrogeology at the MCLB Barstow Yermo Annex and Nebo Main Base is provided in the annual groundwater monitoring reports for OUs 1 – 7 (AGMRs).

Groundwater contaminant plumes are shown on Figure 2-2 for Yermo Annex and Figure 2-3 for Nebo Main Base. Groundwater elevation contour maps for Yermo Annex and Nebo Main Base are provided on Figures 3-1 and 3-3, respectively. Groundwater hydrographs (groundwater levels over time) for Yermo Annex and Nebo Main Base are provided on Figures 3-2 and 3-4, respectively.

4.0 FIVE-YEAR REVIEW PROCESS

The U.S. EPA's Comprehensive Five-Year Review Guidance (U.S. EPA, 2001) and DON Policy for Conducting CERCLA Statutory Five-Year Reviews (DON, 2011) outline the Five-Year Review process and the elements required. This section of the document describes the process and presents the data reviewed.

4.1 ADMINISTRATIVE COMPONENTS

The required administration components include the notification of potentially interested parties of the initiation of process, identification of the Five-Year Review team, and schedule for the Five-Year Review.

4.1.1 Notification of Potentially Interested Parties of Initiation of Review Process

Public notices were placed in local newspapers to inform the public about the ongoing Fourth Five-Year Review process. The FFA signatories were notified prior to placing the public notices. Proofs of publication are included in Appendix A *(to be completed in final)*.

4.1.2 Five-Year Review Team

This Five-Year Review was conducted by OTIE under Contract N39430-16-D-1818, Contract Task Order 0006, for the NAVFAC SW. The NAVFAC SW RPM, Ms. Lindsey White, was responsible for the initiation and completion of this Five Year Review. Base access and interviews for the Five-Year Review were coordinated through Mr. James Debenedetti, IRP Manager, at the MCLB Barstow Environmental Division. Contact information for the aforementioned individuals is provided below:

Ms. Lindsey White, PE, RPM
NAVFAC Southwest Central IPT
937 North Harbor Drive
Building 1, Floor 3, Room 323
San Diego, CA 92132
Office: (619) 532-4451

Mr. James De Benedetti, ER/IR Program Manager
Marine Corps Logistics Base Barstow
Environmental Division – I & L Division
Building 196
Barstow, CA 92311-5050
Office: (760) 577-6982

The Five-Year Review report was submitted to the FFA regulatory team for review and comment; comments were received and addressed by the DON under the FFA agreement process. Comments and responses to comments are incorporated into Appendix H.

The FFA regulatory team includes the following:

Ms. Mary T. Aycock, RPM
U.S. EPA, Region 9
SFD-8-1, Attn: Mary Aycock
US Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA, 94105
Office: (415) 972-3289

Ms. Soad Hakim, RPM
California Environmental Protection Agency
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630
Office: (714) 484-5381

Mr. Alonzo Poach, RPM
California Regional Water Quality Control Board – Lahontan Region
Victorville Branch Office
15095 Armargosa Road
Building 2, Suite 210
Victorville, CA 92392
Office: (760) 241-7365

4.2 OUTLINE OF COMPONENTS AND SCHEDULE OF FIVE-YEAR REVIEW

The Five-Year Review consists of the following tasks:

- Community involvement via the public notifications in the local newspapers;
- Document review;
- Data review;
- Site inspections;
- Technical assessments; and
- Five-year Review Report development and review.

These tasks were accomplished during the January - November 2017 time period.

4.2.1 Community Involvement

Public notifications were placed in two local newspapers to inform the public about the Fourth Five-Year Review, including schedule for completion and how to access the Five-Year Report (Appendix A). Copies of the Fourth Five-Year Review Report will be placed into the Information Repository at the MCLB Barstow, which can be accessed by contacting Mr. James De Benedetti at the Base Environmental Division at (760) 577-6982.

4.2.2 Document Review

This Five-Year Review consists of a review of relevant documents including annual O&M and monitoring reports, landfill cap repair reports, and well installation reports. A list of references cited in the subject Five-Year Review is included in Section 9.0.

4.2.3 Data Review and Evaluation

Monitoring, remedial systems O&M information, performance data and other information were reviewed for this Five-Year Review including the following:

- Groundwater monitoring data for OUs 1, 2, and 7;
- Soil vapor monitoring data for OUs 1, 2, and 7;
- O&M costs and performance data for four active remediation systems; and
- O&M costs and performance data for four landfill cap systems.

4.2.4 Findings from Site Interviews, Inspections, and Information Requests

Site inspections were conducted and 13-14 March 2017 and 13 June 2017. Information was gathered from the MCLB Barstow Environmental Division, Public Works, Marine Depot Maintenance Command (MDMC), and the O&M contractors regarding the landfill sites and remedial systems.

Findings from the site inspection for those sites with site developments, defined as any construction altering the site since the last Five-Year Review, are summarized on Table 4-1. Site inspection logs and photographs for CAOCs 16, 20, 23, 32, and 35 at Yermo Annex, and CAOC 7 and Nebo South at Nebo Main Base, are provided in Appendix B. As documented on Table 4-1, site development activities for these CAOCs were coordinated through the MCLB Barstow Environmental Division as required by the BMP.

4.3 TECHNICAL ASSESSMENT PROCESS

The technical assessment of the protectiveness of remedies implemented at the CAOCs is based on answering the following three questions:

Question A: Is the remedy functioning as intended by the RODs?

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy selection still valid?

Question C: Has any other information been found that could impact the protectiveness of the remedy?

The technical assessment requires evaluation a number of considerations, as discussed below. A technical assessment was performed for CAOCs with remedies in place that require RA performance monitoring.

4.3.1 Question A: Is The Remedy Functioning As Intended By The ROD(s)?

The U.S. EPA's Comprehensive Five-Year Review Guidance (2001) identifies several areas that need to be considered when evaluating whether the remedy selected in the decision documents is functioning as designed. Areas of consideration include:

- **Remedial Action Performance** – Is the remedy operating as designed?
- **System O&M** – Will the system and current O&M activities maintain the effectiveness of the response actions?
- **Cost of System O&M** – How do planned costs compare to actual costs?
- **Institutional Controls and Other Measures Implementation** – Are these functioning as planned?
- **Monitoring Activities** – Do the current monitoring activities provide adequate information to determine the protectiveness and effectiveness of the remedy implemented?

- **Optimization Opportunities** – Are there areas for improvement? and
- **Early Indications of Potential Issues** – Are there problems that could lead to the remedy being not protective or that suggest protectiveness is at risk unless changes are made?

4.3.2 Question B: Are The Exposure Assumptions, Toxicity Data, Cleanup Levels, And RAOS Used At The Time Of The Remedy Selection Still Valid?

When evaluating the validity of the selected remedy, it is important to consider changes in standards, newly promulgated standards or "to be considered" (TBC) standards, changes in exposure pathways, changes in land use, or if any new contaminants and/or contaminant sources and/or remedy by-products have been identified.

4.3.3 Question C: Has Any Other Information Been Found that Could Affect the Protectiveness of the Remedy?

The final question in conducting a technical assessment of the selected remedy includes the evaluation of any new information that may have become available that could call into question the protectiveness of the remedy selected. Situations include ecological risks, unidentified risks from natural disasters (for example, flooding), or land use changes.

In accordance with DON policy, if the Five-Year Review determines that the remedy or the RAOs are no longer protective, then the Five-Year Review Report will make recommendations concerning the steps necessary to achieve protectiveness (DON, 2011).

4.3.4 Additional Considerations/Reviews

For OU 1, the OUs 1 and 2 ROD required the additional evaluations be performed during the Five-Year Review:

- Evaluation of metals contamination in groundwater downgradient of CAOCs 16;
- Evaluation of the effectiveness of the AS/SVE and GETS in reducing groundwater and vadose zone contamination at CAOC 16 (although reduction of vadose zone contamination is not an RAO for CAOC 16) and the need for additional investigation; and
- Evaluation of the effectiveness of the CAOC 26 AS/SVE system in reducing VOC levels in the shallow subsurface (this was not specifically required in the five-year review, but was required as part of the ROD). Because the CAOC 26 AS/SVE system was shut down in 1998 after achieving RAOs, the ongoing groundwater and soil vapor monitoring data were reviewed.

For OU 2, the Technical and Economic Feasibility Report for the Nebo North AS/SVE system (OTIE, 2011) required the evaluation of the ongoing soil vapor and monitoring program for the Nebo North plume as part of this Five-Year Review.

The required additional evaluations for OU 1 and OU 2 were performed as part of this Five Year Review and are discussed in the technical assessment report Sections 7.0 and 8.0, respectively.

The OUs 3 and 4 ROD (DON, 1997) and OUs 5 and 6 ROD (DON, 1998b) selected the No Action Alternative for several CAOCs. When selecting this alternative, the RODs specifically stated that the No Action Alternative does not involve institutional or engineering controls, containment, excavation, or treatment. However, at the conclusion of the selection reasoning, the RODs indicated that for certain CAOCs, the BMP should describe the history of the CAOC and specify that any actions planned in these areas or changes in the site use should be coordinated and reviewed by the MCLB Barstow

Environmental Division. In this Five-Year Review, the phrase ”NFA with BMP amendments” is used to refer to the No Action CAOCs where Environmental Division oversight is required to maintain the conditions of the NFA decision. This remedy is essentially a land-use control remedy and is reported as such in this Five-Year Review report.

The BMP was updated by amendment in 2010 to include LUCs for OUs 1 – 6, including the procedures for the MCLB Barstow Environmental Division to follow in evaluating proposed changes to land use that may pose a risk to site workers (e.g., during construction activities) or substantially change the conditions supporting the no action decision.

Similarly, the BMP amended in 2015 to incorporate the CAOCs with LUCs-only remedies under the OU 7 ROD (DON, 2014). The intent of the LUCs-only remedies are to ensure that future Base activities do not pose unacceptable risks to human health or the environment because of low-levels of contaminants left in place at these sites. CAOC 32 Stratum 2 (OU 5) was also included in the 2015 BMP update to address contamination remaining in place, as recommended in the Third Five-Year Review (DON, 2012).

The CAOCs with LUCs only remedies (including “NFA with BMP Amendments” sites) were reviewed for any substantial changes in land use or site conditions in this Five-Year Review (*see* Sections 7.8 and 8.8 for Yermo Annex and Nebo Main Base CAOCs, respectively).

4.4 Review of Operations and Maintenance Costs

The operations, maintenance, monitoring and repair costs were obtained for the CAOCs with construction-completed remedies; these included CAOCs 7, 20, 23, 26, 35, 37 and 38. The cost summaries including comparison with the original estimated costs under the ROD, last five-year review, and this review are summarized in Tables 4-2 (Yermo Annex) and 4-3 (Nebo Main Base). Costs for remedial system equipment repairs and upgrades performed during the review period are generally shown separately. In prior reviews, the electrical costs for active remedial systems were paid by the MCLB Barstow and were not reported. This changed in 2008 when the IRP began to support those costs. The electrical costs are incorporated into the O&M average costs for this review. Further information on the O&M costs for the remedial systems in place for OUs 1 and 2 is presented in Appendix D (see Technical Assessment Report D-2).

4.5 Review of Exposure Assumptions, Toxicity Data, Cleanup Levels, and RAOs

Part of the technical assessment is to evaluate whether the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy are still valid (“Question B”). This review was conducted in accordance with the DON *Policy for Conducting CERCLA Statutory Five-Year Reviews* (DON, 2011) and *U.S. EPA’s Comprehensive Five-Year Review Guidance* (EPA, 2001). When evaluating this question, it is important to consider changes in standards, newly promulgated standards or TBC standards, changes in exposure pathways, changes in land use, or if any new contaminants and/or contaminant sources and/or remedy by/products have been identified.

Question B was addressed by OUs as grouped within the RODs. Applicable or relevant and appropriate requirements (ARARs) provided in the OUs 1 - 6 RODs were reviewed and evaluated to determine if any modifications of these ARARs had occurred that might affect the RAOs in the ROD or operation of the various groundwater treatment systems had occurred since the ROD was finalized. Chemical-specific ARARs including federal or state drinking water MCLs, published federal or state soil screening levels, and discharge limits in the RWQCB-Lahontan District Basin Plan and other RWQCB resolutions originally cited in the RODs were evaluated for revisions. Additionally, the Mojave Desert Air Quality Management

District (MDAQMD) mass discharge limits were reviewed because these limits are used to evaluate compliance of the AS/SVE systems with MCLB Barstow's general permit from the MDAQMD. Supporting documentation for the review of toxicity data, cleanup levels, and RAOs is provided in Appendix C.

4.5.1 Review of Exposure Assumptions

The MCLB Barstow remains an active military facility. The ICs/LUCs are enforced and the MCLB Barstow Environmental Division reviews proposed construction or other changes on CAOCs where such activities could affect the selected remedy.

Since the prior Five-Year Review, based on the technical assessments performed, there have been no significant changes in exposure pathways or land use that would negate or degrade the assumptions of the risk assessments performed to support selection of the RAOs. A detailed review of exposure assumptions for groundwater, vapor, soil, and wastes left in place is provided in Appendix C.

4.5.2 Review of Toxicity Data, Cleanup Levels, and RAOS

The cleanup levels and RAOs established in the RODs for OUs 1-7 were compared to May 2016 U.S. EPA and State of California regional screening levels (RSLs) and promulgated standards; details are provided in Appendix C.

Additionally, the RAOs for OUs 1 and 2 include substantive compliance with discharge limits for discharge of treated water to the ground per the most recent general waste discharge requirements of the RWQCB-Lahontan Region. The O&M plan for the OUs 1 and 2 remedies requires that VOC emissions from remedial system be in substantive compliance with the MCLB Barstow's general air quality permit requirements. Substantive compliance with these standards is reviewed in Appendix C (*see* Section 3.4).

4.5.3 New Contaminants or Contaminant Sources

During this five-year review period, the DON conducted groundwater sampling to determine if Polyfluorinated Alkyl Substances (PFAS) were present in groundwater at the MCLB Barstow. The sampling was conducted at the request of the DTSC.

During 2015 – 2016, the DON conducted a review of the Navy's Administrative Record for the MCLB Barstow and interviewed Base personnel, including the IRP Program Manager and the Training Chief at MCLB Barstow Fire and Emergency Services to identify potential sources of Polyfluorinated Alkyl Substances (PFAS) from site-related activities. Locations where aqueous film forming foam (AFFF) or PFAS-containing mist suppressants for chromium plating may have been used, released, or stored were identified and groundwater monitoring wells were selected at or near these locations (OTIE 2016a).

Eighteen wells were selected for PFASs sampling due their proximity to the potential sources of PFASs contamination. The groundwater sampling was completed during May 2016; six of the 18 wells were resampled in August 2016 along with two additional wells were added to assess and further delineate the potential presence of PFASs in the northern part of the Nebo Main Base. The resulting groundwater data were compared to the EPA lifetime health advisory level ("screening levels") for PFAs.

PFASs were not detected above the screening levels in groundwater samples from the Yermo Annex nor in samples from the southern portion of Nebo Main Base. However, PFASs were detected above the screening levels in groundwater samples from wells in the northern part of the Nebo Main Base including on-Base, in the northwest corner of the Base. The source of the detected PFAs may include former industrial operations and wastewater treatment plant. At Nebo Main Base, LUCs are in place to

prevent potable use of groundwater (DON 1998; DON 2014b); therefore, exposure to PFAs in drinking water is not a completed exposure route for on-Base personnel. The DON is conducting follow-on review to further evaluate PFAs and the potential off-Base exposure pathway.

4.5.4 Remedy By-Products

The implemented remedies are not expected to produce by-products. In 2002, the California Department of Health Services (now California Department of Public Health [CDPH]) expressed a concern regarding excess nitrate or nitrite from GAC treatment on the Yermo Annex drinking water production wells. This issue, now resolved, is discussed briefly below.

4.5.4.1 Excess Nitrate or Nitrite from GAC Treatment

The MCLB Barstow operates the YDW drinking water production wells and GAC treatment system under a permit from the California Water Resources Board Division of Drinking Water (DDW); the permit requires monthly monitoring of VOCs. The MCLB Barstow added nitrate and nitrite analyses to the monthly monitoring program in 2002 in response to the California Department of Health Services (CDHS) stated concern that GAC treatment systems can generate excess nitrate or nitrite (CDHS 2002).

The long-term monitoring data for the YDW treatment system indicated nitrate and nitrite concentrations were consistently below the state action levels of 45 milligrams per liter (mg/L) (for nitrate as nitrate) and 1 mg/L (for nitrite as nitrogen). Based on the data, nitrate/nitrite monitoring frequency was reduced by the MCLB Barstow to once per year beginning in 2012. During the review period, nitrate and nitrite results were below the state action limits.

5.0 TECHNICAL ASSESSMENTS AND FINDINGS – YERMO ANNEX

The technical assessment and findings for each site undergoing five year review are summarized in Tables with five parts corresponding to the review activities. The assessments are based on October 2012 – March 2017 data, site inspections, review of relevant documents, and interviews. Each table is organized as follows:

- **Part 1:** Review of Remedial Action Objectives, Selected Remedies, Implementation, Status, and Changed Conditions Since ROD signing and Prior Review;
- **Part 2:** Progress Since Last Review (2012);
- **Part 3:** Technical Assessment. The three review questions are addressed in this part of the table;
- **Part 4:** Current Issues, including the potential for the identified issues to affect short-term and long-term protectiveness; and
- **Part 5:** Recommendations and Follow-up Actions (implementation by the DON with oversight by the FFA regulators); also included is a schedule and any relevant comments.

CAOCs at Yermo Annex requiring Five-Year Review include those with remedial actions and IC/LUCs as summarized in Table 5-1. Site locations and information are provided on Figures 5-1 through 5-6. The following sites were reviewed:

- CAOC 37 (OU 1) groundwater, including the Yermo North plume groundwater extraction and treatment system (GETS), and AS/SVE remedy, plus evaluation of vadose zone and groundwater contamination related to CAOCs 16, 15/17, 35, and 23. The OU 1 five year review summary is presented on Table 5-2, with supporting technical assessments (data reviews, trends analysis, etc.) provided in Appendix D.

- Cap remedies at CAOCs 16 (OU 5), 20 (OU 3), 23 (OU 3), and 35 (OU 5) are reviewed in Tables 5-3 through 5-6. Supporting data analyses for CAOC 20 are provided in Appendix F.
- CAOCs with LUCs only are reviewed for current status and any changes during the review period in Table 5-7.

6.0 TECHNICAL ASSESSMENTS AND FINDINGS - NEBO MAIN BASE

CAOCs at Nebo Main Base requiring a Five-Year Review include those with remedial actions, LUCs, and NFAs with BMP modifications, and are listed in Table 6-1. Site locations and information are provided on Figures 6-1 through 6-10. The Fourth Five-Year Review technical assessments are summarized in tables as described in Section 5.0. The following sites were reviewed:

- CAOC 38 (OU 2) groundwater, including Nebo North, Nebo South remedies (Table 6-2), with detailed assessments in Appendix E for both sites;
- CAOC 7 (OU 6) cap remedies (Table 6-3);
- Groundwater remedies at CAOC 7 Stratum 1, CAOC 10.38/10.39 Unit 7, and NPZ-14 (OU 7) are reviewed in Tables 6-4, 6-5, and 6-6, respectively. Statistical assessments of the three MNA sites groundwater data are provided in Appendix G;
- Soil remedies at CAOC 10 and CAOC N-2 Area 1 (OU 7) are reviewed in Table 6-7 (these remedies are in the remedial design phase); and
- Nebo Main Base CAOCs with LUCs only are reviewed for current status and any changes during the review period in Table 6-8. Figures 6-9 and 6-10 provide locations and LUC boundaries.

7.0 PROTECTIVENESS STATEMENTS, ISSUES AND RECOMMENDATIONS

The issues identified, current and long-term protectiveness statements, and recommendations for each of the CAOCs reviewed during the technical assessment of the Yermo Annex remedies-in-place are summarized in Table 7-1, and for Nebo Main Base in Table 7-2.

8.0 NEXT REVIEW

The next Five-Year Review for OUs 1-7 is required to be completed by December 31, 2022. The trigger to initiate the Fifth Five-Year Review is five years from the signature date of this review. The review period will be October 2017 through September 2022.

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FIGURES

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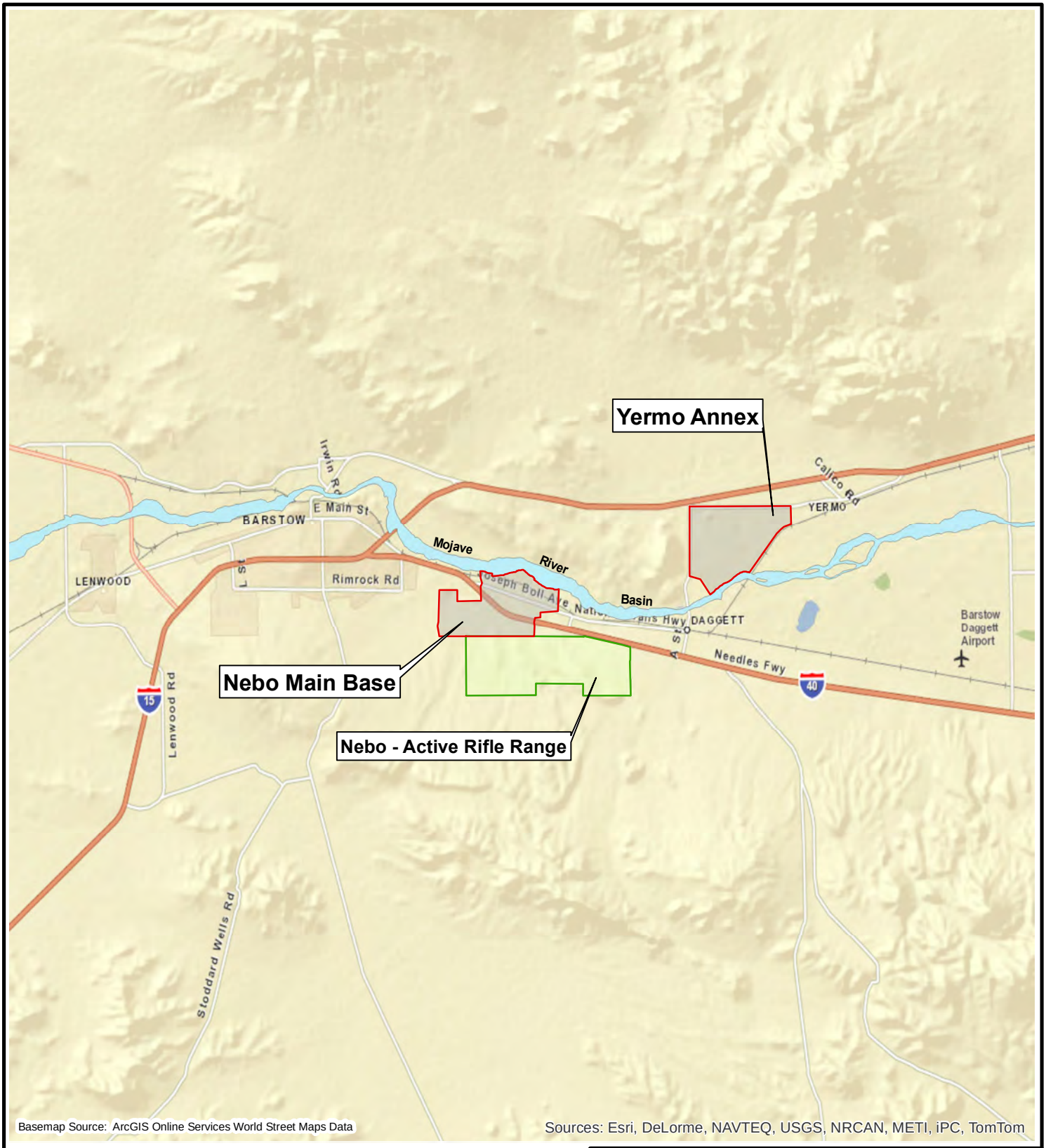

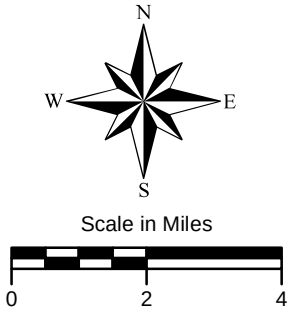

Figure 1-1
MCLB Barstow Vicinity Map

Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date:
May 31, 2017

File:
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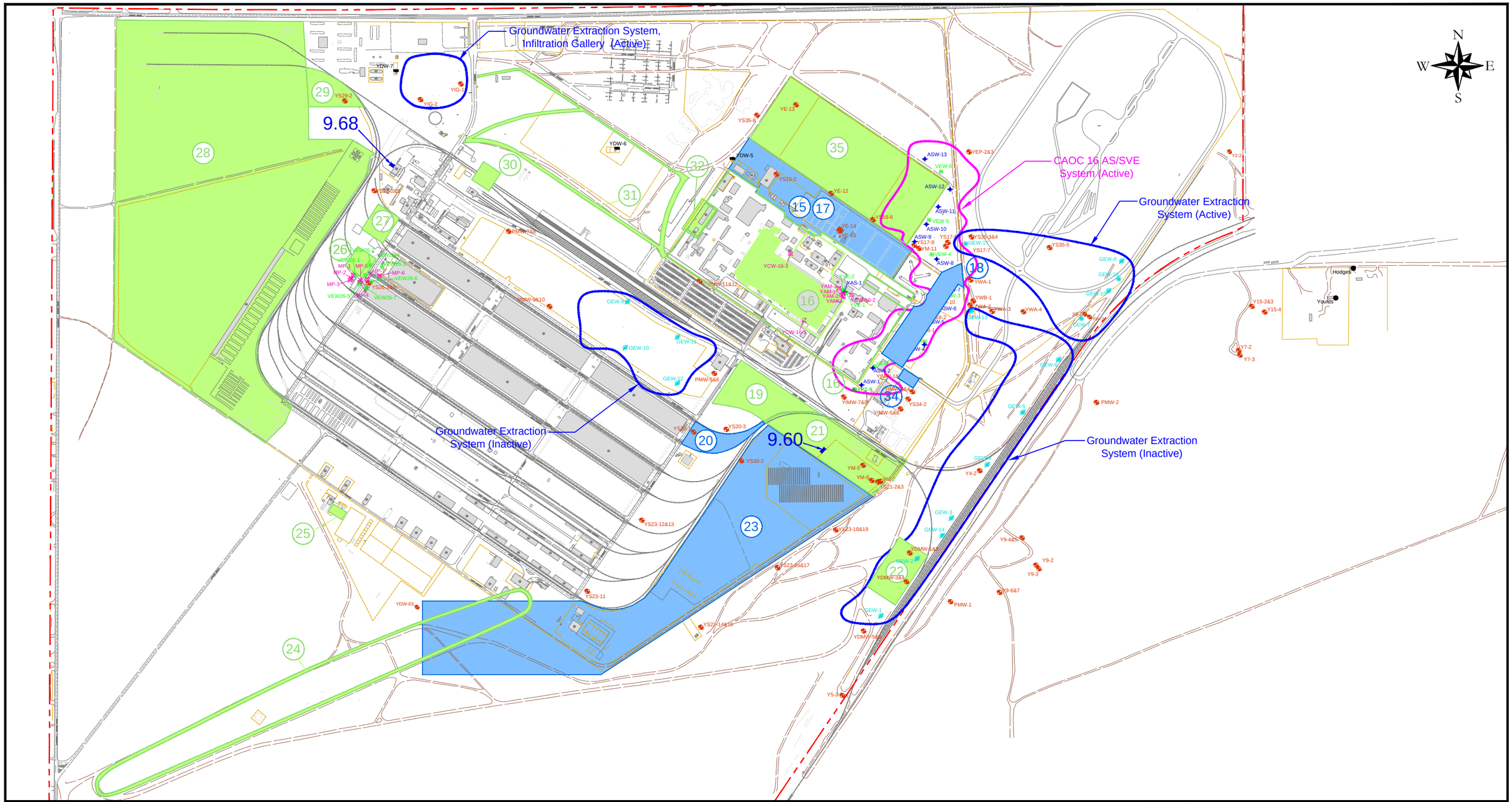


Legend

- Paved Road
- Dirt Road
- Railroad Tracks
- Fence Line
- Base Boundary
- Remediation Line
- Operable Unit 3 (CAOC ##)
- Operable Unit 5 (CAOC ##)
- 9.60 — Operable Unit 7 (CAOC ##)
- YMP-2 — Groundwater Monitoring Well
- YPZ-2 — Piezometer
- YDW-5 — Base Groundwater Supply Well
- GEW-7 — Groundwater Extraction Well (Active)
- GEW-2 — Groundwater Extraction Well (Inactive)
- VEW-1 — Vapor Extraction Well
- ASW-1 — Air Sparge Well
- YCW16-1 — Combination Well
- Younts — Residential Well

Notes

1) AS/SVE = air sparge / soil vapor extraction
   CAOC = CERCLA Area of Concern
   CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

Approximate Scale in Feet

0 900 1800

Figure 1-2
OUs 3, 5, 7 CAOCs and OU 1
Groundwater Remedial System
Locations

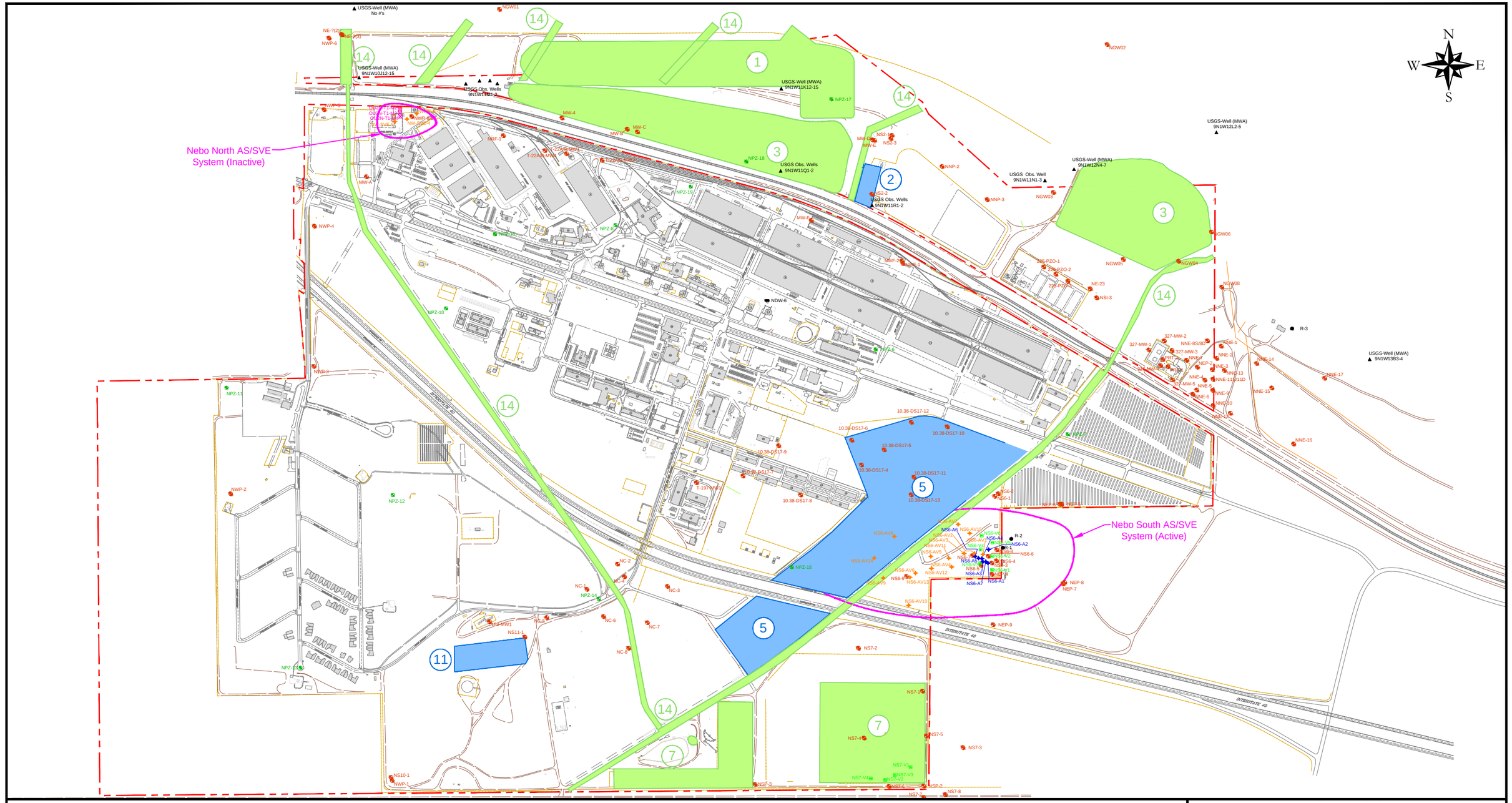
Yermo Annex
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: June 19, 2017

File: Barstow_5yrRev - 2017.dwg

Plotted By: Adam Goldenberg



Legend

Paved Road	NEP-2	Groundwater Monitoring Well
Dirt Road	NPZ-8	Piezometer
Railroad Tracks	NDW-6	Base Groundwater Supply Well
Fence Line	NS6-V4	Vapor Extraction Well
Base Boundary	NS6-A7	Air Sparge Well
Operable Unit 4 (CAOC ##)	NS6-AV7	Vapor Extraction/Air Sparge Well
Operable Unit 6 (CAOC ##)	9N1W-11K6	United States Geological Survey (USGS) Well
	R-1	Residential Well

Notes

1) CAOC = CERCLA Area of Concern
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
OU = Operable Unit

Approximate Scale in Feet

0 900 1800

Figure 1-3
OUs 4, 6, 7 CAOCs and OU 2 Groundwater Remedial System Locations

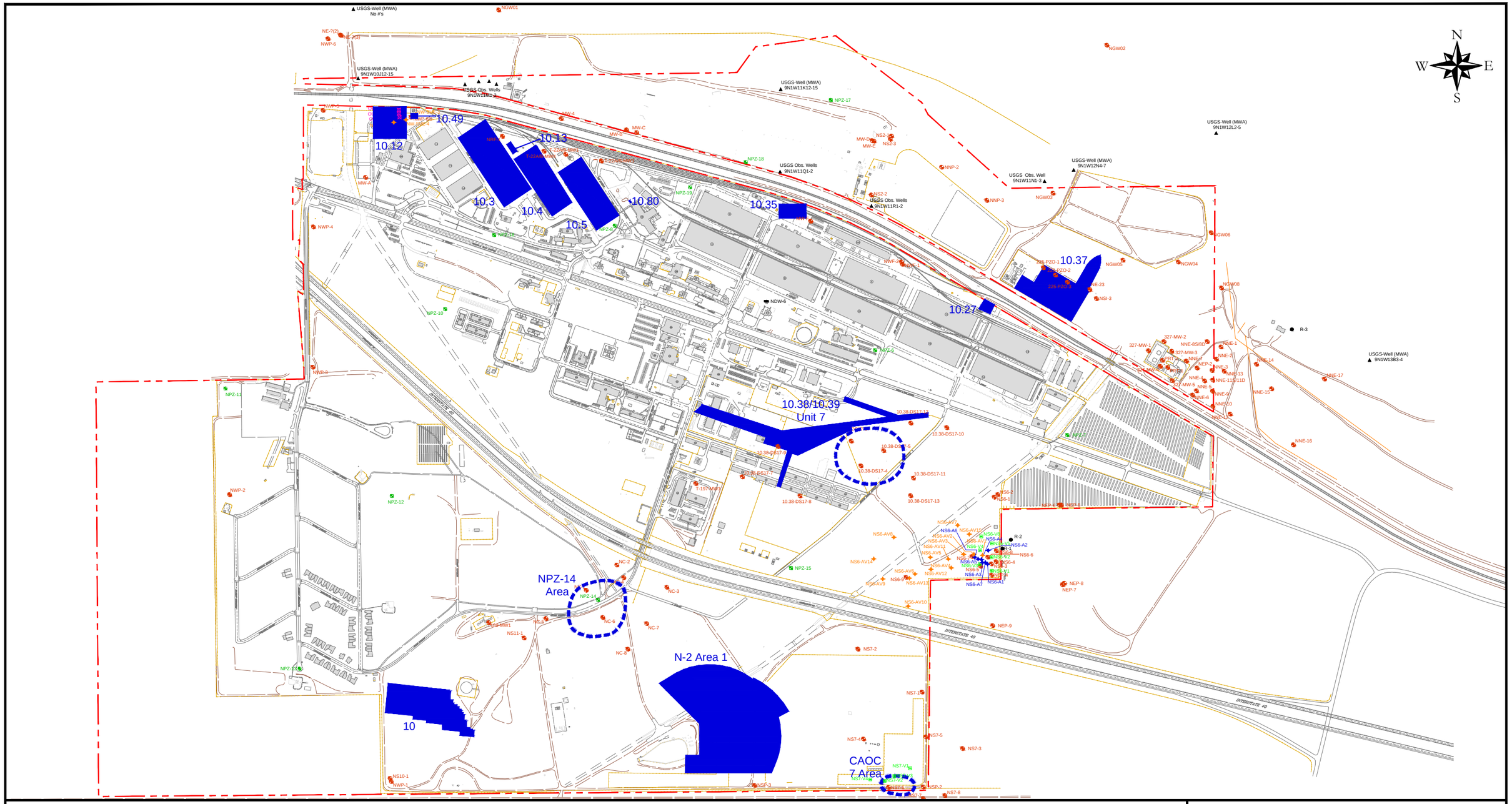
Nebo Main Base
Marine Corps Logistics Base
Barstow, California

OTIE An Oneida Nation Company

Date: June 19, 2017

File: Barstow_5yrRev - 2017.dwg

Plotted By: Adam Goldenberg



Legend

- Paved Road
- Dirt Road
- Railroad Tracks
- Fence Line
- Base Boundary
- Operable Unit 7 (CAOC ##)
- Operable Unit 7 MNA Groundwater Site

- NEP-2 — Groundwater Monitoring Well
- NPZ-8 — Piezometer
- NDW-6 — Base Groundwater Supply Well
- NS6-V4 — Vapor Extraction Well
- NS6-A7 — Air Sparge Well
- NS6-AV7 — Vapor Extraction/Air Sparge Well
- 9N1W-11K6 — United States Geological Survey (USGS) Well
- R-1 — Residential Well

Notes

1) CAOC = CERCLA Area of Concern
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
MNA = monitored natural attentuation
OU = Operable Unit

Figure 1-4
OU 7 CAOCs Site Locations

Nebo Main Base
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: June 19, 2017

File: Barstow_5yrRev - 2017.dwg

Plotted By: Adam Goldenberg

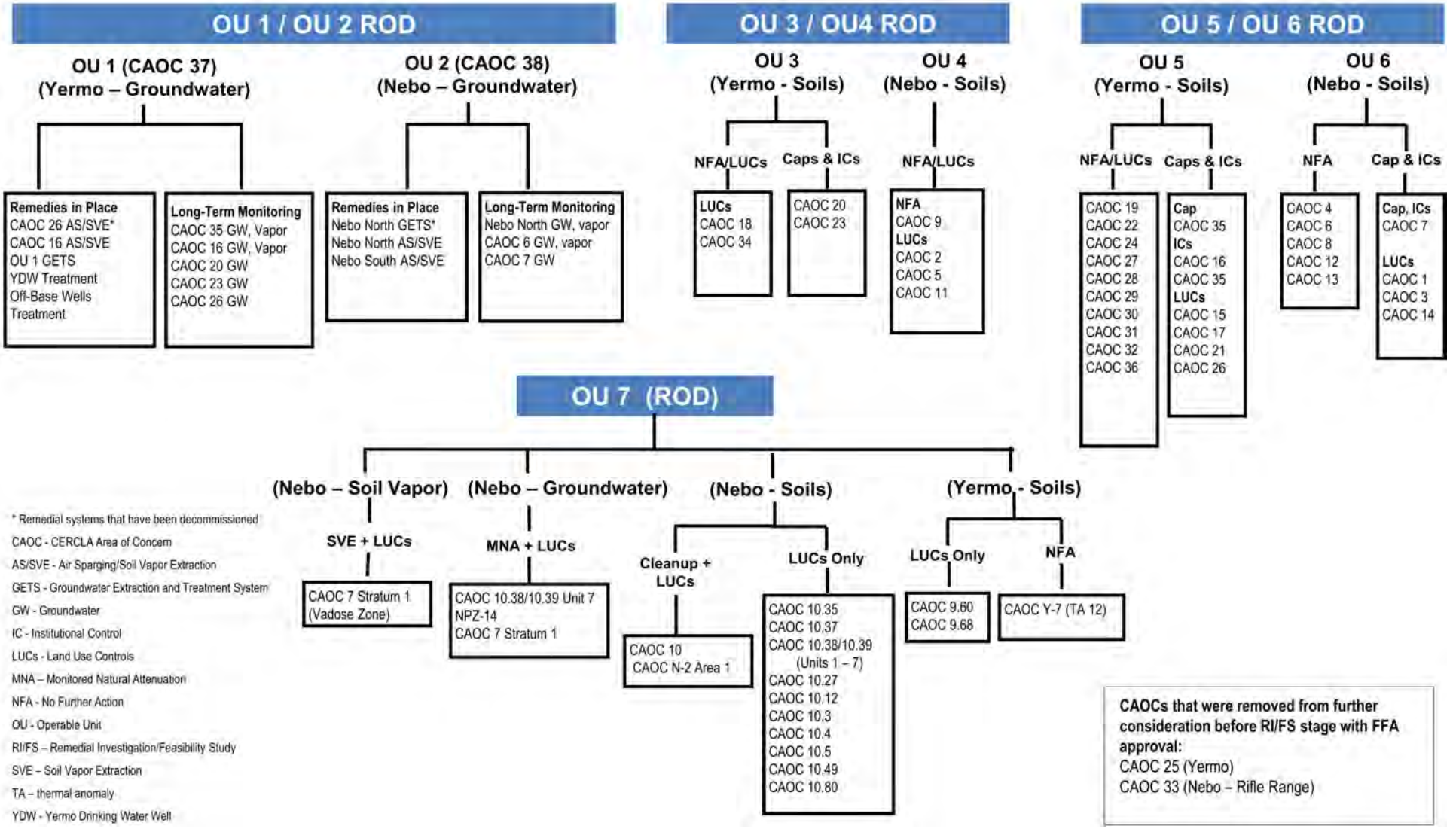


Figure References:
OUs 1, 3, 5, 7 Yermo Annex – Figure 1-2
OUs 2, 4, 6, 7 Nebo Main Base – Figure 1-3
OU 7 Nebo Main Base – Figure 1-4

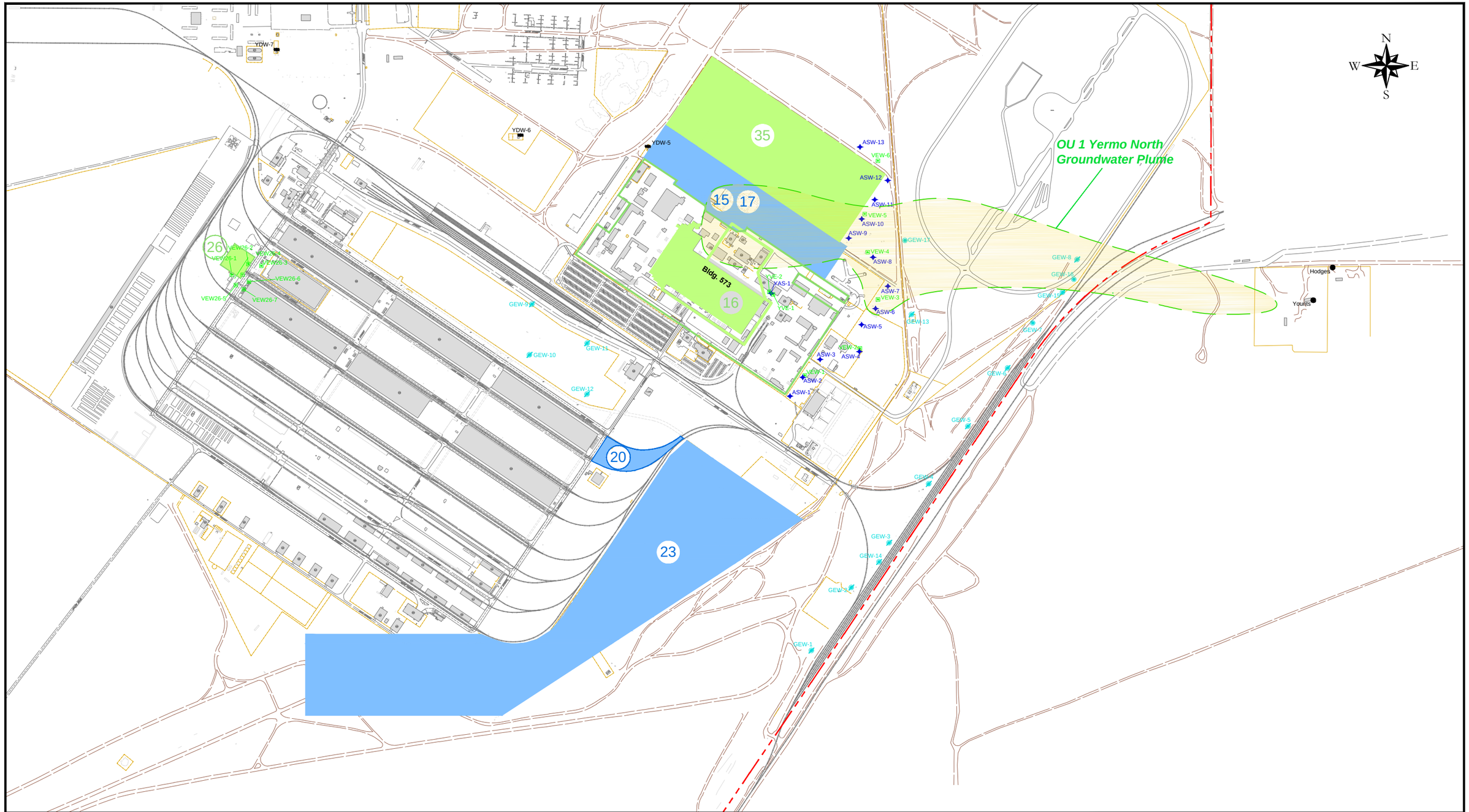
Figure 2-1
Organizations of OUs and CAOCs

Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: July 16, 2017

File: Barstow_5yrRev - 2017.dwg



Legend

- Paved Road
- Dirt Road
- Railroad Tracks
- Base Boundary
- YDW-5 — Base Groundwater Supply Well
- GEW-7 — Groundwater Extraction Well (Active)
- GEW-2 — Groundwater Extraction Well (Inactive)
- VEW-1 — Vapor Extraction Well
- ASW-1 — Air Sparge Well
- Younts — Residential Well
- Approximate OU1 Groundwater VOC Plume

Notes

1) Analytical results used to delineate the OU 1 (Operable Unit 1) groundwater plume are a combination of wells sampled during the November 2016 event.

Approximate Scale in Feet

0 800 1600

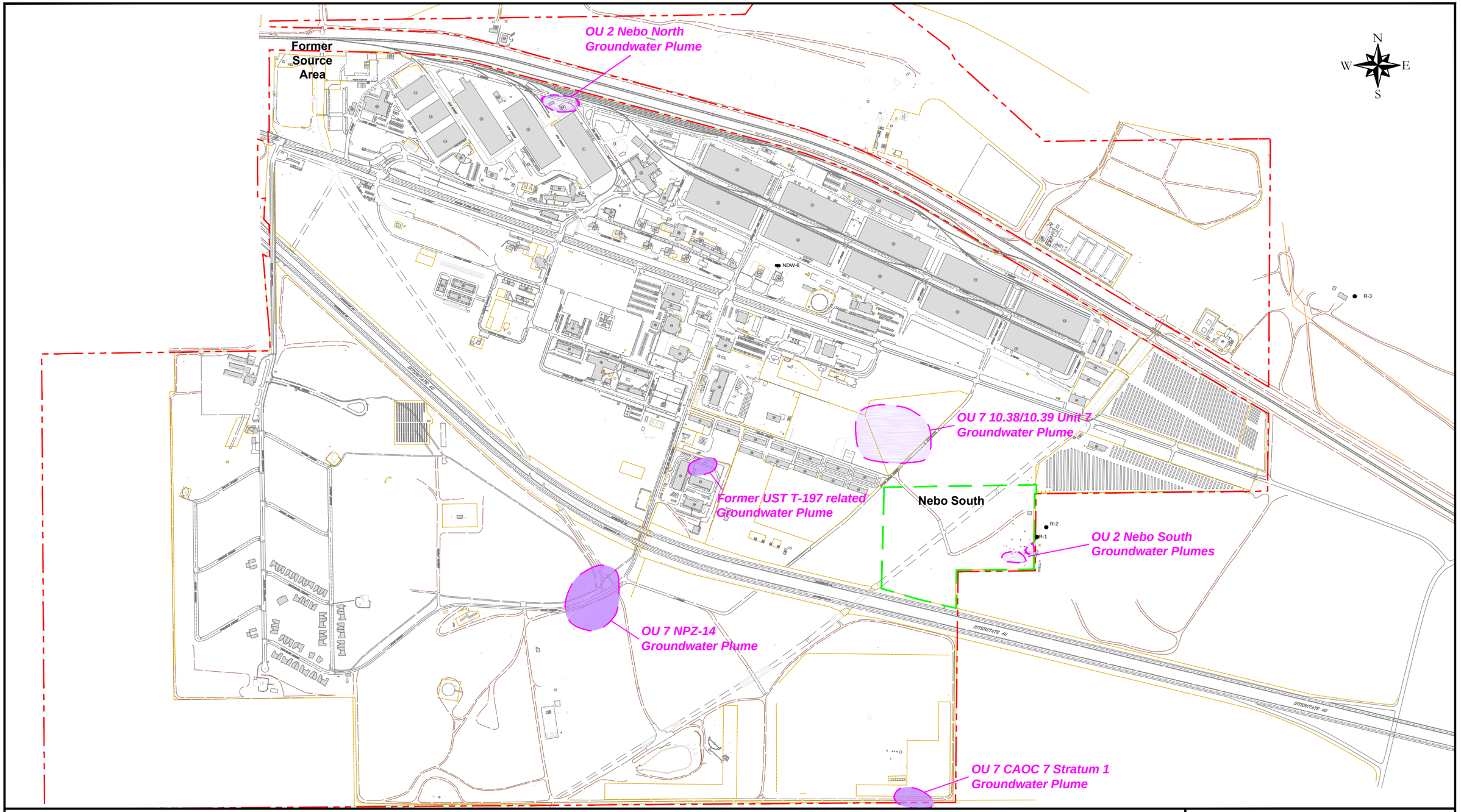
Figure 2-2
Groundwater VOC Plume Extent
(November 2016)

Yermo Annex
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: June 19, 2017

File: Barstow_5yrRev - 2017.dwg



Legend

- Paved Road
- Dirt Road
- Railroad Tracks
- CAOC 6 Land Use Control Boundary
- Base Boundary
- NDW-6 — Base Groundwater Supply Well
- R-1 — Residential Well
- Approximate Groundwater VOC Plumes

Notes

1) Analytical results used to delineate the OU2 groundwater plumes are a combination of wells sampled during the November 2016 event.

Approximate Scale in Feet

0 800 1600

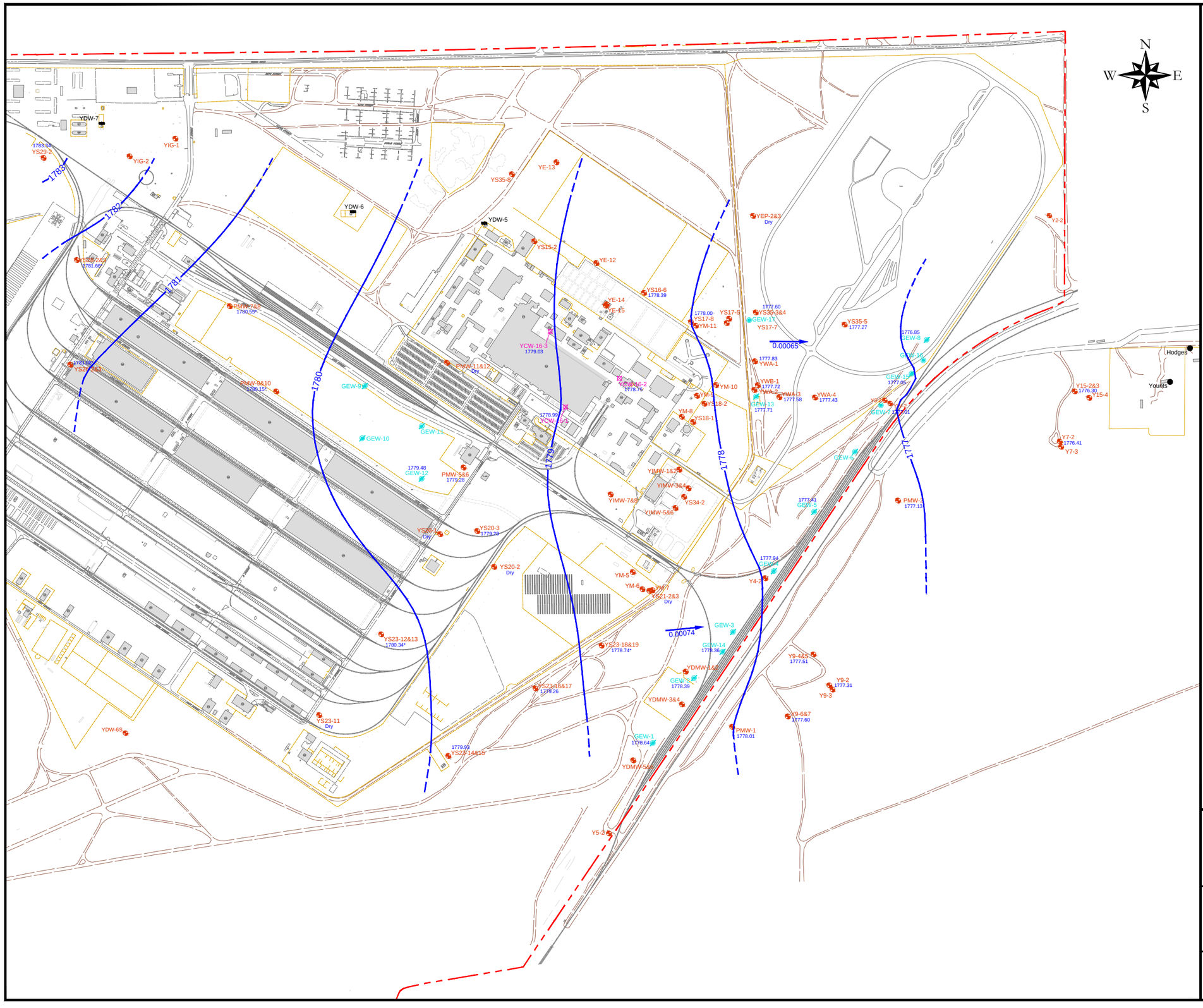
Figure 2-3
Groundwater VOC Plumes Extent
(November 2016)

Nebo Main Base
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: June 19, 2017

File: Barstow_5yrRev - 2017.dwg



Legend

- Paved Road
- Dirt Road
- Railroad Tracks
- Fence Line
- Base Boundary
- Groundwater Elevation Contour, 1-foot Interval (Dashed Where Approximate)
- Groundwater Flow Direction (With Approximate Gradient in ft/ft)
- 1776.85 — Groundwater Elevation (ft above mean sea level)
- YMP-2 — Groundwater Monitoring Well
- YDW-6 — Base Groundwater Supply Well
- GEW-7 — Groundwater Extraction Well (Active)
- GEW-2 — Groundwater Extraction Well (Inactive)
- YCW16-1 — Combination Well
- Younts — Residential Well

Notes

1) Groundwater elevation contours were drawn using only monitoring wells with water levels within the screened interval. For nested wells that the shallow screen was "Dry", the elevation in the deep screen was used (noted with an *).
2) GEW-7, 16, & 17 were online during gauging.
3) ft/ft = feet per foot

Approximate Scale in Feet

0 800 1600

Figure 3-1
Groundwater Elevation Map
(October 2016)

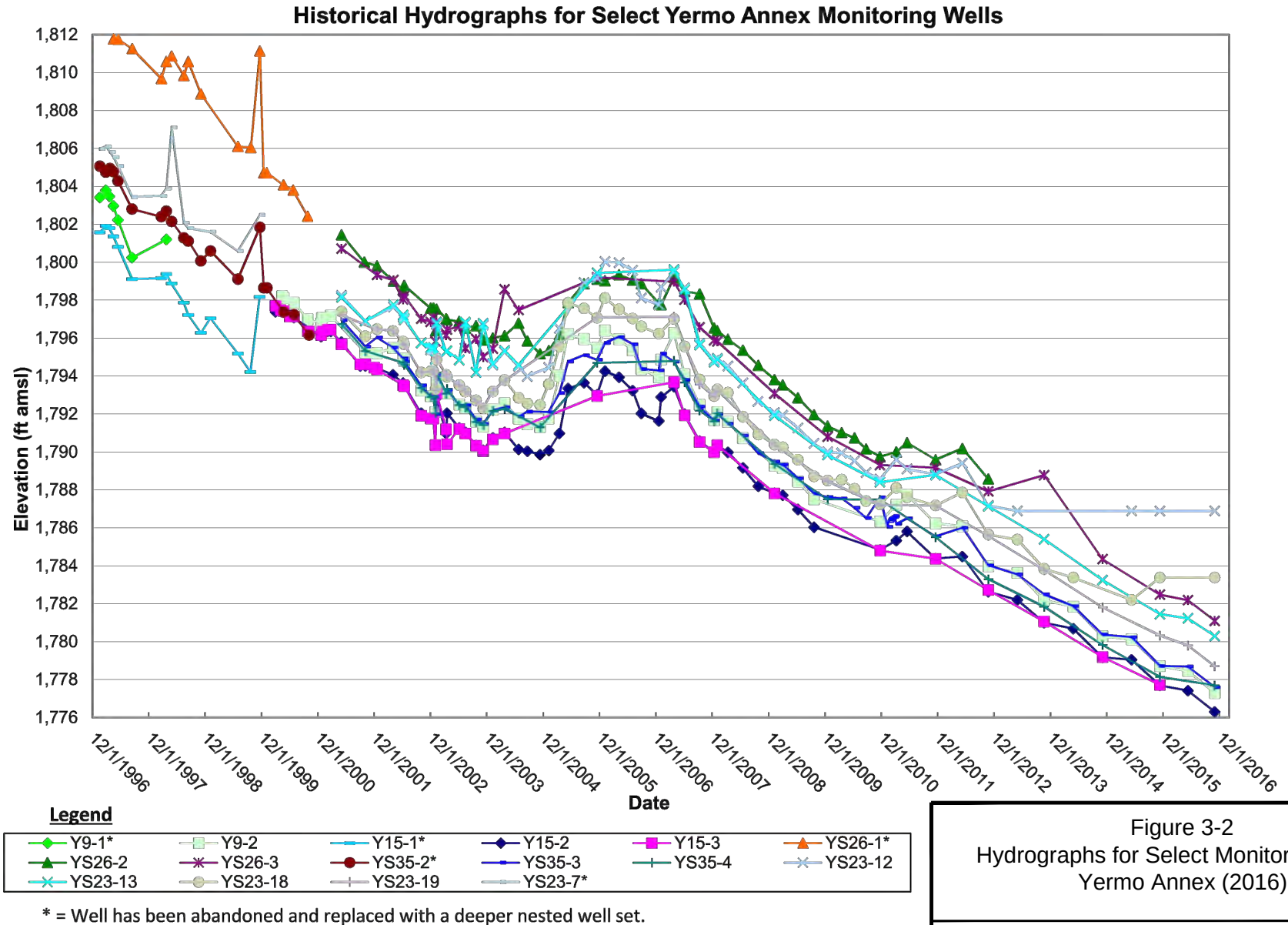
Yermo Annex
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: June 19, 2017

File: Barstow_5yrRev - 2017.dwg

Plotted By: Adam Goldenberg



* = Well has been abandoned and replaced with a deeper nested well set.

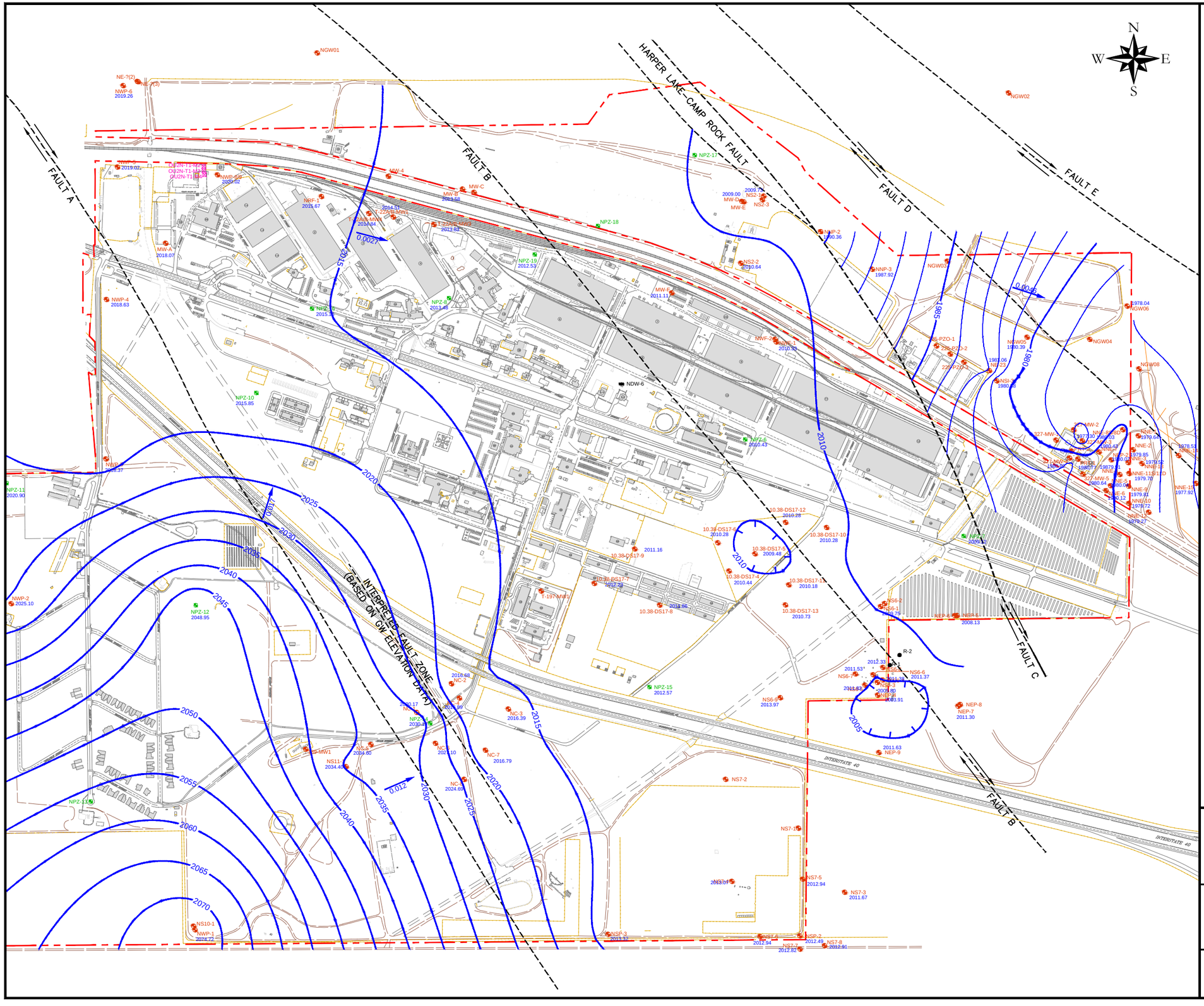
Figure 3-2
Hydrographs for Select Monitoring Wells,
Yermo Annex (2016)

Yermo Annex
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: March 20, 2017

File: Barstow_Hgraphs.dwg



Legend

- Paved Road
- Dirt Road
- Railroad Tracks
- Fence Line
- Base Boundary
- Groundwater Elevation Contour (5-feet and 1-foot intervals)
- Groundwater Flow Direction (With Approximate Gradient in ft/ft)
- 1980.39 — Groundwater Elevation (ft above mean sea level)
- NEP-2 — Groundwater Monitoring Well
- NPZ-8 — Piezometer
- NDW-6 — Base Groundwater Supply Well
- Fault Traces (strike-slip)

Notes

1) Groundwater elevation contours were drawn using only monitoring wells with water levels within the screened interval.

2) ft/ft = feet per foot

Approximate Scale in Feet

0 800 1600

Figure 3-3
Nebo Main Base
Groundwater Elevation Map
(November 2016)

Nebo Main Base
Marine Corps Logistics Base
Barstow, California

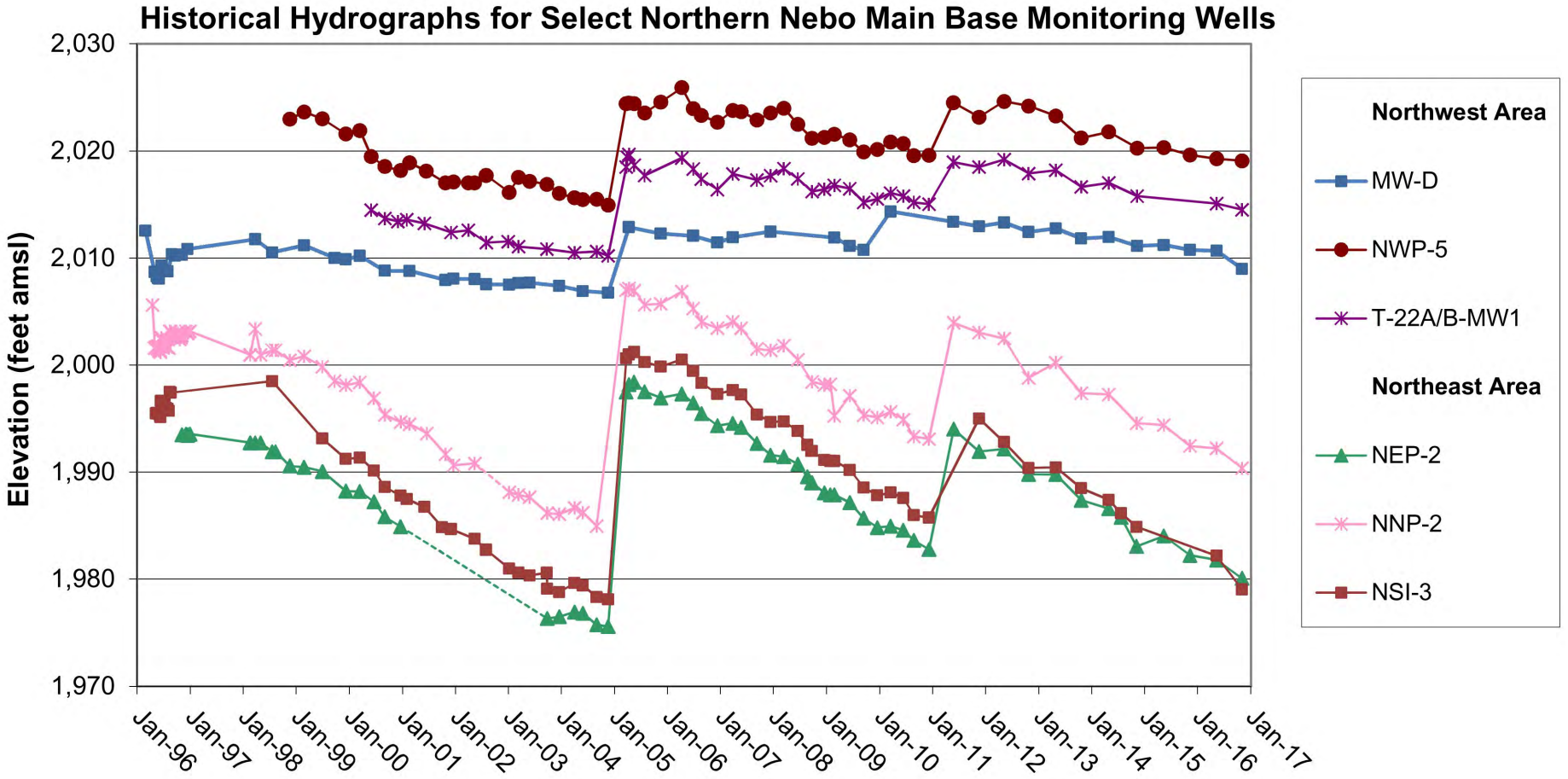
OTIE
An Oneida Nation Company

Date: June 19, 2017

File: Barstow_5yrRev - 2017.dwg

Plotted By: Adam Goldenberg

Historical Hydrographs for Select Northern Nebo Main Base Monitoring Wells



Historical Hydrographs for Select Southern Nebo Main Base Monitoring Wells

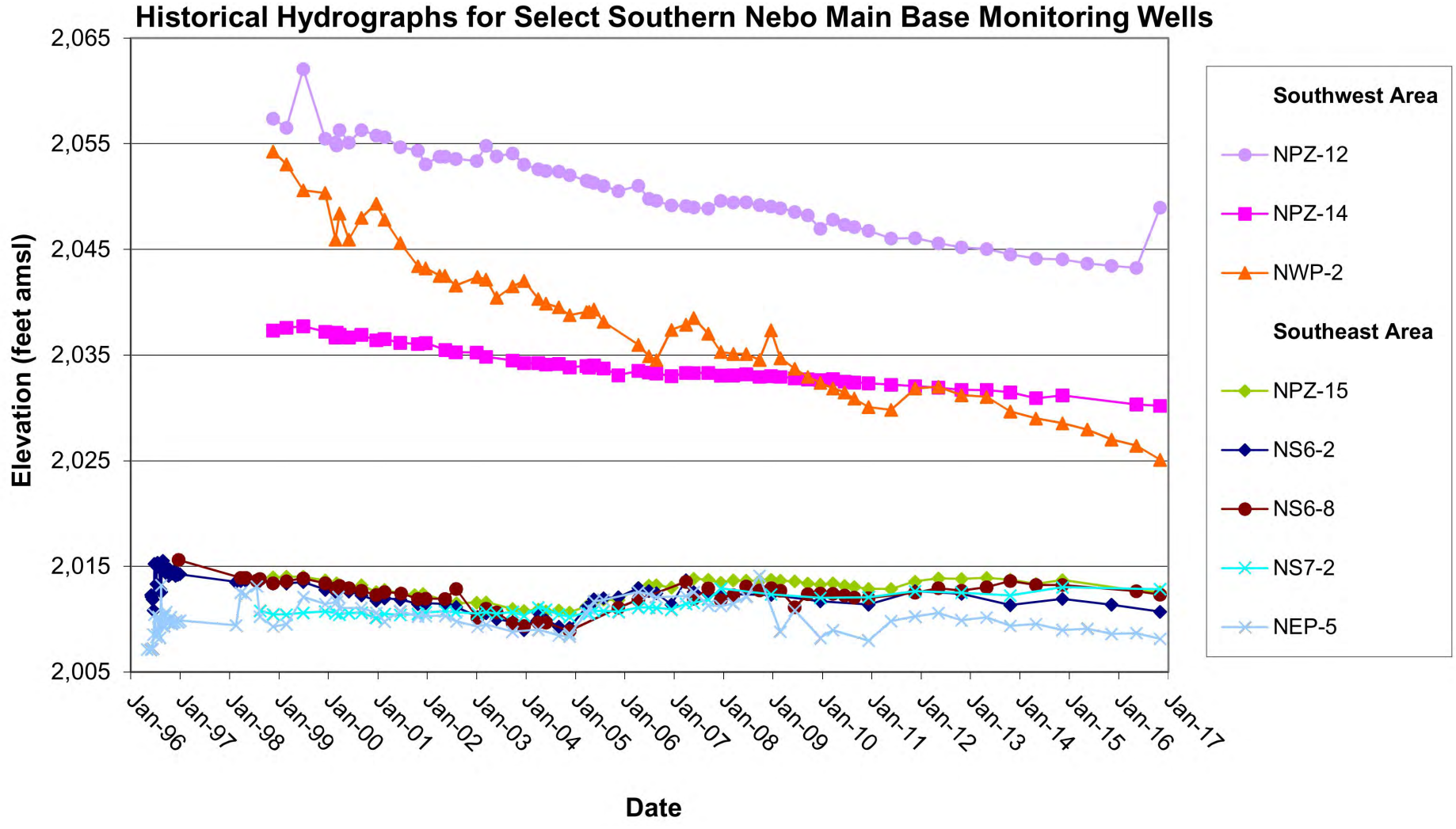


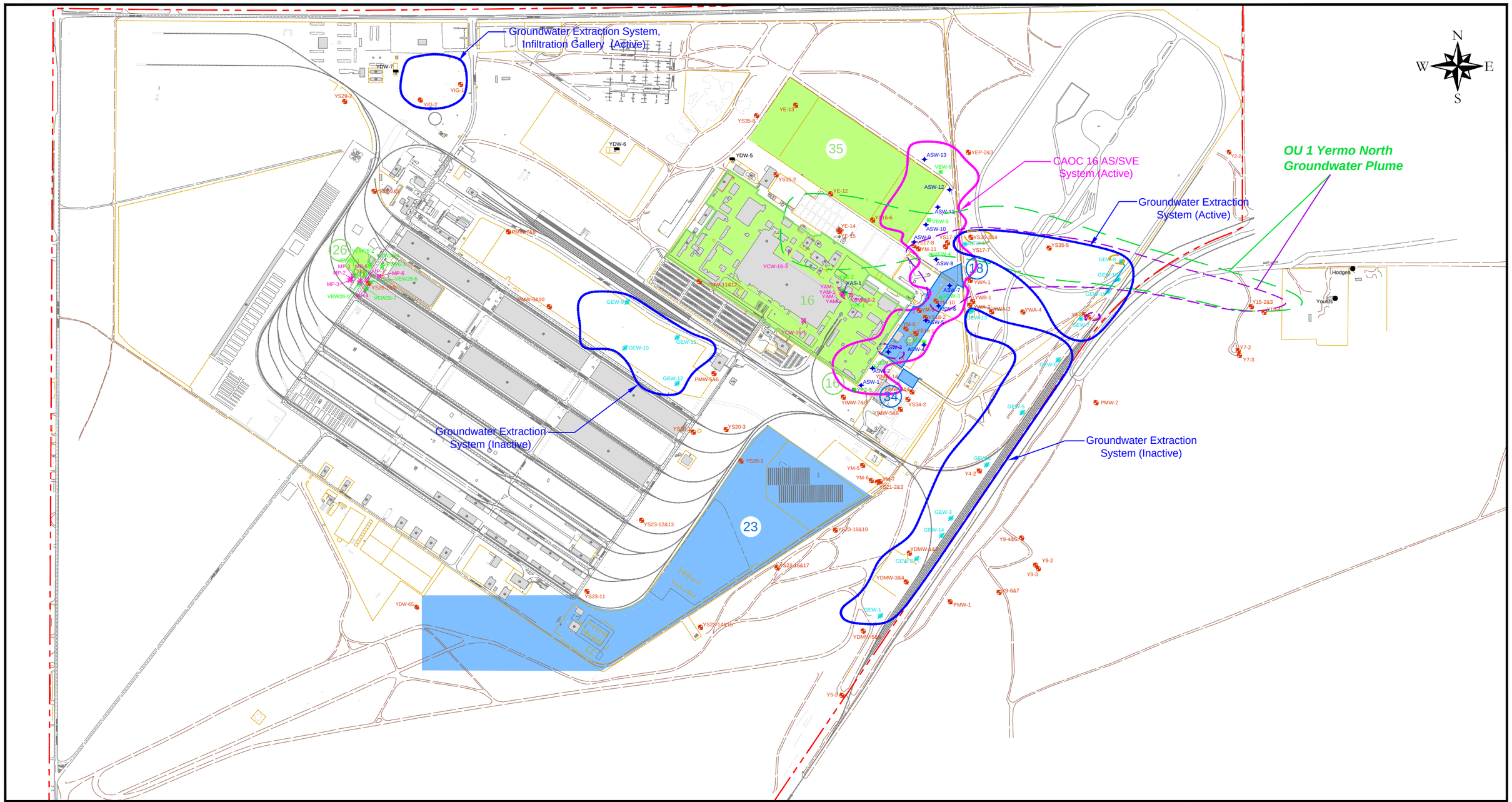
Figure 3-4
Hydrographs for Select Monitoring Wells,
Nebo Main Base (2016)

Yermo Annex
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: March 20, 2017

File: Barstow HGraphs.dwg



Legend

- Paved Road
- Dirt Road
- Railroad Tracks
- Fence Line
- Base Boundary
- Operable Unit 3 (CAOC ##)
- Operable Unit 5 (CAOC ##)
- YS29-2 Groundwater Monitoring Well
- YPZ-9 Piezometer
- YDW-5 Base Groundwater Supply Well
- GEW-7 Groundwater Extraction Well (Active)
- GEW-2 Groundwater Extraction Well (Inactive)
- VEW-1 Vapor Extraction Well
- ASW-1 Air Sparge Well
- YCW16-1 Combination Well
- Younts Residential Well
- 5 Approximate TCE Isoconcentration Contour (ug/L)
- 50 Approximate TCE Isoconcentration Contour (ug/L)
- 5 Approximate PCE Isoconcentration Contour (ug/L)
- Groundwater Flow Direction

Notes

1) Analytical results shown in ug/L (micrograms per liter) for the wells sampled during the 2016 Annual Groundwater Monitoring Event.

2) TCE = Trichloroethene
PCE = Tetrachloroethene
DCE = 1,1-Dichloroethene
CAOC = CERCLA Area of Concern
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
OU = Operable Unit

Approximate Scale in Feet

0 900 1800

Figure 5-1
OU 1 (CAOC 37) Groundwater Plumes and Remediation Systems

Yermo Annex
Marine Corps Logistics Base
Barstow, California

OTIE An Oneida Nation Company

Date: July 26, 2017

File: Barstow_5yrRev - 2017.dwg

Plotted By: Geoff Brink

N
W
E
S

Stratum 2
(NFA)

35

Zone 1 Cap
(Landfill)

Stratum 1
(Eastern Portion - NFA)

Building 573
(CAOC 16)

16

16

CAOC 16 Hardstand
Boundary

ASW-13
VEW-6
ASW-12
ASW-11
VEW-5
ASW-10
ASW-9
VEW-4
ASW-8
ASW-7
VEW-3
ASW-6
ASW-5
VEW-2
ASW-3
ASW-4
VEW-1
ASW-2
ASW-1
YVE-2
YAS-1
YVE-1

OU 1 Yermo North
Groundwater Plume

10TH STREET

Approximate Scale in Feet
0 300 600

Legend

- Operable Unit 5 (CAOC ##)
- Paved Road
- Dirt Road
- Railroad Tracks
- Fence Line
- Remediation Line
- VEW-1 Vapor Extraction Well
- ASW-1 Air Sparge Well
- 5 Approximate TCE Isoconcentration Contour (ug/L)
- 50 Approximate TCE Isoconcentration Contour (ug/L)
- 5 Approximate PCE Isoconcentration Contour (ug/L)

Notes

1) Analytical results shown in ug/L (micrograms per liter) for the wells sampled during the 2016 annual groundwater monitoring event.

2) CAOC = CERCLA Area of Concern
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
TCE = Trichloroethene
PCE = Tetrachloroethene
NFA = no further action

Figure 5-2
OU 5/OU 1 CAOC 16 AS/SVE System

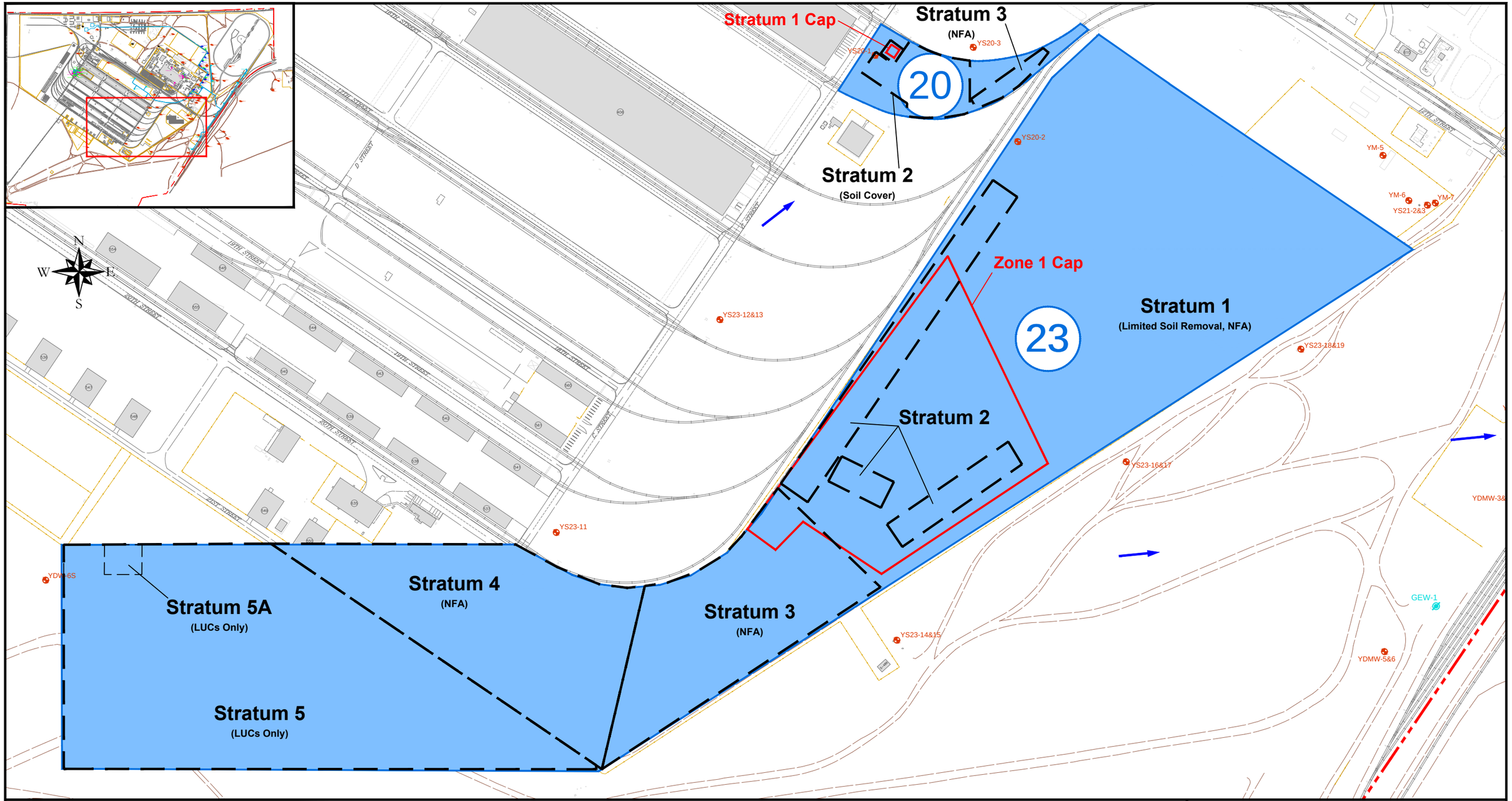
Yermo Annex
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: July 26, 2017

File: Barstow_5yrRev - 2017.dwg

Plotted By: Geoff Brink



Legend

- Paved Road
- Dirt Road
- Railroad Tracks
- Fence Line
- Remediation Line
- Operable Unit 3 (CAOC ##)
- YS23-11 Groundwater Monitoring Well
- ASW-1 Air Sparge Well
- GEW-1 Groundwater Extraction Well (Inactive)
- Base Boundary
- Concrete Cap
- Groundwater Flow Direction

Notes

1) CAOC - CERCLA Area of Concern
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
LUCs = land use controls
NFA = no further action

Approximate Scale in Feet

0 300 600

Figure 5-3
OU 3 CAOCs 20 and 23

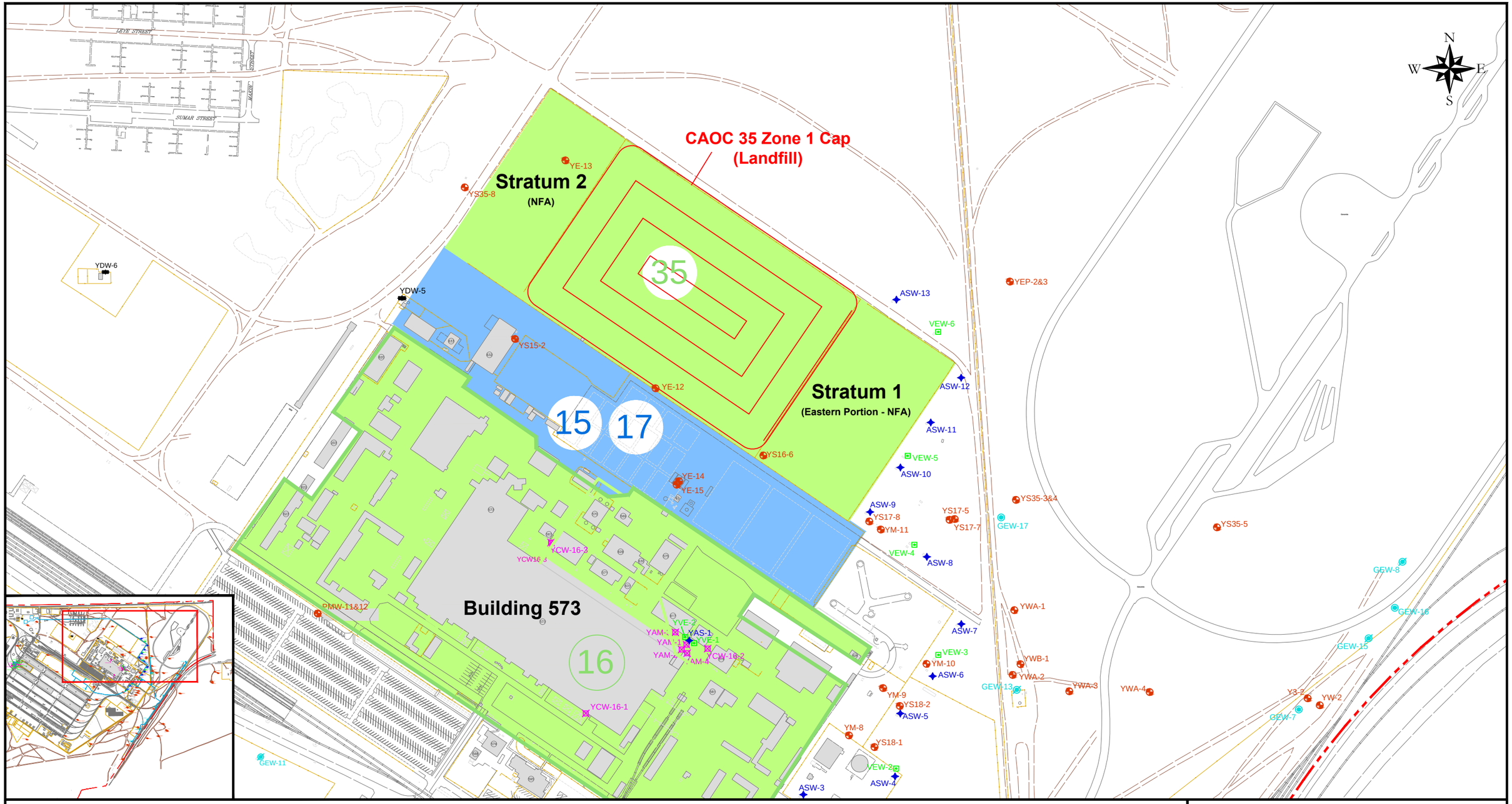
Yermo Annex
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: July 26, 2017

File: Barstow_5yrRev - 2017.dwg

Plotted By: Geoff Brink



Legend

- Paved Road
- Dirt Road
- Railroad Tracks
- Fence Line
- Remediation Line
- Base Boundary
- Operable Unit 3 (CAOC ##)
- Operable Unit 5 (CAOC ##)

YWA-2	Groundwater Monitoring Well
YPZ-9	Piezometer
GEW-16	Groundwater Extraction Well (Active)
GEW-5	Groundwater Extraction Well (Inactive)
VEW-1	Vapor Extraction Well
ASW-1	Air Sparge Well
YCW16-1	Combination Well

Notes

1) CAOC 35 Zone 1 comprises the western portion of Stratum 1, with a remedy of a soil and gravel cap, plus land use controls (LUCs). Strata 1 (eastern portion) and 2 were closed with no further action (NFA).

2) CAOC - CERCLA Area of Concern
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

Approximate Scale in Feet

0 350 700

Figure 5-4
OU 5 CAOC 35

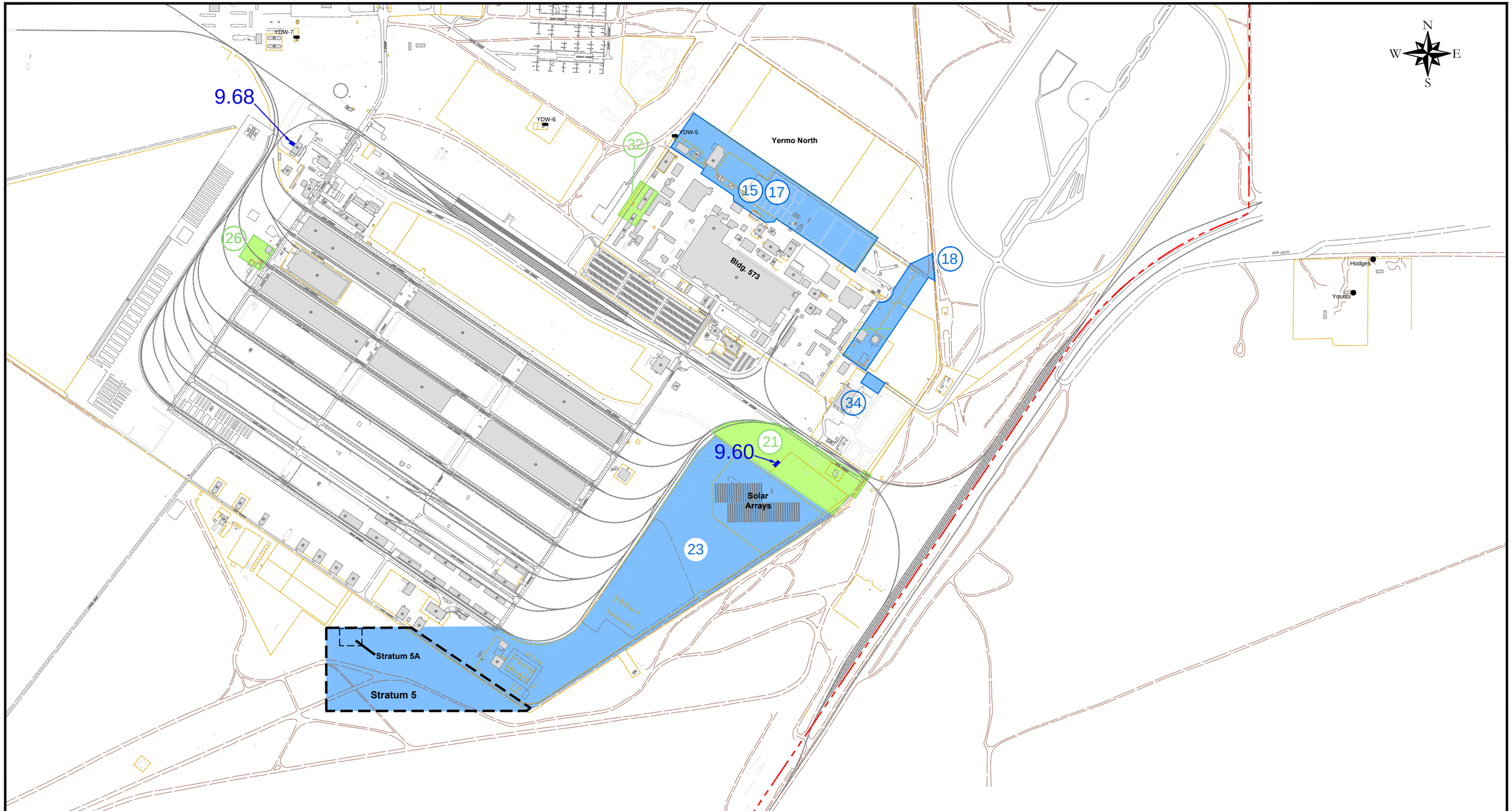
Yermo Annex
Marine Corps Logistics Base
Barstow, California

OTIE
An Otie Nation Company

Date: July 26, 2017

File: Barstow_5yrRev - 2017.dwg

Plotted By: Geoff Brink



Legend

- Paved Road
- Dirt Road
- Railroad Tracks
- Base Boundary
- Operable Unit 3 (CAOC ##)
- Operable Unit 5 (CAOC ##)

Notes

1) CAOC = CERCLA Area of Corcern
   CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
   LUCs = Land Use Controls
2) CAOCs 9.60 and 9.68 are under OU 7

Approximate Scale in Feet

0 800 1600

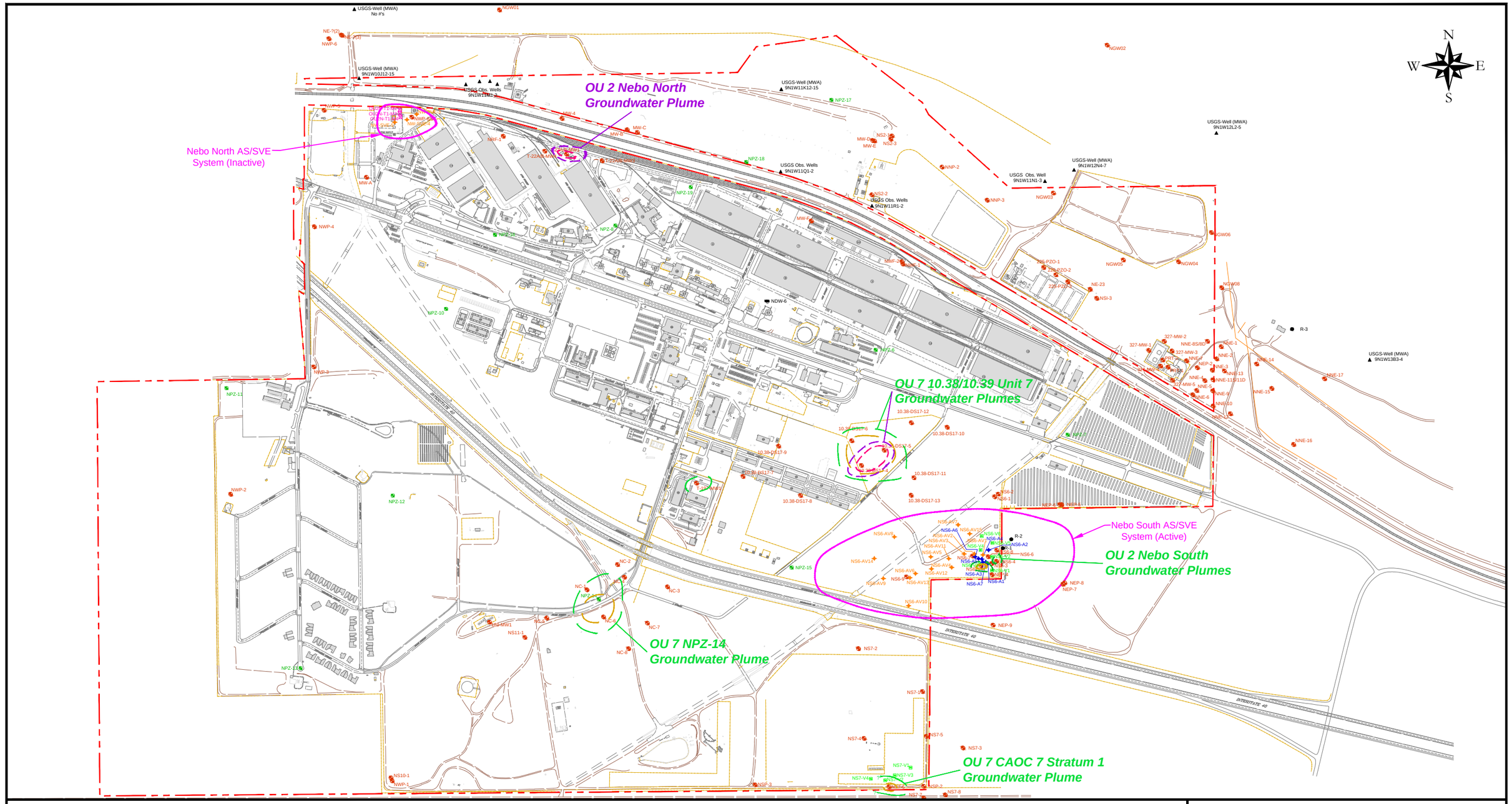
Figure 5-5
CAOCs 15/17, 18, 21, 23, 26, 32, 34, 9.60, and 9.68: LUCs Only Sites

Yermo Annex
Marine Corps Logistics Base
Barstow, California

OTIE

Date: July 26, 2017

File: Barstow_5yrRev - 2017.dwg


OU 2 Nebo North Groundwater Plume
Nebo North AS/SVE System (Inactive)
OU 7 10.38/10.39 Unit 7 Groundwater Plumes
Nebo South AS/SVE System (Active)
OU 2 Nebo South Groundwater Plumes
OU 7 NPZ-14 Groundwater Plume
OU 7 CAOC 7 Stratum 1 Groundwater Plume
N
W
E
S
USGS-Well (MWA) No #'s
USGS-Well (MWA) 9N1W10J12-15
USGS Obs. Wells 9N1W11R1-3
USGS-Well (MWA) 9N1W11K12-15
USGS Obs. Wells 9N1W11Q1-2
USGS Obs. Wells 9N1W11R1-2
USGS Obs. Well 9N1W11N1-3
USGS-Well (MWA) 9N1W12N4-7
USGS-Well (MWA) 9N1W12L2-5
USGS-Well (MWA) 9N1W13B3-4
INTERSTATE 40
Armistice Rd
NE-7(2)
NWP-6
NGW01
NGW02
NGW03
NGW04
NGW05
NGW06
NGW08
MW-A
MW-B
MW-C
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
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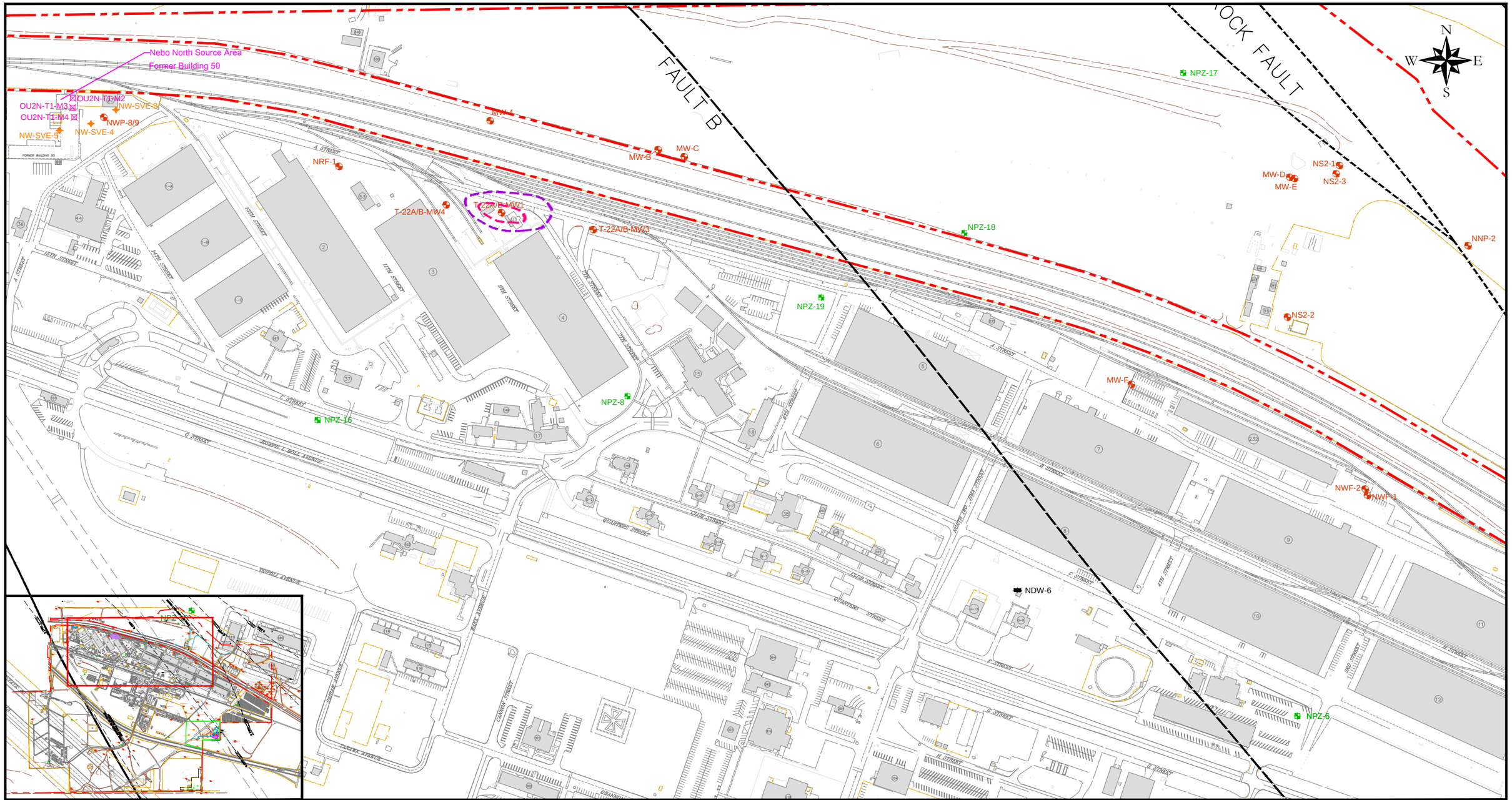
MW-41
MW-42
MW-43



Legend

Paved Road	MW-B	Groundwater Monitoring Well
Dirt Road	NPZ-8	Piezometer
Railroad Tracks	NDW-6	Base Groundwater Supply Well
Fence Line	EW-B	Groundwater Extraction Well (Inactive)
Base Boundary	NW-SVE-3	Vapor Extraction Well
Fault Traces (strike-slip)	OU2N-T1-M2	Combination Well
	5	Approximate PCE Isoconcentration Contour (ug/L)
	10	Approximate PCE Isoconcentration Contour (ug/L)

Notes

1) Analytical results shown in ug/L (micrograms per liter) for the wells sampled during the 2016 Annual Groundwater Monitoring Event.
2) The highest detection is reported when a duplicate sample is collected.
3) TCE = Trichloroethene
   PCE = Tetrachloroethene
   MCL = Maximum Contaminant Level
   ft bgs = feet below ground surface

Approximate Scale in Feet

0 350 700

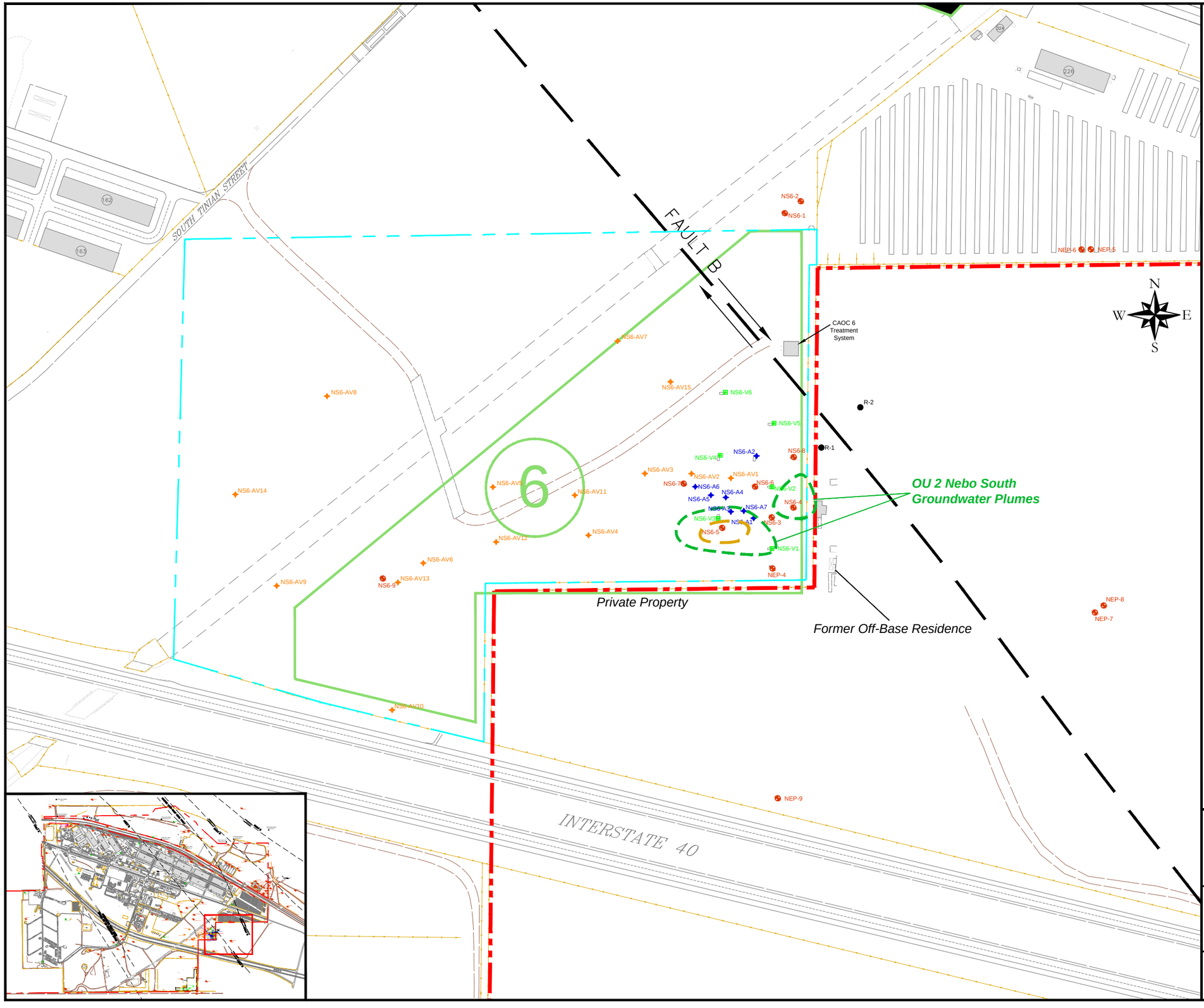
Figure 6-2
OU 2 Nebo North Source Area and Groundwater Plume (November 2016)

Nebo Main Base
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: March 27, 2017

File: Barstow_5yrRev - 2017.dwg
Plotted By: Mario Camacho



Legend

- Paved Road
- Dirt Road
- Fence Line
- Base Boundary
- Nebo South Land Use Control Boundary
- NS6-1 — Groundwater Monitoring Well
- NS6-V4 — Vapor Extraction Well
- NS6-A7 — Air Sparge Well
- NS6-AV7 — Air Sparge/Vapor Extraction Well
- R-1 — Residential Well
- 5 — Approximate TCE Isoconcentration Contour (ug/L)
- 10 — Approximate TCE Isoconcentration Contour (ug/L)
- Fault Traces (strike-slip)

Notes

1) Analytical results shown in ug/L (micrograms per liter) for the wells sampled during the 2016 Annual Groundwater Monitoring Event.
2) The highest detection is reported when a field duplicate is collected.
3) AS/SVE = Air Sparge / Soil Vapor Extraction
   TCE = Trichloroethene
   CAOC = CERCLA Area of Concern
   CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

Approximate Scale in Feet

0 200 400

Figure 6-3
OU 2 Nebo South AS/SVE System and 2016 TCE Plumes

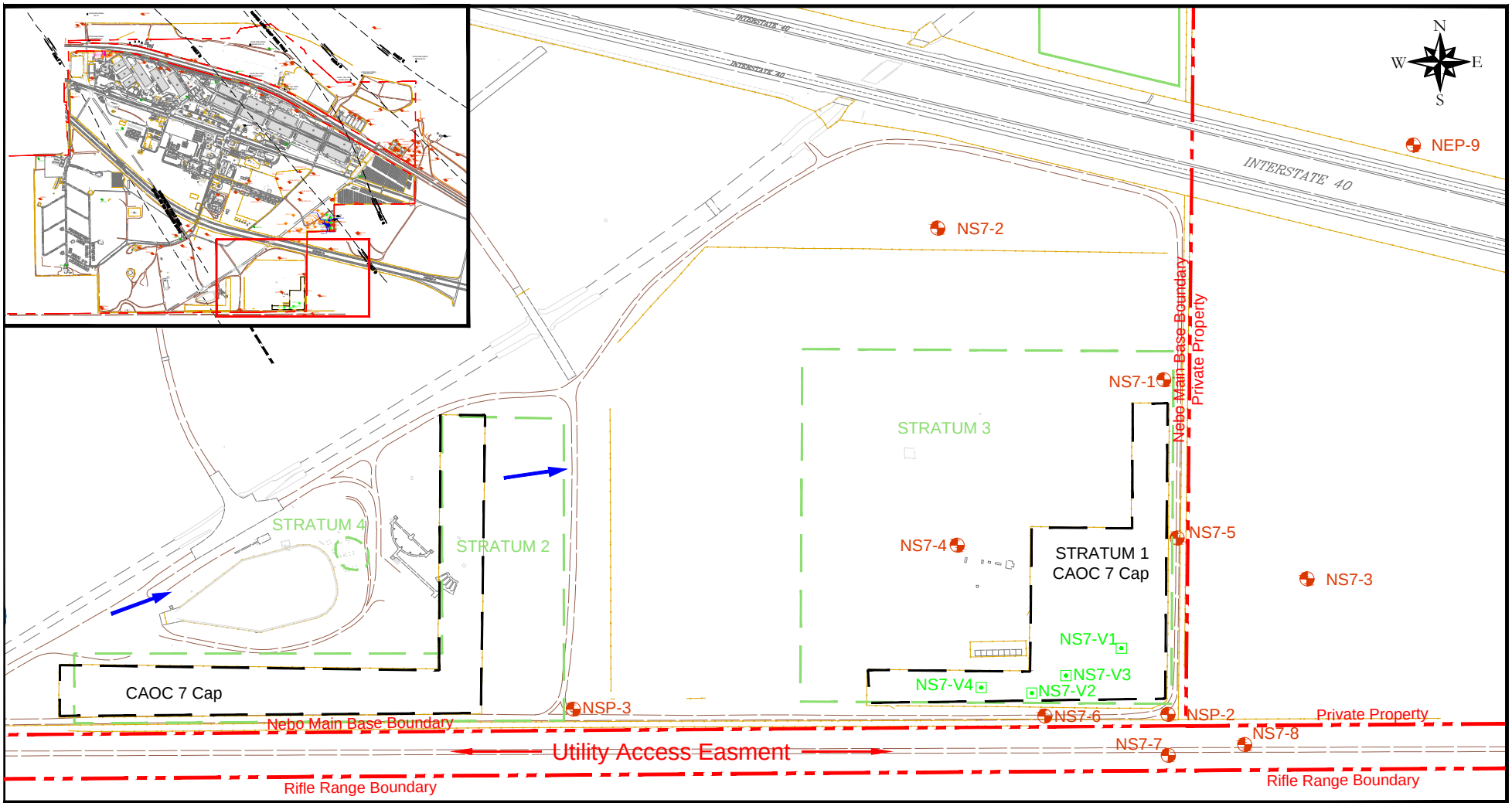
Nebo Main Base
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: June 19, 2017

File: Barstow_5yrRev - 2017.dwg

Plotted By: Adam Goldenberg



Legend

- Paved Road
- Dirt Road
- Fence Line
- Base Boundary
- CAOC 7 Boundary
- NSP-3 — Groundwater Monitoring Well
- NS7-V1 — Vapor Extraction Well
- Groundwater Flow Direction

Notes

1) CAOC - CERCLA Area of Concern
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

Approximate Scale in Feet

0 400 800

Figure 6-4
OU 6 CAOC 7 Strata 1 - 4

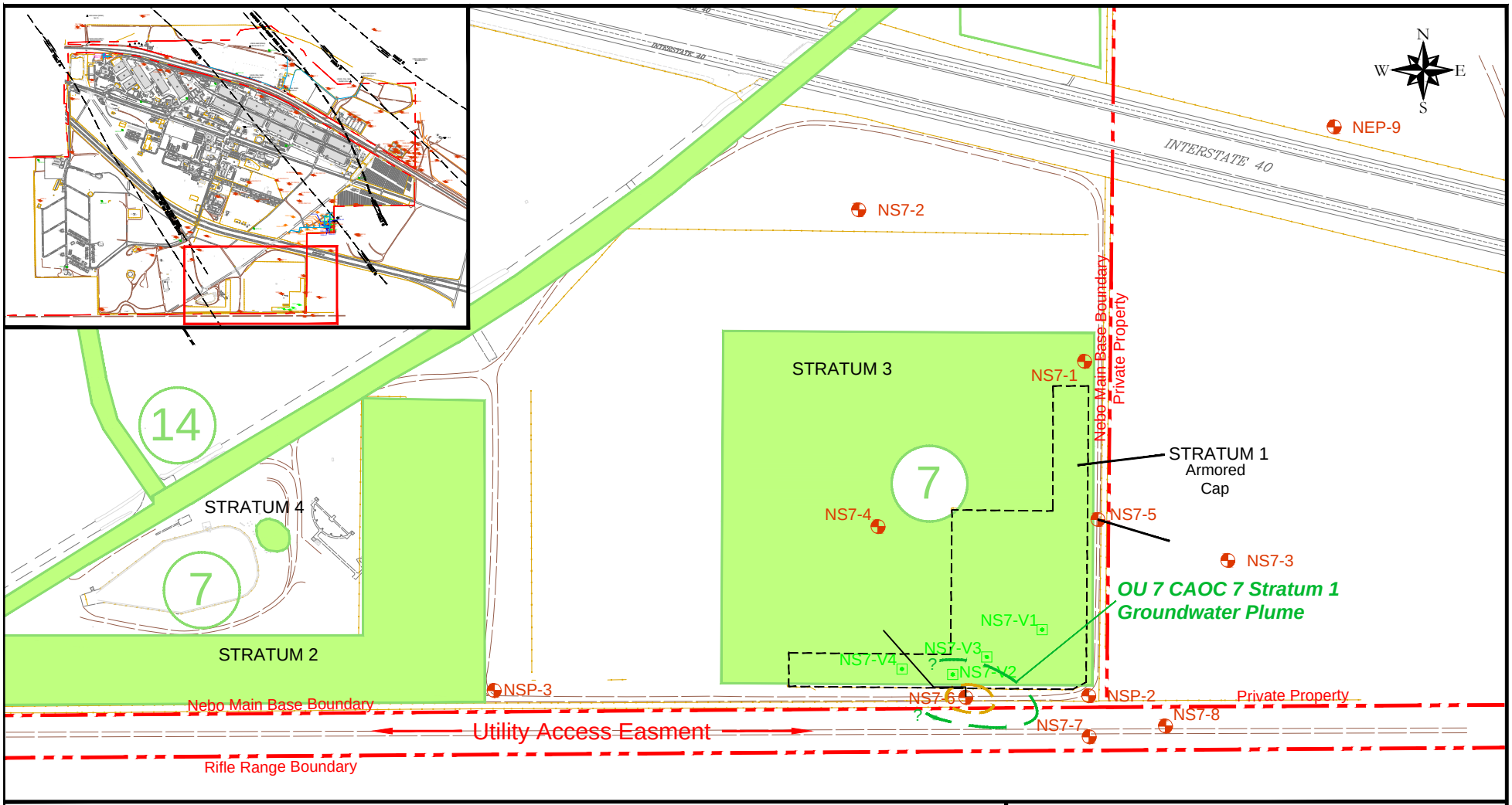
Nebo Main Base
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: June 19, 2017

File: Barstow_5yrRev - 2017.dwg

Plotted By: Adam Goldenberg



Legend

- Paved Road
- Dirt Road
- Fence Line
- Base Boundary
- Operable Unit 6 (CAOC 7)
- NSP-3 — Groundwater Monitoring Well
- NS7-V1 — Vapor Extraction Well
- 5 — Approximate TCE Isoconcentration Contour (ug/L)
- 10 — Approximate TCE Isoconcentration Contour (ug/L)
- Stratum 1 Armored Cap Boundary

Acronyms

COC = contaminant of concern
TCE = Trichloroethene
ft bgs = feet below ground surface
U = Not Detected (value indicates detection limit)
OU = operable unit
CAOC - CERCLA Area of Concern
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

Approximate Scale in Feet

0 400

Figure 6-5
OU 7, CAOC 7 Groundwater
TCE Plume (2016)

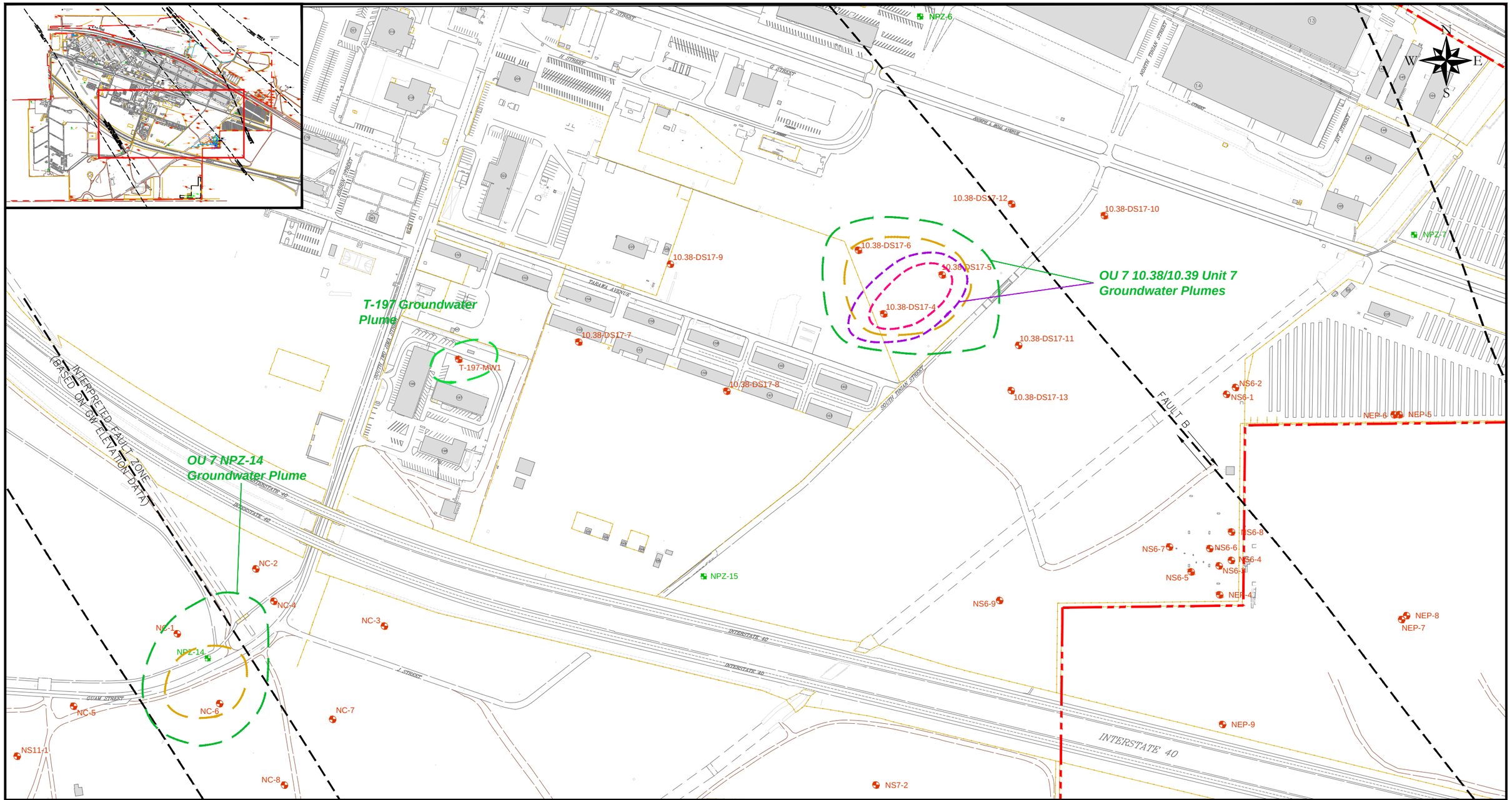
Nebo Main Base
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: May 5, 2017

File: Barstow_A16.dwg

Plotted By: Geoff Brink



Legend

- Paved Road
- Dirt Road
- Railroad Tracks
- Fence Line
- Base Boundary
- Fault Traces (strike-slip)
- MW-B — Groundwater Monitoring Well
- NPZ-8 — Piezometer
- 5 — Approximate TCE Isoconcentration Contour (ug/L)
- 10 — Approximate TCE Isoconcentration Contour (ug/L)
- 5 — Approximate PCE Isoconcentration Contour (ug/L)
- 10 — Approximate PCE Isoconcentration Contour (ug/L)

Approximate Scale in Feet

0 350 700

Notes

1)

2)

3)

Acronyms

COC = contaminant of concern
TCE = Trichloroethene
PCE = Tetrachloroethene
J = Estimated Value

ft bgs = feet below ground surface
U = Not Detected (value indicates detection limit)
OU = operable unit
CAOC - CERCLA Area of Concern
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

Figure 6-6
OU 7, NPZ-14 Area and CAOC 10.38/10.39 Unit 7 Groundwater Plumes

Nebo Main Base
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: May 5, 2017
File: Barstow_A16.dwg
Plotted By: Geoff Brink

N

1548

CAOC 11
Former Fuel Burn Area

SEE INSET 1

CAOC 10

Water
Tank

INSET 1

Soil Hot Spot
to be Removed

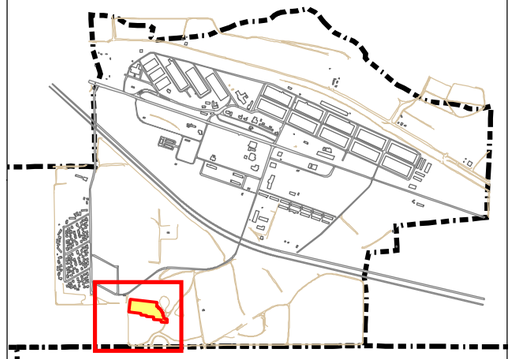
0 30
Feet

NS10-1

NWP-1

150 0 150
Feet

MCLB Barstow - Nebo Main Base



- Monitoring Well
- Aboveground Storage Tank
- 80 mg/kg Estimated Lead Isoconcentration (LeadSpread PRG90 residential RG)
- 320 mg/kg Estimated Lead Isoconcentration (LeadSpread PRG90 industrial RG)
- Geophysical Anomaly (RI, 2005)
- CAOC 10 Site Boundary and Soil LUC Boundary
- CAOC Site Boundary
- Building
- Paved Road
- Dirt Road
- Fence
- MCLB Barstow Boundary

Notes:

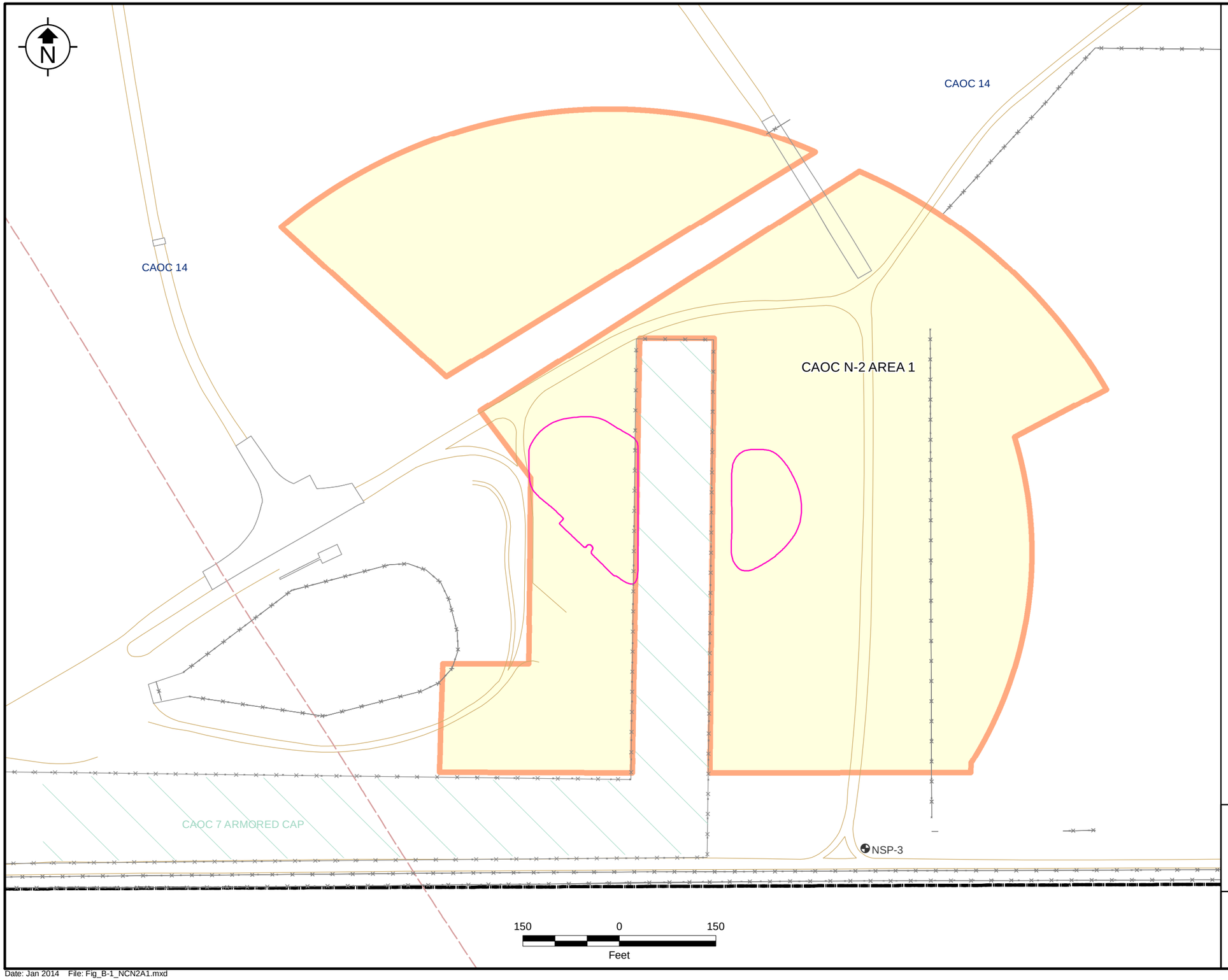
mg/kg - Milligram per Kilogram
CAOC - CERCLA Area of Concern
OU - Operable Unit
PRG - Preliminary Remediation Goal
MCLB - Marine Corps Logistics Base
LUC - Land Use Control

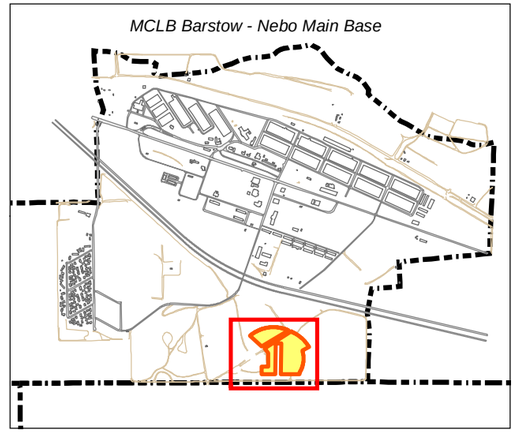
FIGURE 6-7
CAOC 10 METALLIC DEBRIS DISPOSAL AREA

Nebo Main Base
Marine Corps Logistic Base, Barstow, California

OTIE
An Oneida Nation Company

Date: Jan 2014 File: Fig_A-1_NC10.mxd





- Monitoring Well
- Clay Fragment Area
- Landfill Cap
- CAOC N-2 Area 1 Site Boundary and Soil LUC Boundary
- Paved Area
- Dirt Road
- Fence
- Fault Line "A"
- MCLB Barstow Boundary

Notes:

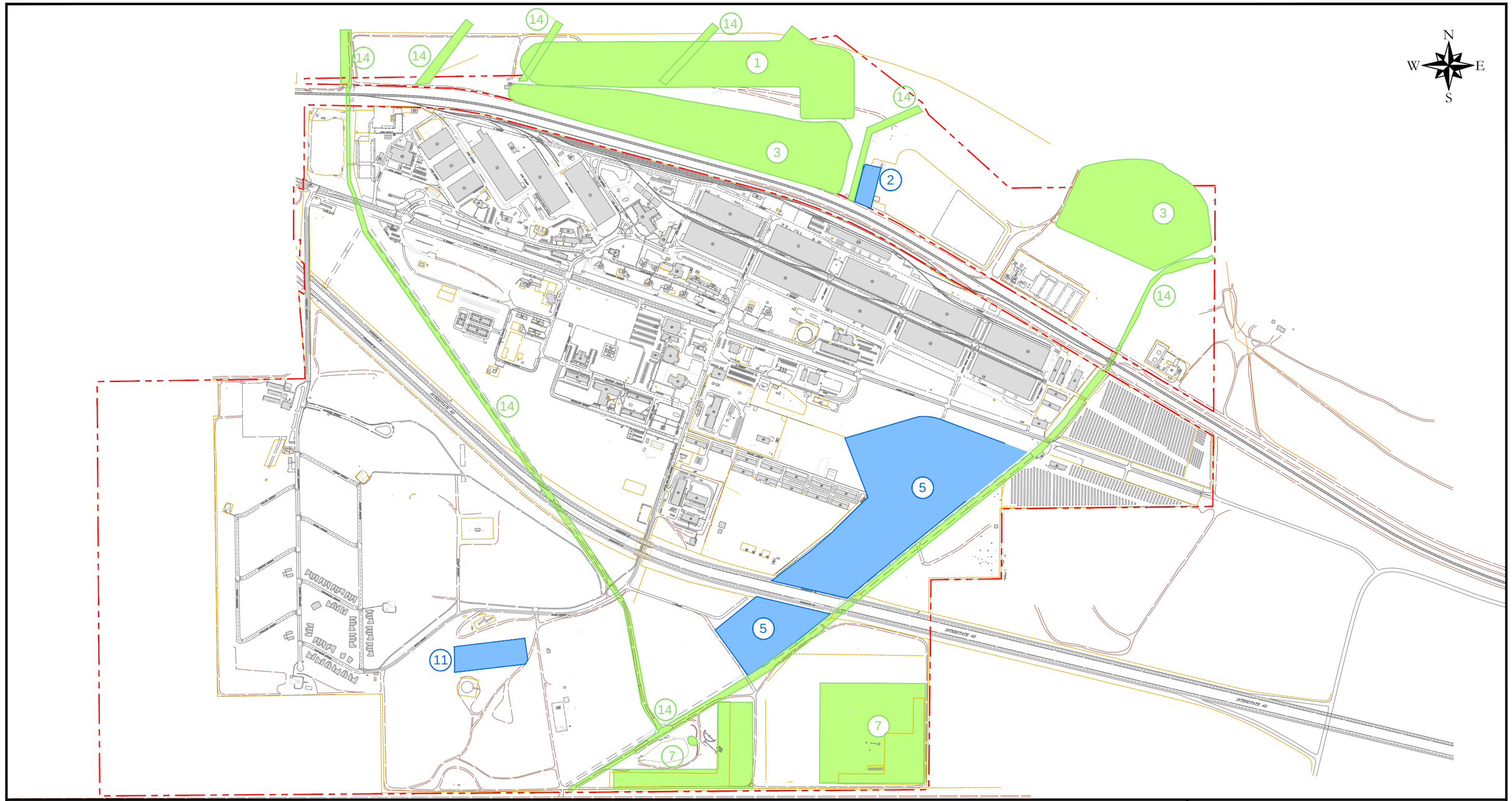
CAOC - CERCLA Area of Concern
OU - Operable Unit
MCLB - Marine Corps Logistics Base
LUC - Land Use Control

FIGURE 6-8
OU 7 CAOC N-2 AREA 1

Nebo Main Base
Marine Corps Logistic Base, Barstow, California

OTIE
An Oneida Nation Company

Date: Jan 2014 File: Fig_B-1_NCN2A1.mxd



Legend

- Paved Road
- Dirt Road
- Railroad Tracks
- Fence Line
- Base Boundary
- Operable Unit 4 (CAOC ##)
- Operable Unit 6 (CAOC ##)

Notes

1) CAOC - CERCLA Area of Concern
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
LUCs = Land Use Controls
OU = Operable Unit

Approximate Scale in Feet

0 900 1800

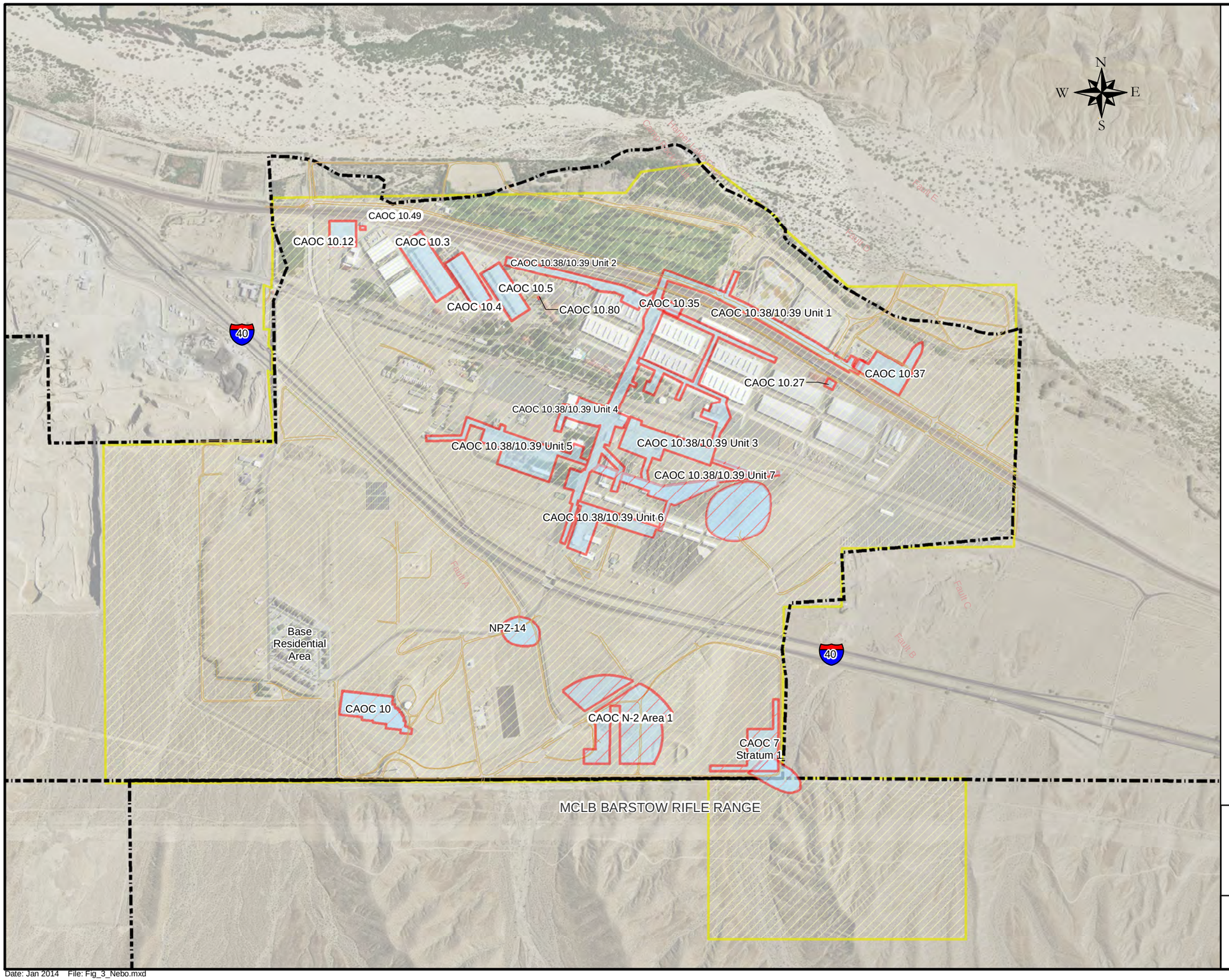
Figure 6-9
CAOCs 1, 2, 3, 5, 7, 11, and 14:
LUCs Only - OUs 4 & 6 Sites

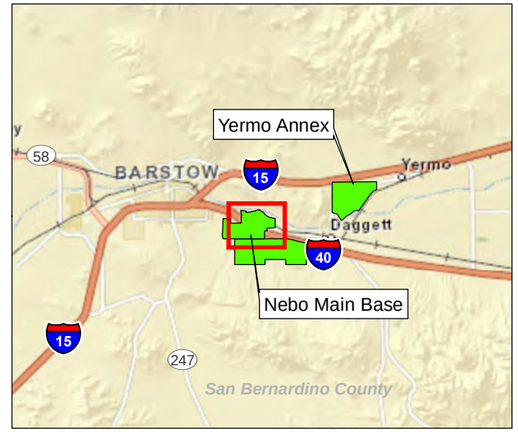
Nebo Main Base
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: May 5, 2017

File: Barstow_5yrRev - 2017.dwg
Plotted By: Geoff Brink





Actionable Site

OU 7

Land Use Control (LUC) Area for Groundwater Use Controls

Paved Road

Dirt Road

Railroad

MCLB Barstow Boundary

Notes:
CAOC - CERCLA Area of Concern
OU - Operable Unit
MCLB - Marine Corps Logistics Base

850 0 850
Feet

Figure 6-10
LUC Areas for OUs 2 and 7
Groundwater and OU 7 CAOCs
Nebo Main Base
Marine Corps Logistics Base, Barstow, California

OTIE
An Oneida Nation Company

Date: Jan 2014 File: Fig_3_Nebo.mxd

TABLES

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TABLE 2-1
Summary of OUs and CAOCs
Fourth Five-Year Review Report OUs 1 - 7
MCLB Barstow, California

OU	CAOC	Base	Description	Selected Remedy	Total Area (acres)	Areas Requiring LUCs (acres)	Area of Engineering Controls (acres)	5-Yr Review Required?	Inspection Required?
1	37	Yemo	Consists of groundwater contaminated with VOCs, primarily TCE and PCE.	Groundwater extraction and treatment, AS/SVE systems, LUCs, long-term monitoring of groundwater and soil vapor	67.72	Groundwater in contaminated area must be treated before use	Treatment System (GETS) plus wells	Yes	Yes
3	18	Yermo	Stratum 2: Drainage Channel Stratum 3: Sludge Waste Disposal Area	LUCs (Base Environmental Division review of any proposed land use changes)	5.2	Stratum 2 (0.48) (Stratum 3 (3.04)	none	Yes	No
3	20	Yermo	Stratum 1: Radium-painted dial disposal well Stratum 2: Nonradiological waste wells Stratum 3: Areas of discoloration observed in aerial photographs	Stratum 1: concrete cap modification, LTM, infiltration monitoring; groundwater monitoring (assess if groundwater contamination is occurring). Stratum 2: Limited Activities, precipitation infiltration monitoring, drainage control Stratum 3: The no action remedy was selected for CAOC 20, Stratum 3. No remedial action is planned for this stratum	2.6	2.6	Stratum 1 (0.08) Stratum 2 (1.29)	Yes	Yes
3	23	Yermo	Stratum 5: Potential waste burial area Stratum 5A: PCB-hit area Zone 1: Landfill Area	Stratum 1: Concrete cap (LTM), restriction of activities at Zone 1; groundwater monitoring under OU 1 (must comply with groundwater cleanup levels at CAOC boundary) Strata 5, 5a: LUCs (Base Environmental Division review and FFA stakeholder review of any proposed land use changes) Strata 3 and 4: NFA	71.8	Stratum 5 (19.16) Stratum 5(a) (0.26) Statum 1, Zone 1 (10.91)	None	Yes	Yes
3	34	Yemo	Stratum 1: Area covered by the former concrete basins and adjacent soils Stratum 2: Soils within the basins Stratum 3: Concrete basins	LUCs (Base Environmental Division review of any proposed land use changes)	0.58	Stratum 1 (0.58)	none	Yes	Yes
5	15 / 17	Yermo	Former industrial wastewater evaporation ponds	LUCs (Base Environmental Division review of any proposed land use changes); groundwater monitoring under OU 1 (must comply with groundwater cleanup levels at CAOC boundary)	15.98	15.98	NA	Yes	No
5	16	Yermo	Building 573 and surrounding concrete hardstand	LUCs to maintain hardstand cover (prevent exposure to possible subsurface contamination); groundwater contamination addressed under OU 1	47.69	47.69	47.69	Yes	Yes
5	19	Yermo	First Hazardous and Low-Level Radiological Area	NFA	5.8	none	none	No	No
5	21	Yermo	Industrial Waste Disposal Area	LUCs (Base Environmental Division review of any proposed land use changes)	9.96	9.96	none	Yes	No
5	22	Yermo	Domestic Wastewater Disposal Area	NFA	4.1	none	none	No	No
5	24	Yermo	Tracked Vehicle Test Area	NFA	5.5	none	none	No	No
5	25	Yermo	Waste Water Treatment and Sludge Disposal Area - removed from IRP during RI/FS with FFA approval (DON, 2007).	N/A	N/A	N/A	N/A	No	No
5	26	Yermo	Building 533 Waste Disposal Area	LUCs (Base Environmental Division review of any proposed land use changes)	0.95	0.95	none	Yes	No
5	27	Yermo	Fuel Storage Area	NFA	1.6	none	none	No	No
5	28	Yermo	West Lot Dust Control Area	NFA	149.6	none	none	No	No
5	29	Yermo	Sludge Storage Area	NFA	3	none	none	No	No
5	30	Yermo	Locomotive Repair Shop Disposal Area	NFA	0.9	none	none	No	No
5	31	Yermo	North Vehicle Test Track Road	NFA	4.1	none	none	No	No

TABLE 2-1
Summary of OUs and CAOCs
Fourth Five-Year Review Report OUs 1 - 7
MCLB Barstow, California

OU	CAOC	Base	Description	Selected Remedy	Total Area (acres)	Areas Requiring LUCs (acres)	Area of Engineering Controls (acres)	5-Yr Review Required?	Inspection Required?
5	32	Yermo	Preservation and Packaging Storage Area	NFA, except LUCs for Stratum 1 (Base Environmental Division review of any proposed land use changes)	1.2	0.42	sign	Yes	Yes
N/A	33	Rifle Range	removed from IRP during RI/FS stage with FFA stakeholder approval DON (2007).	N/A	N/A	N/A	N/A	No	No
5	35	Yermo	Stratum 1 Zone 1: Closed Class III Landfill Stratum 1 east: east of the landfill area Stratum 2: Area containing areal infrared thermographic survey anomaly (west of landfill)	Stratum 1 Zone 1: LUCs, maintain cap (Written concurrence of the FFA signatories is required before the Navy takes any action at Zone 1); groundwater monitoring under OU 1 (must comply with groundwater cleanup levels at CAOC boundary). Stratum 1 east and Stratum 2: NFA	27.9	27.9	14.77	Yes	Yes
5	36	Yermo	Paint Combat Vehicle Maintenance Shop	NFA	1.1	none	none	No	No
7	9.60	Yermo	Former location of 40,000 gallon UST (T530B)	LUCs (Base Environmental Division review of any proposed land use changes)	0.02	0.02	sign	Yes	Yes
7	9.68	Yermo	UST T-588A: Oil water separator UST T-588B French drain	LUCs (Base Environmental Division review of any proposed land use changes)	0.02	0.02	sign	Yes	Yes
7	Y-7 TA-12	Yermo	Thermal anomaly area	NFA	1	none	none	No	No
2	38	Nebo	Two VOC contaminated plumes (Nebo North and Nebo South plumes)	Nebo North source area treatment with AS/SVE, pump and treat for hydraulic containment if needed (GETS), natural attenuation of remaining groundwater VOCs after source cleaned up; Nebo South AS/SVE system to address on-site contamination and prevent off-site migration; groundwater use LUC to prevent potable use in contaminated areas	North Plume (0.84) South Plumes (0.12), (0.36)	plume areas	fencing and signs to protect remedial equipment; LUC signs at CAOC 6	Yes	Yes
4	2	Nebo	Pesticide Storage area Stratum 1: Two rectangular wash pads Stratum 3: yard	LUCs (Base Environmental Division review of any proposed land use changes)	1.87	Stratum 1 (0.01) Stratum 3 (1.86)	none	Yes	No
4	5	Nebo	Former Chemical Storage Area Stratum 1: Lots 351 and 357 Stratum 2: Lot 352 North	LUCs (Base Environmental Division review of any proposed land use changes)	47.7	Stratum 1 (28.43) Stratum 2 (15.23)	none	Yes	No
4	9	Nebo	Fuel Disposal Area	NFA	0.6	none	none	No	No
4	11	Nebo	Fuel Burn area	LUCs (Base Environmental Division review of any proposed land use changes)	3.49	3.49	none	Yes	No
6	1	Nebo	Stratum 1: Landfill area Stratum 2: Suspected landfill area Stratum 3: Sludge disposal area	LUCs (Base Environmental Division review of any proposed land use changes)	38.09	Stratum 1 (7.76) Stratum 2 (25.88) Stratum 3 (4.45)	none	Yes	No
6	3	Nebo	Stratum 1: Currently used as a golf course. Previously used as a wastewater treatment facility.	LUCs (Base Environmental Division review of any proposed land use changes)	64.9	Stratum 1 (39.31)	none	Yes	No
6	4	Nebo	Old Trap and Skeet Range Areas	NFA	4.3	none	none	No	No
6	6	Nebo	Reported to have operated as a landfill for disposal of hazardous and nonhazardous waste	NFA for soils; groundwater contamination addressed under OU 2	10.1	none (see OU 2, Nebo South)	none (see OU 2, Nebo South)	No	No

TABLE 2-1
Summary of OUs and CAOCs
Fourth Five-Year Review Report OUs 1 - 7
MCLB Barstow, California

OU	CAOC	Base	Description	Selected Remedy	Total Area (acres)	Areas Requiring LUCs (acres)	Area of Engineering Controls (acres)	5-Yr Review Required?	Inspection Required?
6	7	Nebo	Strata 1 and 2: Landfill disposal areas Stratum 3: Drum storage and spillage area Stratum 4: Former playground area	Strata 1 and 2: armored soil cap, precipitation infiltration monitoring, control access by fencing and signage, perform groundwater monitoring under OU 2. Restricted to activities include trenching, excavation or any other activity that could breach the soil cap. Strata 3 and 4: LUCs to prevent potential exposure to PCBs	30.7	Stratum 3 (17.41) Stratum 4 (0.14)	Stratum 1 (4.40) Stratum 2A (1.85) Stratum 2B (1.34)	Yes	Yes
6	8	Nebo	Building 197 Wastewater Disposal Area	NFA	0.6	none	none	No	No
6	12	Nebo	Radiator Cleaning Chemical Disposal Area	NFA	0.3	none	none	No	No
6	13	Nebo	Preservation and Packaging Storage Area	NFA	0.1	none	none	No	No
6	14	Nebo	Consists of three major stormwater drainage channels of the Nebo Main Base surface drainage system.	LUCs (Base Environmental Division review of any proposed land use changes)	24.8	Stratum 1 (13.72) Stratum 2 (0.62) Stratum 3 (0.35) Stratum 4 (0.25)	none	Yes	No
7	7 Stratum 1 (subsurface)	Nebo	Vadose zone and groundwater contamination associated with CAOC 7 Stratum 1 (capped disposal site and drum storage area).	Soil vapor extraction (SVE) of TCE from soils above the groundwater table (vadose zone); install additional monitoring wells off-base and monitor natural attenuation of groundwater contaminants. LUCs to prevent groundwater use at Nebo Main Base and a downgradient area at the Rifle Range.	4.4	Groundwater in contaminated area restricted from use	protect wells, remedial equipment; area TBD	Yes	Yes
7	10.38/10.39 Unit 7	Nebo	Soil and groundwater contamination related to industrial waste water lines and surface water drain discharges	LUCs only for soil (Base Environmental Division review before land use change); Monitored natural attenuation (MNA) of groundwater contaminants; LUCs to prevent groundwater use at Nebo Main Base.	12	Groundwater in contaminated area restricted from use	12 (monitoring well area)	Yes	Yes
7	NPZ-14	Nebo	contaminated groundwater in area of monitoring well NPZ-14	MNA of groundwater contaminants with annual evaluation of protectiveness and effectiveness; LUCs to prevent use of groundwater at Nebo Main Base.	3	Groundwater in contaminated area restricted from use	3 (monitoring well area)	Yes	Yes
7	10	Nebo	Metallic debris/sodium-filled valve burial area	Lead soil hot-spot clean-up, cap maintenance, LUCs to prevent change in land use without DON and FFA involvement.	5	5	5	Yes	Yes
7	N-2 Area 1	Nebo	Former equipment storage area/former skeet and trap range	Remove lead shot and skeet debris; excavate and properly dispose of the PCB-contaminated soil. LUCs for this site will be identified in the Base Master Plan after soil remedial actions are completed.	17	17	17	Yes	Yes
7	10.38/10.39 Units 1-6; Unit 7 soils	Nebo	Domestic (10.38) and industrial (10.39) waste water lines	LUCs only	17	17	none	Yes	Yes
7	10.27	Nebo	Building S-338 used for fire-fighting training activities	LUCs only	0.26	0.26	sign	Yes	Yes
7	10.35	Nebo	Former Domestic Wasteater Treatment Plant	LUCs only	0.78	0.78	sign	Yes	Yes
7	10.37	Nebo	Location of wastewater treatment from industrial operations	LUCs only	4.92	4.92	signs	Yes	Yes
7	10.3	Nebo	Warehouse 2, a concrete storage facility	LUCs only	5.57	5.57	signs	Yes	Yes
7	10.4	Nebo	Warehouse 3, general storage and vehicle repair	LUCs only	3.5	3.5	signs	Yes	Yes
7	10.5	Nebo	Warehouse 4, general warehouse for storage.	LUCs only	3.85	3.85	signs	Yes	Yes
7	10.12	Nebo	Former Preservation and Packaging Shop (Building 50)	LUCs only	2.12	2.12	signs	Yes	Yes
7	10.49	Nebo	Site consists of three formerly used USTs	LUCs only	0.068	0.068	none	Yes	Yes
7	10.8	Nebo	Site consists of a former 450-gallon UST	LUCs only	0.0045	0.0045	none	Yes	Yes

NOTES:

[illegible] amendments.

Engineering controls consist of fencing, signage, caps, or other controls to restrict access.

TABLE 2-1
Summary of OUs and CAOCs
Fourth Five-Year Review Report OUs 1 - 7
MCLB Barstow, California

OU	CAOC	Base	Description	Selected Remedy	Total Area (acres)	Areas Requiring LUCs (acres)	Area of Engineering Controls (acres)	5-Yr Review Required?	Inspection Required?

ACRONYMS:
AS/SVE – air sparging/soil vapor extraction
BMP – Base Master Plan
CAOC – CERCLA Area of Concern
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
FFA – Federal Facility Agreement
FS – Feasibility Study
LUC – land use control
MNA - monitored natural attenuation
N/A – not applicable (site not under a ROD, but listed for completeness)
NFA – no further action
OU – Operable Unit
RI – Remedial Investigation
UST – underground storage tank

TABLE 2-2
Chronology of Significant Events – MCLB Barstow Installation Restoration Program
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

DATE	SIGNIFICANT EVENT
1942	Marine Corps Logistics Base (MCLB) Barstow established at Nebo Main Base.
1946	Yermo Annex acquired.
1980	Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) enacted, Department of the Navy (DON) implements the Installation Restoration Program
Sept. 1983	Initial Assessment Study conducted.
1983	Trichloroethene (TCE) detected in groundwater production wells at the Yermo Annex.
1984 – 1986	Confirmation studies conducted.
1989	Groundwater production wells at Yermo Annex were connected to a granular activated carbon (GAC) system.
Nov. 1989	MCLB Barstow is placed on the CERCLA National Priorities List.
Oct. 1990	MCLB Barstow enters into a Federal Facility Agreement (FFA) with the United States Environmental Protection Agency, California Department of Toxic Substances Control, and the California Regional Water Quality Control Board. The FFA identified 7 Operable Unit (OU) throughout the Base.
Aug. 1991	Preliminary Review/Visual Site Inspection Report completed.
Feb. – Dec. 1992	Phase I Remedial Investigation (RI) conducted for OU 1 and OU 2.
Mar. – Oct. 1992	Phase I RI conducted for OU 3 and OU 4.
1992	TCE detected above the maximum contaminant level (MCL) in a private residence's drinking water well adjacent to Nebo Main Base. A time-critical removal action (TCRA) was conducted to remove the TCE impacted well from service and connect the residence to the Base water supply system.
1993	TCRA was conducted to remove residual sludge at CERCLA Area of Concern (CAOC) 15/17.
June – Sept. 1994	Phase II RI conducted for OU 1 and OU 2.
Aug. – Sept. 1994	TCRA to remove 318 tons of impacted soil from CAOC 2 completed.
1995	TCE detected above MCL downgradient of Yermo Annex eastern boundary. A TCRA was conducted to provide residences with carbon treatment systems.
Oct. 1995	OU 1 and OU 2 RI Report completed.
1996	OU 1 and OU 2 Feasibility Study (FS) Report completed.
1996	OU 1 and OU 2 Proposed Plan (PP) completed.
1996	OU 5 and OU 6 FS Report completed.
Feb. 1996	Phase I Ecological Risk Assessment conducted.
Aug. 1996	RI/ FS for OU 3 and OU 4 completed.

TABLE 2-2
Chronology of Significant Events – MCLB Barstow Installation Restoration Program
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

DATE	SIGNIFICANT EVENT
Aug. 1996	PP for OUs 3 and 4 completed.
1996 - 1998	A non-time-critical removal action for groundwater containment and cleanup was conducted at the Yermo Annex to prevent further migration of contaminants beyond the Base boundary and accelerate groundwater cleanup.
Jun. 1997	OU 3 and OU 4 ROD signed.
Jul. – Aug. 1997	TCRA to remove polychlorinated biphenyl (PCB)-impacted soils at CAOC 21.
1997	OU 5 and OU 6 Proposed Plan completed.
Jan. 1998	OU 5 and OU 6 ROD signed.
Apr. 1998	OU 1 and OU 2 ROD signed for Nebo North and Nebo South groundwater plumes.
1998 - 2000	Remedial actions at OUs 3 and 4 (CAOCs 20, 23, 7)
2001	Final CAOC 26 Technical and Economic Feasibility Report, OU 1. Yermo Annex,
2002	First Five-Year Review conducted for OUs 1 through 6.
2005	OU 7 RI Report finalized
Dec. 2005	Draft Explanation of Significant Differences for Yermo Annex Off-Base Groundwater Extraction Wells (OU 1) submitted, but was not approved by FFA regulators.
Aug. 2006	Nebo South OU 2 PP completed.
Sept.2006	Nebo South OU 2 Final ROD signed.
2007	Second Five-Year Review conducted for OUs 1 through 6.
2010	Base Master Plan amendment for OUs 1 – 6 (CAOCs with land use controls)
2007 - 2011	Nebo North source area Air Sparge /Soil Vapor Extraction (SVE) and treatment system operated until remedial action objectives (RAOs) are met
March 2011	FFA Stakeholders approve Nebo North AS/SVE system TEF and the system is put on maintenance only operations.
Sept. 2009	OU 2 Nebo South Land Use Control (LUC) Remedial Design (RD) plan finalized.
Mar – June 2010	Extraction well (GEW-16) installed to improve hydraulic control of Yermo North plume
Sept. 2010	OU 7 Supplemental RI Report finalized
July 2011	Memorandum post-ROD update describing the change in location of the Nebo North source area and RA treatment system.
June 2012	Final Report: Additional Sampling at CAOC 10.38/10.39 Unit 7 and CAOC N-2 Area 1 in Support of RI at OU 7
Feb – Apr. 2012	Extraction well GEW-17 installed to improve capture of Yermo North plume
2012	Third Five-Year Review conducted for OUs 1 through 6

TABLE 2-2
Chronology of Significant Events – MCLB Barstow Installation Restoration Program
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

DATE	SIGNIFICANT EVENT
Feb. 2013	Technical Memorandum for Additional groundwater monitoring well installation and sampling at NPZ-14 Area, OU 7, Nebo Main Base.
May 2013	OU 7 FS finalized
June – Sept. 2014	Additional groundwater monitoring wells installed at CAOC 10.38/10.39 Unit 7, NPZ-14, and CAOC 7 Stratum 1 (OU 7, Nebo Main Base)
Dec. 2014	OU 7 ROD signed
2015	OU 7 plans completed: Monitored Natural Attenuation (MNA) RD/RA Work Plan; LUC RA Work Plan; LUC signage installed; updated Long Term Management and sampling and analysis plan for MNA monitoring
Mar. 2015	Nebo North groundwater extraction and treatment system (GETS) and CAOC 26 above-ground AS/SVE systems decommissioned
2016	CAOC 7 Stratum 1, pre-design SVE pilot study conducted
2017	Fourth Five-Year Review conducted for OUs 1 through 7

ACRONYMS:

CAOC – CERCLA Area of Concern
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
FFA – Federal Facility Agreement
FS – Feasibility Study
GEW – groundwater extraction well
LUC – land use control
MCL – maximum contaminant level
MCLB – Marine Corps Logistics Base
MNA - Monitored Natural Attenuation
mg/kg – milligrams per kilogram
OU – Operable Unit
PCB – polychlorinated biphenyl
PP - Proposed Plan
RA – Remedial Action
RD - Remedial Design
RI – Remedial Investigation
ROD – Record of Decision
SVE – soil vapor extraction
TCE – trichloroethene
TCRA – time-critical removal action

TABLE 4-1

Site Inspections Findings - Summary For CAOCs with Activities
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

OU	CAOC	Base	Description of Structure/Activity	Activity Period (Start – Completion Dates)	Were activities coordinated with MCLB Barstow Environmental Department?
6	3	Nebo	Golf course clubhouse trailer was constructed on top of soil surface (no subsurface penetrations)	September 2014	yes
5	16	Yermo	Open trench through the hardstand at the northeast corner of CAOC 16 hardstand to repair water line rupture[1]	Excavated April-May 2017; repaired June 2017	yes
5	16	Yermo	2 new slab on-grade buildings (640, 641) were constructed on CAOC 16 hardstand during this Five-year review period	Building 640 (2013-2014) Building 641 (2016-2017)	yes
5	16	Yermo	Inside Building 573, the concrete floor under the former dip tanks was completely removed and replaced. This area is in the far northwest area of Building 573.	March – May 2016	yes
5	16	Yermo	Demolished former cooling towers for engine test stand on CAOC 16 hardstand	2013-2014	yes

See Appendix B for interviews and site inspections documentation

ACRONYMS:

CAOC – Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Area of Concern
LUC - land use control
MCLB – Marine Corps Logistics Base
MDMC – Marine Depot Maintenance Command
Nebo – Nebo Main Base
OU – Operable Unit
Yermo –Yermo Annex

TABLE 4-2

Operation and Maintenance Costs for OUs 1, 3, and 5 – Yermo Annex
Fourth Five-Year Review Reports OUs 1 – 7
MCLB Barstow, California

OU	CAOC	O&M Item	Projected & Prior Costs	Actual Costs (2012 – 2017)[1]	Comments
3	20	Cap maintenance and monitoring	**Original estimate in ROD:** $20,200 per year (for four years) **Last Five-Year Review Actual:** Average $5,000 per year	**Average per year:** $5,000	Monitoring costs funded under OU 1 groundwater monitoring.
3	23	Cap maintenance and monitoring	Original, Not estimated **Last Five - Year Review Actual:** Average $15,400 per year	**Average per year:** $15,400	Monitoring costs funded under OU 1 groundwater monitoring.
5	35	Landfill Cap maintenance and monitoring	**Original estimate in ROD:** Not available for this OU (Assumed portion of total cost estimate of $1,432,215 for capital and O&M) **Last Five-Year Review Actual**: Average $24,500 per year	**Average per year:** $24,500	Monitoring costs funded under OU 1 groundwater monitoring.
1	37	Operation of two AS/SVE systems and one GETS, groundwater monitoring	**Original estimate in ROD:** $1.2 Million per year **Last Five-Year Review Actual**: $696,000 per year	Average per year: $875,000 (O&M, monitoring, and electrical) **Approximate Repair Cost:** $537,000 (total 2012 - 2017) OU 1 CAOC 26 AS/SVE equipment decommissioning: $87,000	

NOTES:

[1]Costs provided by NAVFAC SW or estimated by O&M contractor

ACRONYMS:

AS/SVE – air sparging/soil vapor extraction
CAOC – CERCLA Area of Concern
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
GETS – groundwater extraction and treatment system
MCLB- Marine Corps Logistics Base
NAVFAC SW – Naval Facilities Engineering Command - Southwest
O&M – Operations and Maintenance
OU – Operable Unit
ROD – Record of Decisions

TABLE 4-3

Operation and Maintenance Costs for OUs 2, 6, and 7 - Nebo Main Base
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

OU	CAOC	O&M Item	Projected & Prior Costs	Actual Costs (2012 – 2017)[1]	Comments
6	7	Cap maintenance and monitoring	**Original estimate in ROD:** Not available (were part of total cost estimate of $1,273,080 for capital and O&M) **Last Five-Year Review Actual**: Maintenance: $11,000 per year	**Average per year cost:** $11,000	Monitoring costs covered under OU 2 groundwater monitoring.
2	38	O&M of two AS/SVE systems (Nebo North & Nebo South)	**Original estimate in ROD:** $1.2 million per year **Last Five-Year Review Actual**: $361,000 (O&M, monitoring, and electrical) per year	Average per year cost: $268,000 (O&M, monitoring, and electrical) **Approximate Repair costs :** $115,000 (total 2012 – 2017) Former Nebo North GETS decommissioning: $87,000	The Nebo North AS/SVE system operated for approximately 2 weeks per year twice per year; otherwise only monthly standby O&M was performed. During most of this review period, the Nebo South AS/SVE was operated on a two weeks on and two weeks off cylce, with operations focused on the residual plume area.
7	CAOC 7 Stratum 1	SVE Pilot Study (Pre-design for remedy)	No prior or projected costs (OU 7 ROD signed December 2014)	Approximate total cost: $230,000	90-day pilot study plus 30 additional days

NOTES:

[1] Costs provided by NAVFAC SW or estimated by O&M contractor

ACRONYMS:

AS/SVE – air sparge/soil vapor extraction

CAOC – CERCLA Area of Concern

CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act

GETS – groundwater extraction and treatment system

MCLB- Marine Corps Logistics Base

NAVFAC SW – Naval Facilities Engineering Command - Southwest

O&M – Operations and Maintenance

OU – Operable Unit

ROD – Record of Decision

TABLE 5-1

Yermo Annex – COACs Subject to Five-Year Review
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

OU	CAOC	CAOC Description	Remedy in Place	Review Table
1	37	Yermo groundwater impacted by VOC plumes sourced from CAOCs 16, 15/17, 23, 26, and 35; possible metals contamination from CAOC 16	Groundwater extraction and treatment with reinjection; AS/SVE; long-term groundwater and soil vapor monitoring; protection of drinking water wells with GAC treatment. ICs/LUCs to prevent exposure to contaminated groundwater	Table 5-2
5	16	Building 573 and Underground Wastewater Piping System, surrounding hardstand	ICs/LUCs to preserve hardstand (concrete cover); groundwater and vadose zone contamination addressed under OU 1	Table 5-3
3	20	Second Hazardous and Low Level Radiological Area	Concrete Cap & ICs/LUCs groundwater monitoring	Table 5-4
3	23	Capped Waste Disposal Area (Stratum 2)	Concrete Cap & ICs/LUCs groundwater monitoring under OU 1	Table 5-5
5	35	Stratum 1 Zone 1 – Class III Landfill with cap	Landfill Cap & ICs/LUCs groundwater monitoring under OU 1	Table 5-6
3	18	Sludge Waste Disposal Area	LUCs only	Table 5-7
3	23	Landfill Area (Strata 5, 5a) Waste disposal area, PCB in soils area	LUCs only	Table 5-7
5	15/17	Oil Storage Spillage & Industrial Wastewater Treatment Plant Area	LUCs only	Table 5-7
5	21	Industrial Waste Disposal Area	LUCs only	Table 5-7
5	26	Building 533 Waste Disposal Area	LUCs only	Table 5-7
3	34	PCB Storage Area	LUCs only	Table 5-7
5	32 Stratum 2	Building 203 (Preservation Shop) and perimeter (PCBs in soils area)	LUCs only	Table 5-7
7	9.60	Former USTs T-530A and T-530B	LUCs only	Table 5-7
7	9.68	Former oil/water separator T-588A and French drain T-588B	LUCs only	Table 5-7

ACRONYMS:

AS/SVE – Air Sparging and Soil Vapor Extraction System

CAOC – CERCLA Area of Concern

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

GETS – Groundwater Extraction and Treatment System

ICs/LUCs – Institutional Controls/Land Use Controls

OU – Operable Unit

PCB – polychlorinated biphenyls

USTs – underground storage tanks

TABLE 5-2
CAOC 37 (OU 1) - Yermo Annex – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 37 (OU 1) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, and Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Change in CAOC conditions since signed Record Of Decision (ROD) and Third Five-Year Review**
Applicable ROD	OUs 1 and 2 ROD (DON 1998a)	None
Site Description (see Figure 5-1)	OU 1 comprises the groundwater and vadose zone contamination at the Yermo Annex; the DON lists CAOC 37 as the sole groundwater CAOC in OU 1. During initial environmental investigations at the Yermo Annex, three commingled dissolved-phase volatile organic compound (VOC) plumes were identified including the CAOC 26 plume, Yermo North plume, and Yermo South plume. The sources for groundwater contamination were identified as: • CAOC 26 - a former chemical packaging area, which was closed with land-use controls under the OUs 5 and 6 ROD (DON 1998b); • CAOCs 16, 15/17, and 35 for the Yermo North plume; these CAOCs have soil remedies under the OUs 5 and 6 ROD (DON 1998b); and • CAOC 23 (capped landfill area) for the Yermo South plume; this CAOC has a remedy under the OUs 3 and 4 ROD (DON 1997). The OU1 contaminants of concern (COCs) included VOCs, primarily trichloroethene (TCE) and tetrachloroethene (PCE), and 1,1-dichloroethene (1,1-DCE). Since VOCs had impacted the drinking water aquifer beneath Yermo Annex and one of two off-Base residential wells, the Department of the Navy (DON) implemented an interim response action including: 1. Installation of groundwater extraction and treatment system (GETS) to capture and treat the identified on-Base VOC plume. Treatment was through granular activated carbon (GAC); 2. Installation of GAC treatment systems connected to two off-Base private residential drinking water wells (Yount and Hodges) in 1995; and 3. Monitoring of the existing GAC treatment on the Base water supply production wells.	The VOC plumes associated with CAOCs 26 and 23 have diminished to below the respective cleanup levels; the Yermo North plume is the remaining plume with concentrations above the groundwater cleanup levels (see Figure 2-2).
Basis of Response Action	**Groundwater Cleanup**: The Regional Water Quality Control Board - Lahontan Region (1995) classified the aquifer underlying the Yermo Annex as a potential drinking water source. The ROD considered both background levels and maximum contaminant levels (MCLs) as cleanup goals to protect human health and the environment. Remediating to background levels versus MCLs would result in only a minimal incremental difference in risk reduction and mass removal while doubling the cleanup costs and duration. Therefore, it was concluded that cleanup to background levels was technically and economically infeasible. Therefore, the DON selected the MCLs as the cleanup goals for the Yermo Annex VOC plume. **Vadose Zone Cleanup**: Vadose zone contamination was determined to exist at five major CAOCs underlying the Yermo Annex: 16, 15/17, 23, 26, and35. Continued releases to groundwater from these CAOCs could reduce the effectiveness of remediation efforts and extend the duration of cleanup;	The Water Quality Control Plan for the Lahontan Region (updated September 2015) classifies the regional aquifer (Lower Mojave River Valley) underlying the Yermo Annex as having the following present and potential beneficial uses: municipal water supply, agriculture supply, industrial service supply, and fresh water replenishment.

TABLE 5-2
CAOC 37 (OU 1) - Yermo Annex – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 37 (OU 1) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, and Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Change in CAOC conditions since signed Record Of Decision (ROD) and Third Five-Year Review**
	therefore the ROD included response actions to reduce subsurface contamination at CAOCs 16, 15/17, and 26. Landfills: Installation of caps (under separate RODs) was considered sufficiently protective of groundwater for CAOCs 23 and 35 (landfill areas), however long-term monitoring is required.	
Remedial Action Objectives (RAOs)	Groundwater cleanup levels for VOCs were established to prevent human exposure to unsafe levels of COCs and are based on secondary and primary MCLs as measured by groundwater monitoring wells. Vadose zone cleanup standards are based on removal of VOCs from soils to levels that will not cause groundwater to exceed the groundwater cleanup standards. The RAOs are defined by CAOCs, as summarized below: • CAOCs 16 and 26 groundwater contamination - the RAO is to achieve and maintain compliance with groundwater cleanup standards throughout the contaminant plumes at these CAOCs; • CAOCs 16 and 26 vadose zone contamination - the RAO for vadose zone cleanup at these CAOCs is to remove contaminant mass in the subsurface soils to the degree necessary to 1) prevent further degradation of the groundwater above groundwater cleanup standards and 2) minimize the aquifer clean up time; and • CAOCs 15/17, 23 and 35 groundwater contamination - the RAO is to attain groundwater cleanup levels at a "point of compliance" at the downgradient edges of these units (the selected remedy does not include vadose zone cleanup at these CAOCs).	Selected RAOs remain the same as specified in the OUs 1 and 2 ROD (Don, 1988a). *See* Appendix C for the technical review of toxicity data, cleanup levels, and RAOS.
Selected Remedy (OUs 1 and 2 ROD, Section 1.4.1)	The selected remedy for OU 1 consists of: • Remedy all the contaminant plume that exceeds the MCL, except directly beneath waste management areas/waste management units (CAOCs 16, 15/17, 23, and 35), by extracting groundwater at three locations: 1) four on-Base wells at the CERCLA area of concern (CAOC) 26 plume downgradient boundary; 2) eight wells at the Base eastern boundary; and 3) four off-Base wells at the MCL boundary; • Treat extracted groundwater aboveground by activated carbon units; • Operate existing AS/SVE systems for groundwater/vadose zone source removal at CAOC 26, and for groundwater VOC mass removal downgradient of CAOCs 16, 15/17, and 35; • Recharge treated groundwater back into the aquifer via two infiltration galleries located at the upgradient edge of the plume; • Monitor the vadose zone at CAOCs 16, 15/17, and 26 for the effectiveness of the AS/SVE systems;	No changes to the selected remedy.

TABLE 5-2
CAOC 37 (OU 1) - Yermo Annex – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 37 (OU 1) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, and Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Change in CAOC conditions since signed Record Of Decision (ROD) and Third Five-Year Review**
	• Monitor groundwater throughout the duration of the remedial action, which is estimated to take approximately 30 years, subject to evaluations of treatment effectiveness at 5-year intervals; • Monitor groundwater at CAOCs 23 and 35 subject to landfill closure requirements; • Sample groundwater quarterly for one year for five dissolved metals (nickel, chromium, antimony, thallium and aluminum) at selected wells in the area of CAOC 16 to ascertain if these metals are naturally occurring or the result of Base activities; and • Implement institutional controls to prevent use of groundwater contaminated by Base operations.	
Remedy Implementation	• The existing groundwater extraction and treatment system (GETS), installed in 1996 as an interim remedial system, was adopted as the final selected remedy in the OUs 1 and 2 ROD. The GETS originally operated with 13 extraction wells; however, over time due to diminishment of the Yermo plume, only three extraction wells are now in operation. Two extraction wells in the Yermo North plume were replaced in 2010 and 2012; • The treated groundwater recharged to the aquifer through an infiltration gallery located upgradient of the plume; • The CAOC 26 AS/SVE system (Figure 5-1) was operated from 1996 - 1998 and was shut-down after meeting RAOs; • The northern AS/SVE system continues to be operated to remove groundwater and vadose zone contaminants downgradient of CAOCs 16, 15/17, and 35. SVE system discharges must substantively comply with the discharge standards and requirements of the local air pollution control district. The vapor GAC treatment system was discontinued with approval of the Federal Facility Agreement (FFA) stakeholders in 2006; • ICs/LUCs were implemented to restrict access to prevent the use of untreated groundwater in the area of the plume above MCLs; • The Yermo Annex on-Base water supply wells are treated through a GAC. Raw water and treated water at two productions wells is monitored monthly for VOCs and the GAC is changed out as needed by the OU 1 remedy O&M contractor; and • Off-base residential wells at two properties have GAC treatment which is monitored and maintained by the OU 1 remedy O&M contractor. The GAC is changed out as needed or at least once every three years.	The GETS remedy has been fully implemented except for the four off-Base wells at the MCL boundary. The CAOC 26 remedial treatment system was decommissioned and all surface equipment removed in 2015. The four related extraction wells were shut down between 2003 and 2005 and are scheduled for full decommissioning during 2017.

TABLE 5-2
CAOC 37 (OU 1) - Yermo Annex – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 37 (OU 1) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, and Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Change in CAOC conditions since signed Record Of Decision (ROD) and Third Five-Year Review**
System O&M	O&M of the remedial systems is the responsibility of the DON, under the Installation restoration (IR) Program. The OUs 1 and 2 ROD specified remedial monitoring to include: • Monitor the effectiveness of the AS/SVE systems treatment at CAOCs 16 and 26, as well as downgradient of CAOCs 16, 15/17, and 35; • Monitor the AS/SVE system effluent vapor concentration on a monthly basis and report quarterly total VOC emissions in comparison with the Mojave Desert Air Quality Management District (MDAQMD) maximum allowable levels (39.6 pounds/day for Total VOCs); • Monitor groundwater throughout the duration of the remedial action operations, which is estimated to take approximately 30 years and subject to evaluations of the treatment effectiveness at 5-year intervals; • Monitor groundwater at CAOCs 23 and 35 subject to landfill closure requirements; • Maintain operation of the GAC treatment systems at two Yermo Annex groundwater production wells, YDW-5 and YDW-6, including preforming monthly groundwater monitoring and spent GAC change-outs, as needed. No GAC treatment was installed at Yermo Annex production well YDW-7, which was brought on-line in May 2008, as this well is located upgradient from the Yermo plume. However, YDW-7 raw water is also sampled monthly for VOCs; and • Maintain operation of the GAC treatment systems on two off-Base private residential drinking water wells (Yount, Hodges) located east of Yermo Annex, including semiannual groundwater monitoring for VOCs and spent GAC change outs, as needed or at least one GAC change out every three years. • Sampling for antimony, thallium and aluminum was eliminated after 2012 as these metals were statistically shown to be below the lower of the respective state or federal MCLs. However, chromium and nickel sampling continued at least annually during this review period.	No changes to system O&M
Institutional Controls / Land Use Controls (ICs/LUCs)	To ensure that human health and the environment remain protected, institutional controls were implemented that include access restrictions to prevent exposure to untreated groundwater. Existing water supply wells located within the area of the plume where detected concentrations exceed the groundwater cleanup levels must have treatment to remove the contaminants. Any proposal for the use of impacted groundwater must ensure compliance with state and federal drinking water standards and be approved by the Base Environmental Division. Written concurrence with signatories of the FFA is required before the DON takes any action at a CAOC that would be inconsistent with the prohibition against use of untreated groundwater at the Yermo Annex as	No changes to the ICs/LUCs

TABLE 5-2
CAOC 37 (OU 1) - Yermo Annex – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 37 (OU 1) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, and Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Change in CAOC conditions since signed Record Of Decision (ROD) and Third Five-Year Review**
	drinking water or for domestic use. An amendment to the Base Master Plan to incorporate the ROD drinking water protection requirements was also required. The Base Master Plan (BMP) was updated in February 2010 to include all ROD-specified amendments reflecting the groundwater access and water supply well design restrictions at the Yermo Annex (Sections 18.1 and 18.6 of the BMP). The DON will provide necessary information to appropriate county agencies identifying off-Base areas impacted by past base activities including groundwater contamination exceeding MCLs. The DON will support county agencies with any technical information needed for the county to implement restrictions on construction and use of wells in the affected areas.	

CAOC 37 – Part 2: Progress Since Last Five-Year Review (2007 - 2012)		
Issues Identified In Last Five Year Review	**Recommendations/Follow-up Actions**	**Action Taken and Outcome**
The primary issue identified in the prior review was the persistence of Yermo North groundwater plume, which remained relatively stable during the prior review period. The presence of VOC mass in the vadose zone at CAOCs 16, 15/17, and 35 was suspected to be a continuing source to the Yermo North plume. Additionally, the plume continued to extend off-Base, indicating lack of hydraulic containment.	Recommendations included: • Review the OU 1 remedy and consider optimization measures and discuss with the FFA stakeholders; • Evaluate the effect of the new extraction wells installed in 2010 and 2012 on plume containment; and • Evaluate the soil vapor concentrations in source areas for the Yermo north plume.	• The DON embarked on an internal review of the OU 1 remedy beginning in 2013; the findings of the internal review and proposed steps for remedy optimization was presented to the FFA stakeholders during meetings in 2014, 2015, and 2016; and • See the detailed OU 1 remedy evaluation in Appendix D – D-1, Technical Assessment Report, and summary in following sections.
Erosion was observed around OU 1 AS/SVE wells located in the area north of CAOC 16 and east of CAOC 35. No demarcation of the OU 1 GETS infiltration gallery area is in place.	Repair erosion around wells; add signage on posts to prevent people driving onto the infiltration galleries area and any other land use.	Well head repairs were completed and LUC signage was added to infiltration gallery area in 2013 (OTIE 2014).
Access to the Hodges residence was not secured during the review period.	Formalize contact with Hodges residence owner to assess current well condition and occupancy status of this property.	The DON has tried repeatedly to contact the Hodges property owner without success.

TABLE 5-2
CAOC 37 (OU 1) - Yermo Annex – Five Year Review Summary
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CAOC 37 – Part 2: Progress Since Last Five-Year Review (2007 - 2012)		
Issues Identified In Last Five Year Review	**Recommendations/Follow-up Actions**	**Action Taken and Outcome**
The question on if the chromium (total) and/or nickel detected in Yermo Annex groundwater are site-related COCs remained unanswered during the prior review period.	Evaluate groundwater data statistically to determine if chromium and nickel are COCs and require further investigation and/or remedial action.	Three new PVC-screened wells were installed for the metals monitoring. The resulting data set is evaluated in Appendix D – D-3 Technical Assessment Report of this report.

CAOC 37 (OU 1) – Part 3: Summary of Technical Assessment (Based on 2016 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
A. Is the remedy functioning as intended by the decision documents?	
OU 1 Plume Hydraulic Containment and Cleanup	A technical assessment of the OU 1 GETS, provided in Appendix D, D-1, concluded: • The GETS was properly operated, maintained, and optimized to the extent practicable during the review period. O&M costs are reviewed in Appendix D, D-2 O&M Costs Review; • The GETS treated discharge met the substantive requirements of the current RWQCB-Lahontan Region Order No. R6T-2004-0015 (2014) throughout the current review period; • Analysis of the Yermo North VOC plume areas and concentrations found that the TCE, PCE and 1,1-DCE plumes are declining such the remedy is demonstrated to be effective. The cause of the persistent rise in COC concentrations in GEW-8 is uncertain; however the GEW-8 area is within the capture zone of GEW-16. • The continued presence of off-Base COC concentrations (TCE and PCE) in groundwater indicate that the hydraulic containment RAO is not yet being attained despite remedy optimization measures such as increased pumping rates at GEW-16 and GEW-17 implemented during this review period.
CAOC 16 Vadose Zone and Groundwater	The OU 1 remedy of AS/SVE addresses both vadose zone and groundwater contamination at CAOC 16. The following is the conclusions of the technical assessment of the OU 1 AS/SVE system provided in Appendix D, D-1 Technical Assessment Report. • The groundwater RAO for CAOC 16 is not yet attained, although declining PCE and 1,1-DCE concentrations within the on-Base portions of the plume indicate progress is being made on groundwater cleanup; • The AS/SVE system is operated, maintained, and optimized to the extent practicable. Continuous operation of the AS/SVE system beginning in 2014 increased the mass removal rate. The soil vapor sampling data at three CAOC 16 vapor monitoring locations (YCW-16-1 through -3) indicate generally declining TCE and PCE concentrations, with some variability and continued elevated concentrations notably at the southeast corner of Building 573; • The AS/SVE system is somewhat distant (800 feet or more east) from CAOC 16, but the radius of influence of the SVE wells is estimated to extend to 800 – 1000 feet, within the eastern portion of the site; • A lack of data on the residual mass existing beneath CAOC 16 hampers the DON's ability to evaluate and optimize the SVE portion of the remedy; and • The air-sparge wells are spaced 100 -300 feet apart which is many times the standard industry practice for design to effectively treat groundwater. Additionally, declining groundwater levels have further reduced the effectiveness of the AS wells.

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CAOC 37 (OU 1) – Part 3: Summary of Technical Assessment (Based on 2016 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
CAOCS 15/17 and 35 groundwater	CAOCs 15/17 and 35 are identified as sources for the OU 1 northern plume. The selected remedy for CAOCs 15/17 and 35 does not include vadose zone cleanup. Groundwater contamination related to these two sites is addressed by the OU 1 pump and treat and the AS/SVE remedies. Groundwater cleanup levels must be met at the CAOC boundary for each site. The following is the conclusions of the technical assessment of the OU 1 GETS provided in Appendix D, D-1. • If CAOC 15/17 and 35 are contributing to OU 1 groundwater contamination, which is not certain, the plume would probably be contained by pumping at GEW-17 and GEW-16, based on groundwater flow modeling; • There are limited monitoring locations to assess the RAO compliance point for CAOC 15/17; • The monitoring locations for CAOC 35 may represent VOC contamination related to upgradient sources (CAOC 15/17 and/or CAOC 16); and • Likely the CAOC 16 SVE wells would be treating the eastern portions of CAOC 15/17 and 35; see Section 4.2 for conclusions regarding the AS portion of the remedy.
CAOC 23 groundwater	The RAO for CAOC 23 groundwater contamination is to attain groundwater cleanup levels at a "point of compliance" at the downgradient edges of this unit. The CAOC 23 concrete cap is maintained and prevents precipitation infiltration that could result in further groundwater contamination. Since the groundwater downgradient of CAOC 23 is currently below the groundwater cleanup levels, the RAO is being met (see Appendix D, D-1 for more details).
CAOC 26 Vadose Zone and Groundwater	The CAOC 26 AS/SVE system was shut-down in 1998 as the RAOs for the system were met for the vadose zone. CAOC 26 groundwater RAOS are also met across nearly all monitoring locations. The RA system was decommissioned in March 2015. See Appendix D, D-1 Technical Assessment Report for additional details.
Metals Monitoring	See **Appendix D, D-3 Technical Assessment Report** for a statistical evaluation of the chromium and nickel data collected at the Yermo Annex. The assessment conclusions are that both metals are not chemicals of concern in groundwater downgradient of CAOC 16 or CAOC 20.
Protection of On-Base Water Supply Wells and Two Off-Base Residential Wells	The RAO to prevent exposure of humans to groundwater COCs is addressed through on-going monitoring and maintenance of GAC treatment at two on-Base groundwater production wells (YDW-5 and YDW-6). O&M of the drinking water system is the responsibility of the MCLB Barstow Public Works Division under the direction of the Base Water Resources Manager. However, monthly monitoring of VOCs and GAC change-out is as part of OU 1 remedial activities. Additionally, two off-Base private residential wells have GAC treatment systems that are monitored and maintained as part of the remedy. • The RAO to prevent exposure to OU 1 contaminated groundwater was met during the five-year review period at both on-Base and off-Base locations; and • Problems with wells (dry or non-operational) and site access (Hodges property) have prevented the DON from fully implementing the remedy at the Yount and Hodges off-Base private residences. The Appendix D, D-1 Technical Assessment Report provides additional details.

TABLE 5-2
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CAOC 37 (OU 1) – Part 3: Summary of Technical Assessment (Based on 2016 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
LUCs/ICs	The OUs 1 and 2 ROD requires ICs and LUCs to prevent exposure to contaminated groundwater: • Implementation of ICs to prevent on-Base use of untreated groundwater for domestic use: The 2010 Base Master Plan Amendment (Section 18) includes the provision that any activities planned which may affect groundwater within OU 1 need to be reviewed by the Base Environmental Division; and • The DON is to provide monitoring information on off-Base groundwater exceeding the MCLs: The DON provided the 2012, 2013, 2014, and *2015 Final Annual Groundwater Monitoring Reports* (AGMRs) to the San Bernardino County Public Information Officer. The AGMRs identify the off-Base areas impacted by groundwater contamination exceeding MCLs. San Bernardino County did not request information or technical support for restrictions on construction and use of wells in the affected areas during the review period. To the DON's knowledge, no off-Base production wells were installed within the off-Base plume boundaries.
B. Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy still valid?	
Land-use and exposure assumptions remained unchanged during the 2012 – 2017 review period. Cleanup levels for groundwater (MCLs) were unchanged since 2012. Therefore, the RAOs and selected remedies remain protective.	
C. Has new information been found that may impact the protectiveness of the remedy?	
No other information has been found that could call into question the protectiveness of the remedy.	
Summary of Technical Assessments	The RAs at OU 1 (CAOC 37) are performing or have performed as intended; the selected RAOs and remedies are still valid and are generally being met. The DON is in process with a remedy review as discussed further in Part 4.

CAOC 37 – Part 4: Current Issues (Based on 2012 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
Issues identified during the technical assessment and other five-year review activities (e.g., site inspection)	1. The OU 1 pump and treat remedy is not achieving containment of the off-Base contaminant plume. Data gaps in the off-base monitoring well network inhibit evaluation of plume dynamics, concentration distribution, and trends. 2. The long-term persistence of the Yermo North plume suggests the presence of a remaining contaminant mass at CAOCs 16, 15/17 and possibly 35. The existing soil vapor extraction (SVE) system may be located too far from the residual contaminant mass to effectively reduce vadose zone concentrations. The AS system is ineffective due to declining water levels. 3. Off-site exposure to Base groundwater plume is not suspected, however the two off-base residential wells treatment systems are not currently in operation. The Yount private well went dry in May 2016 and the Hodges well appears to be inoperable based on inspections from the public right-of-way. The DON does not have a current access agreement to the Hodges property to perform direct inspection of the well and treatment system despite repeated attempts to contact the property owner who does not live on-site. An occasional resident/trespasser has been observed at the Hodges residence. 4. The CAOC 26 groundwater and vadose zone remedies are completed; no further monitoring is required. 5. CAOC 16 groundwater chromium and nickel data indicate these metals are consistently below maximum contaminant levels and no further monitoring is required.

TABLE 5-2
CAOC 37 (OU 1) - Yermo Annex – Five Year Review Summary
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CAOC 37 – Part 4: Current Issues (Based on 2012 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
Determination of whether issues affect current or future protectiveness	Current protectiveness is not affected by the identified issues because of the operation, maintenance, and repairs of the remedial systems as well as on-going monitoring. However, future protectiveness of the remedy would be better ensured through remedy optimization and addressing the existing data gaps in vadose zone and groundwater contaminant extent.
Discussion of unresolved concerns or items raised by support agencies and the community	*Pending comments from FFA stakeholders and community* Appendix H.
Other Comments, Considerations	None

CAOC 37 – Part 5: Recommendations and Follow-up Actions (implementation by DON under oversight authority of FFA)	
Recommendations / Follow-up Actions	**Schedule for Completion**
1. Perform a data gaps investigation of the Yermo North plume to improve delineation of the northern and off-site extent. 2. Investigate the residual contaminant mass in the vadose zone at CAOCs 16, 15/17, and 35; based on the results evaluate if optimization of the SVE system is required to ensure long-term effectiveness of the remedy. Turn off the AS portion of the system. 3. Maintain contact with Yount residence on status of their private well. Continue to pursue access agreement with off-Base Hodges property owner; the situation is being elevated to the DON legal counsel who will review and pursue options to gain access to the Hodges property to ascertain status of the well and GAC system, and to make necessary repairs (if the well is operable) to meet requirements of the ROD. Additionally, upon securing access to the property, the DON will provide notification to the occupants regarding potentially contaminated groundwater. 4. Document in the Administrative Record that the response action at CAOC 26 for vadose zone and groundwater is completed and no further monitoring is required. 5. Document in the Administrative Record that detected metals in groundwater downgradient from CAOC 16 are consistently below maximum contaminant levels and no further monitoring is required.	1. A new off-base monitoring well is scheduled to be installed during June 2017. Additional potential wells locations both on-Base and off-base are under discussion with the FFA stakeholders. 2. Initial investigations are underway; the Navy will consider results of initial investigations to determine the scope and schedule for further assessments at these CAOCs. Other optimization measures can be implemented upon FFA concurrence with the recommendations. 3. Contact the Yount residence every other month to check on well status. Access the Hodges property and conduct system assessment and resident notifications as soon as legally possible. 4. Following FFA stakeholder concurrence. 5. Following FFA stakeholder concurrence.

TABLE 5-2

CAOC 37 (OU 1) - Yermo Annex – Five Year Review Summary
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ABBREVIATIONS:

AGMR – Annual Groundwater Monitoring Report
AS/SVE – air sparge/soil vapor extraction
bgs – below ground surface
BMP – Base Master Plan
CAOC – CERCLA Area of Concern
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
COCs – contaminants of concern
DON – Department of the Navy
EPA – Environmental Protection Agency
FFA – Federal Facilities Agreement
GAC – granular activated carbon
GETS – Groundwater Extraction and Treatment System
GEW – groundwater extraction well
RA – remedial action
RAO – remedial action objectives
ROD – record of decision
ROI – radius of influence
ICs – institutional controls
IR - installation restoration
LUCs – land use controls
LTGWMP – Long Term Groundwater Monitoring Plan
MCL – maximum contaminant level
MCLB – Marine Corps Logistics Base
MDAQMD – Mojave Desert Air Quality Management District
N/A – not applicable
O&M – Operation and Maintenance
OU – Operable Unit
PCE – tetrachloroethene
SAP – Sampling and Analysis Plan
TCE – trichloroethene
VOC – volatile organic compound
YDW – Yermo Drinking Water (well)

REFERENCES:

See Section 9 of the main Report

TABLE 5-3

CAOC 16 (OU 5) - Yermo Annex – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
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CAOC 16 (OU 5) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Change in CAOC conditions since signed ROD and Third Five-Year Review**
Applicable RODs	CAOC 16 OUs 5 () / 6 ROD (soils), OUs 1 and 2 ROD (groundwater)	None
Site Description	CAOC 16 consists of Building 573 and paved perimeter area, located in the northeast portion of Yermo Annex (Figure 5-2). Groundwater beneath the CAOC is impacted by VOCs and is being addressed under OU 1 (*see* Table 5-2 for groundwater remedy evaluation)	Land use remains the same; two additional buildings were constructed on the hardstand
Basis of Response Action	Soils at OU 5 CAOC 16 are impacted by VOCs, particularly TCE, PCE, and 1,1-Dichloroethene (1,1-DCE). A hardstand in the form of a concrete cap ranging in thickness from 10 to 14 inches covers the entire area. The concrete cap limits the potential for worker exposure to VOCs in soil gas (at shallow depths) and minimizes potential for impact to groundwater (from soil/soil gas VOCs) due to infiltration. Groundwater beneath CAOC 16 is contaminated with VOCs and potentially metals; remediation and monitoring of groundwater is addressed under CAOC 37 (OU 1) (*See* Table 5-2).	None (no changes to original identified COCs or the original basis of response).
Remedial Action Objectives	OUs 5 / 6 ROD: • The OU 5 RAOs are to limit the potential for worker exposure to VOCs in soil gas (at shallow depths) and minimize the potential for impact to groundwater (from soil/soil gas VOCs) due to infiltration.	None (no change to selected RAOs).
Remedy Implementation	The concrete hardstand was in place at the signing of OUs 5 / 6 ROD. The groundwater remedy for CAOC 16 is discussed in Table 5-2.	No change
Maintenance	Maintenance of the hardstand is the responsibility of Maintenance Depot Marine Corps (MDMC) in coordination with the MCLB Barstow Public Works Division and Resident Officer in Charge of Construction (ROICC) office.	During the review period, cracks observed during the prior Five-Year Review were repaired.
LUCs	The LUCs documented in the 2010 BMP Amendment include: • the physical and structural integrity of the existing concrete hardstand shall be maintained; • any excavation, damage, or removal of the concrete hardstand will be reported to the MCLB Barstow Environmental Department; and • If a change in land use is proposed that is inconsistent with the selected remedy for CAOC 16 or the land use recorded in the BMP for CAOC 16, the Department of Toxic Substances Control (DTSC), the Water Board, and the U.S. EPA will be notified of such a change, along with an evaluation of what measures will be necessary to protect human health and the environment. FFA concurrence will be obtained before such a change is implemented. The BMP amendment also describes the risk to human health and the environment that exists at CAOC 16; reference the MCLB Barstow OU 5 remedial investigation/feasibility study (RI/ FS), and subsequent ROD; that provide a legal description of the boundaries of CAOC 16. The language in the BMP amendment also includes the title and dates of the related documents and their storage location.	During the review period, seven buildings were constructed on the hardstand and one demolition occurred that involved repairs to the hard stand. Additionally, one 15-foot long trench was excavated to reveal a water line needing repairs.

TABLE 5-3

CAOC 16 (OU 5) - Yermo Annex – Five Year Review Summary
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CAOC 16 (OU 5) – Part 2: Progress Since Last Five-Year Review (2012)	
Protectiveness statements from last Five-Year Review	The selected remedy for CAOC 16 is protective of human health and the environment; however, to maintain long-term protectiveness of the remedy, promptly repair observed cracks in the concrete hardstand.
Status of recommendations and follow-up actions from last review	The cracked portions of the hardstand observed during the prior five-year review were repaired and the repairs were confirmed during a site walk conducted on March 14-15, 2017.
Results of implemented actions, including whether they achieved intended purpose	Maintenance of the hardstand and LUCs is an on-going requirement.
Status of any other prior issues	No other prior issues were identified.

CAOC 16 (OU 5) – Part 3: Technical Assessment (Based on 2012 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
A. Is the remedy functioning as intended by the decision documents?	
LUC for preservation of the existing hardstand	An initial site inspection on 14 March 2017 identified some areas of the hardstand that required repair to address cracking. Additionally, an approximately 15-foot long trench through the hardstand was observed at the northeast corner of the site; according to MDMC personnel the trench was required to find and repair a ruptured waterline. Based on a follow-up site inspection conducted on 13 June 2017, the trench was in process of being backfilled and repaired along with eroded/cracked areas of the hardstand. Two buildings were constructed in the northeast portion of the hardstand during this review period. The building construction was coordinated with the FEAD and Environmental Division; the hard stand was restored where penetrated. See Table 4-1 for a summary of the site inspection findings, and Appendix B for inspection records and interviews. Based on the available information, the LUC for preservation of the hardstand are functioning as intended by the ROD.
The existing hardstand prevents exposure of workers to shallow depth VOC soil vapors and prevents VOC migration to groundwater by infiltration.	The hardstand and buildings will generally reduce infiltration to the subsurface, and thus reduce the potential for dissolved phase VOC transport. However, the continued presence of vapor phase VOCs at depth within the vadose zone, as measured during the annual monitoring events (2012 through 2016 AGMRs), indicates the potential for exposure of workers to shallow soil vapors and/or VOC transport to the water table. Potential exposure of workers to shallow soil vapors was assessed during the Third Five-Year Review (2012); the assessment indicated vapor exposure risks were within the EPA acceptable risk range of 10^{-4} to 10^{-6} excess lifetime cancer risk. Based on modeling results, the hardstand was determined to be protective for the vapor migration pathway. The FFA stakeholders concurred with the assessment and conclusions (EPA 2013, DTSC 2013). No additional evaluation of the vapor migration pathway was performed during this Fourth Five-Year Review (see Table 5-2 for soil vapor extraction portion of the OU 1 remedy).

TABLE 5-3

CAOC 16 (OU 5) - Yermo Annex – Five Year Review Summary
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CAOC 16 (OU 5) – Part 3: Technical Assessment (Based on 2012 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
B. Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy still valid?	
There have been no changes that impact the validity of technical assumptions, toxicity data, cleanup levels, and RAOs at CAOC 16, with the exception of a lower toxicity level for TCE due to the risk of fetal abnormalities (EPA, 2012). The primary exposure pathway would be soil vapor intrusion (SVI); prior modeling showed there was a minimal risk of SVI due to the hardstand and the building configuration in conjunction with continued operation of the SVE system (*see* Third Five-Year Review, 2012). Soils at this CAOC were impacted by VOCs with predicted impacts to groundwater. Adequate soil characterization (analytical) data is not available due to the nature of the site (ongoing operations). Groundwater impacts are being addressed under OU 1 (CAOC 37). The RAOs remain unchanged. Appendix C provides additional details on the review of changes in ARARs, toxicity data, and ARARs for CAOC 16.	
C. Has new information been found that may impact the protectiveness of the remedy?	
No other information has been found that would call into question the protectiveness of the remedy.	
Summary of Technical Assessment	The LUCs to preserve the CAOC 16 hardstand concrete cap are functioning as intended by the OUs 5 and 6 ROD. See Table 5-2 for five-year review of CAOC 16 vadose zone and groundwater remedy.

CAOC 16 (OU 5) – Part 4: Issues (Based on 2012 - 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
Issues identified during the technical assessment and other five-year review activities (e.g., site inspection)	None.
Determination of whether issues affect current or future protectiveness	N/A.
Discussion of unresolved concerns or items raised by support agencies and the community	*(pending FFA Stakeholder and community review)*
Other comments, considerations	Related groundwater issues are discussed in Section 7.2 of this document.
CAOC 16 (OU 5) – Part 5: Recommendations and Follow-up Actions (implementation under oversight authority of FFA): None	

TABLE 5-3

CAOC 16 (OU 5) - Yermo Annex – Five Year Review Summary
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ACRONYMNS AND ABBREVIATIONS

1,1-DCE -- 1,1-Dichloroethene

AGMR – Annual Groundwater Monitoring Report

ARAR – Applicable Relevant and Appropriate Requirements

BMP – Base Master Plan

CAOC – CERCLA Area of Concern

CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act

COCs – contaminants of concern

DTSC – Department of Toxic Substances Control

EPA – Environmental Protection Agency

FEAD - Facilities Engineering and Acquisition Division

FFA – Federal Facilities Agreement

LUCs – land use controls

MCLB – Marine Corps Logistics Base

MDMC – Marine Depot Maintenance Command

OU – Operable Unit

PCE – tetrachloroethene

ROD – record of decision

TCE – trichloroethene

VOC – volatile organic compound

REFERENCES:

See Section 9 of the main Report

TABLE 5-4

CAOC 20 (OU 3) - Yermo Annex – Five Year Review Summary
Fourth Five-Year Review Report OUs 1-7
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CAOC 20 (OU 3) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Status, and Current Site Conditions		
	Original Site Conditions, Response, Implementation	**Change in COAC conditions since signed ROD and Third Five-Year Review**
Applicable RODs	OUs 3 and 4 ROD (DON 1997)	None
Site Description	CAOC 20, the Second Hazardous and Low-Level Radiological Area, is located on the eastern side of the Yermo Annex (Figures 1-2 and 5-3). Soil contaminants included VOCs, SVOCs, metals, and pesticides. Mathematical modeling (DON 1995) indicated that soil contamination would have limited potential impacts to groundwater. CAOC 20 consists of three strata (Figure 5-3): • Stratum 1 in the northwest corner of CAOC 20 consists of a low-level radiological waste disposal well capped by a concrete pad and surrounded by a chain-link fence. The radiological waste consisted of scrap luminescent dials. The selected remedy for this stratum is a concrete cap with engineering controls and LUCs. • Stratum 2 in the central portion of CAOC 20 consists of 31 uncapped non-radioactive waste disposal wells with a soil cover. These wells are approximately 30 feet deep and 4 feet in diameter. The non-radiological wastes consisted mainly of highly oxidizing bleaching powder. Base records document that cans, drums, pails, and barrels of chlorinated lime, calcium hypochlorite, sodium carbonate, sodium sulfate, potassium hydroxide, waste electrolytic acid, sodium-filled valves, and cans of unknown content were disposed of in these wells (JEG, 1998). The selected remedy for this area was a soil cover and LUCs. • Stratum 3 is located in the northeastern portion of the CAOC between the convergence of the railroad tracks. This stratum included areas of surface discoloration observed in aerial photographs. Determined as NFA by the OU 3 and 4 ROD. Groundwater monitoring to assess upgradient and down-gradient groundwater quality for potential contaminants related to CAOC 20 was also required. The monitoring has been conducted as part of OU 1 long-term monitoring (LTM) program at Yermo Annex.	None (land use remains same; concrete cap and LUC maintained).
Basis of Response	Soils are impacted by VOCs, SVOCs, metals, and pesticides; buried wastes have no direct analyses. The basis of the response was prevention of contaminant migration to groundwater and exposure to contaminants in excess of an ILCR of 1 x 10-6 and a Hazard Index of 1.0. While the calculated human health risk results for the soils in the area to be capped were below the acceptable risk range of 10^{-4} to 10^{-6}, uncertainties existed because of the lack of analysis of the buried waste itself.	No changes to basis of response
Remedial Action Objectives	The RAOs for Strata 1 and 2 of CAOC 20 are to limit the potential for exposure to impacted soil, and disturbance of buried wastes, and to minimize the potential for future releases to groundwater.	No change to RAOs

TABLE 5-4

CAOC 20 (OU 3) - Yermo Annex – Five Year Review Summary
Fourth Five-Year Review Report OUs 1-7
MCLB Barstow, California

CAOC 20 (OU 3) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Status, and Current Site Conditions		
	Original Site Conditions, Response, Implementation	**Change in COAC conditions since signed ROD and Third Five-Year Review**
Selected Remedy	The following are the relevant portions of the statutory determinations of the selected remedies at CAOC 20: • Modification of the BMP (DON 2010) to add LUCs that limit site activities and maintaining the existing concrete cap. • Replace the existing concrete cap at Stratum 1 to minimize rainwater infiltration. • Install drainage controls that include grading and berms to reduce rainwater infiltration and infiltration monitoring equipment at the Strata 2 soil cover, • Groundwater monitoring for four events and then assess if CAOC 20 is a source of groundwater contamination.	Selected remedy unchanged.
Remedy Implementation	The concrete cap was replaced at Stratum 1 in 2000 as documented in the OUs 3 and 4 Remedial Action Report (RAR) (DON 2000). The neutron access probe for vadose zone precipitation infiltration monitoring at CAOC 20 Stratum 2 was installed later and is documented in the OUs 5 and 6 RAR (DON 2002). Groundwater monitoring is conducted annually under the OU 1 LTM program. The initial groundwater analyte list per the OUs 3 and 4 ROD included the OU 1 COCs including VOCs, metals, geochemical parameters, and radioactive parameters that may indicate a release from Stratum 1 low-level radiological waste disposal (gross alpha, gross beta, Radium 226, and Radium 228). Based on LTM results the analyte list has been reduced over time, with FFA Stakeholder concurrence, to include only the following (radioactive) analytes: gross beta, Radium 226, Radium 228, and tritium (DON 2010). • The OUs 3 and 4 ROD required that the CAOC 20 remedy be evaluated following four monitoring events to assess protectiveness and the need for additional actions. The first such analysis was performed as part of the Second Five-Year Review (DON 2007). That analysis identified gross alpha exceedances in groundwater as a potential trigger to evaluate the effectiveness of the remedy; however, there were questions on the data quality due to well fouling and corrosion. Monitoring continued followed well cleaning and redevelopment; however the corrosion problems continued to affect data quality. Additionally, the existing CAOC 20 monitoring wells has insufficient water column for sampling by 2013 due to regional groundwater level declines (see Appendix F for further details).	A new monitoring well (YS20-3) was installed in April 2014 downgradient of CAOC 20 to replace the previous monitoring wells YS20-1 and YS20-2. The sample data collected during 2014 – 2016 from YS20-3 were reviewed for this five-year review. Prior groundwater sample data was potentially affected by corrosion of the stainless steel well screens at YS20-1 and YS20-2, and YS20-2 was not located in an appropriate downgradient position to evaluate the CAOC. Therefore, only data from YS20-3 along with background radiological data were evaluated for this five-year review.

TABLE 5-4

CAOC 20 (OU 3) - Yermo Annex – Five Year Review Summary
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CAOC 20 (OU 3) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Status, and Current Site Conditions		
	Original Site Conditions, Response, Implementation	**Change in COAC conditions since signed ROD and Third Five-Year Review**
O&M and Monitoring	• The concrete cap is maintained in accordance with the CAOCs 7, 20, 23 and 35 O&M Manual (MMEC 2016). Groundwater monitoring was performed annually (*see* Appendix F of this report for a detailed analysis of the groundwater monitoring program at CAOC 20).	No changes to on-going cap/soil cover inspections and maintenance. Wells YS20-1 and YS20-2 were replaced with a new downgradient well YS20-3 in 2014 (OTIE 2015).
Institutional Controls/Land Use Controls (ICs/LUCs)	LUCs in place at CAOC 20 include limiting activities to the use of the surface of the cap, such as equipment storage. Additional measures installed include: drainage control to promote surface water runoff and minimize the infiltration of standing water directly above the areas of buried wastes, and the installation of upgradient and downgradient monitoring wells, were completed in June 1999 (DON 2000). As documented in Section 2.2.8 of the final ROD (DON 1997), the following language establishes the restriction on certain types of land use at CAOC 20: "*To ensure that human health is protected in the future, no excavation of soils (e.g., in the course of construction or maintenance of building or utility facilities) within CAOC 20 Strata 1 and 2 may occur below a 5-foot depth unless prior signed approval from the FFA stakeholders is obtained. The maintenance of railroad tracks adjacent to CAOC 20 is not affected by these limitations.* *If an excavation below the 5-foot level in CAOC 20 Strata 1 and 2 is proposed, the DTSC, RWQCB, and EPA must be provided with written notification of such a proposed action.*"	The Base Master Plan was updated in 2010 to incorporate the ICs/LUCs at CAOC 20. No changes in ICs/LUCs during the review period

CAOC 20 (OU 3) – Part 2: Progress Since Last Five-Year Review (2012)	
Protectiveness statements from last review:	Remedies are currently protective of human health and the environment because of the intact and maintained caps and the LUCs in place. RAOs for CAOC 20 at the time of the remedy selection are still valid. There are no new data that could indicate ineffectiveness of the remedies at this OU.
Status of recommendations and follow-up actions from last review	Well conditions (corrosion) resulted in data quality issues in samples from the CAOC 20 monitoring wells. The two existing wells were abandoned and a replacement PVC-screened monitoring well was installed down-gradient in 2014. Monitoring data collected the new well (YS20-3) during the annual monitoring events conducted from 2014 through 2017 indicated no exceedances of groundwater cleanup levels. Background groundwater data for gross beta, radium, and tritium were also collected from other the Yermo Annex wells to provide a comparison with CAOC 20 groundwater (in place of upgradient monitoring). The new monitoring well provides the required downgradient monitoring well for CAOC 20.

TABLE 5-4

CAOC 20 (OU 3) - Yermo Annex – Five Year Review Summary
Fourth Five-Year Review Report OUs 1-7
MCLB Barstow, California

CAOC 20 (OU 3) – Part 3: Technical Assessment (Based on 2012 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
A. Is the remedy functioning as intended by the decision documents?	
Cap Maintenance and Performance	A review of the annual operation and maintenance reports for the CAOC 20 cap (Sealaska 2012; MMEC 2015; MMEC 2016) indicated that the cap and fence are maintained. CAOC 20 maintenance activities were as follows: • As part of regular O&M, quarterly inspections of CAOC 20 Stratum 1 were conducted to check for the presence of concrete cracks in the joint sealer. No cracks or repairs were observed during the 2012-2016 inspections. • Soil moisture and rainfall at CAOC 20 Stratum 2 (soil covered area) is monitored quarterly at the installed soil moisture monitoring and rainfall gauge system. Soil moisture and rainfall gauge data are downloaded bimonthly and reported in the annual O&M report for CAOCs 20, 23, 35, and 7. Due to inconsistent data from the rain gauges, monthly precipitation at the base is determined using the total monthly precipitation data recorded at nearby Barstow Dagget County Airport. A visual inspection of the Stratum 1 cap performed in March 2017 found the cap to be in good condition with no visible cracks or defects; the fence surrounding the cap was also found to be in good condition (Appendix B). O&M costs are minimal, primarily associated with removal of debris. The remedy is cost effective and utilizes a permanent solution.
Groundwater Monitoring Results	The OUs 3 and 4 ROD requires that the RA for CAOC 20 be re-evaluated following the fourth year of monitoring for decisions on the effectiveness of the RAO and the potential need for additional actions. If the monitoring indicated a statistically significant release at CAOC 20, an appropriate action is to be proposed after consultation with the FFA regulators. The prior groundwater monitoring data collected from stainless-steel screened wells was compromised by corrosion in the wells and the data have been set aside. Only data from new down-gradient monitoring well YS20-3 (installed 2014) were evaluated for this Review. • Based on the six semiannual monitoring events for VOCs since well installation in 2014, CAOC 20 was not a source of VOCS in groundwater during this review period. However, the nature of the waste disposal into unlined dry wells and the finding of VOC soil contamination at 120 – 124 ft bgs during well installation, indicate there is a potential for groundwater contamination from CAOC 20. • The radiological monitoring data collected from three annual sampling events (2014 – 2016) at the new downgradient well YS20-3 indicate gross beta, total radium, and tritium were below the maximum contaminant levels (MCLs) (Appendix F, Table F-1.2). One additional round of radiological data are needed to complete the evaluation required in the ROD.
ICs/LUCs	The LUC that are in place at CAOC 20 restrict the use of the site. No activities were observed that would have violated the ICs/LUCs.
B. Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy still valid?	
Because the site conditions, surrounding land use, and potential receptors have not changed since the time of the remedy, the exposure assumptions are still valid. Appendix C provides additional details on the review of changes in screening criteria and MCLs for this CAOC.	
C. Has new information been found that may impact the protectiveness of the remedy?	
No other information was identified that would impact the protectiveness of the remedy.	
Summary of Technical Assessments	Based on the technical evaluation and the available groundwater data, the remedy at CAOC 20 appears to be performing effectively to meet the RAOs for this area and to be protective of human health and the environment.

TABLE 5-4

CAOC 20 (OU 3) - Yermo Annex – Five Year Review Summary
Fourth Five-Year Review Report OUs 1-7
MCLB Barstow, California

CAOC 20 (OU 3) – Part 4: Issues (Based on 2012 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
Issues identified during the technical assessment and other five-year review activities (e.g., site inspection)	Sample quality issues related to stainless steel well corrosion and fouling have prevented timely completion of the four rounds of radiological monitoring since signing of the OUs 3 and 4 ROD. Additionally, the original well intended for downgradient monitoring was actually side gradient to the CAOC. The DON replaced both CAOC 20 monitoring wells with a single down-gradient monitoring well that now provides the necessary representative groundwater data to address the ROD requirements. Since installation of the new monitoring well in 2014, three annual radiological monitoring events have been completed. One additional groundwater sample (scheduled for next Annual Monitoring event in November 2017) is needed to complete radiological monitoring and assessment per the ROD. Based on data evaluations in this five-year review, CAOC 20 is contributing neither metals nor VOCs contamination to groundwater at the site.
Determination of whether issues affect current or future protectiveness	Neither short-term nor long-term protectiveness are affected.
Discussion of unresolved concerns or items raised by support agencies and the community	(*pending comments by FFA stakeholders and community)* (Appendix H).
Other Comments	None

CAOC 20 (OU 3) – Part 5: Recommendations and Follow-up Actions (implementation by DON and the oversight authority of FFA)	
Recommendations / Follow-up Actions	**Schedule for Completion, Comments**
Collect one additional round of radiological data and evaluate per the ROD; cease further monitoring for metals and VOCs.	Publish results of four rounds of radiological parameter sampling, data evaluations, conclusions and recommendations in the next Annual Groundwater Monitoring Report after sampling is completed.

TABLE 5-4

CAOC 20 (OU 3) - Yermo Annex – Five Year Review Summary
Fourth Five-Year Review Report OUs 1-7
MCLB Barstow, California

ACRONYMS

AGMR – Annual Groundwater Monitoring Report
bgs – below ground surface
BMP – Base Master Plan
CAOC – CERCLA Area of Concern
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
COCs – contaminants of concern
DON – Department of the Navy
DTSC – Department of Toxic Substances Control
EPA – Environmental Protection Agency
FFA – Federal Facilities Agreement
ICs – institutional controls
LTM – Long Term Monitoring
LUCs – land use controls
MCLB – Marine Corps Logistics Base
O&M – Operation and Maintenance
OU – Operable Unit
RAO – remedial action objectives
ROD – Record of Decision
SAP – Sampling and Analysis Plan
SVOCs – semi-volatile organic compounds
VOC – volatile organic compound

REFERENCES: *See* Section 9 of the main Report

TABLE 5-5

CAOC 23 (OU 3) - Yermo Annex Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 23 (OU 3) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Status, and Current Site Conditions		
	Original Site Conditions, Response, Implementation	**Change in CAOC conditions since signed ROD and Third Five-Year Review**
Applicable RODs	OUs 3 and 4 ROD (DON 1997) for caps and ICs/LUCs; OUs 1 and 2 ROD (DON, 1998a) for groundwater monitoring.	None
Site Description	OU 3 (CAOC 23), the Landfill Area, is an irregular L-shaped area located in the south/southeast corner of the Yermo Annex between the railroad tracks and the industrial operations' perimeter fence (Figures 1-2 and 5-3). CAOC 23 consists of six strata: • Strata 1: General storage area located in the northeastern portion of CAOC 23; • Stratum 2: Trenches around the southwestern perimeter of CAOC 23; • Stratum 3: A second general storage area in the north-central portion of CAOC 23; • Stratum 4: Waste management area located in the south-central portion of CAOC 23; • Stratum 5: A potential waste burial area; and • Stratum 5a: PCB-hit area in the western portion of CAOC 23. The southern portion of Stratum 1 and all of Stratum 2 (are the only areas that debris/waste was placed in the landfill) were combined to form "CAOC 23, Zone 1" (Figure 5-3). The remaining strata, including the northern portion of Stratum 1, and Strata 3, and 4 were declared NFA, and Stratum 5 and 5a are LUCs-only (Figure 5-5).	None (land use remains the same; concrete cap is maintained).
Basis of Response	Soils in the CAOC 23 (outside the landfill Area) are impacted by low levels of VOCs. Stratum 5a soils were impacted by PCBs. The landfill soils or landfill debris were not sampled, but were considered potentially contaminated based on waste disposal records.	None (no changes to identified COCs or the original basis of response).
	RAOs per the OUs 3 and 4 ROD (Section 1.5): Relevant portions of the statutory determination for CAOC 23, Zone 1 are as follows: • Minimize the potential for disturbance of landfill debris/wastes; • Minimize potential future releases to groundwater; • Attain landfill closure ARARs; and • Provide a final remedy that minimizes impacts to existing Defense Reutilization Materials Office (DRMO) facilities (now Marine Depot Maintenance Command [MDMC]). The installation of the concrete cap at Zone 1 allows each of the CAOC RAOs to be met.	None (no change to RAOs)

TABLE 5-5

CAOC 23 (OU 3) - Yermo Annex Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 23 (OU 3) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Status, and Current Site Conditions		
	Original Site Conditions, Response, Implementation	**Change in CAOC conditions since signed ROD and Third Five-Year Review**
Selected Remedy	**OUs 3 and 4 ROD:** **For Strata 1, 2, and 4:** • In-place abandonment of a water line; • Deep dynamic compaction of soil; • Installation of a concrete cap at Zone 1, which is defined as Stratum 2 and the southern portion of Stratum 1 (see Figure 5-3); and • Groundwater monitoring (under OU 1) and vadose zone precipitation infiltration monitoring. **For Strata 3, 5, and 5a:** • LUCs only (BMP to be modified to include a brief description of the history of CAOC 23 Strata 5 and 5a, statement that low levels of PCBs and pesticides were detected in the soils, and coordination of any proposed actions or changes in site use with the MCLB Barstow Environmental Department).	None (selected remedy unchanged; on-going groundwater monitoring performed annually)
Remedy Implementation	The RA implementation was completed in 2000 and is discussed in detail in the OUs 3 and 4 RAR (DON 2000). In addition, four of the five geophysical anomalies at CAOC 23 (four at Stratum 1 and one at Stratum 4) (Figure 5-3) were excavated and consolidated at the CAOC 35 Landfill prior to installation of a cap at that CAOC. The fifth anomaly could not be found when the area was resurveyed by geophysical methods. It may have been a surface interference that was moved when the DRMO moved from the area. Groundwater monitoring is conducted annually under the OU 1 long-term monitoring (LTM) program. It should be noted that Section 2.3.8 of the OUs 3 and 4 ROD requests for vadose zone monitoring; however, precipitation infiltration monitoring is not requested in Section 2.3.6.3 of the same ROD; therefore no vadose zone precipitation infiltration monitoring is performed beneath the concrete cap nor in other locations at this CAOC.	None (no further RA undertaken)
System O&M	The concrete cap is maintained in accordance with the approved CAOC 23 O&M Manual. CAOC 23 groundwater monitoring is performed annually under the OU 1 long-term monitoring program (see Table 5-2 for OU 1 remedy evaluation).	No significant changes since last review
ICs/LUCs	The 2010 BMP Amendment (Sections 3.1 through 3.6) stated that any actions planned for this area or changes in site use are required to be coordinated and reviewed by the MCLB Barstow Environmental Department. If a change in land use is proposed that is inconsistent with the selected remedy for CAOC 23 or the land use recorded in the BMP for CAOC 23, the FFA will be notified of the proposed change, and concurrence will be obtained before such a change is made.	No changes in land use during the review period

TABLE 5-5

CAOC 23 (OU 3) - Yermo Annex Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 23 – Part 2: Progress Since Last Five –Year Review (2012)	
Protectiveness statements from last Five-Year Review	Remedial measures at CAOC 23 were considered protective of human health and the environment.
Status of recommendations and follow-up actions from last Five – Year Review	No recommendations or follow-up actions were proposed

CAOC 23 – Part 3: Technical Assessment (Based on 2012 – 2016 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
A. Is the remedy functioning as intended by the decision documents?	
Cap Maintenance and Performance	The concrete cap functions as a barrier against contact with the buried debris/waste. The cap also functions to prevent precipitation infiltrating into the buried solid debris/wastes. In addition, the concrete cap has provided a better working surface for the land use for existing equipment storage. Landfill maintenance and monitoring activities at CAOC 23 are performed quarterly and annually, in accordance with the ROD and the maintained in accordance with the CAOCs 7, 20, 23 and 35 O&M Manual (MMEC 2016). Landfill monitoring activities consist of concrete cap and joint sealer inspections, settlement survey, weed eradication, and the inspection of the perimeter fence and perimeter protective gravel cover. In addition, annual groundwater monitoring is performed under OU1 (to determine if there is any impact to groundwater from CAOC 23). The cap is surveyed annually for settling. A review of the annual operation and maintenance reports for the CAOC 23 cap (Sealaska, 2012, MMEC, 2016, MMEC, 2017) indicated that the cap and fence are in good working condition. The landfill cap maintenance activities conducted are: Minor isolated landfill cap cracks were noted in the 2015 cap inspection; however, they appear to be old and were filled in with an epoxy sealer (MMEC, 2015). The O&M costs are minimal; the remedy is cost effective and utilizes a permanent solution.
Groundwater Monitoring Results (under OU 1)	Nine groundwater monitoring wells downgradient of CAOC 23 are sampled annually for VOCs. This monitoring program is adequate for evaluation of remedy effectiveness. Groundwater concentration trends from wells in the vicinity of CAOC 23 were reviewed. TCE and PCE concentration trends for several wells in the vicinity of CAOC 23 shown in Graph D-1.13 of Appendix D, Technical Assessment D-1. Generally COC concentrations downgradient of CAOC 23 remain below the cleanup level, but occasional “spikes” in concentrations are observed after heavy precipitation events.
ICs/LUCs	The LUCs for CAOC 23 are functioning properly. The activities within the area observed during the Site Inspection on 14 March 2017 (equipment storage) do not violate the LUCs.
B. Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy still valid?	
Because the site conditions, surrounding land use, and potential receptors have not changed since the time of the remedy, the exposure assumptions, toxicity data, cleanup levels, and RAOs are still valid.	
C. Has any other information been found that could impact the protectiveness of the remedy?	
No other information was identified that would impact the protectiveness of the remedy.	
Summary of Technical Assessments	Based on the technical evaluation, the selected remedy at CAOC 23 (cap and LUCs) appears to be performing effectively to meet the RAOs and is protective of human health and the environment.

TABLE 5-5

CAOC 23 (OU 3) - Yermo Annex Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 23 – Part 4: Issues (Based on 2012 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
Issues identified during the technical assessment and other five-year review activities (e.g., site inspection)	None
Determination of whether issues affect current or future protectiveness	N/A
Discussion of unresolved concerns or items raised by support agencies and the community	(*pending comments from FFA Stakeholders and community*) (Appendix H).
Other Comments/Considerations	None

CAOC 23 – Part 5: Recommendations and Follow-up Actions (implementation under oversight authority of FFA)
No recommendations or follow-up actions.

ACRONYMS:

ARAR - Applicable or Relevant and Appropriate Requirements
BMP – Base Master Plan
CAOC – CERCLA Area of Concern
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
COCs – contaminants of concern
DON – Department of the Navy
EPA – Environmental Protection Agency
FFA – Federal Facilities Agreement
ICs – institutional controls
LUCs – land use controls
LTGWMP – Long Term Groundwater Monitoring Plan
MMEC – Multimedia Environmental Compliance Group
OU – Operable Unit
PCE – tetrachloroethene
RA – remedial action
RAR – remedial action report
RAO – remedial action objectives
ROD – record of decision
SAP – Sampling and Analysis Plan
TCE – trichloroethene
VOC – volatile organic compound

REFERENCES:

See Section 9 of Main Report

Table 5-6

CAOC 35 (OU 5) - Yermo Annex – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 35 (OU 5) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Status, and Current Site Conditions		
	Original Site Conditions, Response, Implementation	**Change in CAOC Conditions since signed ROD and the Third Five-Year Review**
Applicable RODs	OUs 5 and 6 ROD for wastes in place remedy (DON, 1998b), OUs 1 and 2 ROD for groundwater monitoring (DON, 1998a)	None.
Site Description	CAOC 35 (OU 5), the capped and inactive Class III Landfill, is located in the northeastern portion of the Yermo Annex, as shown in Figure 5-4.	None (land use remains the same; landfill cap is maintained).
Basis of Response	The detected VOCs, SVOCs, and pesticides concentrations were low in the surface soil samples collected, while the subsurface soil samples collected indicated the presence of VOCs and SVOCs, including PAHs. TPH and PCB detections were present at high levels in the subsurface soil samples. These contaminants were all believed to be site-related. All metals present were detected at or below background levels. A refined modeling evaluation indicated that groundwater would probably not be affected by the landfill (DON 1996).	None (no changes to identified COCs or the original basis of response).
Remedial Action Objectives	OUs 3 and 5 ROD: The RAO for the OU 5 CAOC 35 Stratum 1 Zone 1 (capped landfill area) remedy is to minimize water infiltration and potential future impact to groundwater, limit potential human exposure to buried waste and impacted soils, and maintain the selected landfill closure ARARs. OUs 1 and 2 ROD: Meet groundwater cleanup levels at the CAOC boundary.	None (no change to RAOs).
Selected Remedy	OUs 5 and 6 ROD: The major components of the selected remedy at CAOC 35 include: • Installation of a 3-foot native soil cover over landfill area with 6-inch rock cover over the native soil cover and a 6-foot fence • Installation of soil moisture monitors • Restriction of land use activities in the area (sign postage and institutional controls)	None (selected remedy unchanged).
Remedy Implementation	The RA construction was completed in January 2001 as documented in the OUs 5 and 6 RA Report (DON 2002). Ongoing quarterly monitoring of the cap is performed and maintenance of cap and fencing completed as necessary. Annual groundwater monitoring for VOCs is conducted under the OU 1 long-term monitoring program.	There were no changes to the RA.
O&M, Monitoring	The soil cap is maintained in accordance with the CAOCs 7, 20, 23 and 35 O&M Manual (MMEC 2016). O&M of the cap involves routine inspections of the surface; weed eradication; and monitoring of soil moisture, rainfall, and settlement. Groundwater monitoring is performed under the OU 1 long-term monitoring program.	There were no changes to O&M of the cap; groundwater monitoring frequency was increased to semi-annual during the review period.
Institutional Controls/Land Use Controls (ICs/LUCs)	If a change in land use is proposed that is inconsistent with the selected remedy for CAOC 35 or the land use recorded in the Base Master Plan (BMP), the DTSC, the Water Board, and the U.S. EPA will be notified of the proposed change, and concurrence will be obtained before such a change is made.	The BMP was amended in 2010 to incorporate the ICs/LUCs at CAOC 35

Table 5-6

CAOC 35 (OU 5) - Yermo Annex – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 35 – Part 2: Progress on Issues and Recommendations in Last Five-Year Review (2012)	
Protectiveness statements from last Five-Review	The selected remedy at CAOC 35 is considered protective of human health and the environment because of the intact and maintained cap and LUCs in place. However, additional measures are required to address the observed increase in groundwater concentrations downgradient of the CAOC.
Status of recommendations and follow-up actions from last Five-Year Review	Groundwater concentrations of the primary groundwater chemicals of concern (COCs) including trichloroethene (TCE) and tetrachloroethene (PCE) remained above cleanup levels at wells YS35-3, YS35-4, and YS35-5 located downgradient of CAOC 35.
Results of implemented remedial actions, including whether the remedial action achieved the intended purpose	The CAOC 35 caps and ICs/LUCs meet the RAO to prevent direct exposure to landfilled wastes at this CAOC. However, as downgradient contamination potentially related to the landfill continues at concentrations above the OU 1 cleanup levels, the cap remedy at the CAOC 35 landfill may not assure long-term protection of groundwater.
Status of any other prior issues	No other prior issues were identified during the prior review.

CAOC 35 (OU 5) – Part 3: Technical Assessment of Remedy (Based on 2016 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
A. Is the remedy functioning as intended by the decision documents?	
Cap Maintenance and Performance (OU 5)	As documented in the "Annual Operation and Maintenance Reports for the CAOCs 7, 20, 23, and 35" (2012 through 2016) inspections of the CAOC 35 cap and surrounding fence were performed quarterly over the five year review period. Erosion impacts were noted along the north fence line (outside the cap area) during heavy rainfall events. Backfilling to the eroded areas was performed WHEN. Monthly rainfall and soil moisture data is collected and reported in the Annual Operation and Maintenance Reports. Soil moisture beneath the cap remained relatively low throughout the review period. The annual settlement monument survey data indicates minimal differential vertical movement has occurred. The observed settlements seem to be associated with long-term settlement of the landfill cover. During this period, yearly settlement rates have ranged from 0.01 to 0.06 foot per year from April 2002 to January 2017 (MMEC 2016). A visual inspection of the cap performed on December 13, 2016 found the cap to be in good shape with no visible cracks or defects; the surrounding fence surrounds the cap was also found to be in good condition (Appendix B). O&M costs are minimal, primarily associated with removal of trash from the fence lines and moisture monitoring. The remedy is cost effective and utilizes a permanent solution.

Table 5-6

CAOC 35 (OU 5) - Yermo Annex – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 35 (OU 5) – Part 3: Technical Assessment of Remedy (Based on 2016 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
Groundwater Monitoring Results (OU 1)	Appendix D, Technical Assessment Report D-1 provides an assessment of the OU 1 groundwater remedy including related to CAOC 35. The Yermo North plume in relation to CAOC 35 is shown in Figure D-1.1. TCE and PCE concentration trends for several CAOC 35 monitoring wells are presented in the Technical Assessment Report D-1 (see Graph D-1.12). A review of the long-term VOC data from monitoring wells both upgradient and downgradient of CAOC 35 revealed: • TCE concentrations detected in monitoring well YS15-2 up-gradient of the CAOC 35 landfill cap sometimes exceed the OU 1 groundwater cleanup level (5 µg/L) indicating an up-gradient source is present; • TCE and PCE concentrations are notably higher than the observed upgradient monitoring wells at three key monitoring wells downgradient from CAOC 35, including YS35-3, YS35-4, and YS35-5. The concentrations vary but are consistently above the OU 1 cleanup limits for TCE, and often for PCE as well; and • 1,2-Dichloroethane (1,2-DCA), is occasionally detected above the cleanup level in monitoring wells downgradient from CAOC 35. • 1,1-Dichloroethene (1,1-DCE) is consistently below the cleanup level. • Upgradient sources include CAOC 16 and CAOC 15/17, however limited groundwater monitoring wells are located in those areas.
Institutional Controls	The LUCs that is in place at CAOC 35 restrict the use of the site. No activities were observed that would have violated the LUCs. No new use of groundwater was reported and/or observed.
B. Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy still valid?	
Because the site conditions, surrounding land use, and potential receptors have not changed since the selection and installation of the remedy, the exposure assumptions are still valid. There have been no change(s) that impact the validity of technical assumptions, toxicity data, cleanup levels, and RAOs at this CAOC. Appendix C provides additional details on the review of changes toxicity data, cleanup levels, and RAOs for this CAOC.	
C. Has new information been found that may impact the protectiveness of the remedy?	
No new information has been found that may impact the protectiveness of the remedy.	
Summary of Technical Assessments	The RAOs developed for CAOC 35 (OU 5) include: minimize precipitation infiltration and potential future impact to groundwater, limit potential human exposure to buried waste and impacted soil, and maintain landfill closure ARARs. The OU 5 RAOs are being met at CAOC 35 Stratum 1 Zone 1 and the remedy is, therefore, protective of human health and the environment. Groundwater monitoring for the CAOC has been conducted under OUs 1 and 2; monitoring data results indicate TCE and PCE downgradient of CAOC 35 exceeded the cleanup levels during the review period (however CAOC 35 is also downgradient of CAOCs 16 and 15/17). Groundwater downgradient of CAOC 35 is being addressed by the OU 1 AS/SVE system and GETS. The uncertainties about what wastes were landfilled at CAOC 35 as well as lack of data from the vadose zone beneath CAOC 35 Stratum 1 Zone 1 prevent assessment of the long-term effectiveness and protectiveness of the remedy for groundwater under the OUs 1 and 2 ROD (DON 1998a).

Table 5-6

CAOC 35 (OU 5) - Yermo Annex – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 35 (OU 5) – Part 4: Issues (Based on 2016 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
Issues identified during the technical assessment and other five-year review activities (e.g., site inspection)	COCs in groundwater exceeding the OU 1 cleanup levels have been detected in monitoring wells downgradient of CAOC 35; some uncertainty exists on if these COCs are related to CAOC 35 landfill wastes or to other upgradient sources.
Determination of whether issues affect current or future protectiveness	Assuming groundwater capture/treatment continues under OU 1, the identified COCs exceeding cleanup levels will not affect the current or future protectiveness of the remedy.
Discussion of unresolved concerns or items raised by support agencies and the community	(pending comments received from FFA stakeholders and community) (Appendix H).
Other comments/considerations: None	

CAOC 35 (OU 5) – Part 5: Recommendations and Follow-up Actions		
Recommendations / Follow-up Actions	**Schedule for Completion**	**Comments**
Consider collecting soil vapor data from beneath CAOC 35 to assess if the landfilled wastes are contributing VOCs to underlying groundwater.	Schedule to be determined	The DON is currently reviewing the OU 1 groundwater remedy for potential optimization measures including improving characterization of vadose zone sources in the CAOCs 16, 15/17, and 35.

ACRONYMS:

µg/L microgram per liter
ARAR – applicable or relevant and appropriate requirement
AS/SVE – air sparge/soil vapor extraction
BMP – Base Master Plan
CAOC – CERCLA Area of Concern
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
COCs – contaminants of concern
DON – Department of the Navy
DTSC – Department of Toxic Substances Control
EPA – Environmental Protection Agency
FFA – Federal Facilities Agreement
GETS – Groundwater Extraction and Treatment System
ICs – institutional controls
LUCs – land use controls
MCLB – Marine Corps Logistics Base
MMEC – Multimedia Environmental Compliance Group
O&M – Operation and Maintenance
OU – Operable Unit
PAH – polynuclear aromatic hydrocarbon
PCB – polychlorinated biphenyl
PCE – tetrachloroethene
RA – Remedial Action Report
RAO – remedial action objectives
RAR - Remedial Action Report
ROD – record of decision
SVOC – semivolatile organic compound
TCE – trichloroethene
TPH – total petroleum hydrocarbons
VOC – volatile organic compound

REFERENCES: *See* Section 9 of Main Report

Table 5-7

Review of CAOCs with Land Use Controls Only – Yermo Annex
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC Description (*see* Figures 5-5 for Locations)	Land Use Control Description	2012 – 2017 Status [1,2]
CAOC 9.60 (OU 7)		
CAOC 9.60 is a former waste oil/solvent USTs (T-530A and T-530B) that leaked to the soil. T-530A was investigated but was never found; T-530B was removed along with some impacted soil in 1992. Currently, investigations found some soil and soil vapor contamination at depth; groundwater is about 173 feet deep. Groundwater VOCs results are below MCLs, in the area of CAOC 9.60. There are no completed pathways identified and the selected remedial action is LUCs. CAOC 9.60 is unpaved and sparsely vegetated.	**Total CAOC area:** 0.02 acres **Area requiring LUCs:** 0.02 acres **BMP Modifications (2015):** • A history of the CAOC; • A description of contaminants; and • Requirement for any proposed actions or changes of onsite use(s) will be reviewed by the Environmental Division.	No site changes or actions were undertaken at CAOC 9.60 during this review period.
CAOC 9.68 (OU 7)		
CAOC 9.68 is a former oil/water separator and the associated French drain that received the waste oil. The oil/water separator and French drain were removed. Currently, the area is paved and used for equipment storage. There are no completed exposure pathways identified and the selected remedial action is LUCs.	**Total CAOC area:** 0.02 acres **Area requiring LUCs:** 0.02 acres **BMP Modifications (2015):** • A history of the CAOC; • A description of contaminants; and • Requirement for any proposed actions or changes of onsite use(s) will be reviewed by the Environmental Division.	No site changes or actions were undertaken at CAOC 9.68 during this review period.
CAOC 15/17 (OU 5)		
CAOCs 15/17 are the Oil Storage/Spillage Area and Industrial Wastewater Treatment Plant located in the northern part of Yermo Annex. Activities at CAOC 17 consisted of defueling operations and storage area of an estimated 4,000 drums of waste oil and new lubricating oil. Primary waste operations at CAOC 15 consisted of defueling operations, emptying bilge waters contaminated with fuel, and storing waste oil; several documented releases of contaminated water and waste oil had occurred. CAOC 17 consists of 14 evaporation basins associated with the wastewater treatment plant; overfills and spillages from the basins were documented. CAOC 17 partially overlaps CAOC 15. Shallow soils at these CAOCs were impacted by low levels of metals, TCE, PCBs, TPH (diesel range), and various pesticides. A Time-Critical Removal Action (TCRA) was conducted in 1993 to remove residual impacted sludge. Mathematical modeling indicated that soil contamination would have limited potential impacts to groundwater. However, groundwater cleanup levels must	**Total CAOC area:** 15.98 acres **Area requiring LUCs:** 15.98 acres **BMP Modifications (2010):** • A history of the CAOC; • Description and map of areas requiring LUC; • The low levels of PCBs, hexavalent chromium, and PAHs detected in surface soils will be provided in the MCLB Barstow Master Plan; and • Requirement for any proposed actions or changes of onsite use(s) will be reviewed by the Environmental Division.	No site changes or actions were undertaken at CAOC 15/17 during the review period. The DON is currently reviewing the OU 1 remedy for potential optimization measures including improving characterization of vadose zone at CAOC 15/17.

Table 5-7

Review of CAOCs with Land Use Controls Only – Yermo Annex
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC Description (*see* Figures 5-5 for Locations)	Land Use Control Description	2012 – 2017 Status [1,2]
be met at the CAOC boundary (*see* Table 7-2 for OU 1 groundwater). Because the incremental carcinogenic human health risks at this CAOC exceeded 1 x 10^{-6}, LUCs only was chosen for the two CAOCs, as documented in the OUs 5 and 6 ROD (DON 1998a). A BMP amendment was required for LUC information and future planning purposes.		
CAOC 18 (OU 3)		
CAOC 18 is the former Sludge Waste Disposal Area located in the eastern side of Yermo Annex. Soils at this CAOC are impacted by low levels of VOCs, SVOCs, chlorinated pesticides, PCBs, petroleum hydrocarbons, metals, and PAHs. Mathematical modeling indicated that soil contamination would have no potential impacts to groundwater. LUCs only were chosen for this CAOC, as documented in the OUs 3 and 4 ROD (DON 1997).	**Total CAOC area:** 5.2 acres Area requiring LUCs: Stratum 2 (0.48 acres); Stratum 3 (3.04 acres) **BMP Modifications (2010):** • A history of the CAOC; • A description of the low levels of soil, contaminants; and • Requirement for any proposed actions or changes of onsite use(s) will be reviewed by the Environmental Division.	No site changes or actions were undertaken at CAOC 18 during the review period.
CAOC 21 (OU 5)		
CAOC 21, the Industrial Waste Disposal Area, is located on a flat, open, unpaved area near Gate 5, at the eastern perimeter of the Yermo Annex. This CAOC was originally under OU 3. Sampling indicated that low levels of chlorinated pesticides, VOCs, SVOCs, PCBs, metals, and petroleum hydrocarbons were present. A TCRA was conducted in 1997 to remove PCB impacted soils. Mathematical modeling indicated that soil contamination would have very limited, if any, potential impacts to groundwater. LUCs only were chosen for CAOC 21, as documented in the OUs 3 and 4 ROD (DON 1997).	**Total CAOC area:** 9.96 acres **Area requiring LUCs:** 9.96 acres **BMP Modifications (2010):** • A history of the CAOC; • A description of the low levels of contaminants; and • Requirement for any proposed actions or changes of onsite use(s) will be reviewed by the Environmental Division.	No site changes or actions were undertaken at CAOC 21 during the review period.
CAOC 23 (OU 3) Strata 5 and 5(a)		
CAOC 23, known as the Landfill Area, is an irregular L-shaped area located at the south to southeast corner of the Yermo Annex, between the railroad tracks (that serve the warehouse areas) and the industrial operations' perimeter fence. CAOC 23 was divided into six strata (see Table 7-5 for details). Stratum 5, the potential waste burial area, and Stratum 5a, the PCB-impacted area, are sited in the western portion of CAOC 23 (Figure 7-5). The ROD selected LUCs to prevent exposure to residual contaminants at Strata 5 and 5a (the concrete cap installed at CAOC 23 Zone 1 is separately evaluated in Table 7-5).	**Total CAOC area:** 60 acres **Area requiring BMP Modification:** 60 acres **BMP Modifications (2010):** • A history of the CAOC; • A description of pesticides and PCBs soil contaminants; and • Requirement for any proposed actions or changes of onsite use(s) will be reviewed by the Environmental Division.	No site changes or actions were undertaken at CAOC 23 during the review period.

Table 5-7

Review of CAOCs with Land Use Controls Only – Yermo Annex
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CAOC Description (*see* Figures 5-5 for Locations)	Land Use Control Description	2012 – 2017 Status [1,2]
CAOC 26 (OU 5)		
CAOC 26, the Building 533 Waste Disposal Area, is located in the west-central portion of the Yermo Annex. Sampling results indicated low levels of VOCs, SVOCs, pesticides, and metals above background levels. No PCBs were detected. LUCs only were selected for this CAOC, as documented in the OUs 5 and 6 ROD (DON, 1998b). PCE contamination of the vadose zone and groundwater has been addressed under OU 1 (*see* Table 7-2).	**Total CAOC area:** 0.95 acres **Area requiring BMP Modification:** 0.95 acres **BMP Modifications (2010):** • A history and description of the CAOC; and • Requirement that any actions planned or changes of onsite uses will be reviewed by the Environmental Division.	Surface remedial equipment was removed from CAOC 26 in March 2015.
CAOC 32 Stratum 2 (OU 5)		
CAOC 32, the Preservation and Packaging Area, is located at the north-central portion of the Yermo Annex. The CAOC encompasses Building203 (the Preservation Shop) and the perimeter, a drum storage area, a steam wash rack, a sump and associated piping, and the former location of an excavated underground storage tank. The area west of Building203 was reportedly used to store drums containing hazardous materials (Brown and Caldwell, 1983). Stratum 2 comprises Building 203 and perimeter area. This stratum has had reported releases of waste oil, solvents, ketones, antifreeze, and phosphoric acid. Although not included in the OUs 5 and 6 ROD (DON, 1998b), LUCs for CAOC 32 Stratum 2 were added as recommended in the Third Five-Year Review to address soil concentrations of Aroclor-1242 that exceeded the updated regional screening level (DON 2012).	**Total CAOC area:** 0.42 acres **Area requiring BMP Modification:** 0.42 acres **BMP Modifications (2015):** • A history of the CAOC; • A description of the potential presence of Aroclor 1242; and • A requirement for any proposed actions or changes of onsite use(s) will be reviewed by the Environmental Division.	No site changes or actions were undertaken at CAOC 32 Stratum 2 during the review period.
CAOC 34 Stratum 1 (OU 3)		
CAOC 34, the PCB Storage Area (former Building S-345) is located on the eastern side of the Yermo Annex adjacent to the western side of the MCLB Effluent Disposal Pond (Building 426). Stratum 1 is the area covered by former concrete basins and adjacent soils. Stratum 2 is the soils within the basins and Stratum 3 is the concrete basins themselves. Stratum 1 requires LUCs. The PCB Storage Area consisted of Basin A (western basin) and Basin B (eastern basin), which were demolished and removed as a part of a TCRA completed in 1994. Sampling conducted prior to the TCRA indicated high levels of PAHs, phenol, organochlorine pesticides (OCPs), PCBs, and metals. TPH was detected at low concentrations. The entire CAOC has been covered by concrete evaporation ponds. Mathematical modeling indicated that soil contamination would have very limited, if any, potential impacts to groundwater. An NFA remedy was selected for CAOC 34, as documented by the OUs 3 and 4 ROD (DON 1997).	**Total CAOC area:** 0.58 acres **Area requiring BMP Modification:** 0.58 acres **BMP Modifications (2010):** • A history of the CAOC; • A description of the low levels of the contaminants in soil, specifically the low levels of benzo[a]pyrene detected in the surface soils at Stratum 1; and • Requirement for any proposed actions or changes of onsite use(s) will be reviewed by the Environmental Division.	No site changes or actions were undertaken at CAOC 34 during the review period.

Table 5-7

Review of CAOCs with Land Use Controls Only – Yermo Annex
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

NOTES:

1. The OUs 3 and 4 ROD (DON 1997) and OUs 5 and 6 ROD (DON 1998) selected "No Action" remedies for CAOCs 15, 17, 18, 21, 23 (Strata 5, 5a), 26, and 34 (Stratum 1). The No Action remedy included specific Base Master Plan modifications that require MCLB Barstow Environmental Division review before any land-use changes are made at this site ("NA with BMP modification"). For the purposes of this Five-Year Review report, the "NA with BMP modification" remedy is referred to as "LUCs only" to be consistent with later RODs. The LUCs for the OUs 3 and 5 CAOCs are incorporated into the 2010 BMP Amendment (DON 2010). The LUCs for the OU 7 CAOCs are incorporated into the 2015 BMP Amendment (DON 2015).
2. As recommended in the Third Five Year Review (2012), LUCs were added to CAOC 32 Stratum 2 due to a toxicity level change for an on-site contaminant. The LUC is for Environmental Division review before any land use changes are made, as incorporated into the 2015 BMP Amendment (DON 2015).

ACRONYMS:

BMP – Base Master Plan
CAOC – CERCLA Area of Concern
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
DON – Department of the Navy
IR – Installation Restoration
IRP – Installation Restoration Program
LUC – Land Use Control
MCLB – Marine Corps Logistics Base
OU – Operable Unit
PAH - polynuclear aromatic hydrocarbon
PCB – polychlorinated biphenyl
RA - remedial action
ROD – Record of Decision
SVOC - semivolatile organic compound
TCE – trichloroethene
TCRA - Time-Critical Removal Action
TPH - total petroleum hydrocarbons
VOC - volatile organic compound
UST- underground storage tanks
NFA – No Further Action

REFERENCES:

See Section 9 of Main Report.

TABLE 6-1

Nebo Main Base – CAOCs Subject to Five-Year Review
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

OU	CAOC	CAOC Description	Remedy in Place	Review Summary Table
2	38	Nebo North plume	GETS (hydraulic control), AS/SVE (source area), natural attenuation (down-gradient plume)	Table 6-2
		Nebo South plume	AS/SVE	Table 6-2
6 / 7	7	Strata 1 and 2: Drum Storage and Landfill Area; Stratum 1 groundwater and soil vapor under OU 7	Strata 1 and 2 – landfill caps, LUCs Stratum 1: SVE and Monitored Natural Attenuation (MNA)	Table 6-4
7	10	Sodium valve and metallic waste burial area	Excavation and off-site disposal lead "hot spot"; LUCs	Table 6-5
7	N-2 Area 1	Former equipment storage area; former skeet and trap range	Removal of lead shot, clay target material, and PCB soils. LUCs	Table 8 -5
7	10.38/10.39 Unit 7	Former drainage trenches with industrial wastewater discharges; groundwater	MNA	Table 6-4
7	NPZ-14	Groundwater area in southeast Nebo Main Base	MNA	Table 6-4
4	2	Pesticide Storage and Washout Area	LUCs only[1]	Table 6-8
4	5	Chemical Storage Area (Strata 1 and 2)	LUCs only[1]	Table 6-8
4	11	Fuel Burn Area	LUCs only[1]	Table 6-8
6	1	Landfill North of the Golf Course	LUCs only[1]	Table 6-8
6	3	Wastewater Disposal Area	LUCs only[1]	Table 6-8
6	7	Strata 3 and 4	LUCs only[1]	Table 6-8
6	14	Drainage Channels and Mojave Riverbed Outfalls	LUCs only[1]	Table 6-8
7	10.38/10.39 Units 1 – 7 soils	Domestic and Industrial wastewater conveyance pipelines	LUCs only[2]	Table 6-8
7	10.12	Building 50, Preservation and Packaging Shop	LUCs only[2]	Table 6-8
7	10.27	Building S-338, former firefighting training facility	LUCs only[2]	Table 6-8
7	10.35	Building 34, former domestic wastewater treatment plant	LUCs only[2]	Table 6-8
7	10.37	Industrial wastewater treatment plant (decommissioned)	LUCs only[2]	Table 6-8
7	10.3	Warehouse 2, former vehicle repair facility	LUCs only[2]	Table 6-8
7	10.4	Warehouse 3, general warehouse and steam-cleaning wash rack	LUCs only[2]	Table 6-8
7	10.5	Warehouse 4, general warehouse	LUCs only[2]	Table 6-8
7	10.49	USTs T-27A, T-27B, T-27C	LUCs only[2]	Table 6-8
7	10.80	UST T-354, former blowdown tank	LUCs only[2]	Table 6-8

NOTES:

1. OUs 3 and 4 ROD (DON 1997) or OUs 5 and 6 ROD (DON 1998) selected "No Action" with specific Base Master Plan modifications that require MCLB Barstow Environmental Division review before any land-use changes are made at this site ("NA with BMP modification"). In this Five-Year Review report, the "NA with BMP modification" remedy is referred to as "LUCs only" to avoid confusion. The LUCs for this site are incorporated into the 2010 BMP Amendment (DON 2010).
2. The OU 7 ROD (DON 2014) LUCs for this site are incorporated into the 2015 BMP Amendment (DON 2015).

TABLE 6-1

Nebo Main Base – CAOCs Subject to Five-Year Review
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

ACRONYMS:

AS/SVE – Air Sparging and Soil Vapor Extraction System

BMP - Base Master Plan

CAOC – CERCLA Area of Concern

CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act

GETS – Groundwater Extraction and Treatment System

ICs – Institutional Controls

IRP – Installation Restoration Program

LUCs – land use controls

NFA – no further action

OU – Operable Unit

ROD – Record of Decision

UST – underground storage tank

TABLE 6-2

OU 2 (CAOC 38) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

OU 2 (CAOC 38) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Status, and Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Change in CAOC conditions since signed ROD and Third Five-Year Review**
Applicable RODs	• OUs 1 and 2 ROD (DON, 1998a) Nebo North RA and interim remedy for Nebo South Plume; and • OU 2 ROD (DON, 2006) final remedy for Nebo South plume.	The Nebo North source area location was modified from Warehouse 2 to Building 50 by documenting a Minor Change to the OUs 1 and 2 ROD (DON 2011).
Site Description and Locations	CAOC 38 is the impacted groundwater beneath the Nebo Main Base. It is impacted by dissolved phase VOCs in several locations. The OUs 1 and 2 ROD identified the Nebo North plume associated with source area (former Building 50 - CAOC 10.12) and the Nebo South plume associated with source CAOC 6 (closed with LUCs only under OU 6). The primary VOCs present at the site are trichloroethene (TCE) and tetrachloroethene (PCE). The Nebo North and Nebo South plume locations at Nebo Main Base are shown on Figure 6-1; the plume extents are shown on Figures 6-2 and 6-3, respectively. Additional detail on the Nebo North and Nebo South plumes is provided in Appendix E, Technical Assessment reports E-1 and E-2, respectively.	No changes.
Basis of Response, Interim Response Actions	Prior to approval of the OUs 1 and 2 ROD, groundwater VOC concentrations at Nebo Main Base were determined to pose a threat to human health and the environment. Two interim response actions were taken to address groundwater VOCs, as follows: • A groundwater extraction and treatment system (GETS) was installed at the northern edge of Nebo Main Base to prevent off-site migration of the Nebo North plume, if needed; and • A time-critical removal action (TCRA) was performed in June 1989 in response to the Nebo South VOC plume extending off-site and impacting a private residence's well (Figure 6-3). The private well was taken out of service and the residence connected to the Base potable water system (JEG 1993).	None (no changes to identified COCs or original basis of response). Notes: The Nebo North GETS system was decommissioned in March 2015 per the recommendation in the third five-year review. The Nebo South off-site residence has been vacant since circa 2006; the property is owned by a holding company and was unoccupied during this review period.
Remedial Action Objectives	The OU 2 RAOs per the OUs 1 and 2 ROD for groundwater cleanup are the drinking water standards for specific VOCs (*see* Table 2-1, page 2-39, of the ROD). The RAO for vadose zone cleanup at MCLB Barstow is to remove contaminant mass in the subsurface soils to the degree necessary to: • Prevent further degradation of the groundwater above groundwater cleanup standards; • Minimize the aquifer cleanup time; and • Vadose zone soils cleanup goals are source-specific.	None (Selected RAOs remain the same as specified in the OUs 1 and 2 ROD)
Selected Remedy	**Nebo North Plume – final selected remedy in OUs 1 and 2 ROD:** • Remediation of the groundwater and the vadose zone in the source area by AS/SVE, with natural attenuation of the downgradient contaminant plume after the source area is cleaned	None (Selected RAOs remain the same as specified in the OUs 1 and 2 ROD.)

TABLE 6-2

OU 2 (CAOC 38) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

OU 2 (CAOC 38) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Status, and Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Change in CAOC conditions since signed ROD and Third Five-Year Review**
Selected Remedy (continued)	up and a "*fail-safe*" pump-and-treat system to prevent off-site plume migration. **Nebo South Plume - final selected remedy in OU 2 ROD (DON, 2006):** • Remediation of the groundwater and the vadose zone in the source area by AS/SVE; and • LUCs include access restrictions to prevent the use of untreated groundwater for drinking water in the area of the plume with VOC detections above the MCLs. **ICs/LUCs under the OUs 1 and 2 ROD:** • OUs 1 and 2 ROD required ICs to prevent use of groundwater in contaminated area. Nebo Main Base receives its potable water from an off-site private water purveyor; former production wells are not used except for irrigation at on-Base golf course.	
Remedy Implementation	**Nebo North:** The Nebo North AS/SVE system began operation in October 2007 and operated until March 2011, when operation was shut down with the FFA concurrence (OTIE 2011b). The AS/SVE system is maintained and operated twice per year to address rebound VOCs in the former wash pad area (*see* Part 3 below). **Nebo South:** The interim remedy of AS/SVE was implemented as the final remedy under the OU 2 ROD (DON 2006).	Nebo North: Currently the system is operating approximately 2 weeks every six months to address rebound in soil vapor concentrations. Nebo South: No change to remedy implementation
O&M and Monitoring	**Nebo North:** • Maintenance O&M of the AS/SVE is performed monthly in accordance with the O&M Manual for OUs 1 and 2; and • Groundwater monitoring throughout the estimated 15 year duration of the RA, subject to evaluations of treatment and cost-effectiveness at 5-year intervals.	With AS/SVE system shutdown in 2011, the Nebo North monitoring program was reduced to annual sampling at selected wells.
	Nebo South: O&M is performed on an on-going basis in accordance with the O&M Manual for OUs 1 and 2 which is updated annually. • Soil vapor monitoring continues to measure the RA effectiveness; • Groundwater monitoring is performed semi-annually at off-Base wells located on the adjacent privately-owned property (Figure 6-3); and	AS/SVE system operations were optimized to target residual plume mass; once groundwater concentrations were decreased to MCLs or below, the related AS/SVE wells were shutdown.

TABLE 6-2

OU 2 (CAOC 38) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

OU 2 (CAOC 38) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Status, and Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Change in CAOC conditions since signed ROD and Third Five-Year Review**
	• Groundwater monitoring is performed annually.	
ICs/LUC Implementation	**Nebo North and Nebo South:** The ICs for groundwater use are implemented through the MCLB Barstow Environmental Division, which reviews any proposed change in land use or groundwater use in the identified plume areas. **Nebo South LUC area:** The final LUC boundaries of the Nebo South plume area, including the CAOC 6 soil source area, as determined in the OU 2 ROD (DON, 2006) and LUC Remedial Design document (DON 2009a) were implemented in 2011 through installation of site boundary markers and signs, a survey to establish horizontal coordinates, and updating of the MCLB Barstow GIS database to incorporate the LUC area boundaries. LUC boundaries are shown on Figure 6-3.	No changes to ICs/LUCs

OU 2 (CAOC 38) – Part 2: Progress on Recommendations Made in Last Five-Year Review (2012)	
Protectiveness statements from last review	**Nebo North:** The Nebo North plume has decreased in extent with several wells showing overall decrease in VOC levels. The Nebo North GETS system was decommissioned in March 2015 per the FFA stakeholder concurrence with the recommendation in the third five-year review. The remedy at Nebo North is considered protective of human health and the environment. **Nebo South:** The remedy was considered to be protective of human health and the environment. Aging AS/SVE system components could impact long-term protectiveness by reducing remedial system treatment effectiveness.
Status of recommendations and follow-up actions from last review	**Nebo North:** • 2012 Recommendation: Continue to monitor for soil vapor VOC concentration rebound in the former wash pad area every 6 months. Status: The SVE system was operated for approximately two weeks every six months in the wash pad area. The concentrations of soil vapor VOC concentrations are decreasing. **Nebo South:** • 2012 Recommendation: Identify and completion of remedial equipment repairs and upgrades. Status: During the review period, numerous minor equipment repairs were completed along with one major upgrade – replacement of the malfunctioning old air compressor with a new, more energy-efficient model. The system continues to operate in efforts to meet RAOs in four wells with groundwater TCE concentrations remaining above the MCLs (NS6-4, NS6-5, NS6-V1, and NS-V3). System repairs and upgrades improved the remedial efficiency, resulting in rapid declines in plume area extent and groundwater VOC concentrations.
Status of any other prior issues	No other prior issues were identified.

TABLE 6-2

OU 2 (CAOC 38) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

OU 2 (CAOC 38) – Part 3: Technical Assessment (Based on 2012 – 2016 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
A. Is the remedy functioning as intended by the decision documents?	
Nebo North	• **Source Area Cleanup:** The Nebo North AS/SVE system functioned as intended to reduce vadose zone and groundwater VOC concentrations in the plume source area and the system was shut down in 2011. Relatively low-concentrations of soil vapor VOCs rebounded at the former wash pad area one year after system shutdown. As a protective measure for groundwater, the DON resumed targeted SVE system operation in the wash pad area for approximately two weeks once every 6 months during the review period. Groundwater COC concentrations in the source area have remained below cleanup levels since 2011. See technical assessment of the Nebo North remedy including graphs and supporting data in Appendix E, E-1. • **Natural Attenuation of Residual Groundwater Plume:** The Nebo North groundwater plume has attenuated such that only one monitoring well has one COC (PCE) above the cleanup level; a separate source is suspected in this area (see Appendix E, Figure E-1.3). • **O&M Costs**: Estimated operational costs for Nebo North are provided in Table 4-3; an analysis of O&M costs for OUs 1 and 2 is provided in Appendix D (D-2);
Nebo South	• **Cleanup of Source Area and prevention of off-site migration of impacted groundwater:** The Nebo South AS/SVE system was operated cyclically (two weeks on/off cycling) during most of the review period and is functioning as intended. VOC levels in a majority of the wells that make up the Nebo South plume have decreased below MCLs. The rate of contaminate removal has declined due to the decrease in VOC mass in soil and groundwater. See technical assessment of the Nebo South remedy including graphs and supporting data in Appendix E, E-2. • **Monitoring:** Groundwater monitoring activities are performed semi-annually (at off-base and boundary wells) and annually (at on-base and off-base wells). Soil vapors are only sampled periodically or "as needed" based on very low concentrations produced by the SVE portion of the system. Off-Base groundwater is currently not used; off-Base groundwater monitoring data indicate TCE and PCE concentrations have been below MCLs since 2006 • **O&M:** The Nebo South AS/SVE system is maintained on a regular basis to keep the system functioning as intended. The mass removal rates have "flat-lined," indicating the system is at the limits of effectiveness. The VOC effluent emission rate of 0.0039 pounds per day remained well below the MDAQMD's allowable levels of 39.6 pounds per day. • **O&M Costs:** Operational costs are within range for an AS/SVE system. Estimated operational costs for Nebo South are provided in Table 4-3; an analysis of O&M costs for OUs 1 and 2 is provided in Appendix D (D-2 Report). An estimated 21 pounds of total VOCs have been removed since system startup based on SVE emission sample data; and • **Optimization:** AS/SVE operations are focused on remaining impacted areas, shutting down wells once groundwater concentrations fall below MCLs.
LUC/Institutional Controls:	• The LUCs for the Nebo South area were maintained during the review period; no changes in land use occurred; and • ICs for groundwater use were maintained during the review period. No new groundwater supply wells have been installed (or are planned for installation) on or off Base within the boundaries of the Nebo North or Nebo South plume areas.
B. Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy still valid?	
Land-use and exposure assumptions remain unchanged. The MCLs that were the basis for the selected groundwater cleanup levels have not changed since the RODs were signed. The RAOs remain protective. Appendix C provides a review of the relevant toxicity data changes.	
C. Has new information been found that may impact the protectiveness of the remedy?	
No other information was identified that would impact the protectiveness of the OU 2 remedies.	

TABLE 6-2

OU 2 (CAOC 38) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

OU 2 (CAOC 38) – Part 3: Technical Assessment (Based on 2012 – 2016 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
Summary of Technical Assessments	The RAs at CAOC 38 under the OUs 1 and 2 ROD (Nebo North) and OU 2 ROD (Nebo South) are performing or have performed as intended to reduce groundwater and soil vapor contamination. The remedies are both effective and protective. • At Nebo North, the AS/SVE remedy is completed; natural attenuation of the downgradient groundwater plume has reduced COC concentrations at all monitoring locations except one. • At Nebo South, the AS/SVE system continues to be operated to prevent off-Base migration of the remaining on-Base contaminant plume. Off-base groundwater concentrations have been below the cleanup levels since 2006.

CAOC 38 – Part 4: Issues (Based on 2016 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
Issues identified during the technical assessment and other five-year review activities (e.g., site inspection)	**Nebo North plume:** • Rebounding VOC concentrations in the former wash pad area have declined in response to targeted operation of the SVE system. Based on rebound concentration trends, continued targeted SVE is no longer necessary (See Appendix E, E-1). • The VOC concentrations at monitoring well, T-22A/B-MW1, are thought to be related to former USTs T-22A/B and/or former industrial activities at Warehouse 4 (CAOC 10.5) and/or Building 22. PCE concentrations at this well are increasing, while other COCs are below the cleanup levels. The small groundwater plume in this area does not appear to be migrating or expanding. **Nebo South plume:** • The AS/SVE system has significantly reduced the extent of Nebo South plume. However, two small TCE plumes near the Base boundary are persistent (see Figure E-2.1 in Appendix E, E-2).
Determination of whether issues affect current or future protectiveness	**Nebo North source area:** • Current protectiveness is maintained because the Nebo North source area has been cleaned up and the majority of the plume has attenuated to below cleanup levels. The remaining plume consists of a small area near former UST T22 at the north end of Warehouse 4 (centered on one monitoring well T22A/B-MW-1). This small plume is not migrating or expanding; however, PCE concentrations at T22A/B-MW-1 may affect future protectiveness of the remedy. **Nebo South source area:** • Current or future protectiveness is not affected - the Nebo South AS/SVE system will continue to be operated until the RAOs were met and the FFA concurs with system shutdown.
Discussion of unresolved concerns or items raised by support agencies and the community	(*Pending comments from FFA stakeholders and community*) (Appendix H).
Other Comments, Considerations	None

TABLE 6-2

OU 2 (CAOC 38) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 38 – Part 5: Recommendations and Follow-up Actions		
Recommendations / Follow-up Actions	**Schedule for Completion**	**Comments**
Nebo North: • Discontinue targeted SVE at the former wash pad area. • Perform a limited subsurface investigation to identify the source for the increasing PCE groundwater concentrations downgradient from UST T-22A/B. Prepare a Memorandum to File to add the UST T-22A/B source area to the OUs 1 and 2 ROD with an appropriate response action if necessary based on the additional data.	Nebo North: • Discontinue targeted SVE immediately. • Additional investigation and clarification of ROD within next five years.	The former UST T-22A/B is currently under Regional Water Board oversight under the Leaking Underground Fuel Tank (LUFT) program; the DON has discussed with RWQCB that transfer of this UST to the Installation Restoration Program for management under the Nebo North remedy.
Nebo South: • Conduct a data gaps investigation to identify potential residual vadose zone source upgradient of the residual plume and optimize the AS/SVE remedy as necessary.	Nebo South: • Conduct additional investigation within next five years	No comments

ACRONYMS:

AS/SVE – air sparge/soil vapor extraction
BMP – Base Master Plan
CAOC – CERCLA Area of Concern
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
DON – Department of the Navy
ESD – Explanation of Significant Differences
FFA – Federal Facility Agreement
GAC – granular activated carbon
GETS – groundwater extraction and treatment system
IC – institutional control
LUC – land use control
MCLB – Marine Corps Logistics Base
O&M – Operations and Maintenance
OU – Operable Unit
PCE - tetrachloroethene
RA – Remedial Action
RAOs – remedial action objectives
ROD – Record of Decision
TCE – trichloroethene
VOCs – volatile organic compounds

REFERENCES:

See Section 9 in Main Report

TABLE 6-3

CAOC 7 (OU 6) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 7 (OU 6) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Status, and Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Change in CAOC conditions since signed ROD and Third Five-Year Review**
Applicable RODs	OUs 5 and 6 ROD (DON, 1998b) for caps and ICs/LUCs; OUs 1 and 2 ROD (DON, 1998a) for groundwater monitoring.	OU 7 ROD including subsurface remedy for CAOC 7 Stratum 1 signed in December 2014.
Site Location and Description	CAOC 7 was operated as the principal solid waste landfill for MCLB Barstow from the early 1950s to 1964, and is located in the southeast portion of Nebo Main Base (Figure 1-3). Various chemicals from World War II and the Korean conflict were stored and, when possible, were reportedly burned and disposed of as part of the landfill operation. Drums with unknown contents or that were believed to contain extremely hazardous materials were stored in a bermed area. These materials included caustic soda and various pesticides. Around 1958, a major fire reportedly occurred in the drum storage area, leading to a relatively large spill. The area was covered with approximately 2 feet of soil in 1964. CAOC 7 consists of four strata (Figure 6-4): • Stratum 1: The eastern L-shaped landfill disposal area, with each leg measuring approximately 50 by 750 feet (southeast corner of the Nebo Main Base) • Stratum 2: The western landfill disposal area, consisting of two separate trench areas; each trench area consists of two parallel trenches approximately 15 feet wide and ranging in length from 300 to 800 feet (south/central portion of the Nebo Main Base) • Stratum 3: A drum storage and spillage area measuring approximately 900 by 900 feet (northwest of Stratum 1). Declared NFA per OU 5 and 6 ROD. • Stratum 4: The former playground area next to the amphibious vehicle test pond, also known as the “fish pond.” Declared NFA per OU 5 and 6 ROD. • Under OU 2, monitoring wells were installed in the vicinity of CAOC 7.	No change
Basis of Response, Interim Response Actions	VOCs and SVOCs, organochlorine pesticides (OCPs), metals, and TPH-d were detected at low levels in soil samples. Potential impacts to groundwater were evaluated using mathematical modeling. Modeling indicated that dieldrin detected at Stratum 1 could affect groundwater and dieldrin was added to the Stratum 1 groundwater monitoring program.	Groundwater TCE concentrations rose above the OU 2 cleanup level beginning in November 2004 at NSP-2, a monitoring well located downgradient of the Stratum 1 landfill cap. Subsequently the DON reviewed the remedy and ultimately developed a subsurface remedy for soil vapor and groundwater contamination at Stratum 1 under the OU 7 ROD (signed December 2014)
Remedial Action Objectives	**RAOs per the OUs 5 and 6 ROD:** “The cap will meet the objective of minimizing the potential for disturbing the wastes and the potential for direct exposure. The cap will also minimize the potential for future migration of contaminants to groundwater.”	See Table 6-4 for the OU 7 ROD RAOs for soil vapor and groundwater contamination at Stratum 1.

TABLE 6-3

CAOC 7 (OU 6) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 7 (OU 6) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Status, and Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Change in CAOC conditions since signed ROD and Third Five-Year Review**
Selected Remedy	**OUs 5 and 6 ROD:** • Strata 1 and 2: A single-layer native soil cap with institutional controls (fencing and signs posted along the periphery), and precipitation infiltration and groundwater monitoring. LUCs stipulate that the caps shall not be breached other than for purposes of cap maintenance activities unless prior approval of the FFA signatories (i.e., EPA, Cal/EPA, and the Water Board) is obtained. The Base Environmental Division should be consulted prior to initiating any activities in this area. • Strata 3 and 4: land use controls only. The ROD requires that any actions planned in these strata that changes the site use must be coordinated and reviewed by the Base Environmental Division.	OU 7 ROD selected remedy for CAOC 7 Stratum 1 subsurface: Soil vapor extraction (SVE) to reduce VOCs in the vadose zone to prevent further groundwater contamination; Monitored Natural Attenuation for groundwater VOC contamination.
Remedy Implementation	The remedy selected at CAOC 7 Strata 1 and 2 (monolithic native soil caps with land use controls and groundwater monitoring) under the OUs 5 and 6 ROD (DON, 1998b) has been fully implemented.	
O&M, Monitoring	Landfill maintenance and monitoring activities at CAOC 23 are performed quarterly and annually, in accordance with the ROD and the maintained in accordance with the CAOCs 7, 20, 23 and 35 O&M Manual (MMEC 2016). Groundwater monitoring under the OUs 5 and 6 ROD requirements is performed annually or once every five years in accordance with the latest update to the long-term groundwater monitoring plan (Sampling and Analysis Plan for OUs 1 – 7, OTIE 2014). Groundwater monitoring for the OU 6 RAOs for pesticides and metals was reduced to once per five years.	No change in O&M or monitoring (see also Table 6-4 for OU 7 remedy at CAOC 7 Stratum 1).
ICs/LUC	ICs/LUCs are fully implemented; the BMP was amended in 2010 to incorporate LUCs for CAOC 7.	No change

CAOC 7 (OU 6) – Part 2: Progress on Issues and Recommendations Since Last Review (2012)	
TCE concentrations in Stratum 1 downgradient monitoring well (NSP-2) exceeded the cleanup level over several groundwater monitoring events.	The DON conducted a remedy evaluation of CAOC 7 Stratum 1 in accordance with the OUs 5 and 6 ROD in 2009 (DON 2009). The remedy evaluation concluded that the native soil cover was intact but that groundwater contamination was not prevented and a subsurface evaluation was warranted (Tetra Tech, 2010b). CAOC 7 Stratum 1 was incorporated into the OU 7 ROD with RAOs for groundwater to protect human receptors from ingestion of impacted groundwater from the site and to mitigate further impact to groundwater from vadose zone sources. Multi-screened soil wells were installed through the cap in October 2011 and October 2015; an SVE pilot study was performed in 2015-2016 to support the remedial design for the OU 7 remedy. Groundwater monitoring was increased to semi-annually at Stratum 1 and a new upgradient monitoring well installed in October 2011 (see Table 6-4).

CAOC 7 (OU 6) – Part 3: Technical Assessment (Based on 2012 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
A. Is the remedy functioning as intended by the decision documents?	
Stratum 1 Landfill Cap	The landfill cap at Stratum 1 did not prevent groundwater contamination; therefore the DON incorporated a subsurface remedy for this site into the OU 7 ROD. The landfill cap performed as intended to prevent direct contact with buried wastes based on continued O&M activities performed quarterly in accordance with the ROD and the O&M Manual. O&M activities include: Inspection of the protective gravel cover and perimeter fence, settlement surveys,

TABLE 6-3

CAOC 7 (OU 6) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 7 (OU 6) – Part 3: Technical Assessment (Based on 2012 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
	weed eradication, and soil moisture and rainfall data monitoring. General maintenance activities were as follows: • In 2016, the area around the desert tortoise fencing was regraded, the holes causing erosion were filled, and the soil was raked and redistributed to expose the desert tortoise fence; and • Monument settlement surveys were conducted in June 2011, October 2015, and January 2017. • Soil moisture data is monitored on a regular basis using a soil moisture monitoring system. In addition, rainfall-gauge measures and records rainfall data at regular intervals. The soil moisture and rainfall gauge data are downloaded bimonthly. Measured soil moisture is below 10% and relatively constant at Stratum 1 with little to no variability over time observed at each monitoring point (Sealaska 2012; MMEC 2015, 2016); indicating that the cap is functioning effectively. However, vadose zone and groundwater contamination are present beneath this Stratum.
Stratum 2 Landfill Cap	Landfill cap O&M activities are performed quarterly in accordance with the ROD and the O&M Manual. O&M activities include: Inspection of the protective gravel cover and perimeter fence, settlement surveys, weed eradication, and soil moisture and rainfall data monitoring. General maintenance activities were as follows: • In 2016, the area around the desert tortoise fencing was regraded, the holes causing erosion were filled, and soil was raked and redistributed to expose the desert tortoise fence; and • Monument settlement surveys were conducted in June 2011, October 2015, and January 2017. Based on the functional review of the Stratum 2 landfill cap, significant precipitation infiltration through the cap is not occurring. Similar to Stratum 1, soil moisture and rainfall data are regulatory monitored at Stratum 2. The measured soil moisture content was relatively constant at Stratum 2 with little to no variability over time was observed at each monitoring point (Sealaska 2012; MMEC 2015, 2016), indicating that the cap is functioning effectively. Based on the available groundwater data, the remedy at Stratum 2 is performing as intended; however, only limited groundwater monitoring data and no soil vapor data were available for this review.
Strata 3 & 4 ICs/LUCs	The LUCs for Strata 3 and 4 are functioning as intended by the ROD.
B. Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy still valid?	
Land-use and exposure assumptions remain unchanged; toxicity values for PCE changed but did not result in a change to the MCL; the cleanup levels for groundwater (MCLs) remain relevant and unchanged since 2007; therefore, the RAOs remain protective.	
C. Has new information been found that may impact the protectiveness of the remedy?	
No other information was identified that could impact the protectiveness of the CAOC 7 remedies.	
Summary Of Technical Assessments	The CAOC7 Stratum 1 landfill cap has prevented direct contact with the buried wastes as intended by the ROD. However, the cap has not prevented vertical migration of VOCs, leading to groundwater TCE concentrations above the cleanup level downgradient of the cap. The cap remedy for Stratum 2 is functioning as intended, however there is limited groundwater data and no soil vapor data to fully assess the RAO for prevention of groundwater contamination. The LUCs for Strata 3 and 4 are functioning as intended to prevent changes in site use without MCLB Barstow Environmental Division involvement.

TABLE 6-3

CAOC 7 (OU 6) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
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CAOC 7 – Part 4: Issues (Based on 2011 – 2012 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
Issues identified during the technical assessment and other five-year review activities (e.g., site inspection)	No issues identified for capped areas (Strata 1 and 2) or LUCs-only areas (Strata 3 and 4).
Determination of whether issues affect current or future protectiveness	N/A
Discussion of unresolved concerns or items raised by agencies and community	(*Pending comments received from FFA stakeholders and community*) (Appendix H).
Other Comments, Considerations	none

CAOC 7 – Part 5: Recommendations and Follow-up Actions
Recommendations / Follow-up Actions
No recommendations for the CAOC 7 remedy under the OUs 5 and 6 ROD.

ACRONYMS:

IMP – Integrated Maintenance Plan
LUCs – land use controls
LTGWMP – Long Term Groundwater Monitoring Plan
MCL – maximum contaminant level
MCLB – Marine Corps Logistics Base
ICs – institutional controls
AGMR – Annual Groundwater Monitoring Report
AS/SVE – air sparge/soil vapor extraction
bgs – below ground surface
BMP – Base Master Plan
CAOC – CERCLA Area of Concern
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
COCs – contaminants of concern
DON – Department of the Navy
EPA – Environmental Protection Agency
FFA – Federal Facilities Agreement
O&M – Operation and Maintenance
OCP - organochlorine pesticide
OU – Operable Unit
PCE – tetrachloroethene
RA – remedial action
RAO – remedial action objectives
RBC – risk-based criteria
ROD – record of decision
SAP – Sampling and Analysis Plan
TCE – trichloroethene
VOC – volatile organic compound

REFERENCES:

See Section 9 of main report

TABLE 6-4

CAOC 7 Stratum 1 (OU 7) – Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 7 Stratum 1 (OU 7 - Soil Vapor and Groundwater) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Changed Conditions Since ROD**
Applicable RODs	OUs 5 and 6 ROD (DON 1998) for surface/wastes-in-place; OU 7 ROD (DON 2014)	None
Site Location and Description	CAOC 7 Stratum 1 is a former burn dump and waste disposal area with a soil cap in the southeastern corner of Nebo Main Base (Figures 6-1, 6-4). A soil cap was constructed over CAOC 7 Stratum 1 in 2000. The soil cap and groundwater monitoring program were established under the OUs 5 and 6 ROD (DON 1998). Beginning in 2001, groundwater samples from CAOC 7 Stratum 1 monitoring well NSP-2 showed TCE at concentrations at or exceeding the MCL, with a maximum concentration of 25 µg/L detected in 2007. The Stratum 1 groundwater contamination extent during 2016 is shown in Appendix G, Figure G-2.	None
Basis of Response	The DON performed a subsurface investigation at CAOC 7 Stratum 1 in 2011. TCE, acetone, and 1,2-diochlorobenzene were detected in a soil/waste sample from beneath the landfill cap. VOCs, primarily TCE and PCE, were detected in soil vapor at concentrations up to 320 and 14 µg/L, respectively. Twenty-one other VOCs were detected in soil vapor at lower concentrations. Groundwater was contaminated with TCE, which exceeded the cleanup level between 2001 and 2010. The risk drivers are TCE in groundwater and TCE and PCE in soil vapor. There are no current receptors or completed exposure pathways for contaminated groundwater or soil vapor at this site. However, VOCs (especially TCE) are present at concentrations in soil and soil vapor that currently pose a contamination threat to groundwater.	None (no changes to identified COCs or original basis of response).
Remedial Action Objectives	The RAOs per the OU 7 ROD are: • Protect human receptors from ingestion of groundwater impacted with TCE and PCE. (Due to the depth of groundwater, ecological receptors were not identified); • Prevent the migration of COCs in groundwater at concentrations greater than the cleanup levels; and • Mitigate further impact to groundwater from TCE and PCE in soil vapor. The cleanup level for both TCE and PCE is 5 µg/L, based on the Federal/State drinking water Maximum Contaminant Levels (MCLs).	No change in RAOs.
Selected Remedy	• Soil Vapor Extraction (SVE) for the vadose zone soil with added Land Use Controls (LUCs) to protect monitoring and remedial equipment, and monitored natural attenuation (MNA) for groundwater with LUCs to prevent potable use of groundwater; • Natural attenuation will reduce groundwater VOC contamination over time to below cleanup levels through natural processes including microbial and geochemical degradation, sorption, dilution, volatilization, and dispersion; • LUCs for CAOC 7 Stratum 1 (capped area under OUs 5 and 6 ROD) are defined in the Base Master Plan (BMP) (DON 2010). The SVE and groundwater LUC for CAOC 7 Stratum 1 will be updated to incorporate specific provisions for protection of the remedial equipment and monitoring wells installed as part of the remedy; • Institutional Controls (ICs) established in the OU1 and OU2 ROD will also be maintained at the OU7 Groundwater sites to prevent potable use of the groundwater until cleanup levels are achieved (see OUs 1 and 2 ROD Section 1.4.2 [DON 1998a]). For the CAOC 7 Stratum 1 site, the groundwater LUC area was extended	None (selected remedies remain the same)

TABLE 6-4

CAOC 7 Stratum 1 (OU 7) – Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 7 Stratum 1 (OU 7 - Soil Vapor and Groundwater) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Changed Conditions Since ROD**
Selected Remedy (continued)	south and east into the MCLB Barstow Rifle Range due to the potential for southeasterly plume migration; • Monitoring: A comprehensive monitoring program will be implemented to verify that the remedy remains protective of human health and the environment. Specific monitoring program requirements are presented in Section 4.4.1 of the OU 7 ROD (DON 2014); monitoring frequency and data evaluation requirements are presented in the Final MNA Remedial Design-Remedial Action Plan (MNA RD/RA WP) (OTIE 2015a). Monitoring will continue until data evaluations demonstrate attainment of the groundwater cleanup levels; • Performance measures for the protectiveness and effectiveness of the MNA remedy are outlined in the OU 7 ROD (DON 2014). Evaluation of the MNA and LUCs protectiveness will be conducted annually; however, the overall remedy performance will first be evaluated during the five year review following the ROD signing. Both protectiveness and effectiveness will be evaluated annually thereafter; • Operation of the SVE system will be used to extract vapors from the vadose zone located below the landfill waste. Two or more SVE wells will be installed in the vadose zone located below the landfill waste. The system will be designed based on an SVE pilot study and other relevant data. The SVE design will be documented in a Remedial Design (RD)/Remedial Action (RA) work plan. Extracted vapors will be treated through granular activated carbon (GAC). The SVE system will be designed and operated, with optimization as needed to meet the groundwater RAOs; • Evaluation of the SVE remedy's effectiveness will be performed annually; and • Evaluation of MNA and LUCs protectiveness will be conducted annually; overall remedy performance will be evaluated once every five years.	
Performance Measures for MNA	Due to some uncertainties and limitations in the data available at the time of feasibility study (FS), the DON incorporated specific performance measures into the OU 7 ROD (see Appendix G of this report for details). The performance measures include a shrinking plume and decreasing trends in contaminant concentrations within the plume as key indicators that natural attenuation processes are working and the selected remedy remains effective and protective.	No change to selected performance measures

TABLE 6-4

CAOC 7 Stratum 1 (OU 7) – Nebo Main Base – Five Year Review Summary
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MCLB Barstow, California

CAOC 7 Stratum 1 (OU 7 - Soil Vapor and Groundwater) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Changed Conditions Since ROD**
SVE and MNA Remedy Implementation	Additional soil vapor and groundwater monitoring wells were installed in 2011 and 2014 to achieve a total of 6 groundwater monitoring wells and four multi-level soil vapor monitoring wells at CAOC 7 Stratum 1 (OTIE 2012b; NOREAS and Trevet 2014b). • MNA groundwater monitored is performed at the CAOC 7 Stratum 1 on a semi-annual basis in accordance with the approved Sampling and Analysis Plan (SAP) (OTIE 2016). Data are reported in the annual groundwater monitoring reports (AGMRs); • The MNA RD/RA WP was finalized with FFA Stakeholder concurrence in August 2015 and provides procedures and methods for conducting the evaluations; • Annual evaluation of the protectiveness of the remedy was included in the 2015 and 2016 AGMRs (OTIE 2016, 2017). Following this Five-Year Review, both protectiveness and effectiveness of the MNA remedy will be included in future AGMRs; and • An SVE pilot study was completed in 2016 (OTIE 2017). The SVE RD/RA work plan is in progress.	Formal evaluation of the protectiveness and effectiveness of the MNA remedy at the Unit 7 was performed as part of this Five-Year Review and is presented in Appendix G.
ICs/ LUCs Implementation	ICs/LUCs implementation measures during this review period include: • The Base Master Plan (BMP) was amended in 2015 (DON 2015b) to provide a description of the history of the groundwater site, concentrations of VOCs present in groundwater; and description of the access restrictions to prevent potable use of the groundwater until cleanup levels are achieved and requiring well head treatment consistent with ICs/LUCs for groundwater established in the OUs 1 and 2 ROD (DON 1998) and OU 2 ROD (DON 2006); • Monitoring wells were surveyed and the DON's GIS database was updated so that well coordinates are available for review and planning; and • Signs were posted near the highest concentration monitoring wells to identify to identify the presence of contaminants. The first annual inspection of the ICs/LUCs implemented at the CAOC 7 Stratum 1 groundwater area was performed in 2016 and documented in the 2016 AGMR.	No changes to ICs/LUCs implementation
SVE O&M Plan	The SVE RD/RA work plan has not been completed for the CAOC 7 Stratum 1 soil vapor remedy. The completed RD/RA work plan will include a long-term operation and maintenance plan, which will be submitted for review and concurrence by the FFA.	N/A
CAOC 7 Stratum 1 – Part 2: Progress Since Last Review		
Not applicable - this is the first Five Year Review of the OU 7 remedy for CAOC 7 Stratum 1.		

TABLE 6-4

CAOC 7 Stratum 1 (OU 7) – Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 7 Stratum 1 – Part 3: Summary of Technical Assessment (Based on 2012 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
A. Is the remedy functioning as intended by the decision documents?	
SVE Technical Assessment	A pre-design SVE pilot study was completed during 2016 (OTIE 2017); the full scale SVE remedial design is in progress.
MNA Technical Assessment	• The TCE concentration trend in well NSP-2 from the time of the maximum observed concentration to the latest sampling date is consistent with natural attenuation occurring to achieve the MCL in a reasonable period of time. The TCE concentration trend in well NS7-6 was not significantly different than zero; however, the monitoring period was too short to draw conclusions; • TCE concentrations remain above the cleanup goal from well NS7-6; however, this well has only been sampled five times, so there is no clear trend has been established; • The TCE plume expanded slightly downgradient toward the east from November 2014 to November 2015, and then retreated through November 2016. This migration was likely due to increased TCE concentrations in NSP-2 from NS7-7 during 2015. However, no additional wells had TCE detections above the cleanup goal; and • The TCE plume remains localized around well NS7-6.
ICs/LUCs Technical Assessment	Current plume boundaries and COC concentrations have not migrated beyond the maintained LUCs, therefore, LUCs remain protective.
B. Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy still valid?	
Land-use and exposure assumptions remained unchanged since the OU 7 ROD signing. Cleanup levels for TCE and PCE were unchanged since the ROD. Therefore, the RAOs and selected remedies remain protective.	
C. Has any other information been found that could impact the protectiveness of the remedy?	
For CAOC 7 Stratum 1, no other information was identified that could call into question the protectiveness of the remedy.	
Summary of Technical Assessments	The MNA remedy cannot be fully evaluated due to limitations of the data set. To remain protective in the long-term, the SVE remedy must be implemented. The selected remedy and RAOs are still valid; no other information was identified that could impact the protectiveness of the remedy.

CAOC 7 Stratum 1 – Part 4: Current Issues (Based on 2012 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
Issues identified during the technical assessment and other five-year review activities (e.g., site inspection)	The TCE plume currently remains localized around well NS7-6 (the only well with TCE above the cleanup level). A data gap exists to the west of NS7-6, due to lack of monitoring wells. The SVE remedy should be implemented to ensure long-term protectiveness of the remedy.
Determination of whether issues affect current or future protectiveness	Current protectiveness is not affected by the identified issues because of the maintenance of ICs/LUCs as well as on-going monitoring. Future protectiveness will be better assured by implementation of the SVE remedy to prevent further degradation of the groundwater.
Discussion of unresolved concerns or items raised by support agencies and the community	*(pending comments by FFA stakeholders and community*) (Appendix H)
Other Comments, Considerations	None

TABLE 6-4

CAOC 7 Stratum 1 (OU 7) – Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC 7 Stratum 1 – Part 5: Recommendations and Follow-up Actions		
Recommendations / Follow-up Actions	**Schedule for Completion**	**Comments**
Implement the SVE portion of the remedy to reduce contaminant mass impacting groundwater at the site	Remedial Design/Remedial Action (RD/RA) Work Plan anticipated to be submitted to FFA stakeholders during 2017; SVE system implementation schedule – TBD	None
Install one or more monitoring wells to address the data gap in plume delineation along western CAOC boundary	Within next two years (during SVE remedy installation)	None

ACRONYMS:

AGMR – Annual Groundwater Monitoring Report
BMP – Base Master Plan
CAOC – CERCLA Area of Concern
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
COCs – contaminants of concern
DON – Department of the Navy
FFA – Federal Facilities Agreement
GAC – granular activated carbon
ICs – institutional controls
LUCs – land use controls
MCLB – Marine Corps Logistics Base MCL – maximum contaminant level
N/A – not applicable
OU – Operable Unit
PCE - tetrachloroethene
RA – remedial action
RAO – remedial action objectives
RD – Remedial design
ROD – record of decision
SVE = soil vapor extraction
TCE – trichloroethene
VOCs – volatile organic compounds

REFERENCES:

See Section 9 of main report

Table 6-5

CAOC 10.38/10.39 Unit 7 (OU 7) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1- 7
MCLB Barstow, California

CAOC 10.38/10.39 Unit 7 (OU 7) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, and Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Changed Conditions Since ROD**
Applicable RODs	OU 7 ROD (DON 2014)	None
Site Location and Description	CAOC 10.38/10.39 Unit 7 ("Unit 7") consists of former drainage ditches that received industrial waste water flows from industrial operations in the central portion of Nebo Main Base from the 1940s through the 1970s; the ditches have been filled in and are no longer visible on the ground surface (Figure 6-1). The OU 7 remedial investigation (RI) found groundwater the Unit 7 area to be contaminated with volatile organic compounds (VOCs), including trichloroethene (TCE) and tetrachloroethene (PCE). Possible sources include former underground storage tanks and the former industrial operations located upgradient of the affected area. However, no specific soil source(s) for the groundwater contamination at Unit 7 were identified during the RI. The groundwater contamination extent at Unit 7 as of 2016 is provided in Appendix G, Figure G-1.	None
Basis of Response	The Unit 7 groundwater plume currently has no current known receptors or exposure pathways. A baseline human health risk assessment was conducted for soil and groundwater. The incremental carcinogenic human health risks at this CAOC exceeded 1 x 10^{-6}, therefore a response action was necessary to prevent exposure site contaminants. The depth to groundwater from 63 to 115 feet below ground surface (bgs). The nearest water supply well is located several thousand feet northeast of CAOC 10.38/10.39 Unit 7. The contaminants of concern (COCs) in groundwater are TCE and PCE. The sole risk at this site is potential downgradient migration of the COCs to drinking water wells at concentrations above the Maximum Contaminant Levels (MCL) of 5 µg/L. However, LUCs for the Unit 7 soils were also determined to be necessary to ensure the protection of human health and the environment.	None (no changes to identified COCs or original basis of response).
Remedial Action Objectives	The RAOs per the OU 7 ROD are: • Protect human receptors from ingestion of groundwater impacted with TCE. (Due to the depth of groundwater, ecological receptors were not identified.); • Prevent the migration of COCs in groundwater at concentrations greater than the cleanup levels; and • The selected cleanup level for both TCE and PCE is 5 µg/L (based on the state and federal drinking water MCL).	No change in RAOs.
Selected Remedy	**Monitored natural attenuation (MNA) and Land Use Controls (LUCs) to prevent exposure to soil contaminants and prevent potable use of groundwater:** • Natural attenuation will reduce groundwater VOC contamination over time to below cleanup levels through natural processes including microbial and geochemical degradation, sorption, dilution, volatilization, and dispersion; and • Institutional Controls/Land Use Controls (ICs/LUCs): The selected remedy for the Unit 7 soils is land-use controls only; see Table 6-8 for status of this portion of the remedy. For groundwater, the IC established in the OU1 and OU2 ROD will be extended and maintained to the OU 7 groundwater sites to prevent potable use of the groundwater until cleanup levels are achieved (see OUs 1 and 2 ROD Section 1.4.2 [DON 1998a]). Additionally inspections and maintenance of monitoring and	None (selected remedies remain the same)

Table 6-5

CAOC 10.38/10.39 Unit 7 (OU 7) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1- 7
MCLB Barstow, California

CAOC 10.38/10.39 Unit 7 (OU 7) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, and Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Changed Conditions Since ROD**
Selected Remedy (continued)	remedial wells must be performed and signs installed to indicate the presence of contaminants and instructions to contact the Base Environmental Division prior to digging. **Monitoring:** Additional groundwater monitoring wells will be installed, as necessary, to adequately characterize the vertical and lateral extent of the VOC plume. A comprehensive monitoring program will be implemented to verify that the remedy remains protective of human health and the environment. Specific monitoring program requirements are presented in Section 4.4.1 of the OU 7 ROD (DON 2014); monitoring frequency and data evaluation requirements are presented in the Final MNA Remedial Design-Remedial Action Plan (MNA RD/RA WP) (OTIE 2015a). Monitoring will continue until data evaluations demonstrate attainment of the groundwater cleanup levels.	
Performance Measures for MNA	Performance measures for the protectiveness and effectiveness of the MNA remedy are outlined in the OU 7 ROD (DON 2014). Evaluation of the MNA and LUCs protectiveness will be conducted annually; however, the overall remedy performance will first be evaluated during the five year review following the ROD signing. Both protectiveness and effectiveness will be evaluated annually thereafter. The performance measures include a shrinking plume and decreasing trends in contaminant concentrations within the plume as key indicators that natural attenuation processes are working and the selected remedy remains effective and protective (see Appendix G of this report for details).	No change to selected performance measures
Remedy Implementation	• Well installations were completed in 2008, 2011 and 2014 to achieve a total of 14 monitoring wells for the Unit 7 groundwater plume (OTIE 2010, Sealaska 2012, NOREAS 2014); • MNA groundwater monitored is performed at the Unit 7 site on a semiannual basis in accordance with the approved Sampling and Analysis Plan (SAP) (OTIE 2016), are reported in the annual groundwater monitoring reports (AGMRs); • The MNA RD/RA WP was finalized with FFA Stakeholder concurrence in August 2015 and provides procedures and methods for conducting the evaluation; and • Annual evaluation of the protectiveness of the remedy was included in the 2015 and 2016 AGMRs (OTIE 2016, 2017). Following this Five-Year Review, both protectiveness and effectiveness of the MNA remedy will be included in future AGMRs.	Formal evaluation of the protectiveness and effectiveness of the MNA remedy at the Unit 7 was performed as part of this Five-Year Review and is presented in Appendix G.

Table 6-5

CAOC 10.38/10.39 Unit 7 (OU 7) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1- 7
MCLB Barstow, California

CAOC 10.38/10.39 Unit 7 (OU 7) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, and Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Changed Conditions Since ROD**
ICs/ LUCs Implementation	ICs/LUCs implementation measures during this review period include: • The Base Master Plan (BMP) was amended in 2015 (DON 2015b) to provide a description of the history of the groundwater site, concentrations of VOCs present in groundwater; and description of the access restrictions to prevent potable use of the groundwater until cleanup levels are achieved and requiring well head treatment consistent with ICs/LUCs for groundwater established in the OUs 1 and 2 ROD (DON 1998) and OU 2 ROD (DON 2006); • Monitoring wells were surveyed and the DON's GIS database was updated so that well coordinates are available for review and planning; and • Signs were posted near the highest concentration monitoring wells to identify the presence of contaminants. The first annual inspection of the ICs/LUCs implemented at the Unit 7 groundwater area was performed in 2016 and documented in the 2016 AGMR.	No changes to ICs/LUCs implementation
CAOC 10.38/10.39 Unit 7 – Part 2: Progress Since Last Review		
Not applicable - this is the first five-year review of the selected remedy for CAOC 10.38/10.39 Unit 7		

CAOC 10.38/10.39 Unit 7 – Part 3: Summary of Technical Assessment (Based on 2016 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
A. Is the remedy functioning as intended by the decision documents?	
MNA remedy assessment summary	The eight MNA performance standards were evaluated for the Unit 7 groundwater; the technical assessment report for this evaluation is provided in Appendix G. The conclusions of the evaluation are: • The PCE and TCE plumes have increased in mass and areal extent, migrating slightly downgradient toward well 10.38 D17-5. PCE and TCE plume areas have increased by 20 and 4%, respectively, since 2014. However, there is no observable trend of COC concentrations increasing in monitoring wells outside the PCE-TCE plume boundaries. Although both the PCE and TCE plumes have increased, they remained localized around two (PCE) or three (TCE) wells with the center of mass moving slightly downgradient toward well 10.38-D17-5; • Natural attenuation of neither TCE nor PCE is occurring according to expectations; a remedial time line to meet the RAOs could not be projected on the basis of the available data; • PCE concentrations remain above the cleanup level in two of the 14 monitoring wells; and TCE concentrations remain above the cleanup level in three of the 14 monitoring wells and no exposure pathway exists; • The overall conclusion is that natural attenuation is not occurring, however the downgradient monitoring wells remain below cleanup levels. Plume migration and COC concentrations remain localized and no exposure pathway exists downgradient, or outside the current LUCs; • All other performance standards for the remedy were met; • Based on the evaluation, the remedy is functioning as intended for the protectiveness performance standard; however, the remedy does not appear to be functioning as intended for the effectiveness performance standard; • Monitoring and reporting costs: Since the OU 7 site monitoring and reporting is incorporated into the OUs 1 and 2 monitoring program, the costs are

Table 6-5

CAOC 10.38/10.39 Unit 7 (OU 7) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1- 7
MCLB Barstow, California

CAOC 10.38/10.39 Unit 7 – Part 3: Summary of Technical Assessment (Based on 2016 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
MNA remedy assessment summary (continued)	not separated out. The O&M and monitoring costs are presented in Table 4-3 for Nebo Main Base; • Opportunities for Optimization: The remedy may be optimizable if the source area was known and addressed (if practicable); and • Early indicators of potential remedy problems: See statement on remedy effectiveness above.
ICs/LUCs assessment summary	No land use changes were observed during the review period. Current plume boundaries and COC concentrations have not migrated beyond the maintained LUCs; therefore, the ICs/LUCs remain protective.
B. Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy still valid?	
Land-use and exposure assumptions remained unchanged since signing of the OU 7 ROD. Cleanup levels for groundwater (MCLs) including for TCE and PCE were unchanged since the 2014 ROD. Therefore, the RAOs and selected remedies remain protective.	
C. Has any other information been found that could affect the protectiveness of the remedy?	
For CAOC 10.38/10.39 Unit 7, no other information was identified that could affect the protectiveness of the remedy.	
Summary of Technical Assessments	The selected remedy and RAOs for CAOC 10.38/10.39 Unit 7 are still valid and are performing as intended for protectiveness, but not effectiveness to date. Lack of identification of the source feeding the Unit 7 area plume could affect long-term protectiveness of the remedy.

CAOC 10.38/10.39 Unit 7 – Part 4: Current Issues (Based on 2016 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
Issues identified during the technical assessment and other five-year review activities (e.g., site inspection)	The source of the CAOC 10.38/10.39 Unit 7 groundwater plume remains undefined. Based on the available data, the natural attenuation remedy does not appear to be effective; however, the remedy does remain protective.
Determination of whether issues affect current or future protectiveness	Current protectiveness is not affected by the identified issues because of the maintenance of ICs/LUCs and the on-going monitoring. Long-term effectiveness may be impacted by lack of information on the source(s) of the plume.
Discussion of unresolved concerns or items raised by support agencies and the community	*(Pending comments from FFA Stakeholders and community) Appendix H*
Other Comments, Considerations	Solvent releases from the former UST T-197 (industrial wash rack UST, removed) occurred upgradient of the Unit 7 groundwater plume; however, the UST is not considered a source of the Unit 7 groundwater based on non-detect intervening monitoring wells. However, continued monitoring and assessment of groundwater quality at the UST T-197 site should be considered during evaluation of MNA remedy at Unit 7.

Table 6-5

CAOC 10.38/10.39 Unit 7 (OU 7) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1- 7
MCLB Barstow, California

CAOC 10.38/10.39 Unit 7 – Part 5: Recommendations and Follow-up Actions		
Recommendations / Follow-up Actions	**Schedule for Completion**	**Comments**
Install additional monitoring wells to improve the MNA monitoring network and to support future MNA performance evaluations.	Within next 5 years	Recommend new well(s) between existing wells DS17-9 and NSP-6 to improve the western plume delineation.
Investigate the source area(s) at CAOC 10.38/10.39 Unit 7 to facilitate future remedy evaluations and ensure long-term protectiveness.	Within next 5 years	

ACRONYMS:

AGMR – Annual Groundwater Monitoring Report
BMP – Base Master Plan
CAOC – CERCLA Area of Concern
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
COCs – contaminants of concern
DON – Department of the Navy
FFA – Federal Facilities Agreement
ICs – institutional controls
LUCs – land use controls
MCLB – Marine Corps Logistics Base
MCL – maximum contaminant level
N/A – not applicable
OU – Operable Unit
PCE – tetrachloroethene
RA – remedial action
RAO – remedial action objectives
ROD – record of decision
TCE – trichloroethene

REFERENCES:

See Section 9 of main report

TABLE 6-6

NPZ-14 Groundwater Area (OU 7) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

NPZ-14 Groundwater Area (OU 7) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Status, and current site conditions		
	Original Conditions, Investigations, and Responses	**Changed Conditions Since ROD**
Applicable RODs	OU 7 ROD (DON 2014)	None
Site Location and Description	NPZ-14 was initially was a single groundwater monitoring well located in a relatively isolated area of the southern part of the Nebo Main Base (Figure 6-1); this area was formerly used to store military equipment from the 1950s to 1965. Monitoring well NPZ-14 was installed in 1992 and added to the OU 2 groundwater monitoring program in 1998. Trichloroethene (TCE) was detected in groundwater from NPZ-14 at concentrations above the cleanup level since 1999. Six additional wells were installed in 2011 and 2012 to further delineate the impacted area. The TCE plume extent and concentrations as of 2016 are shown on Appendix G, Figure G-1.	None
Basis of Response	The NPZ-14 groundwater area currently has no current known receptors or exposure pathways. No human health risk assessment was conducted for this area. The depth to groundwater is approximately 143 feet. The contaminant of concern is trichloroethene (TCE). The sole risk is potential downgradient migration of the contaminant of concern (TCE) to drinking water wells at concentrations above the Maximum Contaminant Levels (MCL) of 5 µg/L.	None (no changes to identified COCs or original basis of response).
Remedial Action Objectives, Cleanup Level	The RAOs per the OU 7 ROD are: • Protect human receptors from ingestion of groundwater impacted with TCE. (Due to the depth of groundwater, ecological receptors were not identified.); • Prevent the migration of COCs in groundwater at concentrations greater than the cleanup levels; and • The selected cleanup level for TCE is 5 µg/L (based on the state and federal drinking water MCL).	No change in RAOs or cleanup level
Selected Remedy Selected Remedy (continued)	Monitored natural attenuation (MNA) and Land Use Controls (LUCs) to prevent potable use of groundwater. Natural attenuation will reduce groundwater VOC contamination over time to below cleanup levels through natural processes including microbial and geochemical degradation, sorption, dilution, volatilization, and dispersion. • **Institutional Controls/Land Use Controls (ICs/LUCs):** the groundwater IC established in the OU1 and OU2 ROD will be extended and maintained to the OU 7 groundwater sites to prevent potable use of the groundwater until cleanup levels are achieved (see OUs 1 and 2 ROD Section 1.4.2 [DON 1998a]). Additionally inspections and maintenance of monitoring and remedial wells must be performed and signs installed to indicate the presence of contaminants and instructions to contact the Base Environmental Division prior to digging; and • **Monitoring:** A comprehensive monitoring program will be implemented to verify that the remedy remains protective of human health and the environment. Specific monitoring program requirements are presented in Section 4.4.1 of the OU 7 ROD (DON 2014); monitoring frequency and data evaluation requirements are presented in the Final MNA Remedial Design-Remedial Action Plan (MNA RD/RA WP) (OTIE 2015a). Monitoring will continue until data evaluations demonstrate attainment of the groundwater cleanup levels.	None (selected remedies remain the same)

TABLE 6-6

NPZ-14 Groundwater Area (OU 7) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

NPZ-14 Groundwater Area (OU 7) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Status, and current site conditions		
	Original Conditions, Investigations, and Responses	**Changed Conditions Since ROD**
	Performance measures for the protectiveness and effectiveness of the MNA remedy are outlined in the OU 7 ROD (DON 2014). Evaluation of the MNA and LUCs protectiveness will be conducted annually; however, the overall remedy performance will first be evaluated during the five year review following the ROD signing. Both protectiveness and effectiveness will be evaluated annually thereafter.	
Performance Measures for MNA	Due to some uncertainties and limitations in the data available at the time of feasibility study (FS), the DON incorporated specific performance measures into the OU 7 ROD (see Appendix G of this report for details). The performance measures include a shrinking plume and decreasing trends in contaminant concentrations within the plume as key indicators that natural attenuation processes are working and the selected remedy remains effective and protective.	No change to selected performance measures
Remedy Implementation	• Additional well installations were completed in 2011-2012 and 2014 to achieve a total of 8 monitoring wells for the NPZ-14 area (OTIE 2011, 2012b; NOREAS 2014b); • MNA groundwater monitored is performed at the NPZ-14 site on a semi-annual basis in accordance with the approved Sampling and Analysis Plan (SAP) (OTIE 2016). Data are reported in the annual groundwater monitoring reports (AGMRs); • The MNA RD/RA WP was finalized with FFA Stakeholder concurrence in August 2015 and provides procedures and methods for conducting the evaluation; and • Annual evaluation of the protectiveness of the remedy was included in the 2015 and 2016 AGMRs (OTIE 2016 2017). Following this Five-Year Review, both protectiveness and effectiveness of the MNA remedy will be included in future AGMRs.	Formal evaluation of the protectiveness and effectiveness of the MNA remedy at the NPZ-14 Groundwater Area was performed as part of this Five-Year Review and is presented in Appendix G.
ICs/ LUCs Implementation	ICs/LUCs implementation measures during this review period include: • The Base Master Plan (BMP) was amended in 2015 (DON 2015b) to provide a description of the history of the groundwater site, concentrations of VOCs present in groundwater; and description of the access restrictions to prevent potable use of the groundwater until cleanup levels are achieved and requiring well head treatment consistent with ICs/LUCs for groundwater established in the OUs 1 and 2 ROD (DON 1998) and OU 2 ROD (DON 2006); • Monitoring wells were surveyed and the DON's GIS database was updated so that well coordinates are available for review and planning; and • Signs were posted near the highest concentration monitoring wells to identify to identify the presence of contaminants. The first annual inspection of the ICs/LUCs implemented at the NPZ-14 groundwater area was performed in 2016 and documented in the 2016 AGMR.	
NPZ-14 Groundwater Area – Part 2: Progress Since Last Review		
Not applicable - this is the first five-year review of the selected remedy for NPZ-14 Groundwater Area.		

TABLE 6-6

NPZ-14 Groundwater Area (OU 7) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

NPZ-14 Groundwater Area – Part 3: Summary of Technical Assessment (Based on 2012 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
A. Is the remedy functioning as intended by the decision documents?	
MNA remedy technical assessment summary	The eight MNA performance standards were evaluated for the NPZ-14 Groundwater Area; the technical assessment report for this evaluation is provided in Appendix G. The conclusions of the evaluation are: • The TCE plume expanded slightly to the northeast from November 2014 through May 2016, before shrinking back in November 2016. However, with the expansion, no downgradient wells showed TCE detections above the cleanup level. • The TCE plume remains localized around wells NC-1, NC-6, and NPZ-14, with the center of mass moving slightly downgradient toward well NPZ-14. Migration beyond the non-detect downgradient wells is not suspected. • The overall average of the TCE plume concentration has decreased through 2016 and no exposure pathway exists. • Although the TCE concentration in well NPZ-14 is decreasing, the conservative projection is that the cleanup goal will be reached by 2087 (80 years). The TCE concentration was not changing in well NC-6 and increased in well NC 1. • The overall conclusion is that natural attenuation is not occurring at a rate that would attain the cleanup goal within a "reasonable" period of time. A "reasonable" cleanup time frame may be similar to what the DON had assumed for the OU 1 groundwater plumes, which was 30 years (see OUs 1 and 2 ROD). • All other performance standards for the remedy were met. Based on the evaluation, the remedy is functioning as intended for the protectiveness performance standard; however, the remedy does not appear to be functioning as intended for the effectiveness performance standard. Monitoring and reporting costs: Since the OU 7 site monitoring and reporting is incorporated into the OUs 1 and 2 monitoring program, the costs are not separated out. The O&M and monitoring costs are presented in Table 4-3 for Nebo Main Base. Opportunities for Optimization: The remedy may be optimizable if the source area was known and addressed (if practicable). Early indicators of potential remedy problems: See statement on remedy effectiveness above.
ICs/LUCs Remedy	The ICs and LUCs implemented during this review period are functioning as intended.
B. Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy still valid?	
Land-use and exposure assumptions remained unchanged since the ROD signing in 2014. Cleanup levels for groundwater (MCLs) were unchanged since the 2014 ROD. Therefore, the RAOs and selected remedies remain protective.	
C. Has any other information been found that could impact the protectiveness of the remedy?	
For the NPZ-14 Groundwater Area, no other information was identified that impact the protectiveness of the remedy.	
Summary of Technical Assessments	The selected remedy and RAOs for NPZ-14 Groundwater Area are still valid and are performing as intended for protectiveness, but not effectiveness to date. Lack of identification of the source feeding the NPZ-14 area plume could affect long-term protectiveness of the remedy.

TABLE 6-6

NPZ-14 Groundwater Area (OU 7) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

NPZ-14 Groundwater Area – Part 4: Current Issues (Based on 2012 – 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
Issues identified during the technical assessment and other five-year review activities (e.g., site inspection)	The source of the NPZ-14 area plume remains undefined. The estimated time for meeting the groundwater cleanup levels, as currently estimated, may not be reasonable.
Determination of whether issues affect current or future protectiveness	Current protectiveness is not affected by the identified issues because of the maintenance of the ICs/LUCs and on-going monitoring. Long-term protectiveness is less certain with the source area undefined.
Discussion of unresolved concerns or items raised by support agencies and the community	(*Pending comments from FFA Stakeholders and community*)
Other Comments, Considerations	none

NPZ-14 Groundwater Area – Part 5: Recommendations and Follow-up Actions		
Recommendations / Follow-up Actions	**Schedule for Completion**	**Comments**
Investigate the source(s) of the NPZ-14 plume by conducting additional soil vapor and groundwater sampling in the area upgradient of the defined plume.	Within the next five years	

ACRONYMS:

AGMR – Annual Groundwater Monitoring Report
BMP – Base Master Plan
CAOC – CERCLA Area of Concern
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
COCs – contaminants of concern
DON – Department of the Navy
FFA – Federal Facilities Agreement
ICs – institutional controls
LUCs – land use controls
MCLB – Marine Corps Logistics Base
MCL – maximum contaminant level
N/A – not applicable
OU – Operable Unit
RA – remedial action
RAO – remedial action objectives
ROD – record of decision
TCE – trichloroethene

REFERENCES:

See Section 9 of main report

TABLE 6-7

CAOC 10 and CAOC N-2 Area 1 (OU 7) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOCs 10 and N-2 Area 1 (OU 7) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Status, and Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Changed Conditions Since ROD (signed December 2014)**
Applicable RODs	OU 7 ROD (DON, 2014)	None
Site Location and Description	CAOC 10 was originally investigated in 1994 as part of OU 6 based on verbal information given from former MCLB Barstow personnel describing the disposal of sodium filled valves and other hazardous material. The investigation failed to find evidence of buried waste; however, in 2000, during the construction of a cap for the CAOC 35 landfill, sodium-filled valves were reportedly discovered while excavating from a borrow area at the current location of CAOC 10 in the southwest corner of the Nebo Main Base. Other solid wastes were discovered during the excavation included metal debris and an unidentified canister. CAOC 10 consists of buried metallic and other wastes under a graded soil cover within the approximately 5-acre area as shown in Figure 6-5. No groundwater samples were collected during the RI or Supplemental RI. GW samples were previously collected (1992 through 1995) from two monitoring wells located near the current location of CAOC as part of the OUs 1 and 2 RI. Detected concentrations of VOCs, SVOCs, and metals did not exceed their respective MCLs. CAOC N-2 Area 1 is an approximate 17-acre area in the southern portion of the Nebo Main Base (Figure 6-6). Military equipment was stored at a portion of CAOC N-2 Area 1 from the early 1950's until 1966. During the equipment storage period, waste oil containing PCBs was spread for dust suppression, contaminating some soil areas in the southern part of the site. During operation of the skeet and trap range, lead shot and fragments of clay targets were deposited on the ground. The clay targets contained PAHs in the tar used in their manufacture (DON 2014).	None
Basis of Response	**CAOC 10** • Soil sampling results indicated five metals (arsenic, iron, selenium, sodium, zinc, and lead) were detected at concentrations above background levels or U.S. EPA RSLs. Soil sampling results identified low levels of VOCs, SVOCs, herbicides, dioxins and dibenzofurans, PCBs, and pesticides that were below RSLs. Results of the human health and ecological risks assessment indicated that contaminants detected in soil and soil gas do not pose a significant risk, with the exception of lead in surface soil in a relatively small surface hot spot area. **CAOC N-2 Area 1** • Soil sampling results indicated PCB and PAH concentrations exceed acceptable exposure levels (transported as airborne fugitive dust). Ecological risk at CAOC N-2 Area 1 is unlikely. However, this CAOC poses potential risk to granivorous birds that ingest grit and that may ingest lead shot pellets or fragments of pellets. Therefore , ecological exposure risk was considered during the remedy selection for CAOC N-2 Area 1	None

TABLE 6-7

CAOC 10 and CAOC N-2 Area 1 (OU 7) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOCs 10 and N-2 Area 1 (OU 7) – Part 1: Review of Site Status, Remedial Action Objectives, Selected Remedies, Implementation, Status, and Current Site Conditions		
	Original Conditions, Investigations, and Responses	**Changed Conditions Since ROD (signed December 2014)**
Remedial Action Objectives	**CAOC 10** • Protect maintenance workers and trespassers from unacceptable risks due to ingestion of and direct contact with soil containing lead. **CAOC N-2 Area 1** • Protects granivorous birds that ingest grit from unacceptable risks due to ingestion of lead shot pellets or fragments on the surface soil; and • Protect maintenance workers and trespassers from unacceptable risks due to ingestion of fugitive dust and direct contact with soil containing lead, PAHs (benzo[a]pyrene and dibenz[a,h]anthracene), and PCBs (specifically Aroclor 1016 and Aroclor 1254.	None
Selected Remedy	**CAOC 10:** • Removal of impacted soil in delineated area identified in the ROD as a soil lead "*hot spot*"; and • Install LUC signage, annual inspections, maintenance of surface drainage and erosion control; amend Base Master Plan with LUCs, and update DON GIS database with surveyed CAOC boundaries. **CAOC N-2 Area 1** • Conduct surface vacuuming of lead and shot clay target material, dispose off-site; • Removal and disposal of PCB impacted soil areas; and • Install LUC signage, annual inspection, amend Base Master Plan with LUCs, and update DON GIS database with surveyed CAOC boundaries.	At both CAOC 10 and N-2 Area 1, LUC signage was installed during 2015. The remedial design for soil cleanup actions at both sites is pending.
Remedy Implementation	• **CAOC 10:** The impacted soil" hot-spot" removal had not yet been implemented. • **CAOC N-2 Area 1:** The DON is considering a ROD amendment for the soil cleanup action at CAOC N-2 Area 1.	None
RA Operations/ O&M / Monitoring	Maintain current LUCs including signage. Once RA is implemented, develop long-term O&M and monitoring plan	None
ICs/LUC	Land use restrictions have been placed on CAOC 10 and CAOC N-2 Area 1. These CAOCs require the Base Environmental Division to review prior to any land use change.	None
CAOCs 10 and N-2 Area 1 – Part 2: Progress Since Last Review		
Not applicable – this is the first Five-Year Review for both CAOCs 10 and N-2 Area 1.		

TABLE 6-7

CAOC 10 and CAOC N-2 Area 1 (OU 7) - Nebo Main Base – Five Year Review Summary
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOCs 10 and N-2 Area 1 – Part 3: Technical Assessment (Based on 2014-2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
A. Is the remedy functioning as intended by the decision documents?	
The LUC portion of remedy is functioning as intended; other parts of the remedy have not yet been implemented at the two CAOCs.	
B. Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy still valid?	
There have been no changes to the exposure assumptions, toxicity data, cleanup levels, and RAOs since the ROD was signed in 2014.	
C. Has any other information been found that could impact the protectiveness of the remedy?	
No	
Summary Of Technical Assessments	Until the remedies are fully implemented at both CAOC 10 and CAOC N-2 Area 1, the exposure issues identified in the OU 7 ROD will not be addressed.

CAOCs 10 and N-2 Area 1 – Part 4: Issues (Based on 2014 - 2017 Data, Site Inspection, Review of Relevant Documents, and Interviews)	
CAOC 10	No issues identified during site inspection or interviews
CAOC N-2 Area 1	No issues identified during site inspection or interviews
Other Comments, Considerations	None

CAOCs 10 and N-2 Area 1 – Part 5: Recommendations and Follow-up Actions		
Recommendations / Follow-up Actions	**Schedule for Completion**	**Comments**
Implement the selected remedies.	Anticipated within next three years	None

ACRONYMS:
BMP – Base Master Plan
CAOC – CERCLA Area of Concern
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
COCs – contaminants of concern
DON – Department of the Navy
EPA – Environmental Protection Agency
FFA – Federal Facilities Agreement
ICs – institutional controls
LUCs – land use controls
MCLB – Marine Corps Logistics Base
O&M – Operation and Maintenance
OU – Operable Unit
RA – remedial action
RAO – remedial action objectives
ROD – record of decision
References: See Section 9 of main report

Table 6-8

Review of CAOCs with Land Use Controls Only – Nebo Main Base
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC Description	Land Use Controls[1,2]	2012 – 2017 Status
CAOC 2 (OU 4) (Figure 6-9)		
CAOC 2 is a former Pesticide Storage and Washout Area located on the north side of the Nebo Main Base. Soil samples indicated the presence of DDT and its breakdown products, DDE and DDD, in addition to various other pesticide and herbicide compounds with relatively low potential for vertical migration or subsurface transport of contaminants due to the silty and clayey soils. Dieldrin concentrations were the only ones to exceed the residential soil risk-based criteria (RBCs). Fourteen metals exhibited concentrations that were statistically above background concentrations. All metals except thallium and lead were considered to be naturally occurring. Thallium and lead were considered potential site-related contaminants because they were commercially used in insecticides prior to 1965. A time-critical removal action was conducted at CAOC 2 in 1994, during which 318 tons of soil were excavated and removed for off-site disposal. The selected remedy in the OUs 3 and 4 ROD (DON 1997) was LUCs and groundwater monitoring for dieldrin. Groundwater was monitored for the pesticide dieldrin from 1998 until 2008 when it was discontinued with FFA stakeholder concurrence.	**Total CAOC area/LUC area:** 1.87 acres A LUCs only remedy was selected for CAOC 2 in the OUs 3 and 4 ROD (DON, 1997) due to the low levels of pesticides in surface soils. The LUCs documented in the 2010 BMP Amendment (DON 2010) include a stipulation that any actions or changes in site use will be reviewed by the Environmental Division.	No actions were undertaken at CAOC 2 during this review period.
CAOC 5 (OU 4) (Figure 6-9)		
CAOC 5, the Chemicals Storage Area, is located in the southeastern portion of the Nebo Main Base, south of Joseph Boll Avenue. A variety of low-concentration contaminants in soil were present throughout the site including VOCs, SVOCs, OCPs, phenol, PCBs, TPH, PAHs, and metals. Mathematical modeling indicated that soil contamination would not impact to groundwater. The selected remedy was LUCs only, as documented in the OUs 3 and 4 ROD (DON, 1997).	**Total CAOC area:** 47.7 acres **LUC areas:** Stratum 1 (28.43 acres), Stratum 2 (15.23 acres) A LUCs only remedy was selected for CAOC 5 in the OUs 3 and 4 ROD (DON, 1997) due to the low levels of pesticides in surface soils and the presence of desert mix/dust suppression material. The LUCs documented in the 2010 BMP Amendment (DON 2010) include a stipulation that any actions or changes in site use will be reviewed by the Environmental Division.	CAOC 5 site has been used for equipment storage since 2009, with Environmental Division review and approval.
CAOC 1 (OU 6) (Figure 6-9)		
CAOC 1 is a closed landfill located north of the golf course in the northern portion of the Nebo Main Base. Non-detectable or low concentrations of VOCs, SVOCs, OCPs, PCBs, metals, cyanide, and TPH-d were present in the samples collected at this site. A LUCs only remedy was selected for CAOC 1, as documented by the OUs 5 and 6 ROD (DON, 1998b). Groundwater was monitored for the pesticide dieldrin from 1998 until 2008 when it was discontinued with FFA stakeholder concurrence.	**Total CAOC area/LUC area:** 38.09 acres A LUCs only remedy was selected for CAOC 1 in the OUs 5 and 6 ROD (DON, 1998b) due to the low levels of pesticides and PAHs in surface soils. The LUCs documented in the 2010 BMP Amendment (DON 2010) include a stipulation that any actions or changes in site use will be reviewed by the Environmental Division.	No actions were undertaken at CAOC 1 during of this review period.

Table 6-8

Review of CAOCs with Land Use Controls Only – Nebo Main Base
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

CAOC Description	Land Use Controls[1,2]	2012 – 2017 Status
CAOC 3 (OU 6) (Figure 6-9)		
CAOC 3 is a former Wastewater Disposal Area located in the northern portion of the Nebo Main Base, adjacent to the southern boundary of CAOC 1. A LUCs only remedy was selected for CAOC 3, as documented by the OUs 5 and 6 ROD (DON, 1998b). Soil contaminants included VOCs, SVOCs, several pesticides, and extractable petroleum hydrocarbons. All detected metals present were believed to be naturally occurring or present at concentrations of minor concern from a human health perspective. Mathematical modeling performed at CAOC 3 indicated that residual dieldrin in the soil could migrate to the groundwater at concentrations that would contaminate or degrade the aquifer. The selected remedy in the OUs 5 and 6 ROD (DON 1998) was LUCs and groundwater monitoring for dieldrin. Groundwater monitoring for dieldrin was performed from 1998 until 2008, after which it was discontinued with FFA stakeholder concurrence.	**Total CAOC area:** 64.9 acres **LUC area:** Stratum 1 (39.31 acres) A LUCs only remedy was selected for CAOC 3 in the OUs 5 and 6 ROD (DON, 1998b) due to the low levels of pesticides in surface soils. The LUCs documented in the 2010 BMP Amendment (DON 2010) include a stipulation that any actions or changes in site use will be reviewed by the Environmental Division.	No actions were undertaken at CAOC 3 during of this review period.
CAOC 7 Strata 3 and 4 (OU 6) (Figure 6-9)		
CAOC 7, located in the southern portion of Nebo Main Base, was operated as the principal solid waste landfill for the Base from the early 1950s to 1964. Stratum 3 is a drum storage and spillage area identified during the aerial photograph review measuring approximately 900 by 900 feet. Stratum 4 is the former playground area next to the former amphibious vehicle test pond also known as the "fish pond." The playground next to the fish pond was identified as a sampling stratum because of the potential impact to the area from landfill activities. However, the recreation equipment has since been removed, thus minimizing the exposure potential in this area. CAOC 7 Strata 1 and 2 are under landfill covers and are reviewed in in Table 6-3 of this report	**Total CAOC area:** 30.7 acres **LUC area:** Stratum 3 (17.41 acres), Stratum 4 (0.14 acres) A LUCs only remedy was selected for CAOC 7 Strata 3 and 4 in the OUs 5 and 6 ROD (DON, 1998b) due to the low levels of PCBs in soils. The LUCs documented in the 2010 BMP Amendment (DON 2010) include a stipulation that any actions or changes in site use will be reviewed by the Environmental Division.	No actions were undertaken at CAOC 7 Strata 3 and 4 during this review period.
CAOC 11 (OU 6) (Figure 6-9)		
CAOC 11, the Fuel Burn Area, is located in the southwest portion of the Nebo Main Base between I-40 to the north and the Base boundary to the south. Soil sample analysis indicated the presence of SVOCs, pesticides, TPH, and total recoverable petroleum hydrocarbons (TRPH). Mathematical modeling indicated that soil contamination would likely not impact groundwater. A LUCs only remedy was selected for CAOC 11, as documented in the OUs 3 and 4 ROD (DON, 1997).	**Total CAOC area/LUC area:** 3.49 acres A LUCs only remedy was selected for CAOC 7 Strata 3 and 4 in the OUs 5 and 6 ROD (DON, 1998b) due to the low levels of pesticides in soils. The LUCs documented in the 2010 BMP Amendment (DON 2010) include a stipulation that any actions or changes in site use will be reviewed by the MCLB Barstow Environmental Division.	No actions were undertaken at CAOC 11 during of this review period.
CAOC 14 (OU 6) (Figure 6-9)		
CAOC 14 consists of the three major storm water drainage channels comprising the Nebo Main Base surface drainage system and four outfalls that discharge into the Mojave River.	**Total CAOC area:** 24.8 acres **LUCs area:** Stratum 1 – 13.72 acres, Stratum 2 – 0.62 acres, Stratum 3 – 0.35 acres, Stratum 4 – 0.25 acres.	No actions were undertaken at CAOC 14 during of this review period.

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CAOC Description	Land Use Controls[1,2]	2012 – 2017 Status
During the remedial investigation of CAOC 14, each channel and outfall was inspected and sampled. Samples were analyzed for VOCs, SVOCs, OCPs, PCBs, metals, cyanide, and TPH-d. Soil contamination was not identified at levels of concern for human health risk. The potential for impacts to groundwater from CAOC 14 was evaluated by mathematical modeling, which indicated that groundwater concentration of each of the detected soil contaminants would be below their respective RBCs and maximum contaminant levels (MCLs), except for dieldrin and gamma-chlordane in the northern portion of Nebo. To address this uncertainty, pesticides were monitored under OU 2. Groundwater monitoring and LUCs were selected for CAOC 14, as documented in the OUs 5 and 6 ROD (DON, 1998b). Groundwater monitoring was performed from 1998 until 2008, after which it was discontinued with FFA stakeholder concurrence.	A LUCs only remedy was selected for CAOC 7 Strata 3 and 4 in the OUs 5 and 6 ROD (DON, 1998b) due to the low levels of pesticides in soils. The LUCs documented in the 2010 BMP Amendment (DON 2010) include a stipulation that any actions or changes in site use will be reviewed by the MCLB Barstow Environmental Division.	
CAOC 10.27 (OU 7) (Figure 6-10)		
Building S-338 (CAOC 10.27) was constructed in the early 1940s and used for crane repair until the 1960s. It was modified and used for fire-fighting training activities until 1975. Materials such as wood and scrap metal were sprayed with small amounts of used oil or waste fuel and burned. Wastewater generated from fire-fighting activities was collected by a drainpipe that discharged onto the unpaved railroad right-of-way immediately north of the building. The site is currently partially paved with asphalt and generally unused except for temporary equipment storage and staging. Soil sampling results indicate that arsenic concentrations exceeded residential and industrial RSLs. The elevated arsenic concentrations are considered normal for the region and not CAOC-related.	**Total CAOC area/LUC area:** 0.27 acres A LUCs only remedy was selected for CAOC 10.27 in the OU 7 ROD (DON 2014) due to the presence of low levels of metals, PAHs, dioxins and furans in soils. The LUCs documented in the 2015 BMP Amendment (DON 2015) include: • A stipulation that any actions planned in these areas or changes in site use should be coordinated and reviewed by the MCLB Barstow Environmental Division. • Signage must be placed at site boundaries indicating the presence of contaminants and instructions to contact the MCLB Barstow Environmental Division prior to digging.	LUC signs were installed during 2015. No actions were undertaken at CAOC 10.27 during of this review period.
CAOC 10.35 (OU 7) (Figure 6-10)		
CAOC 10.35 is the Former Domestic Wastewater Treatment Plant located in the northern part of Nebo Main Base and operated form 1942 until approximately 1978. The DWTP initially consisted of a pumping station, one combination clarifier-digester (clarigester), a sludge drying bed, and four effluent disposal ponds. The four effluent ponds were converted into two ponds 1948. In 1952, a second clarigester and three off-site oxidation ponds were added. In 1957, a grit chamber was added to the system. Soil sample results for CAOC 10.35 indicate that RSLs were exceeded only for Aroclor-1260, dieldrin, and arsenic (naturally occurring). The nature and extent	**Total CAOC area/LUC area:** 0.78 acres A LUCs only remedy was selected for CAOC 10.35 in the OU 7 ROD (DON 2014) due to the presence of low levels of pesticides and PCBs in soils. The LUCs documented in the 2015 BMP Amendment (DON 2015) include: • Any actions planned in these areas or changes in site use should be coordinated and reviewed by the MCLB Barstow Environmental Division. • Signage must be placed at site boundaries indicating the presence of contaminants and instructions to contact the MCLB Barstow	LUC signs were installed during 2015. No actions were undertaken at CAOC 10.35 during of this review period.

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CAOC Description	Land Use Controls[1,2]	2012 – 2017 Status
of contaminants were defined. VOCs were not detected in the groundwater sample collected from CAOC 10.35. The selected remedy in the OU 7 ROD (DON 2014) was LUCs only.	Environmental Division prior to digging.	
CAOC 10.37 (OU 7) (Figure 6-10)		
CAOC 10.37 is the former industrial wastewater treatment plant (IWTP) in the northern part of Nebo Main Base and constructed in 1975 to treat wastewater from industrial operations such as painting, cleaning, preservation and packaging, steam cleaning, and vehicle maintenance. Plant operations were discontinued in March 1990. CAOC 10.37 includes a wet well, five evaporation ponds, two sludge drying beds, an air flotation unit, a tank for ferrous chloride, a waste oil float tank, and a concrete pad with a drain connected to a wet well. TPH as diesel and TPH as motor oil were detected in shallow soil (0 to 10 feet bgs) at concentrations generally decreasing with depth. PAHs were detected in soil above RSLs at a maximum depth of 5 feet bgs. Acetone, PCE, TCE, and chloroform were detected in soil vapor in the northern area of evaporation basin, and fuel-related VOCs were detected in soil vapor at five locations across the CAOC at depths to 20 feet bgs. Chloroform was also detected in soil vapor samples from several borings north of Evaporation Basin 5 and along the southern boundary of CAOC 10.37.	**Total CAOC area/LUC area:** 4.92 acres A LUCs only remedy was selected for CAOC 10.37 in the OU 7 ROD (DON 2014) due to the presence of low levels of metals, PAHs, and VOC in soil and VOCs in soil vapor. The LUCs documented in the 2015 BMP Amendment (DON 2015) include: • Any actions planned in these areas or changes in site use should be coordinated and reviewed by the MCLB Barstow Environmental Division. • Signage must be placed at site boundaries indicating the presence of contaminants and instructions to contact the MCLB Barstow Environmental Division prior to digging.	LUC signs were installed during 2015. No actions were undertaken at CAOC 10.37 during of this review period.
CAOC 10.38/10.39 Units 1 – 7 (soils) (OU 7) (Figure 6-10)		
CAOCs 10.38/10.39 Units 1 – 6 were industrial and domestic wastewater pipelines. Unit 7 consisted of surface drainage ditches that received industrial waste water. Suspected leaks from subsurface pipelines and infiltration from the surface drainages were investigated during the remedial investigation. Currently, industrial wastewater lines are no longer in use; however, domestic waste waterlines continue to be used. There are no completed pathways identified and the proposed action is LUCs. CAOC 10.38/10/39 Unit 1 – 6 are subsurface conveyance lines, typically under pavement or buildings. The former drainage ditches at Unit 7 have been backfilled with soil and are no longer visible at the surface.	**Total CAOC area/LUCs area**: 17 acres A LUCs only remedy was selected for CAOC 10.38/10.39 Unit 1-7 (soils) in the OU 7 ROD (DON 2014) due to the presence of low levels of metals in soils. The LUCs documented in the 2015 BMP Amendment (DON 2015) include: • Any actions planned in these areas or changes in site use should be coordinated and reviewed by the MCLB Barstow Environmental Division. • Signage must be placed at site boundaries indicating the presence of contaminants and instructions to contact the MCLB Barstow Environmental Division prior to digging.	
CAOC 10.3 (OU 7) (Figure 6-10)		
CAOC 10.3 consists of Warehouse 2, a general warehouse at Nebo Main Base. The warehouse was constructed in 1942, and encompasses an area of approximately 600 by 200 feet or 2.9 acres. Warehouse 2 was generally used	**Total CAOC area/LUC area:** 5.57 acres A LUCs only remedy was selected for CAOC 10.3 in the OU 7 ROD (DON 2014) due to the presence of low levels of VOCs in groundwater beneath	LUC signs were installed during 2015. No actions were undertaken

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CAOC Description	Land Use Controls[1,2]	2012 – 2017 Status
for vehicle repair from 1942 to 1961. Activities performed on site potentially released hazardous materials to underlying soil through the building sump and floor drain system. During site investigations, VOCs (including PCE and acetone), SVOCs, pesticides, PCB (Aroclor-1260), metals, and a soil pH of 9.9 were detected in soil samples. Metals that exceeded their respective background levels or RSLs included arsenic, lead, mercury, and selenium. Soil vapor samples identified 1,2-DCE; 2-hexanone; MTBE; methylene chloride; PCE; toluene; and TCE. PCE was detected in groundwater beneath CAOC 10.3. However, soil and soil vapor samples did not suggest that operations conducted at the former warehouse are a source of the groundwater contamination. The selected remedy in the OU 7 ROD (DON 2014) was LUCs only. Groundwater beneath CAOC 10.3 is being addressed under the OUs 1 and 2 ROD.	this site. The LUCs documented in the 2015 BMP Amendment (DON 2015) include: • Any actions planned in these areas or changes in site use should be coordinated and reviewed by the MCLB Barstow Environmental Division. • Signage must be placed at site boundaries indicating the presence of contaminants and instructions to contact the MCLB Barstow Environmental Division prior to digging.	at CAOC 10.35 during of this review period.
CAOC 10.4 (OU 7) (Figure 6-10)		
CAOC 10.4 consists of Warehouse 3 located in the northern part of the Nebo Main Base. The warehouse was constructed in 1942, and was reportedly the primary industrial facility at MCLB Barstow Nebo Annex prior to 1961. Afterwards, Warehouse 3 was primarily used for general storage and vehicle repair; recent use has been limited to office space and storage of field equipment. Soil sample results indicated TPH as diesel and oil at very low concentrations. VOCs (including PCE), SVOCs, pesticides, and metals were also detected in soil samples; however, none were above their respective residential RSLs, except arsenic which was considered naturally occurring.	**Total CAOC area/LUC area:** 3.5 acres A LUCs only remedy was selected for CAOC 10.4 in the OU 7 ROD (DON 2014) due to the presence of low levels of VOCs in groundwater and metals in soil. The LUCs documented in the 2015 BMP Amendment (DON 2015) include: • Any actions planned in these areas or changes in site use should be coordinated and reviewed by the MCLB Barstow Environmental Division. • Signage must be placed at site boundaries indicating the presence of contaminants and instructions to contact the MCLB Barstow Environmental Division prior to digging.	LUC signs were installed during 2015. No actions were undertaken at CAOC 10.4 during this review period.
CAOC 10.5 (OU 7) (Figure 6-10)		
CAOC 10.5 consists of Warehouse 4, a general warehouse at Nebo Main Base. The warehouse was constructed in 1942 and used for vehicle repair until 1961. During this time, various hazardous materials may have been used during vehicle repair activities. The warehouse is currently used for recreation and storage of aircraft parts and equipment. Soil sample results indicated TPH as diesel at low concentrations. VOCs were detected at concentrations below their respective U.S. EPA residential RSLs. Soil vapor samples indicated PCE at 1 µg/L, 1.5 µg/L, and 2.6 µg/L (industrial screening level was 2.1 µg/L).	**Total CAOC area/LUC area:** 3.85 acres A LUCs only remedy was selected for CAOC 10.5 in the OU 7 ROD (DON 2014) due to the presence of low levels of metals in soil. The LUCs documented in the 2015 BMP Amendment (DON 2015) include: • Any actions planned in these areas or changes in site use should be coordinated and reviewed by the MCLB Barstow Environmental Division. • Signage must be placed at site boundaries indicating the presence of contaminants and instructions to contact the MCLB Barstow	LUC signs were installed during 2015. No actions were undertaken at CAOC 10.37 during of this review period.

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Review of CAOCs with Land Use Controls Only – Nebo Main Base
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CAOC Description	Land Use Controls[1,2]	2012 – 2017 Status
	Environmental Division prior to digging.	
CAOC 10.12 (OU 7) (Figure 6-10)		
CAOC 10.12 consists of the former Preservation and Packaging Shop (Building 50) at the Nebo Main Base. Building 50 was constructed in 1948 and used for cleaning, minor repair, painting preservation, and packaging operations. The site currently consists of a partial concrete foundation and other paved and unpaved areas. Cleaning operations, preservation dip tanks, and degreaser dip tanks likely used or contained hazardous materials, including liquid cleaners, vapor degreaser, alkaline cleaner, rinsing operation, phosphoric and nitric acid, brass cleaner, and fingerprint removers. Sandblasting and spray painting were conducted at Building 50 and an exterior wash pad was also used. Waste generated at Building 50 was documented during 1990 as containing spent blast media, waste grease, oil, PCE/oil, paint sludge, stream-cleaning wastewater, caustic (sodium hydroxide), heavy metals and solvents. The selected remedy, based on subsurface cleanup being conducted under OU 2, was LUCs only.	**Total CAOC area/LUC area:** 2.12 acres A LUCs only remedy was selected for CAOC 10.12 in the OU 7 ROD (DON 2014) due to the presence of low levels of VOCs in soil, soil vapor, and groundwater. The LUCs documented in the 2015 BMP Amendment (DON 2015) include: • Any actions planned in these areas or changes in site use should be coordinated and reviewed by the MCLB Barstow Environmental Division. • Signage must be placed at site boundaries indicating the presence of contaminants and instructions to contact the MCLB Barstow Environmental Division prior to digging.	The OU 2 Nebo North AS/SVE system remains in place at CAOC 10.12, although subsurface remediation has been largely completed. LUC signs were installed during 2015. No other activities occurred at this CAOC since the ROD signing (2014).
CAOC 10.49 (OU 7) (Figure 6-10)		
CAOC 10.49 consists of formerly used USTs T-27A, T-27B, and T-27C on the south side of Building 27 at Nebo Main Base. Soil sample results indicate TPH as diesel and as motor oil at low concentrations. Detected metals (excluding arsenic) did not exceed their respective residential RSLs. Arsenic concentrations (maximum of 36 mg/kg) exceeded both the residential and industrial RSLs and the Nebo Main Base arsenic 95th percentile background level of 10.43 mg/kg. PCE was detected in groundwater below the U.S. EPA and state of California MCL of 5 µg/L. VOCs detected in soil vapor samples in the area of CAOC 10.49 are subjected to active remediation using AS/SVE under the OU 1 and 2 ROD (DON 2014) Groundwater and soil gas at CAOC 10.49 is addressed under the OU 2 ROD.	**Total CAOC area/LUC area:** 0.068 acres A LUCs only remedy was selected for CAOC 10.49 in the OU 7 ROD (DON 2014) due to the presence of low levels of VOCs and TPH in groundwater, metals and TPH in soil, and VOCs in soil vapor. The LUCs documented in the 2015 BMP Amendment (DON 2015) include: • Any actions planned in these areas or changes in site use should be coordinated and reviewed by the MCLB Barstow Environmental Division. • Signage must be placed at site boundaries indicating the presence of contaminants and instructions to contact the MCLB Barstow Environmental Division prior to digging.	No actions were undertaken at CAOC 10.49 during this review period.
CAOC 10.80 (OU 7) (Figure 6-10)		
CAOC 10.80 consists of former UST T-354, a 450-gallon, fiberglass UST, on the south side of former Building 354 at Nebo Main Base. The UST was removed in 1992 during the RFA. It is suspected that the UST was used as a boiler blowdown tank. MCLB Barstow records indicate that no wastes were managed in UST T-354 and that no releases were recorded during its use.	**Total CAOC area/LUC area:** 0.0045 acres A LUCs only remedy was selected for CAOC 10.80 in the OU 7 ROD (DON 2014) due to the presence of low levels of metals in soil. The LUCs documented in the 2015 BMP Amendment (DON 2015) include: • Any actions planned in these areas or changes in site use should be coordinated and reviewed by the MCLB Barstow Environmental Division.	No actions were undertaken at CAOC 10.80 during of this review period.

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Review of CAOCs with Land Use Controls Only – Nebo Main Base
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CAOC Description	Land Use Controls[1,2]	2012 – 2017 Status
	• Signage indicating the presence of contaminants and instructions to contact the DON prior to digging will be placed at site boundaries.	

NOTE:

1. The OUs 3 and 4 ROD (DON 1997) and OUs 5 and 6 ROD (DON 1998) selected "No Action" remedies for CAOCs 1, 2, 3, 5, 7, 11, and 14. The No Action remedy included specific Base Master Plan modifications that require MCLB Barstow Environmental Division review before any land-use changes are made at this site ("NA with BMP modification"). For the purposes of this Five-Year Review report, the "NA with BMP modification" remedy is referred to as "LUCs only" to be consistent with later RODs. The LUCs for the OUs 4 and 6 CAOCs are incorporated into the 2010 BMP Amendment (DON 2010).
2. The LUCs for the OU 7 CAOCs are incorporated into the 2015 BMP Amendment (DON 2015).

ACRONYMS:

BMP – Base Master Plan
CAOC – CERCLA Area of Concern
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
DDT - dichlorodiphenyltrichloroethane
DDE - dichlorodiphenyldichloroethene
DDD - dichlorodiphenyldichloroethane
DON – Department of the Navy
FFA – Federal Facility Agreement
IRP – Installation Restoration Program
LUC – Land Use Control
MCL – maximum contaminant level
MCLB – Marine Corps Logistics Base
OU – Operable Unit
PCB – polychlorinated biphenyl
RBC – Risk Based Concentrations
RI – Remedial Investigation
ROD – Record of Decision
SVOCs – semivolatile organic compounds
TCRA – time critical removal action
TPH – total petroleum hydrocarbons
TRPH - total recoverable petroleum hydrocarbons
VOCs – volatile organic compounds

REFERENCES:

See Section 9 of main report

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TABLE 7-1

Summary of Protectiveness Statements, Issues and Recommendations for OUs 1, 3, 5, and 7 at Yermo Annex
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

OU	CAOC	Issues Identified During Five-Year Review	Do the identified issues affect short-term protectiveness?	Do the identified issues affect long-term protectiveness?	Recommendations/Follow-up Actions	Schedule for Completion
OU1 (CAOC 37) Groundwater						
1	37	1. The OU 1 pump and treat remedy is not achieving containment of the off-Base contaminant plume. Data gaps in the off-base monitoring well network inhibit evaluation of plume dynamics, concentration distribution, and trends. 2. The long-term persistence of the Yermo North plume suggests the presence of a remaining contaminant mass at CAOCs 16, 15/17 and possibly 35. The existing soil vapor extraction (SVE) system may be located too far from the residual contaminant mass to effectively reduce vadose zone concentrations. The air-sparge (AS) system has become ineffective due to declining groundwater levels. 3. Off-site exposure to Base groundwater plume is not suspected, however the two off-base residential wells treatment systems are not currently in operation. The Yount private well went dry in May 2016 and the Hodges well appears to be inoperable based on inspections from the public right-of-way. The DON does not have a current access agreement to the Hodges property to perform direct inspection of the well and treatment system despite repeated attempts to contact the property owner who does not live on-site. An occasional resident/trespasser has been observed at the Hodges residence. 4. The CAOC 26 groundwater and vadose zone remedies are completed; no further monitoring is required. 5. OU 1 groundwater chromium and nickel data indicate these metals are consistently below maximum contaminant levels and no further monitoring is required.	Current protectiveness is not affected by the identified issues because of the operation, maintenance, and repairs of the remedial systems as well as on-going monitoring.	Future protectiveness of the remedy would be better ensured through remedy optimization and addressing the existing data gaps in vadose zone and groundwater contaminant extent.	1. Perform a data gaps investigation of the Yermo North plume to improve delineation of the northern and off-site extent. 2. Investigate the residual contaminant mass in the vadose zone at CAOCs 16, 15/17, and 35; based on the results evaluate if optimization of the SVE system is required to ensure long-term effectiveness of the remedy. Turn off the AS portion of the remedy. 3. Maintain contact with Yount residence on status of their private well. Continue to pursue access agreement with off-Base Hodges property owner; the situation is being elevated to the DON legal counsel who will review and pursue options to gain access to the Hodges property to ascertain status of the well and GAC system, and to make necessary repairs (if the well is operable) to meet requirements of the ROD. Additionally, upon securing access to the property, the DON will provide notification to the occupants regarding potentially contaminated groundwater. 4. Document in the Administrative Record that the response action at CAOC 26 for vadose zone and groundwater is completed and no further monitoring is required. 5. Document in the Administrative Record that detected metals in OU 1 groundwater do not require a response action or any further monitoring.	1. A new off-base monitoring well is scheduled to be installed during June 2017. Additional potential wells locations both on-Base and off-base are under discussion with the FFA stakeholders. 2. Initial investigations are underway; the Navy will consider results of initial investigations to determine the scope and schedule for further assessments at these CAOCs. Other optimization measures can be implemented upon FFA concurrence with the recommendations. 3. Contact the Yount residence every other month to check on well status. Access the Hodges property and conduct system assessment and resident notifications as soon as legally possible. 4. Following FFA stakeholder concurrence. 5. Following FFA stakeholder concurrence.
OUs/CAOCs with both ICs/LUCs remedies (under OUs 3or 5) and vadose zone and/or groundwater remedies including monitoring under OU 1						
5	16	No issues identified under OU 5; see OU 1 CAOC 37 for discussion of vadose zone and groundwater issues.	Short-term protectiveness is not affected as the ICs/LUCs are maintained.	Long-term protectiveness is not affected as long as the ICs/LUCs are maintained.	(See recommendations made for the vadose zone and groundwater at CAOCs 16, 15/17, and 35 under OU 1.)	N/A
5	15/17	No issues for the OU 5 remedy (LUCs only). See OU 1 CAOC 37 for discussion of vadose zone and groundwater issues.	Short-term protectiveness is not affected as the ICs/LUCs are maintained.	Long-term protectiveness is not affected as long as the ICs/LUCs are maintained.	(See recommendations made for the vadose zone and groundwater at CAOCs 16, 15/17, and 35 under OU 1.)	N/A
3	20	No issues for the ICs/LUCs portion of remedy. One additional round of groundwater radiological data is needed to complete the ROD-required assessment. VOCs were not detected in six rounds of downgradient groundwater monitoring; metals are consistently below maximum contaminant levels.	Short-term protectiveness is not affected as the ICs/LUCs are maintained.	Long-term protectiveness is assured if cap is maintained and long-term monitoring data substantiate this CAOC is not a source to groundwater	Publish results of four rounds of radiological parameter sampling, data evaluations, conclusions and recommendations in the next Annual Groundwater Monitoring Report after sampling is completed. Discontinue metals and VOC groundwater monitoring.	Sample in 2017, report in 2018
3	23	No cap/LUC issues identified. See OU 1 CAOC 37 for discussion of vadose zone and groundwater issues.	Short-term protectiveness is not affected as the ICs/LUCs are maintained.	Long-term protectiveness is not affected as long as the ICs/LUCs are maintained.	None	N/A
5	26	No issues identified for OU 5 remedy; See OU 1 CAOC 37 for vadose zone/groundwater remedy (completed).	N/A	N/A	None	To be determined
5	35	No issues with landfill cap identified. See OU 1 CAOC 37 for potential vadose zone and groundwater issues.	Short-term protectiveness is not affected cap and ICs/LUCs are maintained.	Long-term protectiveness is not affected as long as the ICs/LUCs are maintained.	(See recommendations made for the vadose zone and groundwater at CAOCs 16, 15/17, and 35 under OU 1.)	N/A

TABLE 7-1

Summary of Protectiveness Statements, Issues and Recommendations for OUs 1, 3, 5, and 7 at Yermo Annex
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

OU	CAOC	Issues Identified During Five-Year Review	Do the identified issues affect short-term protectiveness?	Do the identified issues affect long-term protectiveness?	Recommendations/Follow-up Actions	Schedule for Completion
OUs/CAOCs with LUCs only						
7	9.60	No issues identified.	N/A	N/A	None	N/A
7	9.68	No issues identified.	N/A	N/A	None	N/A
3	18	No issues identified	N/A	N/A	None	N/A
3	21	No issues identified	N/A	N/A	None	N/A
5	32 Stratum 2	No issues identified	N/A	N/A	None	N/A
3	34 Stratum 1	No issues identified	N/A	N/A	None	N/A

ACRONYMS:

AS/SVE – air sparging/soil vapor extraction
CAOC – CERCLA Area of Concern
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
COC – contaminate of concern
DON – Department of Navy
LUC s– land use controls
N/A – not applicable (no issues identified)
O&M – Operations and Maintenance
OU – Operable Unit
VOC – volatile organic compound

TABLE 7-2

Summary of Protectiveness Statements, Issues and Recommendations for OUs 2, 4, 6, and 7 at Nebo Main Base
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

OU	CAOC	Issue Identified During Five-Year Review	Do the identified issues affect short-term protectiveness?	Do the identified issues affect long-term protectiveness?	Recommendations/Follow-up Actions	Schedule for Completion
OU 1 (CAOC 38) and OU 7 Groundwater Remedies						
2	38 Nebo North	Nebo North soil vapor VOC concentrations in a small area of the Former Building 50 source zone have been addressed with targeted SVE treatment; the rebounding concentrations are declining and continued targeted SVE is not warranted.	No	No	Discontinue further targeted SVE in the former source area.	Document the evaluation and recommendations in the 2017 Annual Groundwater Monitoring Report.
		The Nebo North plume has attenuated except for a small residual groundwater PCE plume that appears to be related to former underground storage tanks (UST T-22A/B) and/or industrial operations at Warehouse 4 (CAOC 10.5) and/or Building 22. The PCE source area was not identified in the OUs 1 and 2 ROD. Groundwater concentrations of PCE are on an increasing trend at a monitoring well downgradient from UST T-22A/B.	Current protectiveness is not affected by the identified issue because of the maintenance of the groundwater LUCs and on-going monitoring.	The long-term protectiveness of the remedy would be better assured with improved understanding of the source and extent of the T-22A/B area groundwater contamination.	1. Perform a limited subsurface investigation to identify the source for the increasing PCE groundwater concentrations downgradient from UST T-22A/B. 2. Prepare a Memorandum to File to add the source area to the OUs 1 and 2 ROD with an appropriate response action if necessary based on the additional data.	Schedule to be determined
	38 Nebo South	The Nebo South AS/SVE system prevents off-site migration and has reduced the extent of the VOC plume. The persistence of small residual plume areas indicates vadose zone source may be beyond the SVE radius of influence.	Current protectiveness is not affected because of continued operation of the AS/SVE system.	Long-term protectiveness would be better assured by addressing potential source(s) of the small residual plumes at the Base boundary.	Conduct a data gaps investigation to identify potential residual vadose zone source upgradient of the residual plume and optimize the AS/SVE remedy as necessary.	Schedule to be determined
7	7 Stratum 1 (vadose zone, groundwater)	The TCE plume currently remains localized around well NS7-6 (the only well with TCE above the cleanup level). A data gap exists to the west of NS7-6, due to lack of monitoring wells. The SVE remedy should be implemented to ensure long-term protectiveness of the remedy.	Current protectiveness is not affected by the identified issues because of the maintenance of ICs/LUCs as well as on-going monitoring.	Long-term protectiveness will be enhanced once SVE remedy is implemented.	1. Implement the SVE portion of the remedy to reduce contaminant mass impacting groundwater at the site. 2. Install additional monitoring wells to address the data gap in plume delineation along western CAOC boundary	1. Remedial Design/Remedial Action (RD/RA) Work Plan anticipated to be submitted to FFA stakeholders during 2017. 2. Within next two years (or during SVE remedy installation).
7	10.38/10.39 Unit 7 (groundwater)	The source of the CAOC 10.38/10.39 Unit 7 groundwater plume remains undefined. Based on the available data, the natural attenuation remedy does not appear to be effective; however, the remedy does remain protective.	Current protectiveness is not affected by the identified issues because of the maintenance of ICs/LUCs and the on-going monitoring.	Long-term protectiveness will be better assured with improved understanding of the source at this CAOC.	1. Add a groundwater monitoring well between wells 10.38-DS17-9 and NSP-6 to improve the western MNA monitoring network and to support future MNA performance evaluations. 2. Investigate the source area(s) at CAOC 10.38/10.39 Unit 7 to facilitate future remedy evaluations and ensure long-term protectiveness.	1 and 2 within the next five years
7	NPZ-14 Groundwater Area	The source of the NPZ-14 area plume remains undefined. The estimated time for meeting the groundwater cleanup levels, as currently estimated, may not be reasonable.	Current protectiveness is not affected by the identified issues because of the maintenance of the ICs/LUCs and on-going monitoring.	Long-term protectiveness will be better assured with improved understanding of the source at this site.	Investigate the source(s) of the NPZ-14 plume by conducting additional soil vapor and groundwater sampling in the area upgradient of the defined plume.	Within the next five years
OUs 7 CAOCs with Soil and LUCs Remedies						
7	10	None (in the remedial design phase for soil cleanup action)	Current protectiveness is not affected because of the maintenance of ICs/LUCs	Implement the soil remedy to ensure long-term protectiveness	None	N/A
7	N-2 Area 1	None (in the remedial design phase for soil cleanup action)	Current protectiveness is not affected because of the maintenance of ICs/LUCs	Implement the soil remedy to ensure long-term protectiveness	None	N/A
6	7	Stratum 2 (landfill cap), Strata 3 and 4 – no issues identified. Stratum 1 (landfill cap) – no issues; however associated vadose zone and groundwater contamination are being addressed under OU 7.	N/A	N/A	None	N/A
OUs 4, 6, and 7 Sites with LUCs Only						
4	2	None	N/A	N/A	None	N/A

TABLE 7-2

Summary of Protectiveness Statements, Issues and Recommendations for OUs 2, 4, 6, and 7 at Nebo Main Base
Fourth Five-Year Review Report OUs 1 – 7
MCLB Barstow, California

OU	CAOC	Issue Identified During Five-Year Review	Do the identified issues affect short-term protectiveness?	Do the identified issues affect long-term protectiveness?	Recommendations/Follow-up Actions	Schedule for Completion
4	5	None	N/A	N/A	None	N/A
6	1	None	N/A	N/A	None	N/A
6	3	None	N/A	N/A	None	N/A
6	11	None	N/A	N/A	None	N/A
6	14	None	N/A	N/A	None	N/A
7	10.38/10.39 (Units 1 - 7 soils)	None	N/A	N/A	None	N/A
7	10.27	None	N/A	N/A	None	N/A
7	10.35	None	N/A	N/A	None	N/A
7	10.37	None	N/A	N/A	None	N/A
7	10.3	None	N/A	N/A	None	N/A
7	10.4	None	N/A	N/A	None	N/A
7	10.5	None	N/A	N/A	None	N/A
7	10.12	None	N/A	N/A	None	N/A
7	10.49	None	N/A	N/A	None	N/A
7	10.8	None	N/A	N/A	None	N/A

ACRONYMS:

AS/SVE – air sparging/soil vapor extraction
CAOC – CERCLA Area of Concern
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
GETS – groundwater extraction treatment system
MCL – maximum contaminant level
N/A – not applicable
OU – Operable Unit
ROD – Record of Decision
TCE – trichloroethene
VOC – volatile organic compound

APPENDIX A

Fourth Five-Year Review Public Notice
English and Spanish
(English-Only Version Provided for Pre-Draft)

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Public Notice of Fourth Five-Year Review Scheduled for Publication in November 2017

Marine Corps Logistics Base Barstow Announces Fourth Five-Year Review

Marine Corps Logistics Base (MCLB) Barstow announces publication of the Fourth Five-Year Review of its environmental cleanup sites. The public is invited to review the document and to voice any comments or concerns to MCLB Barstow representatives as indicated in the box below.

Background

MCLB Barstow is comprised of the Nebo Main Base and Yermo Annex. For the purposes of defining environmental cleanup goals, the Base has been further divided into what are known as Operable Units (OU). Each OU is generally defined by its location (Nebo Main Base or Yermo Annex) and affected medium (soil or groundwater). There are seven OUs covered in this Five-Year Review.

Cleanup Action

MCLB Barstow, as part of the Department of the Navy (DON), participates in the Installation Restoration Program (IRP), an environmental program developed by the U.S. Department of Defense (DoD) to investigate and clean up contamination at military installations.

In November 1989, the Base was placed on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priorities List (NPL) due to the presence of soil and groundwater contamination. While the DON is the lead DoD authority responsible for conducting the cleanup at MCLB Barstow, these efforts are conducted in partnership with the U.S. Environmental Protection Agency (U.S. EPA), California Environmental Protection Agency's Department of Toxic Substances Control (DTSC), and Regional Water Quality Control Board – Lahontan Region under a Federal Facilities Agreement (FFA) that was signed in 1990.

Although waste management practices are now in compliance, previous practices resulted in some soil and groundwater contamination at the Base. The contamination consists primarily of volatile organic compounds (VOCs), such as chemicals found in cleaning solvents, and metals (for example, lead). Five Records of Decision (RODs) have been signed by the FFA signatories to address the identified contamination problems. Several treatment systems are in place to contain and remove these contaminants. Other protective measures such as landfill caps or administrative controls on land use have been implemented. The Five-Year Review was designed as part of the Superfund process to verify that the cleanup activities and other measures remain protective of human health and the environment in the both the short-term and long-term.

Five-Year Review Process and Schedule

The Fourth Five-Year Review provides a progress report on cleanup activities at the MCLB Barstow since 2012. The document summarizes the following:

- MCLB Barstow background and historical use;
- Details the Five-Year Review process;
- Reviews current data and information;
- Assesses on-going technical remedies and other protective measures;
- Presents site inspection and interview findings;
- Identifies issues and potential problems; and
- Provides recommendations and follow-up actions, with a schedule for implementation.

Site inspections and interviews took place during March-May 2017. The Fourth Five-Year Review report was submitted to the FFA regulatory agencies in June 2017 for review and comment. The comments were addressed and incorporated into the document. The review process will end in December 2017 with signature on the final report document.

Community Involvement

Another goal of the Five-Year Review is to invite members of the community to review and discuss cleanup plans and progress reports. The Five-Year Review and other documents related to the MCLB Barstow cleanup actions are available in the Information Repository at the MCLB Barstow Environmental Division (contact information below).

FOR MORE INFORMATION

If you have any questions, comments, and/or concerns about the Five-Year Review or MCLB Barstow environmental cleanup activities, you may contact the following:

Lindsey White, PE, Remedial Project Manager
DON Naval Facilities Engineering Command
Phone: (619) 532-4451
E-mail: lindsey.e.white@navy.mil

INFORMATION REPOSITORY

MCLB Barstow Environmental Division
Building 196, Barstow, CA 92311-5050
Contact: James Debenedetti, ER
IR Program Manager – MCLB Barstow
Phone: (760) 577-6982
Email: james.debenedetti@usmc.mil

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APPENDIX B

Documentation of Interviews and Site Inspections

Interview and Site Inspection Logs
Site Inspection Photos for the CAOCs
with Land Use Controls, Caps, and/or Engineered Covers

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INTERVIEW RECORD
FOURTH FIVE YEAR REVIEW
OU 5 – CAOC 16 YERMO ANNEX (Marine Depot Maintenance Command)
Marine Corps Logistics Base Barstow, CA

Site Name: CAOC 16 (OU 5) Hardstand, Yermo Annex	**EPA ID No.** CA8170024261
Subject: Five-Year Review	**Date:** 06/13/17

Type: ☐ Telephone ☒ Visit ☐ Email (follow-up questions)
Location of Visit: Yermo Annex, Marine Depot Maintenance Command (CAOC 16)

Contact Made By:

Name: Nova Clite	**Title**: Project Manager	**Organization:** OTIE

Individual Contacted:

Name: Keith Jenkins	**Title**: Engineering Technician	**Organization:** Resident Officer in Charge of Construction (ROICC)

Office: (760) 577-6710 **Mobile No:** (760) 535-5429 **E-mail address**: keith.jenkins3@navy.mil	**Mailing address:** NAVFACSW ROICC Barstow Marine Corps Logistics Base, Bldg. 198 Barstow, CA 92311-5050

Summary of Conversation:

Question: Has there been construction on the CAOC 16 hardstand over the past five years that has resulted in a reduction in or lessening of the protective cover?

Response: Buildings 640 and 641 were constructed in the northeast area of the hardstand since October 2012. The protective cover of the hardstand was fully restored around the buildings, which are slab on grade. Subsurface trenching for Base utilities (sewer, water, and power) was performed as part of the construction under proper dig permits and environmental review by the MCLB Barstow Environmental Division. No stained or odorous soils were encountered requiring sampling for possible contamination.

Question: Has there been any sub-floor work requiring opening of the hardstand within Building 573 over the past five years? If so, was the concrete floor restored so that the protectiveness of the cover was maintained?

Response: During March – May 2016 timeframe, the concrete floor under the former dip tanks was completely removed and replaced. This area is in the far northwest area of Building 573. Environmental Division performed monitoring; no stained soils were observed and no soil samples were collected. The dip tanks are now located in the new Dip Tank Building (640).

Question: Has the hardstand surface been maintained over the past five years?

Response: Repairs are done to the hardstand in phases using year-end budget when available; repairs to heavily trafficked areas where there is noticeable damage. Hardstand repairs are currently in progress and will include backfilling and capping the water-line repair trench in the northeast corner of the hardstand.

INTERVIEW RECORD

FOURTH FIVE YEAR REVIEW

OU 5 – CAOC 16 YERMO ANNEX (Marine Depot Maintenance Command)

Marine Corps Logistics Base Barstow, CA

Site Name: CAOC 16 (OU 5) Hardstand, Yermo Annex	**EPA ID No.** CA8170024261
Subject: Five-Year Review inspection	**Date:** 6/13/17

Type: ☐ Telephone ☒ Visit ☐ Email (follow-up questions)

Location of Visit: Yermo Annex, Marine Depot Maintenance Command Building 573 hardstand (CAOC 16)

Contact Made By:

Name: Nova Clite	**Title**: Project Manager	**Organization:** OTIE

Individual Contacted:

Name: Lisa Morris	**Title**: MDMC Environmental Department Supervisor	**Organization:** Marine Depot Maintenance Command (MDMC)

Telephone: **Fax No:** **E-mail address**: lisa.morris@usmc.mil	**Mailing address:**

Summary of Conversation:

Question: Has there been construction on the CAOC 16 hardstand over the past five years that has resulted in penetrations of the protective cover?

Response: Two buildings (640, 641) were constructed in the northeast portion of the hardstand; both buildings are slab-on-grade. Building 640 (Dip Tanks) was constructed in 2013-2014; Building 641 (Dynamo Testing) was just completed (construction 2016-2017). Prior buildings in the area were open-air sun-shaded workstations that were bolted to the hardstand. Other demolition in the area consisted of removal of cooling towers and test stand (outdoors). Concrete work around buildings repaired prior surface and was sloped to facilitate drainage.

Question: There was an open trench through the hardstand observed during the initial site inspection (xx March 2017); what was the nature of that trench and has it been repaired?

Response: The trench was excavated through the hardstand to investigate and repair a broken water line. The trench is being backfilled and repaved this month along with other concrete surfacing work being performed in the Building 573 area.

(760) 577-6790

Land Use Controls Inspection Checklist
CAOC 16 (OU 5)
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Map 20 of the Updated Base Master Plan OUs 1-6 while completing the checklist. The areas requiring Land Use Controls shown on Map 20 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Date: 3/13/17

☐ Annual Inspection
☒ 5-Year Review

Emmanuel Vasquez / Rachel Akili / MCLB Barstow / JOTIE
(name, affiliation, address, and telephone number)

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☒ 601 638 565 640 563 641 640 All new No ☒ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☒ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature:

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 23 Zone 1
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 1 and 7 of the Updated Base Master Plan OUs 1-6 while completing the checklist. The areas requiring Land Use Controls shown on Maps 1 and 7 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Mario Camacho, OTIE (name, affiliation, address, and telephone number)

Date: 3-13-17

☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	Has there been any construction on, excavation of, or breach of the landfill cover (see attached Site figure) since the last inspection?	Yes ☐ No ☒ If no, go to #3. If yes, describe the nature of construction and/or land disturbing activity and go to #2.
2.	If answer to #1 is yes, was prior review and written approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 4. If yes, describe and go to #4 and #5.
4.	Have any of the following items associated with the Site been removed: fencing, signs, monitoring equipment?	Yes ☐ No ☒ If no, go to # 6. If yes, describe.
5.	If answer to #3 or #4 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #4?	Yes ☐ No ☐ Describe.
6.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☐ If no, go to # 8. If yes, provide the number of Work Requests or Service Calls submitted.
7.	If answer to #6 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☐ Attach the approved Work Request(s) and/or Service Call(s).
8.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☐ Describe.
9.	Have there been any significant rain events since the last inspection that has altered the runoff pattern or flow or caused erosional damage to the landfill cover?	Yes ☐ No ☐ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Mario Camacho

Signature: Mario A. Camacho

Title: Staff Env. Engineer

Date: 3-13-17

See photos. CAOC 23 Stratum 1 has solar panels recently installed.

Land Use Controls Inspection Checklist
CAOC 6 (OU 6)
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Figure 2-5 of the OU 1&2 ROD while completing the checklist. The areas requiring Land Use Controls shown on Figure 2-5 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Rachel Ofili, Manny Vasquez, OTIE
(name, affiliation, address, and telephone number)

Date: 3-13-17

☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☒ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature:

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 14, Stratum 1-4 (OU 6)
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 28, 29, 30, and 31 of the Updated Base Master Plan OUs 1- 6 while completing the checklist. The areas requiring Land Use Controls shown on Maps 28, 29, 30, and 31 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Rachel Ofili, Manny Vasquez, OTIE
(name, affiliation, address, and telephone number)

Date: 3-13-17

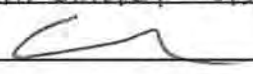
☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☒ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Immanuel Vasquez

Signature: 

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 21 (OU 5)
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Map 22 of the Updated Base Master Plan OUs 1-6 while completing the checklist. The areas requiring Land Use Controls shown on Map 22 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Rachel Ofili, Manny Vasquez, OTIE

Date: 3-13-17

☐ Annual Inspection
☒ 5-Year Review

(name, affiliation, address, and telephone number)

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and written approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 4. If yes, describe and go to #4 and #5.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Well Removal: Yes ☐ No ☒ If no, go to # 6. If yes, describe.
7.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to # 9. If yes, provide the number of Project Evaluation Review Forms submitted.
8.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request.
9.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature:

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 15/17 (OU 5)
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Map 21 of the Updated Base Master Plan OUs 1-6 while completing the checklist. The areas requiring Land Use Controls shown on Map 21 subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Rachel Ofili, Manny Vasquez, OTIE
(name, affiliation, address, and telephone number)

Date: 3-13-17

☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☑ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature:

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 1 Stratum 1-3 (OU 6)
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 24, 25, 26 of the Updated Base Master Plan OUs 1-6 while completing the checklist. The areas requiring Land Use Controls shown on Maps 24, 25, 26 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Rachel Ofili, Manny Vasquez, OTIE (name, affiliation, address, and telephone number)

Date: 3-13-17

☐ Annual Inspection
☐ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	Has there been any construction on, excavation of, or breach of the landfill cover (see attached Site figure) since the last inspection?	Yes ☐ No ☒ If no, go to #3. If yes, describe the nature of construction and/or land disturbing activity and go to #2.
2.	If answer to #1 is yes, was prior review and written approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 4. If yes, describe and go to #4 and #5.
4.	Have any of the following items associated with the Site been removed: fencing, signs, monitoring equipment?	Yes ☐ No ☒ If no, go to # 6. If yes, describe.
5.	If answer to #3 or #4 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #4?	Yes ☐ No ☐ Describe.
6.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to # 8. If yes, provide the number of Work Requests or Service Calls submitted.
7.	If answer to #6 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request(s) and/or Service Call(s).
8.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.
9.	Have there been any significant rain events since the last inspection that has altered the runoff pattern or flow or caused erosional damage to the landfill cover?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature:

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 11
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Map 16 of the Updated Base Master Plan OUs 1-6 while completing the checklist. The areas requiring Land Use Controls shown on Map 16 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Rachel Ofili, Manny Vasquez, OTIE

(name, affiliation, address, and telephone number)

Date: 3-13-17

☐ Annual Inspection
☐ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☒ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature: [signature]

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 5 Strata 1 & 2
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 14, and 15 of the Updated Base Master Plan OUs 1-6 while completing the checklist. The areas requiring Land Use Controls shown on Maps 14 and 15 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Rachel Ofili, Manny Vasquez, OTIE
(name, affiliation, address, and telephone number)

Date: 3-13-17

☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☐ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☐ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Immanuel Vasquez

Signature:

Title: Chemist

Date: 3/13/17

INTERVIEW RECORD
FOURTH FIVE YEAR REVIEW
(Marine Depot Maintenance Command)
Marine Corps Logistics Base Barstow, CA

Site Name: CAOC 3 (OU 6), Nebo Main Base	**EPA ID No.** CA8170024261
Subject: Five-Year Review	**Date:** 3/29/17
Type: ☐ Telephone ☐ Visit ☒ Email (follow-up questions) **Location of Visit:**	

Contact Made By:

Name: Emmanuel Vasquez	**Title**: Environmental Scientist	**Organization:** OTIE

Individual Contacted:

Name: Dianne Langevin	**Title**: Real Property Accountability Officer	**Organization:** Installation and Logistics Department, Public Works Division

Telephone: (760) 577-6882 **Fax No:** (760) 577-6033 **E-mail address**: Dianne.langevin@uscm.mil	**Mailing address:**

Summary of Conversation:

Question: Please confirm the construction performed on the CAOC 3 complies with land use controls for this area.

Response: Building T100 was disassembled and a new prefabricated building, the golf course clubhouse or building #100, was constructed in its place. The current building #100 has the same footprint and is the same size as the previous building.

Land Use Controls Inspection Checklist
CAOC 3 (OU 6)
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 27 of the Updated Base Master Plan OUs 1-6 while completing the checklist. The areas requiring Land Use Controls shown on Maps 27 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Rachel Ofili, Manny Vasquez, OTIE
(name, affiliation, address, and telephone number)

Date: 3-13-17

☐ Annual Inspection
☒ 5-Year Review

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 3. If yes, describe.
2	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☒ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area? New Building #100 installed (prefab building replaced old Building w/ same footprint)	Yes ☒ No ☐ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☒ No ☐ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☒ No ☐ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature: [signature]

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 2 Strata 1 & 3
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 12 and 13 of the Updated Base Master Plan OUs 1-6 while completing the checklist. The areas requiring Land Use Controls shown on Maps 12 and 13 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Rachel Ofili, Manny Vasquez, OTIE
(name, affiliation, address, and telephone number)

Date: 3-13-17

☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☐ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☐ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☐ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature:

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 26 (OU 5)
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 23 of the Updated Base Master Plan OUs 1-6 while completing the checklist. The areas requiring Land Use Controls shown on Maps 23 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Date: 3/13/17 ☐ Annual Inspection ☒ 5-Year Review

Emmanuel Vasquez / Rachel Hill, OTIE
(name, affiliation, address, and telephone number)

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☑ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☑ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☑ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☑ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☑ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☑ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature:

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 35 (OU 5)
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Map 17 of the Updated Base Master Plan OUs 1-6 while completing the checklist. The areas requiring Land Use Controls shown on Map 17 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Mario Camacho, OTIE

(name, affiliation, address, and telephone number)

Date: 3-13-17

☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	Has there been any construction on, excavation of, or breach of the landfill cover (see attached Site figure) since the last inspection?	Yes ☐ No ☒ If no, go to #3. If yes, describe the nature of construction and/or land disturbing activity and go to #2.
2.	If answer to #1 is yes, was prior review and written approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 4. If yes, describe and go to #4 and #5.
4.	Have any of the following items associated with the Site been removed: fencing, signs, monitoring equipment?	Yes ☐ No ☒ If no, go to # 6. If yes, describe.
5.	If answer to #3 or #4 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #4?	Yes ☐ No ☒ Describe.
6.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to # 8. If yes, provide the number of Work Requests or Service Calls submitted.
7.	If answer to #6 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request(s) and/or Service Call(s).
8.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.
9.	Have there been any significant rain events since the last inspection that has altered the runoff pattern or flow or caused erosional damage to the landfill cover?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Mario Camacho

Signature: Mario A. Camacho

Title: Staff Env. Engineer

Date: 3-13-17

3 Pictures taken

Land Use Controls Inspection Checklist
CAOC 18 Strata 2 & 3
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 1, 9, and 10 of the Updated Base Master Plan OUs 1-6 while completing the checklist. The areas requiring Land Use Controls shown on Maps 1, 9, and 10 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Mario Camacho, OTIE
(name, affiliation, address, and telephone number)

Date: 3-13-17

☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☐ N/A, no markers. If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☒ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Mario Camacho

Signature: Mario A. Camacho

Title: Staff Env. Engineer

Date: 3-13-17

3 pictures taken

Land Use Controls Inspection Checklist
CAOC 34
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Map 11 of the Updated Base Master Plan OUs 1-6 while completing the checklist. The areas requiring Land Use Controls shown on Map 11 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Mario Camacho, OTIE
(name, affiliation, address, and telephone number)

Date: 3-13-17

☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ N/A, No Markers If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☐ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☐ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☐ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Mario Camacho

Signature: Mario M. Camacho

Title: Staff Env Engineer

Date: 3-13-17

Land Use Controls Inspection Checklist
CAOC 20 Stratum 1 and Stratum 2
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 1, 5, and 6 of the Updated Base Master Plan OUs 1-6 while completing the checklist. The areas requiring Land Use Controls shown on Maps 1, 5, and 6 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Marco Camacho, OTIE
(name, affiliation, address, and telephone number)

Date: 3-13-17

☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☐ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Marco A. Camacho

Signature: Marco A. Camacho

Title: Staff Env. Engineer

Date: 3-13-17

Land Use Controls Inspection Checklist
CAOC 20 Stratum 2
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 1 and 6 of the Updated Base Master Plan OUs 1-6 while completing the checklist. The areas requiring Land Use Controls shown on Maps 1 and 6 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez, OTIE
(name, affiliation, address, and telephone number)

Date: 3/13/17

☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	Has there been any construction on, excavation of, or breach of the fine-grained soil cap (see attached Site figure) since the last inspection?	Yes ☐ No ☑ If no, go to #3. If yes, describe the nature of construction and/or land disturbing activity and go to #2.
2.	If answer to #1 is yes, was prior review and written approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☑ Describe.
3.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☑ If no, go to # 4. If yes, describe and go to #4 and #5.
4.	Have any of the following items associated with the Site been removed: fencing, signs, monitoring equipment?	Yes ☐ No ☑ If no, go to # 6. If yes, describe.
5.	If answer to #3 or #4 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #4?	Yes ☐ No ☑ Describe.
6.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☑ If no, go to # 8. If yes, provide the number of Work Requests or Service Calls submitted.
7.	If answer to #6 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☑ Attach the approved Work Request(s) and/or Service Call(s).
8.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☑ Describe.
9.	Have there been any significant rain events since the last inspection that has altered the runoff pattern or flow or caused erosional damage to the landfill cover?	Yes ☐ No ☑ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature:

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 7 Stratum 1
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 39, 40, 47, and 49 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 39, 40, 47, and 49 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez, OTIE
(name, affiliation, address, and telephone number)

Date: 3/13/17

☐ Annual Inspection
☑ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	Has the groundwater from the aquifer within the Site area (see attached figure for the Site) been used for potable water purposes since the last inspection?	Yes ☐ No ☑ If no, go to # 3. If yes, describe the nature and use of extracted groundwater.
2.	If answer to #1 is yes, was prior review and written approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☑ Describe.
3.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☑ If no, go to # 4. If yes, describe and go to #4 and #5.
4.	Have any of the remediation system components including extraction/monitoring wells within the area requiring Land Use Controls (see attached figure for the Site) been removed?	Yes ☐ No ☑ If no, go to # 6. If yes, describe.
5.	If answer to #3 or #4 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #4?	Yes ☐ No ☑ Describe.
6.	Are the following components of each extraction/monitoring well within the Site in good working order: well vaults and well vault locks, well casings, and well labels? Include recommendations for replacement or repair.	Yes ☐ No ☑ Describe.
7.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☑ If no, go to # 9. If yes, provide the number of Project Evaluation Review Forms submitted.
8.	If answer to #7 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☑ Attach the approved Work Request.
9.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☑ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature: [signature]

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC N-2 Area 1
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 39, 40, and 44 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 39, 40, and 44 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez, OTIE

(name, affiliation, address, and telephone number)

Date: 3/13/17

☐ Annual Inspection
☑ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☑ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☒ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☐ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☐ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☐ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☐ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☐ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature:

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 10 Sodium Valve/Metallic Debris Burial Area
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 39, 40, and 43 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 39, 40, and 43 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez, OTIE
(name, affiliation, address, and telephone number)

Date: 3/13/17

☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	Has there been any construction on, excavation of, or breach of the landfill cover (see attached Site figure) since the last inspection?	Yes ☐ No ☒ If no, go to #3. If yes, describe the nature of construction and/or land disturbing activity and go to #2.
2.	If answer to #1 is yes, was prior review and written approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☒ Describe.
3.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 4. If yes, describe and go to #4 and #5.
4.	Have any of the following items associated with the Site been removed: fencing, signs, monitoring equipment?	Yes ☐ No ☒ If no, go to # 6. If yes, describe.
5.	If answer to #3 or #4 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #4?	Yes ☐ No ☒ Describe.
6.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to # 8. If yes, provide the number of Work Requests or Service Calls submitted.
7.	If answer to #6 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request(s) and/or Service Call(s).
8.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.
9.	Have there been any significant rain events since the last inspection that has altered the runoff pattern or flow or caused erosional damage to the landfill cover?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature: [signature]

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
Groundwater Site NPZ-14
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 39, 40, 47, and 48 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 39, 40, 47, and 48 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez, OTIE (name, affiliation, address, and telephone number)

Date: 3/13/17

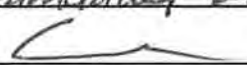
☐ Annual Inspection
☑ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	Has the groundwater from the aquifer within the Site area (see attached figure for the Site) been used for potable water purposes since the last inspection?	Yes ☐ No ☑ If no, go to # 3. If yes, describe the nature and use of extracted groundwater.
2.	If answer to #1 is yes, was prior review and written approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☑ If yes, describe and go to #4 and #5.
4.	Have any of the monitoring wells within the area requiring Land Use Controls (see attached figure for the Site) been removed?	Yes ☐ No ☑ If no, go to #6. If yes, describe.
5.	If answer to #3 or #4 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #4?	Yes ☐ No ☑ Describe.
6.	Are the following components of each monitoring well within the Site in good working order: well vaults and well vault locks, well casings, and well labels? Include recommendations for replacement or repair.	Yes ☐ No ☑ Describe.
7.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☑ If no, go to #9. If yes, provide the number of Project Evaluation Review Forms submitted.
8.	If answer to #7 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☑ Attach the approved Work Request.
9.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☑ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature: 

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 10.38/10.39 Unit 7
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 39, 40, 46, and 47 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 39, 40, 46, and 47 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Date: 3/13/17 ☐ Annual Inspection ☒ 5-Year Review

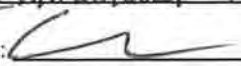
Emmanuel Vasquez, OTIE
(name, affiliation, address, and telephone number)

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	Has the groundwater from the aquifer within the Site area (see attached figure for the Site) been used for potable water purposes since the last inspection?	Yes ☐ No ☒ If no, go to # 3. If yes, describe the nature and use of extracted groundwater.
2.	If answer to #1 is yes, was prior review and written approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☒ Describe.
3.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 4. If yes, describe and go to #4 and #5.
4.	Have any of the monitoring wells within the area requiring Land Use Controls (see attached figure for the Site) been removed?	Well Removal: Yes ☐ No ☒ If no, go to # 6. If yes, describe.
5.	If answer to #3 or #4 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #4?	Yes ☐ No ☒ Describe.
6.	Are the following components of each monitoring well within the Site in good working order: well vaults and well vault locks, well casings, and well labels? Include recommendations for replacement or repair.	Yes ☐ No ☒ Describe.
7.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to # 9. If yes, provide the number of Project Evaluation Review Forms submitted.
8.	If answer to #7 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request.
9.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature: 

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 9.60
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 37, 38, and 41 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 37, 38, and 41 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez, OTIE
(name, affiliation, address, and telephone number)

Date: 3/13/17

☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☒ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☒ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature:

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 9.68
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 37, 38, and 42 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 37, 38, and 42 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez, OTIE
(name, affiliation, address, and telephone number)

Date: 3/13/17

☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☑ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☒ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☒ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☑ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature: _____

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 10.12
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 39, 40, and 50 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 39, 40, and 50 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez, OTIE
(name, affiliation, address, and telephone number)

Date: 3/13/17

☐ Annual Inspection
☑ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☑ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☑ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☑ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☑ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☑ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☑ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☑ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature: [signature]

Title: CHEMIST

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 10.27
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 39, 40, and 51 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 39, 40, and 51 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez, OTIE
(name, affiliation, address, and telephone number)

Date: 3/13/17

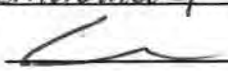
☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☑ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☒ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☒ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature: 

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 10.35
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 39, 40, and 52 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 39, 40, and 52 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez, OTIE
(name, affiliation, address, and telephone number)

Date: 3/13/17

☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☑ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☒ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☒ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☑ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature:

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 10.37
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 39, 40, and 53 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 39, 40, and 53 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez
(name, affiliation, address, and telephone number)

Date: 3/13/17

☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☒ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☒ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature:

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 10.38/10.39 Units 1 – 6
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 39, 40, and 45 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 39, 40, and 45 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez, OTIE
(name, affiliation, address, and telephone number)

Date: 3/13/17

☐ Annual Inspection
☑ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☑ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☑ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☑ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☑ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☑ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☑ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☑ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature:

Title: Chemist

Date: 3/13/17

Land Use Controls Inspection Checklist
CAOC 10.3
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 39, 40, and 54 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 39, 40, and 54 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez, 0716
(name, affiliation, address, and telephone number)

Date: 3/14/17

☐ Annual Inspection
☑ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☑ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☑ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☑ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☑ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☑ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☑ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☑ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature: _____

Title: RPM Chemist

Date: 3/14/17

Land Use Controls Inspection Checklist
CAOC 10.4
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 39, 40, and 55 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 39, 40, and 55 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez, OTIE

(name, affiliation, address, and telephone number)

Date: 3/14/17

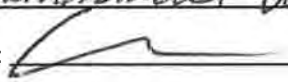
☐ Annual Inspection
☑ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☑ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☑ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☑ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☑ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☑ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☑ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature: 

Title: Chemist

Date: 3/14/17

Land Use Controls Inspection Checklist
CAOC 10.5
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 39, 40, and 56 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 39, 40, and 56 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez, OTIE
(name, affiliation, address, and telephone number)

Date: 3/14/17

☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☒ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☒ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature: [signature]

Title: Chemist

Date: 3/14/17

Land Use Controls Inspection Checklist
CAOC 10.49
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 39, 40, and 57 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 39, 40, and 57 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez
(name, affiliation, address, and telephone number)

Date: 3/14/17

☐ Annual Inspection
☑ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☑ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☑ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☑ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☑ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☑ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☑ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☑ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature:

Title: Geologist

Date: 3/14/17

Land Use Controls Inspection Checklist
CAOC 10.80
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 39, 40, and 58 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 39, 40, and 58 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez, ORE
(name, affiliation, address, and telephone number)

Date: 3/14/17

☐ Annual Inspection
☑ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☐ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☐ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☐ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☐ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature:

Title: Chemist

Date: 3/14/17

Land Use Controls Inspection Checklist
CAOC 32, Stratum 2
Marine Corps Logistics Base Barstow
Barstow, California

General Instructions: Please refer to Maps 37, 38, and 59 of the Base Master Plan OU 7 Amendment while completing the checklist. The areas requiring Land Use Controls shown on Maps 37, 38, and 59 are subject to revision. Also refer to the most current version of the Base Master Plan for updates to areas requiring Land Use Controls.

If required, provide descriptions and comments on separate sheets of paper and attach to this checklist.

Inspected by: Emmanuel Vasquez, OTIE
(name, affiliation, address, and telephone number)

Date: 3/14/17

☐ Annual Inspection
☒ 5-Year Review

Name, affiliation, address, and telephone number of person(s) interviewed during inspection:

1.	In a period between current and last inspection, has the area requiring Land Use Controls (see attached figure for the Site) been used for residential housing, elementary or secondary schools, childcare facilities, or playgrounds?	Yes ☐ No ☒ If no, go to # 3. If yes, describe.
2.	If answer to #1 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #1?	Yes ☐ No ☒ Describe.
3.	Have any of the site security/warning features including permanent site markers associated with the Site area been removed?	Yes ☐ No ☒ If no, go to # 5. If yes, describe.
4.	If answer to #3 is yes, was prior review and approval obtained from the Department of the Navy, Department of Toxic Substances Control, and Regional Water Quality Control Board – Lahontan Region for the activities described in response to #3?	Yes ☐ No ☒ Describe.
5.	In a period between current and last inspection, was a Work Request or Service Call submitted to the Work Input Control Desk of the Public Works Department for any proposed work within the Site area?	Yes ☐ No ☒ If no, go to #7. If yes, provide the number of Project Evaluation Review Forms submitted.
6.	If answer to #5 is yes, was the Work Request or Service Call approved by the MCLB Barstow Environmental Division?	Yes ☐ No ☒ Attach the approved Work Request.
7.	Were any activities undertaken in the Site area for which approval was not obtained through completion of the Work Request or Service Call?	Yes ☐ No ☒ Describe.

I hereby certify that the information provided in this checklist is true and accurate to the best of my knowledge and belief following a reasonable inquiry.

Name: Emmanuel Vasquez

Signature:

Title: Chemist

Date: 3/14/17

MCLB Barstow
5 Year Review Inspections

Photolog – March 2017

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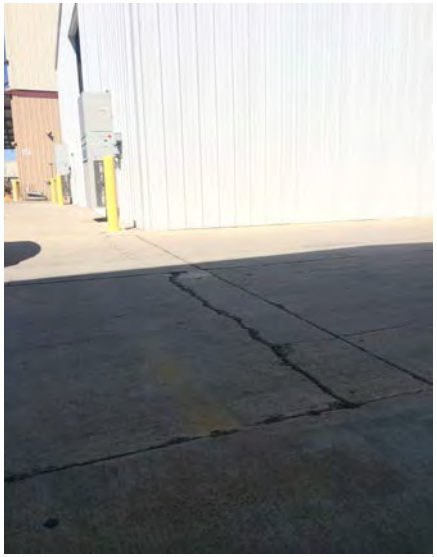
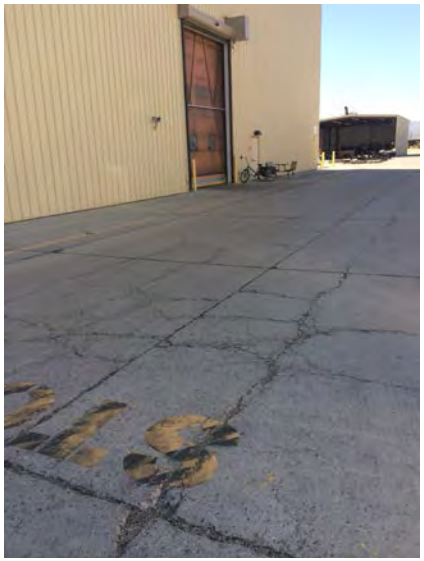
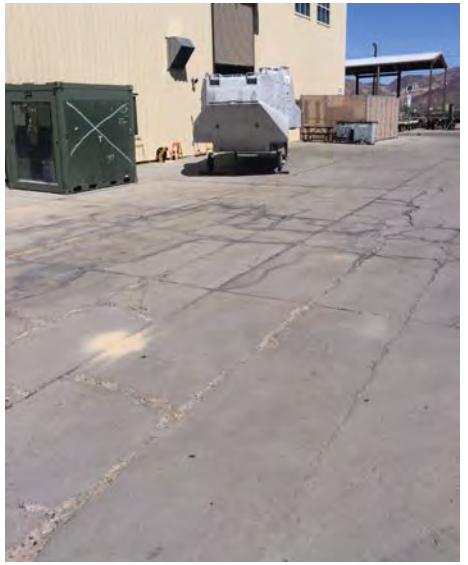
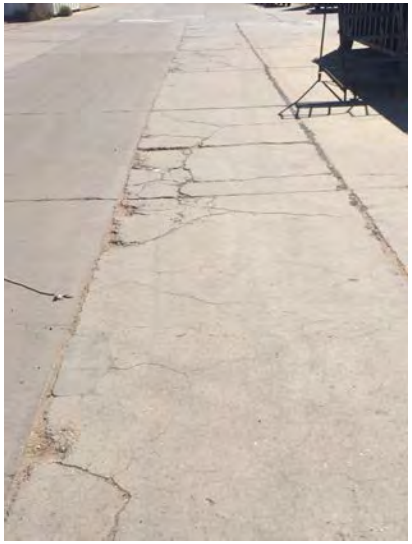
CAOC 16







Inspection completed 3/13/17 by M. Camacho, E. Vasquez



CAOC 16, continued

OU1-Groundwater

Inspection completed 3/13/17 by M. Camacho, E. Vasquez

CAOC 18- Stratum 3

Inspection completed 3/13/17 by M. Camacho, E. Vasquez

CAOC 34- Stratum 1

Inspection completed 3/13/17 by M. Camacho, E. Vasquez

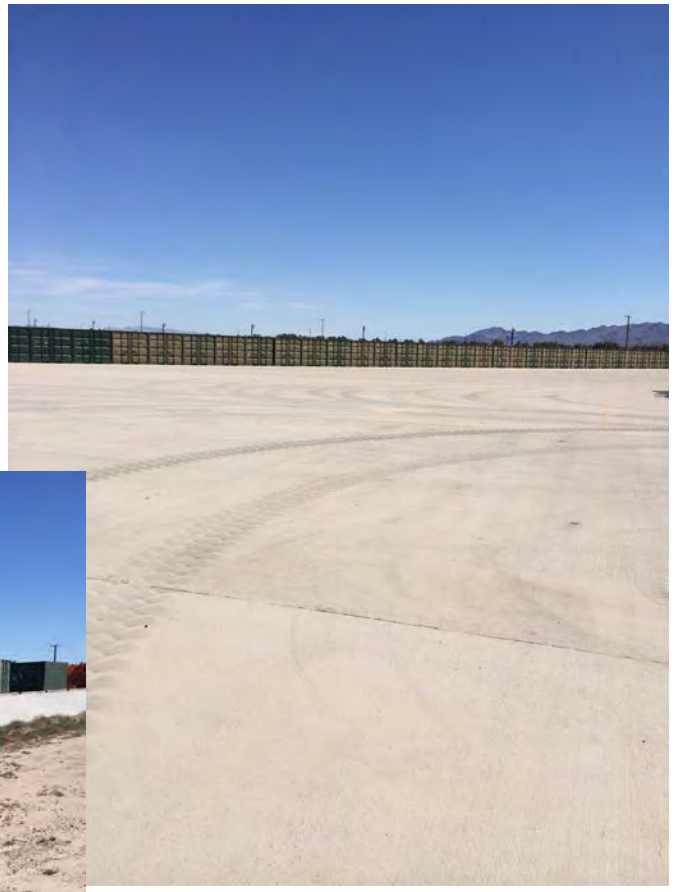
CAOC 20

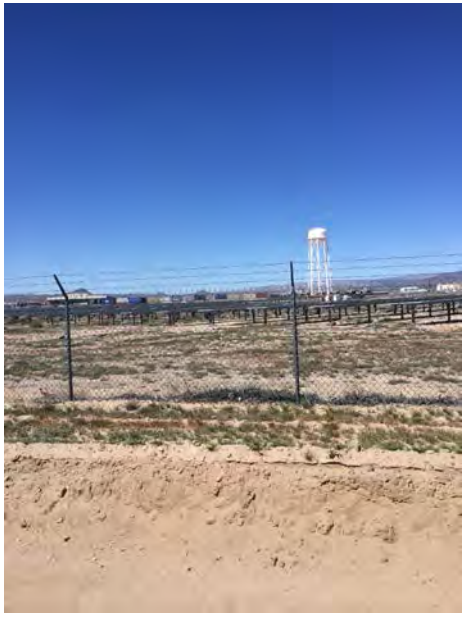
Inspection completed 3/13/17 by M. Camacho, E. Vasquez

CAOC 26

Inspection completed 3/13/17 by M. Camacho, E. Vasquez

CAOC 23



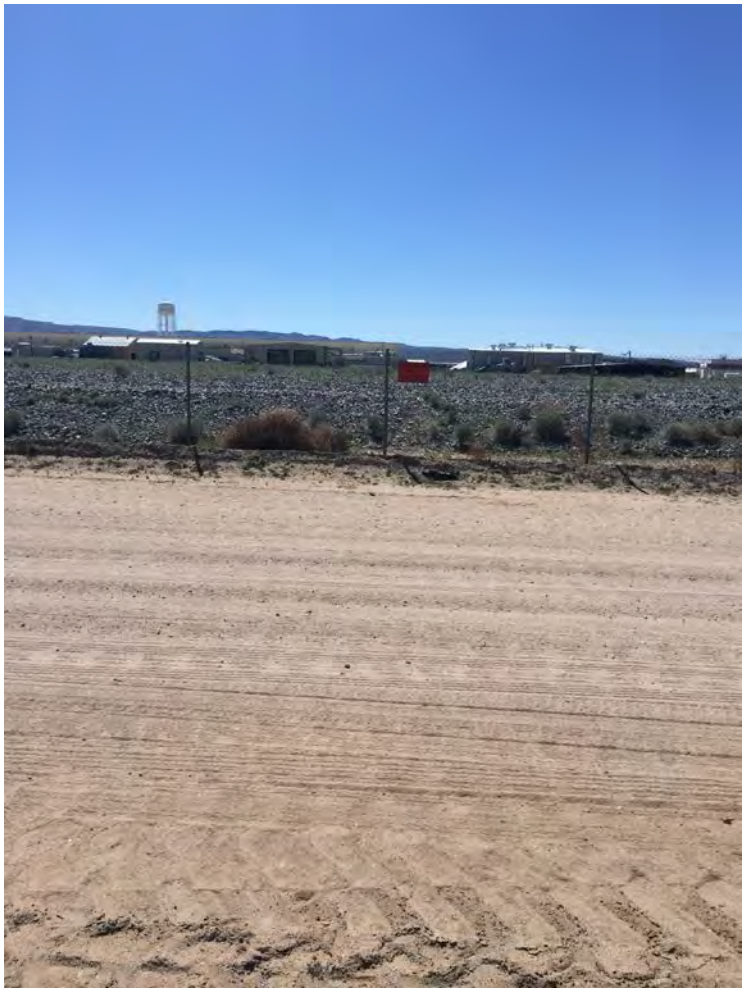


Inspection completed 3/13/17 by M. Camacho, E. Vasquez

CAOC 35

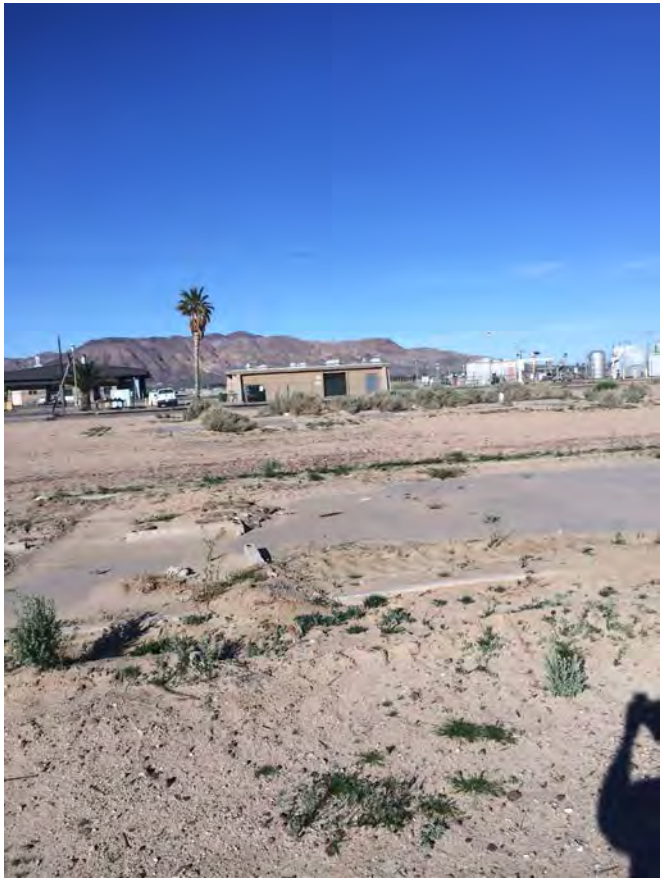
Inspection completed 3/13/17 by M. Camacho, E. Vasquez

CAOC 35, continued



CAOC 15/17

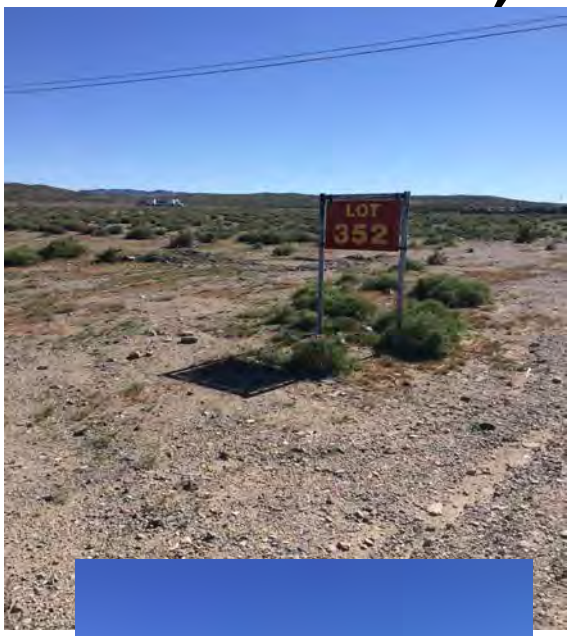
CAOC 21



Inspection completed 3/13/17 by M. Camacho, E. Vasquez

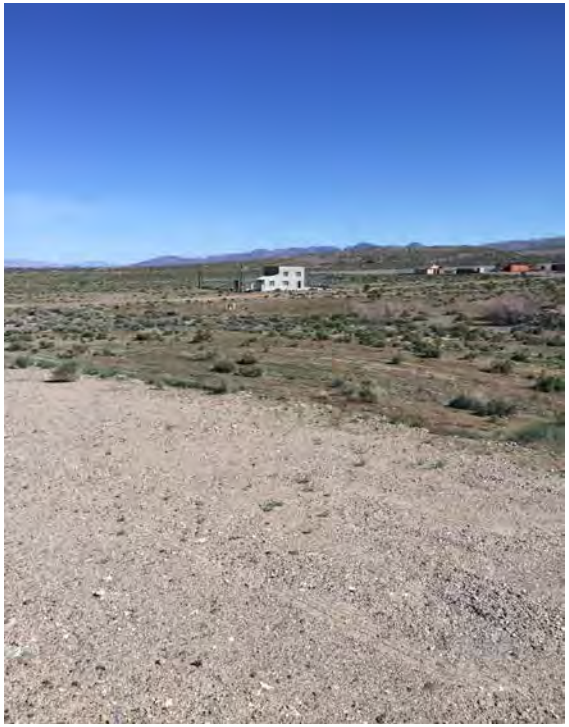
CAOC 21, continued

CAOC 5 – Lot 351, 352, and 357



Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

CAOC 11



Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

CAOC 2

Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

CAOC 1

Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

CAOC 3

Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

CAOC 3, continued

CAOC 14

CAOC 6

Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

CAOC 6, continued

CAOC 10.12 (Former Bldg. 50)

Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

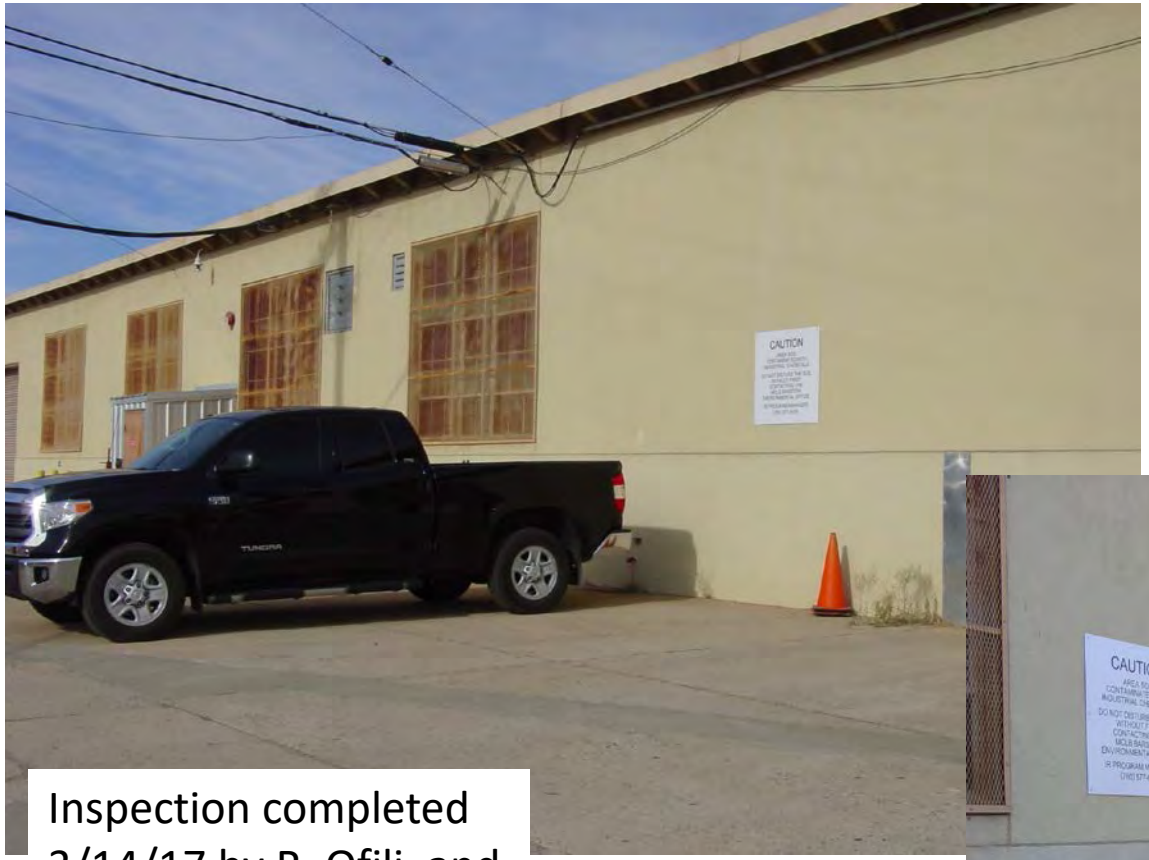
CAOC 10.49 (Former USTs)

Inspection completed 3/14/17 by R. Ofili, and E. Vasquez; Building 27 located north of CAOC 10.49 is scheduled for demolition, with permits in review by MCLB Barstow.

CAOC 10.3 (Warehouse 2)

Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

CAOC 10.4 (Warehouse 3)

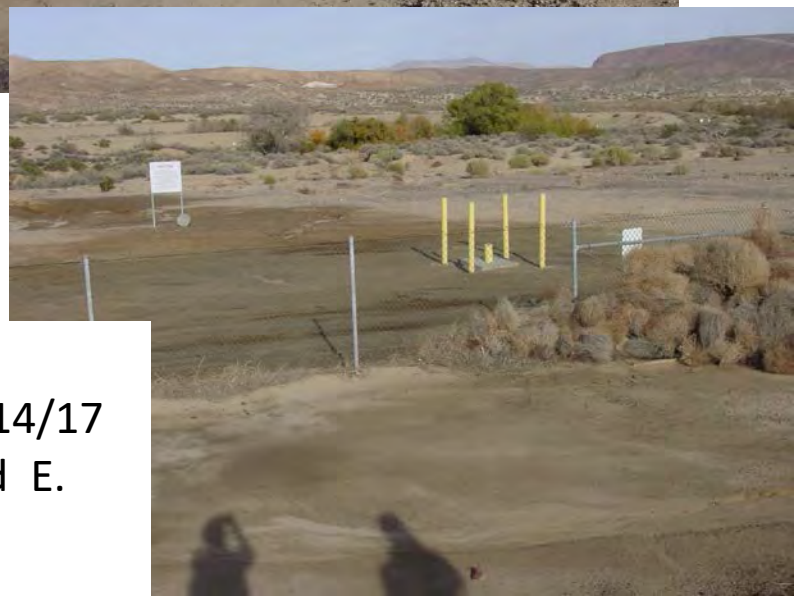


Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

CAOC 10.5 (Warehouse 4)

Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

CAOC 10.37 (Former IWTP)



Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

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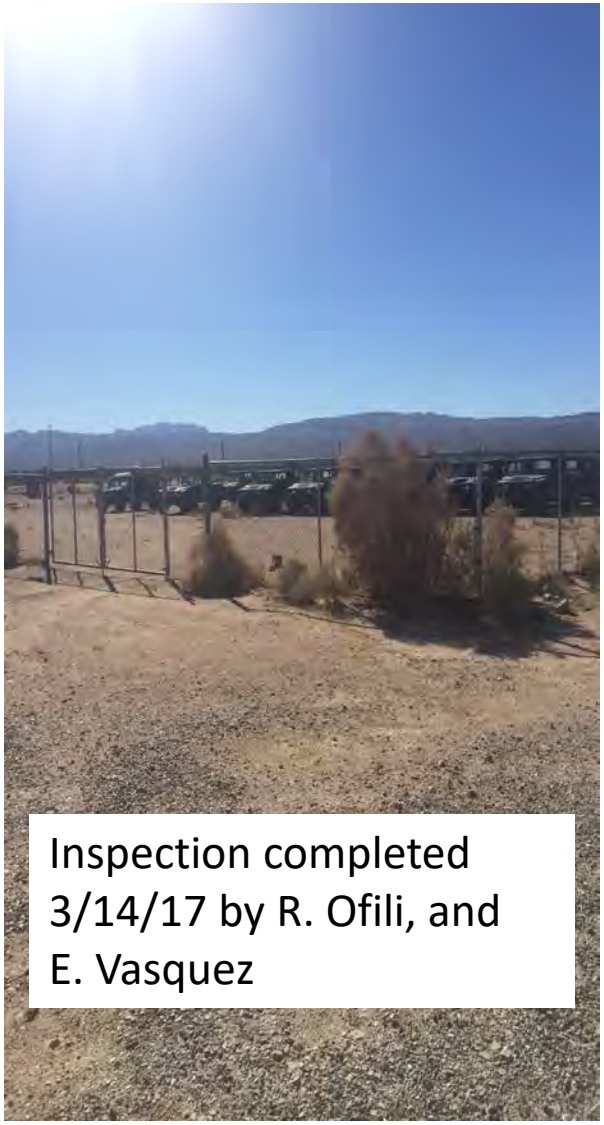
CAOC 7 Stratum 1

Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

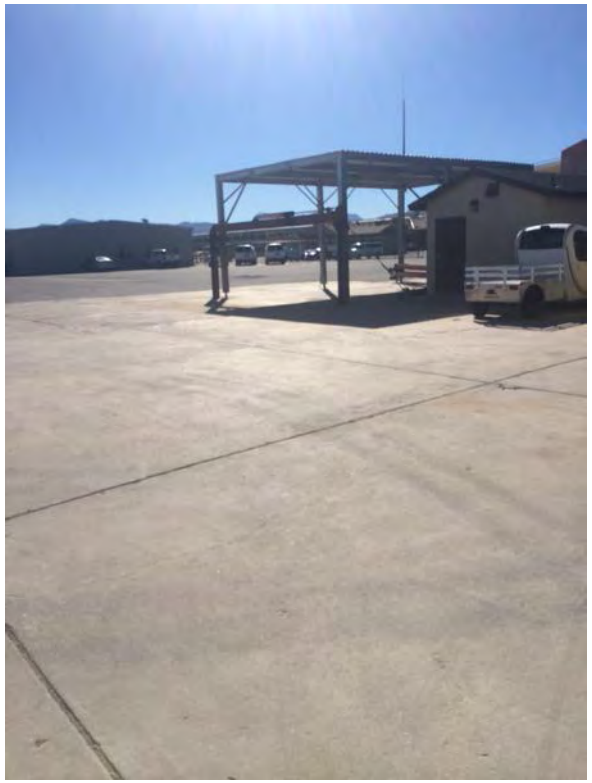
CAOC 7 Stratum 1 (continued)

CAOC 9.60



Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

CAOC 9.68

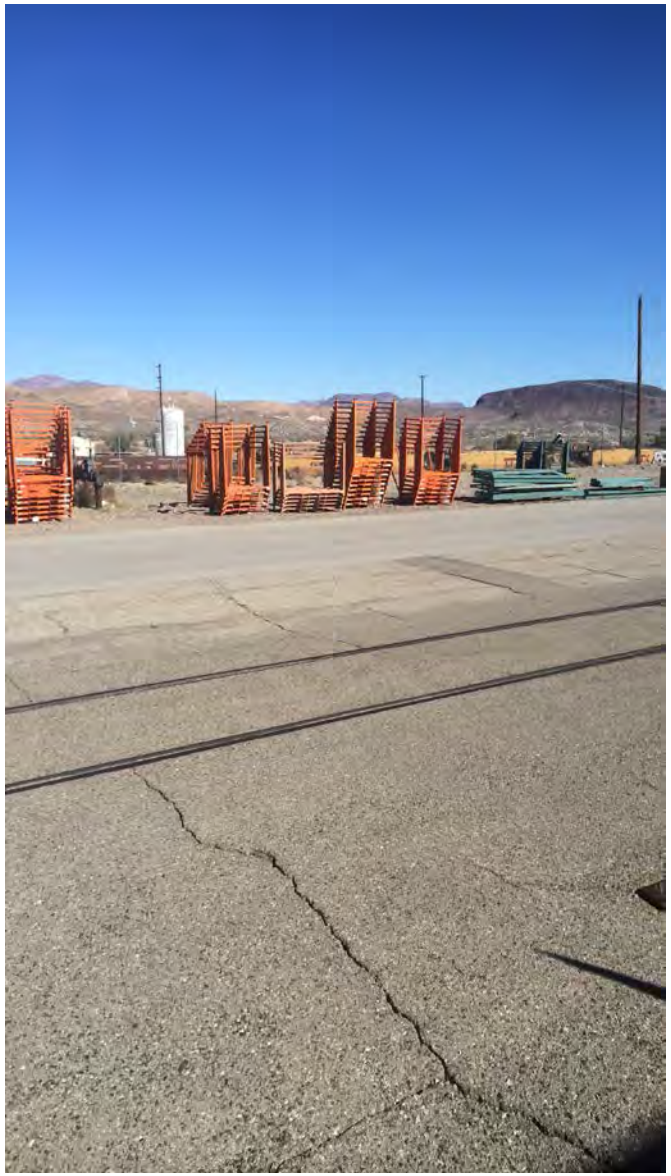


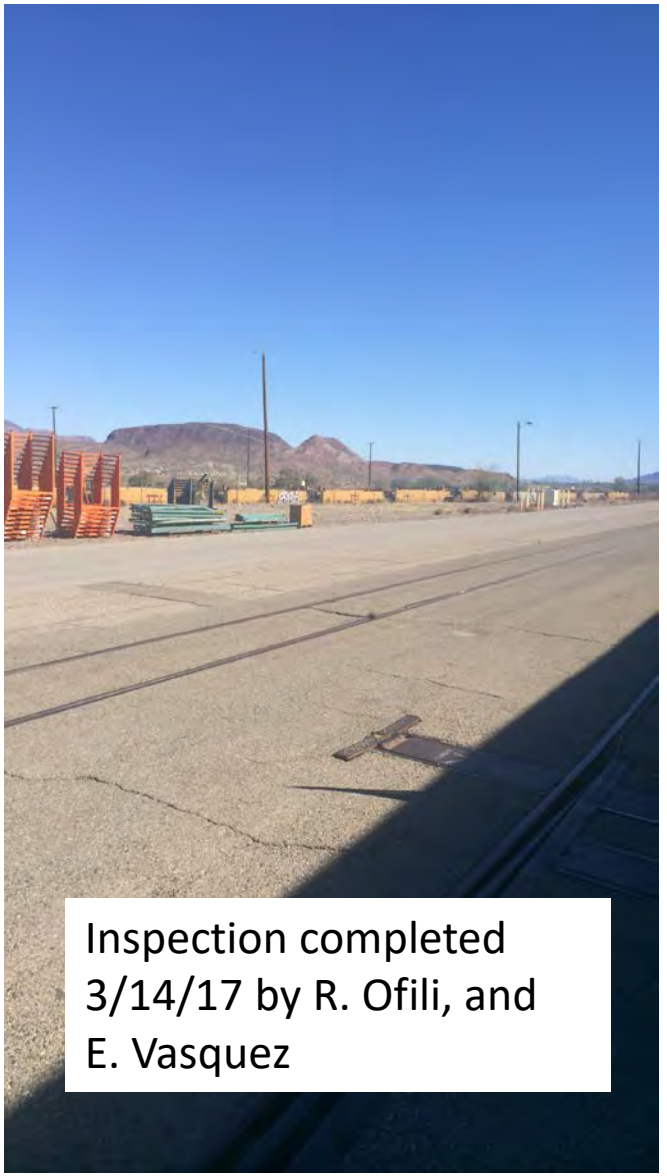
Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

CAOC 10 Metallic Debris Burial Area

Inspection completed 3/14/17 by R. Ofili, and E. Vasquez.

CAOC 10.27





Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

CAOC 10.35

Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

CAOC 10.38/10.39 Unit 7

Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

CAOC 10.38/10.39 Unit 7, continued

CAOC 10.80

Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

CAOC 32 Stratum 2

Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

CAOC N-2 Area 1

Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

NPZ-14

Inspection completed 3/14/17 by R. Ofili, and E. Vasquez

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APPENDIX C

Review of Exposure Assumptions, Toxicity Data, Cleanup Levels, and RAOs for OU 1 through OU 7

Marine Corps Logistic Base Barstow, California

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ACRONYMS

µg/L	microgram per liter
°C	degrees Celsius
°F	degrees Fahrenheit
1,1-DCE	1,1-Dichloroethene
BAT	best available technology
CAOC	Comprehensive Environmental Response, Compensation, and Liability Act Area of Concern
COCs	Contaminants of concern
DON	Department of the Navy
DTSC	Department of Toxic Substances Control
HERO	Office of Human and Ecological Risk
LUCs	Land Use Controls
MCL	Maximum Contaminant Level
MCLB	Marine Corps Logistics Base
OU	Operable Unit
PAHs	polynuclear aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PCE	Tetrachloroethene (also known as Perchloroethylene)
PRG	preliminary remediation goals
RAOs	Remedial Action Objectives
ROD	Record of Decision
RSL	Regional Screening Level
SVI	soil vapor intrusion
TCE	Trichloroethene
U.S. EPA	United States Environmental Protection Agency
UST	underground storage tank
VOC	Volatile Organic Compound

1.0 INTRODUCTION

This Technical Memorandum has been prepared to document the technical assessment of the protectiveness of the remedies implemented under the Record of Decisions (RODs) for Operable Units (OUs) 1 through 7 at the Marine Corps Logistics Base (MCLB) Barstow, California. This evaluation was completed in support of the 2017 Fourth Five-Year Review by Oneida Total Integrated Enterprises (OTIE) for the Department of the Navy (DON) under Contract No. N39430-16-D-1818, Contract Task Order 0006.

The purpose of this Technical Memorandum is to address the five-year review question:

> Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy selection still valid?

2.0 EVALUATION OF EXPOSURE ASSUMPTIONS

2.1 YERMO ANNEX EXPOSURE ASSUMPTIONS

The identified potential exposure pathways to contaminants of concern (COCs) at the Yermo Annex include ingestion of contamination groundwater via drinking water wells, inhalation of volatile contaminants during beneficial reuse of groundwater, inhalation of contaminated vapors due to soil vapor intrusion (SVI), and direct contact or ingestion of contaminated soils or wastes left in place.

2.1.1 Ingestion Exposure Assumptions – Yermo Annex

The OUs 1 and 2 ROD (DON, 1998a) identified the primary potential exposure pathway for Yermo Annex Groundwater COCs as ingestion of contaminated drinking water by Base personnel and off-site residents at the Younts and Hodges properties which are affected by the off-site portion of the VOC plume. The ROD further identified contaminant migration routes in the vadose zone as including percolation of infiltrated water through contaminated soils and vapor migration resulting in contamination of groundwater and/or vapor migration to the surface.

The potential exposure pathways identified in the ROD remain the same because there has been no significant change in land use, groundwater use, or general site conditions at Yermo Annex since the 1998 ROD signing. During the 2012 – 2016 five year review period, the two off-site residences, located east of the Base boundary, remained as potential receptors of the off-site portion of the Yermo North VOC plume.

Baseline risk assessments for groundwater under OU 1 identified tetrachloroethene (PCE), trichloroethene (TCE), and 1,1-dichloroethene (1,1-DCE) as chemicals of concern contributing the most to estimated cancer risk and non-cancer health effects (see OUs 1 and 2 ROD Section 3.2.3). The COCs detected at the site remain the same; however, 1,1-DCE was generally not detected above the clean-up limit during this review period. The OUs 1 and 2 ROD RAOs are based on the lower of the federal or state Maximum Contaminant Level (MCLs) for the primary COCs; the MCLs have not changed since the prior review period. Additionally, the best-available technology (BAT) for treatment of VOCs is being used prior to consumption to prevent exposure to site contaminants.

The selected groundwater remedies, as implemented by the DON, are the BAT to treat groundwater as a drinking water source at the Yermo Annex and two off-site residences. The BAT consists of granular-activated carbon that removes VOCs to below MCLs and, based on monitoring data, to non-detect

levels. Therefore, even if groundwater RSLs or MCLs were to be lowered for the Yermo Annex groundwater COCs, the existing remedy would continue to be the BAT for eliminating the exposure risk.

2.1.2 Inhalation Exposure Assumptions – Yermo Annex

Exposure to dissolved-phase VOCs during beneficial re-use of groundwater (e.g., for landscape watering) was not identified as an exposure pathway in the OUs 1 and 2 ROD. However, all groundwater used at the Yermo Annex is either drawn from unaffected areas of the aquifer or treated through GAC to non-detection levels before any use at the Base. Therefore, the existing BAT remedy in place would be protective for beneficial reuse of groundwater at the Yermo Annex should it occur. This potential pathway is not further evaluated.

An additional potential exposure pathway for COCs is VOC inhalation due soil vapor intrusion (SVI) into occupied buildings. As part of the Third Five Year Review technical evaluations, modeling of the potential risks due to SVI into two representative buildings at CAOC 16 was performed using the Johnson-Ettinger model (Johnson and Ettinger 1991). For both buildings, the model output indicated that the predicted cumulative excess lifetime cancer risks for the maximum soil gas concentrations of all chemicals detected exceeded the lower end of the U.S. EPA acceptable risk range of 10^{-4} to 10^{-6} but all risk levels were well within the acceptable range. The cumulative non-cancer Hazard Index (HI) values were lower than the threshold value of 1.0.

Based on the Third Five-Year Review SVI evaluation at CAOC 16, the DON determined that no further evaluation of SVI exposure was required during this five-year review.

2.1.3 Direct Contact Exposure Assumptions – Yermo Annex

Three CAOCs under OUs 3 and 5 at the Yermo Annex have selected remedies of wastes remaining in place. These include: CAOCs 20 (concrete cap and soil cover areas), 23 (concrete capped area), and 35 (covered landfill). Engineering controls and land-use controls (LUCs) for these CAOCs were routinely inspected and maintained during the review period. LUCs are in place to prevent land use changes, cover removal, or subsurface work. Therefore, the ROD exposure assumptions for the selected remedies at OUs 3 and 5 remained valid during this review period.

Several CAOCs under OUs 3, 5, and 7 have LUC-only remedies (including those identified in the respective RODs as “no further action with Base Master Plan modifications”) (see Report Section 6 for details). The LUCs-only remedies are generally intended to prevent exposure to residual soil contamination or contaminated soil vapors (at CAOC 16). The MCLB Barstow Environmental Division is responsible for reviewing proposed land use changes and/or subsurface work at these sites to prevent uncontrolled exposures. The LUCs were maintained in accordance with the Base Master Plan during the review period. Therefore, the ROD exposure assumptions for the selected remedies at OUs 3, 5, and 7 at the Yermo Annex remained valid during this review period.

2.2 NEBO MAIN BASE EXPOSURE ASSUMPTIONS

2.2.1 Ingestion Exposure Assumptions – Nebo Main Base

Drinking water at Nebo Main Base is provided by a private water purveyor from production wells that are located upgradient of the Base. Established LUCs to prevent use of groundwater in contaminated areas at the Nebo Main Base remained in place during the review period.

Two groundwater production wells operate at Nebo Main Base for the purpose of supplying irrigation water to the Base golf course. The production wells are not within the extent of identified VOCs plumes. Furthermore, groundwater contour maps indicate no draw-down effect related to these wells that would indicate potential capture of contaminated groundwater. Based on the available information, no potential exposure risks are associated with use of groundwater for irrigation at Nebo Main Base.

Based on this review, the groundwater ingestion exposure assumptions in place at the time of the RODS for OUs 2 and 7 remained valid during this review period.

2.2.2 Inhalation Exposure Assumptions – Nebo Main Base

OUs 4, 6, and 7 at Nebo Main Base do not include sites with identified soil vapor exposure risks due to incomplete exposure pathways. There are five existing VOC groundwater plumes that could potentially contribute to a vapor inhalation risk that are briefly reviewed below:

- The OU 2 Nebo North VOC plume has been largely addressed by the selected remedy; only one monitoring well remains with PCE above cleanup levels. This residual contaminant plume is located at the north end of CAOC 10.5, Warehouse 4 (see Figure E-1.2 of Appendix E), and is likely associated with former underground storage tank (UST) and/or historical operations at this site. The potential for vapor intrusion from this area was evaluated as part of the Third Five Year Review and no inhalation risks were found on the basis of Johnson-Ettinger modeling (Johnson and Ettinger 1991). Based on that evaluation, the DON determined that no further analysis of inhalation risks at this site would be performed as part of the fourth five-year review.
- The OU 2 Nebo South VOC plume (CAOC 6) is located in an unused area of the Base (see Figure 8-3 of the main report) with no occupied structures within the plume area or on the adjacent off-Base property. Therefore, the Nebo South VOC plume does not represent a completed pathway for vapor inhalation.
- Three OU 7 groundwater plumes - NPZ-14 groundwater area, CAOC 10.38/10.39 Unit 7, and CAOC 7 Stratum 1 - are each located in areas of the Base with no occupied structures (see Figure 8-1 of the main report). Therefore, the OU 7 VOC plumes do not represent a completed pathway for vapor inhalation.

Based on the Third Five-Year Review SVI evaluation at Nebo Main Base, the DON determined no further evaluation of the SVI exposure at the Nebo Main Base would be performed during this five-year review.

2.2.3 Direct Contact Exposure Assumptions – Nebo Main Base

Soil cleanup levels were established in OU 7 ROD (2014) for lead, polynuclear aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs). These cleanup levels were developed based on a baseline human health risk assessment for site workers and trespassers under an industrial land-use scenario. The direct contact exposure assumptions have not changed since the OU 7 ROD signing in December 2014.

The selected remedy for CAOC 7 Strata 1 and 2 (OU 5) at Nebo Main Base is wastes remaining in place under caps and with LUCs. Engineering controls and land-use controls (LUCs) for this CAOC were routinely inspected and maintained during the review period. LUCs are in place to prevent land use changes, cover removal, or subsurface work. Therefore, the ROD exposure assumptions for the selected remedies at CAOC 7 Strata 1 and 2 remained valid during this review period.

Several CAOCs under OUs 4, 6, and 7 at Nebo Main Base have LUC-only remedies (including those identified in the respective RODs as "no further action with Base Master Plan modifications") (see Table 8-8 of Main Report for review of Nebo Main Base LUCs-only sites). The LUCs-only remedies are intended to prevent exposure to residual soil, soil vapor, or groundwater contamination. The MCLB Barstow Environmental Division is responsible for reviewing proposed land use changes and/or subsurface work at these sites to prevent uncontrolled exposures. The Base Master Plan was amended to incorporate the LUCs for Nebo Main Base CAOCs in 2010 and 2015. The LUCs were maintained in accordance with the Base Master Plan amendments during the review period. Therefore, the ROD exposure assumptions for the selected remedies at OUs 4, 6, and 7 at the Nebo Main Base remained valid during this review period.

3.0 EVALUATION OF CHANGES IN TOXICITY DATA AND REGULATORY STANDARDS

This section describes relevant changes to toxicity data and published regulatory standards that have occurred since the 2012 Third Five-Year Review that may affect the underlying assumptions for protectiveness of the selected remedies at the MCLB Barstow.

Chemicals of concern (COCs) for groundwater were established in the OUs 1 and 2 ROD (1998), OU 2 ROD (2006), and OU 7 ROD (pertaining to Nebo Main Base only, 2014). A summary of the maximum concentration of groundwater VOCs detected in groundwater between 2012 and 2016, along with their respective frequency of detection is presented in Table C-1 for Yermo Annex and Table C-2 for Nebo Main Base.

3.1 TOXICITY DATA REVIEW

The United States Environmental Protection Agency (U.S. EPA) published updated the toxicity data for tetrachloroethene (PCE) in February 2012. The reference dose for chronic oral exposure was reduced from 0.01 milligram per kilogram per day (mg/kg-day) to 0.006 mg/kg-day. A chronic inhalation exposure was established at 0.04 milligrams per meter cubed (mg/m3); the carcinogenicity assessment for lifetime exposure determined PCE is a human carcinogen (U.S.EPA 2012).

The U.S. EPA updated the toxicity data for TCE in May 2012. The reference dose for chronic oral exposure was established at 0.0005 mg/kg-day. A chronic inhalation exposure was established at 0.002 mg/m3; the carcinogenicity assessment for lifetime exposure determined TCE is a human carcinogen (U.S.EPA 2012).

The changes in toxicity data did not result in changes to the regulatory standards underlying the selected cleanup levels for groundwater or soil under the existing RODs.

3.2 GROUNDWATER REGULATORY LIMITS

The section reviews changes to state and federal groundwater regulatory limits for the ingestion pathway. The groundwater at the Yermo Annex is used for drinking water purposes, but drinking water is provided by an external water purveyor at the Nebo Main Base. Therefore, this evaluation focuses on the OU 1 Yermo Annex groundwater cleanup levels and remedial action objectives (RAOs).

3.2.1 Drinking Water Limits

The OUs 1 and 2 ROD references the lower of the state or federal maximum contaminant levels (MCLs) for groundwater cleanup limits. MCLs published by the U.S. EPA and State of California were reviewed to

identify if MCLs have decreased since ROD publication; additionally the groundwater database was searched detected compounds not identified as COCs in OUs 1, 2, and 7 RODs. Maximum concentrations of all detected groundwater VOCs at both Yermo Annex (OU 1) and Nebo Main Base (OUs 2, 7), established cleanup levels, and current (2016) regulatory standards are shown on Tables C-1 and C-2 respectively.

The following is a summary of findings from this review:

- The MCLs for groundwater COCs detected at Yermo Annex were not revised during the review period and remain the same since ROD was signed. A review of the COCs detected in Yermo Annex groundwater (Table C-1) and Nebo Main Base (Table C-2) confirmed that PCE and TCE are the predominant COCs in groundwater at both bases, with 1,2-dichloroethane also present at Yermo Annex above its cleanup level at a few wells. The COC 1,1-DCE has declined to be below the cleanup level at both Bases.
- Other VOC were detected above the lower of the state maximum contaminant limit (MCL), federal MCL, or federal tap water screening level, but their infrequent detection or magnitude of exceedance do not warrant classifying them a COCs in this evaluation
- The maximum detected concentrations of some VOCs in Yermo groundwater have exceeded the 2016 tap water screening level. However, the Navy has implemented the best available technology (BAT) to treat the groundwater extracted at Yermo Annex, so no additional engineering controls could be implemented. Drinking water at Nebo Main Base is provided by a private water purveyor and thus is not subject to review.

There were no other changes to MCLs that would affect the original assumptions for the cleanup levels selected in the RODs.

3.2.2 Groundwater Discharge Limits

The current Regional Water Quality Control Board – Lahontan Region (RWQCB) order pertaining to Waste Discharge Requirement (WDR) for Land Disposal of Treated Groundwater is Order Number R6T-2004-0015 (RWQCB, 2004). No changes were made to the WDR limits during the review period.

3.3 Soil Screening Level Changes

A comparison of previous and current industrial soil RSL values and the maximum detected soil chemicals left in place at CAOCs closed with NFA are summarized in Table C-3. No exceedances of revised RSLs were identified in the historical soil data at CAOCs closed with NFA at OUs 3, 4, 5, 6 or 7. There were no changes to soil COCs or soil remedies during the review period and no significant land use changes at soil CAOCs with LUCs only remedies.

The latest State of California screening levels for soils at industrial sites (June 2016) were compared to soil CAOCs with residual contamination that were closed with NFA under the RODs for OUs 3, 4, 5, 6 and 7 (Table C-3). The earlier RODs (1997, 1998) reference the U.S. EPA Preliminary Remediation Goal (PRGs) (DON 1997, 1998b). The U.S. EPA has since replaced PRGs with Regional Screening Levels (RSLs) which were most recently updated in May 2016 (U.S.EPA 2016). RSLs have the same general purpose as PRGs. The California Department of Toxic Substances Control, Office of Human and Ecological Risk (HERO) evaluated the EPA's RSLs and provided guidance on when the PRG values should be used instead of the RSL (HERO 2016).

3.4 VAPOR DISCHARGE LIMITS

The OUs 1 and 2 remedial systems currently do not include treatment of the emissions to the atmosphere (three AS/SVE systems). The emissions from these systems must comply with the MCLB Barstow's general permit for emission of organic air contaminants issued by the Mojave Desert Air Quality Management District (MDAQMC). The following is background information for the general permit and how it applies to the remedial systems.

- The Clean Air Act (CAA) establishes the National Ambient Air Quality Standards (NAAQS). NAAQS are not enforceable in and of themselves but are translated into source-specific emission limitations by the State (EPA 1989). Substantive requirements of the Mojave Desert Air Quality Management District (MDAQMD) rules are federal ARARs for air emissions (CAA Section 110).
- MDAQMD Rule 442 (implementing Clean Air Act 40 U.S.C. 7401 et seq.) requires a reduction of air emissions by 65 percent for facilities that discharge organic materials into the atmosphere from equipment in which organic materials are extracted. Historical data from the Nebo South AS/SVE system indicate that the maximum potential emissions are below set limits for solvents. Because the AS/SVE system discharges VOCs into the air, this rule is considered applicable to Nebo South (OU 2 ROD, page 2-45) (DON 2006).
- MDAQMD Rule 212 Standard for approving permits requires that equipment be designed, controlled, or equipped with air pollution control equipment so that it may be expected to operate without emitting air contaminants in violation of Section 41700 or 41701 of the State Health and Safety Code or of the Mojave Desert AQMD Rules. The OU 1 and OU 2 AS/SVE systems (CAOC 16, Nebo North and Nebo South, as well as SVE pilot study at CAOC 7 Stratum 1) had the potential to cause issuance of air contaminants. On-site actions under CERCLA are exempt from procedural requirements such as permitting. However, the DON considers reporting of remedial system air emissions to be a substantive requirement.

The IRP O&M contractor submits quarterly air emissions reports for each active remedial system with emissions to the MCLB Barstow Air Quality Manager, Mr. Benjamin Leslie. According to Mr. Leslie, the Yermo Annex operates under a Title V Federal Operating Permit (008700587) for nitrous oxide (NOx), VOCs, and particulate matter under MDAQMD oversight. The Base Environmental Division maintains MDAQMD permits for specific operations at the MDMC (Facility ID 587). The MCLB Barstow must also comply with facility-wide emission limits under its Title V permit. The emission limits in Part II.A.25 (Page II-15) of the permit limits emissions from VOC containing materials to 1,190 lbs/month (or approximately 39.6 lbs/day for a 30-day month). The DON interprets the Part II.A.25 facility-wide requirement for VOC emissions as the substantive compliance point for air emissions from each of the IRP's remedial equipment operations at the MCLB Barstow. The remedial equipment with atmospheric emissions that operated during the 2012 – 2017 review period included the CAOC 16 AS/SVE, CAOC 6 AS/SVE, Nebo North AS/SVE, and CAOC 7 Stratum 1 pilot-study SVE systems. Based on the quarterly emissions reports for these systems, there were no exceedances of the 39.6 lbs/day limit for VOC emissions during the review period.

4.0 CLEANUP LEVELS AND REMEDIAL ACTION OBJECTIVES

The groundwater cleanup levels for OUs 1, 2, and 7 are based on the lower of the federal or state MCLs for the identified COCs. No changes in MCLs for OUs 1, 2, or 7 COCs were promulgated during the five-

year review period by either the State of California or U.S. EPA. Remedial action objectives (RAOs) for groundwater are, therefore, still valid for on-going groundwater cleanup at the MCLB Barstow.

There are no COC-specific cleanup levels for soil vapor contaminants; the pertinent RODs require cleanup of soil vapors to the extent that further contamination of groundwater is prevented. The active remedial systems at OU 1 (CAOCs 16, 15/17, and 35) and OU 2 (Nebo North, Nebo South) continued to be operated treat soil vapor at these sites. The OU 7 soil vapor extraction (SVE) system at CAOC 7 Stratum 1 is in the remedial design phase.

Soil COC cleanup levels were established in the RODs only for OU 7. These cleanup levels were based on human health risk assessments; at CAOC N-2 Area 1 (former skeet and trap range) the lead shot RAO is removal to prevent ingestion by birds. The RAOs for soil contamination for OU 7 CAOCs N-2 Area 1 and 10 remain valid for these sites. The soil remedies for the other soil sites in OUs 3, 4, 5, and 6 are either completed or under LUCs only.

5.0 SUMMARY AND CONCLUSION

The Five-Year Review process includes addressing the question: "Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy selection still valid?"

The review of this question, as documented in this technical memorandum, has found that the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of remedy selection for OUs 1 through 7 are still valid.

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TABLES

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TABLE C-1
Groundwater Cleanup Levels, Revised Regulatory Limits, and Maximum COCs in Groundwater
(2012 - 2016) - Yermo Annex
MCLB BARSTOW, CA

Detected VOC[a]	unit	Lowest Regulatory Limit	2016 State MCL	2016 Federal Tap Water RSL	2016 Federal MCL	ROD Cleanup Level[b]	Maximum Detected Concentration[c]	Number of Samples with Detections (out of 408 analyses)				
								2012	2013	2014	2015	2016
1,1-Dichloroethane	µg/L	2.8	5	2.8	--	5	2.1	6	6	5	7	8
1,1-Dichloroethene	µg/L	6	6	280	7	6	5.1	10	11	8	13	13
1,2-Dichloroethane	µg/L	0.17	0.5	0.17	5	0.5	0.89	2	1	1	1	6
2-Butanone	µg/L	5600	--	5600	--	N	40	1	0	0	1	0
Acetone	µg/L	14000	--	14000	--	N	170	1	4	2	1	0
Bromodichloromethane	µg/L	0.13	--	0.13	80	100[d]	0.27	1	1	0	1	0
Chloroform	µg/L	0.22	--	0.22	80	100[d]	1.0	4	7	5	8	12
cis-1,2-Dichloroethene	µg/L	6	6	36	70	6	2.1	3	4	3	2	4
Dichlorodifluoromethane	µg/L	200	--	200	--	n/a	0.53	1	0	0	0	0
Isopropylbenzene	µg/L	450	--	450	--	--	1.1	0	0	0	0	1
Methyl Tert-Butyl Ether	µg/L	13	13	14	--	--	0.41	1	0	0	0	0
Tetrachloroethene	µg/L	5	5	11	5	5	54	41	40	39	39	58
Toluene	µg/L	150	150	1100	1000	42[e]	0.34	0	0	0	1	0
Trichloroethene	µg/L	0.49	5	0.49	5	5	110	48	43	43	46	56
Trichlorofluoromethane	µg/L	150	150	5200	--	150	2.8	1	2	0	1	2

Bolded VOCs are ROD-identified COCs (OUs 1and 2 ROD, and/or 7)
gray shaded cells indicate COC exceedance of ROD cleanup level.
-- = no regulatory limit or cleanup level established
N = no promulgated drinking water standard at time of OUs 1 and 2 ROD, therefore no cleanup level selected (DON 1998a)

Notes:

a. Detected volatile organic compounds (VOCs) in groundwater samples collected between October 2012 and November 2016 (latest available data) at Yermo Annex.
b. 1998 OUs 1 and 2 ROD groundwater cleanup levels
c. Field duplicate samples excluded from counts unless the compound was only detected in the field duplicate.
d. OUs 1 and 2 ROD selected 100 µg/L as the cleanup level; the 2006 OU 2 ROD selected the then-current federal MCL of 80 µg/L as the cleanup level (DON 1998a, 2006)
e. OUs 1 and 2 ROD, Table 2-1: DON agrees to implement taste and odor objectives for toluene proposed by EPA, but not promulated, as "to be considered" standards (DON 1998a)

TABLE C-2
Groundwater Cleanup Levels, Revised Regulatory Limits, and Maximum COCs in Groundwater
(2012 - 2016) - Nebo Main Base
MCLB BARSTOW, CA

Detected VOC[a]	unit	Lowest Regulatory Limit	2016 State MCL	2016 Federal Tap Water RSL	2016 Federal MCL	ROD Cleanup Level[b]	Maximum Detected Concentration[c]	Number of Samples with Detected Concentrations (out of 485 samples)				
								2012	2013	2014	2015	2016
1,1-Dichloroethane	µg/L	2.8	5	2.8	--	5	0.45	1	1	2	1	1
1,1-Dichloroethene	µg/L	6	6	280	7	6	0.45	0	0	0	0	1
1,2-Dichloroethane	µg/L	0.17	0.5	0.17	5	0.5	1.8	7	6	6	6	5
Acetone	µg/L	14000	--	14000	--	N	12	0	1	0	4	0
Benzene	µg/L	0.46	1	0.46	5	1	0.2	2	1	0	0	0
Bromodichloromethane	µg/L	0.13	--	0.13	80	80[d]	0.46	4	4	4	2	2
Carbon disulfide	µg/L	810	--	810	--	N	0.55	0	0	0	0	2
Chloroform	µg/L	0.22	--	0.22	80	80[d]	2.0	8	10	12	11	13
cis-1,2-Dichloroethene	µg/L	6	6	36	70	6	42	3	3	3	3	4
Ethylbenzene	µg/L	1.5	300	1.5	700	--	0.17	1	0	0	0	0
Isopropylbenzene	µg/L	450	--	450	--	--	1.6	1	1	1	0	0
N-Butylbenzene	µg/L	1000	--	1000	--	--	0.69	1	1	1	0	1
N-Propylbenzene	µg/L	660	--	660	--	--	1.4	1	1	1	0	0
Sec-Butylbenzene	µg/L	2000	--	2000	--	--	2.7	2	2	2	1	2
Tetrachloroethene	µg/L	5	5	11	5	5	14	16	3	3	3	2
Toluene	µg/L	150	150	1100	1000	42[e]	12	0	0	0	1	0
trans-1,2-Dichloroethene	µg/L	10	10	360	100	10	1.1	3	3	3	3	2
Trichloroethene	µg/L	0.49	5	0.49	5	5	28	43	44	42	55	59

Bolded VOCs are ROD-identified COCs (OUs 1and 2 ROD, and/or 7)
gray shaded cells indicate COC exceedance of ROD cleanup level.
-- = no regulatory limit or cleanup level established
N = no promulgated drinking water standard at time of OUs 1 and 2 ROD, therefore no cleanup level selected (DON 1998a)

Notes:

a. Detected volatile organic compounds (VOCs) in groundwater samples collected between October 2012 and November 2016 (latest available data) at Nebo Main Base.
b. Groundwater cleanup levels selected in the OUs 1 and 2 ROD (1998), OU 2 ROD (2006), and OU 7 ROD (2014).
c. Field duplicate samples excluded from counts unless the compound was only detected in the field duplicate.
d. OUs 1 and 2 ROD selected 100 µg/L as the cleanup level; the 2006 OU 2 ROD selected the then-current federal MCL of 80 µg/L at the cleanup level.
e. OUs 1 and 2 ROD, Table 2-1: DON agrees to implement taste and odor objectives for toluene proposed by EPA, but not promulated, as "to be considered" standards (DON 1998a)

Table C-3
Comparison of Risk-Based Screening Level Criteria and Maximum Concentration of Detected Chemical in Soil at CAOCs Closed with No Further Action

	Industrial Screening Levels		OUs 3 & 4 ROD [c]	OUs 5 & 6 [d]													OU 7 ROD
	Previous [a]	Current [b]	CAOC 9	CAOC 19	CAOC 22	CAOC 24	CAOC 27	CAOC 28	CAOC 29	CAOC 30	CAOC 31	CAOC 4	CAOC 6	CAOC 8	CAOC 12	CAOC 13	Y-7 TA-12
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Volatile Organic Compounds [e]																	
1,2-Dichloroethane	2.2	2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone	--	190,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11J
2-Hexanone	1400	1,300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	--	5.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.65J
Carbon disulfide	--	3,500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.48J
Chloroform	--	1.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.31J
Ethylbenzene	--	25.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.18J
Tert-Butyl Alcohol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.0J
Tetrachloroethene	--	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.28J
Toluene	--	47000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.66J
Xylenes, m & p	27	25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.57J
Semivolatile Organic Compounds																	
2-Methylnaphthalene	2,200	3,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	1,000	1,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	380J
Fluorene	22,000	30,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	17,000	23,000	--	--	--	--	--	--	--	--	--	130J	--	--	580J	--	--
Pesticides																	
4,4'-DDD	7.2	9.6	--	--	0.76J	--	1.1J	--	--	--	1.6J	--	0.065J	--	--	--	--
4,4'-DDE	5.1	9.3	2.5J	--	0.53J	--	3.6J	--	--	0.5J	1.3J	--	0.110J	--	--	--	--
Alpha-BHC	0.27	0.36	--	0.2J	--	--	--	0.29J	--	--	--	0.3J	--	--	--	--	--
beta-BHC	0.96	1.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor-1242	0.74	0.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248	0.74	0.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	0.74	0.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Cobalt	300	350	12.4	8.3J	1.7J	7.9J	6.5J	13.3	0.73J	7.6J	10.2J	6.2J	7.1	4.1J	8.7	5.2J	--
Tentatively Identified Compounds																	
Trichloroaniline	18	25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

(a) May 2012 U.S. EPA Regional Screening Levels for soil, except where overridden by HERO
(b) May 2016 U.S. EPA Regional Screening Levels for soil, except where overridden by HERO
(c) CAOC closed with NFA and soil concentrations detected during remedial investigation. DON 1997. OUs 3 and 4: Operable Units 3 and 4, Final Record of Decision Report. June.
(d) CAOCs closed with NFA and soil concentrations detected during remedial investigations. DON 1998b. Operable Units 5 and 6, Record of Decision Report. January.
(e) Volatile Organic Compounds (VOCs) with decreased industrial screening levels are shown, even when no residual concentration was detected.
-- = no soil concentration reported
gray shading = decrease in screening level (all other RSL changes were increases over previous level)

Acronyms:

COPCs = chemicals of potential concern
DON = Department of the Navy
HERO = California Department of Toxic Substances Control, Office of Human and Ecological Risk
mg/kg = milligrams per kilogram
NFA = no further action
ROD = Record of Decision
J = estimated concentration

TABLE C-2
Groundwater Cleanup Levels, Revised Regulatory Limits, and Maximum COCs in Groundwater
(2012 - 2016) - Nebo Main Base
MCLB BARSTOW, CA

Detected VOC[a]	unit	Lowest Regulatory Limit	2016 State MCL	2016 Federal Tap Water RSL	2016 Federal MCL	ROD Cleanup Level[b]	Maximum Detected Concentration[c]	Number of Samples with Detected Concentrations (out of 485 samples)				
								2012	2013	2014	2015	2016
1,1-Dichloroethane	µg/L	2.8	5	2.8	--	5	0.45	1	1	2	1	1
1,1-Dichloroethene	µg/L	6	6	280	7	6	0.45	0	0	0	0	1
1,2-Dichloroethane	µg/L	0.17	0.5	0.17	5	0.5	1.8	7	6	6	6	5
Acetone	µg/L	14000	--	14000	--	N	12	0	1	0	4	0
Benzene	µg/L	0.46	1	0.46	5	1	0.2	2	1	0	0	0
Bromodichloromethane	µg/L	0.13	--	0.13	80	80[d]	0.46	4	4	4	2	2
Carbon disulfide	µg/L	810	--	810	--	N	0.55	0	0	0	0	2
Chloroform	µg/L	0.22	--	0.22	80	80[d]	2.0	8	10	12	11	13
cis-1,2-Dichloroethene	µg/L	6	6	36	70	6	42	3	3	3	3	4
Ethylbenzene	µg/L	1.5	300	1.5	700	--	0.17	1	0	0	0	0
Isopropylbenzene	µg/L	450	--	450	--	--	1.6	1	1	1	0	0
N-Butylbenzene	µg/L	1000	--	1000	--	--	0.69	1	1	1	0	1
N-Propylbenzene	µg/L	660	--	660	--	--	1.4	1	1	1	0	0
Sec-Butylbenzene	µg/L	2000	--	2000	--	--	2.7	2	2	2	1	2
Tetrachloroethene	µg/L	5	5	11	5	5	14	16	3	3	3	2
Toluene	µg/L	150	150	1100	1000	42[e]	12	0	0	0	1	0
trans-1,2-Dichloroethene	µg/L	10	10	360	100	10	1.1	3	3	3	3	2
Trichloroethene	µg/L	0.49	5	0.49	5	5	28	43	44	42	55	59

Bolded VOCs are ROD-identified COCs (OUs 1and 2 ROD, and/or 7)
gray shaded cells indicate COC exceedance of ROD cleanup level.
-- = no regulatory limit or cleanup level established
N = no promulgated drinking water standard at time of OUs 1 and 2 ROD, therefore no cleanup level selected (DON 1998a)

Notes:

a. Detected volatile organic compounds (VOCs) in groundwater samples collected between October 2012 and November 2016 (latest available data) at Nebo Main Base.
b. Groundwater cleanup levels selected in the OUs 1 and 2 ROD (1998), OU 2 ROD (2006), and OU 7 ROD (2014).
c. Field duplicate samples excluded from counts unless the compound was only detected in the field duplicate.
d. OUs 1 and 2 ROD selected 100 µg/L as the cleanup level; the 2006 OU 2 ROD selected the then-current federal MCL of 80 µg/L at the cleanup level.
e. OUs 1 and 2 ROD, Table 2-1: DON agrees to implement taste and odor objectives for toluene proposed by EPA, but not promulated, as "to be considered" standards (DON 1998a)

TABLE C-1
Groundwater Cleanup Levels, Revised Regulatory Limits, and Maximum COCs in Groundwater
(2012 - 2016) - Yermo Annex
MCLB BARSTOW, CA

Detected VOC[a]	unit	Lowest Regulatory Limit	2016 State MCL	2016 Federal Tap Water RSL	2016 Federal MCL	ROD Cleanup Level[b]	Maximum Detected Concentration[c]	Number of Samples with Detections (out of 408 analyses)				
								2012	2013	2014	2015	2016
1,1-Dichloroethane	µg/L	2.8	5	2.8	--	5	2.1	6	6	5	7	8
1,1-Dichloroethene	µg/L	6	6	280	7	6	5.1	10	11	8	13	13
1,2-Dichloroethane	µg/L	0.17	0.5	0.17	5	0.5	0.89	2	1	1	1	6
2-Butanone	µg/L	5600	--	5600	--	N	40	1	0	0	1	0
Acetone	µg/L	14000	--	14000	--	N	170	1	4	2	1	0
Bromodichloromethane	µg/L	0.13	--	0.13	80	100[d]	0.27	1	1	0	1	0
Chloroform	µg/L	0.22	--	0.22	80	100[d]	1.0	4	7	5	8	12
cis-1,2-Dichloroethene	µg/L	6	6	36	70	6	2.1	3	4	3	2	4
Dichlorodifluoromethane	µg/L	200	--	200	--	n/a	0.53	1	0	0	0	0
Isopropylbenzene	µg/L	450	--	450	--	--	1.1	0	0	0	0	1
Methyl Tert-Butyl Ether	µg/L	13	13	14	--	--	0.41	1	0	0	0	0
Tetrachloroethene	µg/L	5	5	11	5	5	54	41	40	39	39	58
Toluene	µg/L	150	150	1100	1000	42[e]	0.34	0	0	0	1	0
Trichloroethene	µg/L	0.49	5	0.49	5	5	110	48	43	43	46	56
Trichlorofluoromethane	µg/L	150	150	5200	--	150	2.8	1	2	0	1	2

Bolded VOCs are ROD-identified COCs (OUs 1and 2 ROD, and/or 7)
gray shaded cells indicate COC exceedance of ROD cleanup level.
-- = no regulatory limit or cleanup level established
N = no promulgated drinking water standard at time of OUs 1 and 2 ROD, therefore no cleanup level selected (DON 1998a)

Notes:

a. Detected volatile organic compounds (VOCs) in groundwater samples collected between October 2012 and November 2016 (latest available data) at Yermo Annex.
b. 1998 OUs 1 and 2 ROD groundwater cleanup levels
c. Field duplicate samples excluded from counts unless the compound was only detected in the field duplicate.
d. OUs 1 and 2 ROD selected 100 µg/L as the cleanup level; the 2006 OU 2 ROD selected the then-current federal MCL of 80 µg/L as the cleanup level (DON 1998a, 2006)
e. OUs 1 and 2 ROD, Table 2-1: DON agrees to implement taste and odor objectives for toluene proposed by EPA, but not promulated, as "to be considered" standards (DON 1998a)

Table C-3
Comparison of Risk-Based Screening Level Criteria and Maximum Concentration of Detected Chemical in Soil at CAOCs Closed with No Further Action

	Industrial Screening Levels		OUs 3 & 4 ROD [c]	OUs 5 & 6 [d]													OU 7 ROD
	Previous [a]	Current [b]	CAOC 9	CAOC 19	CAOC 22	CAOC 24	CAOC 27	CAOC 28	CAOC 29	CAOC 30	CAOC 31	CAOC 4	CAOC 6	CAOC 8	CAOC 12	CAOC 13	Y-7 TA-12
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Volatile Organic Compounds [e]																	
1,2-Dichloroethane	2.2	2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone	--	190,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11J
2-Hexanone	1400	1,300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	--	5.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.65J
Carbon disulfide	--	3,500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.48J
Chloroform	--	1.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.31J
Ethylbenzene	--	25.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.18J
Tert-Butyl Alcohol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.0J
Tetrachloroethene	--	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.28J
Toluene	--	47000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.66J
Xylenes, m & p	27	25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.57J
Semivolatile Organic Compounds																	
2-Methylnaphthalene	2,200	3,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	1,000	1,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	380J
Fluorene	22,000	30,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	17,000	23,000	--	--	--	--	--	--	--	--	--	130J	--	--	580J	--	--
Pesticides																	
4,4'-DDD	7.2	9.6	--	--	0.76J	--	1.1J	--	--	--	1.6J	--	0.065J	--	--	--	--
4,4'-DDE	5.1	9.3	2.5J	--	0.53J	--	3.6J	--	--	0.5J	1.3J	--	0.110J	--	--	--	--
Alpha-BHC	0.27	0.36	--	0.2J	--	--	--	0.29J	--	--	--	0.3J	--	--	--	--	--
beta-BHC	0.96	1.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor-1242	0.74	0.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248	0.74	0.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	0.74	0.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Cobalt	300	350	12.4	8.3J	1.7J	7.9J	6.5J	13.3	0.73J	7.6J	10.2J	6.2J	7.1	4.1J	8.7	5.2J	--
Tentatively Identified Compounds																	
Trichloroaniline	18	25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

(a) May 2012 U.S. EPA Regional Screening Levels for soil, except where overridden by HERO
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-- = no soil concentration reported
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Acronyms:

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HERO = California Department of Toxic Substances Control, Office of Human and Ecological Risk
mg/kg = milligrams per kilogram
NFA = no further action
ROD = Record of Decision
J = estimated concentration

APPENDIX D

Yermo Annex OU 1 (CAOC 37) – Supporting Information for Five-Year Review of Remedial Systems

Appendix D-1	Technical Assessment Report – CAOC 37 (OU 1) Remedial Account Performance Evaluation
Appendix D-2	Technical Assessment Report – OUs 1 and 2 Remedial Actions Operations, Maintenance, Repairs, Electrical Costs 2013 – 2017
Appendix D-3	Technical Assessment Report – Evaluation of Nickel and Chromium Groundwater Data - Yermo Annex

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APPENDIX D-1

Technical Assessment Report – CAOC 37 (OU 1) Remedial Account Performance Evaluation

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For Acronyms and Abbreviations, please see Fourth Five Year Review report text.

1.0 INTRODUCTION

This Technical Assessment Report has been prepared to evaluate performance of the groundwater remedies in place for Operable Unit 1 (OU 1) Yermo Annex groundwater. This evaluation was completed in support of the Fourth Five-Year Review and covers the timeframe from October 2012 through September 2017 (data from system startup up through November 2016 were reviewed). This memorandum was prepared by Oneida Total Integrated Enterprises (OTIE) for the Department of the Navy (DON) under Contract No. N39430-16-D-1881, contract task order 0006.

1.1 OU 1 SITE DESCRIPTION AND SELECTED REMEDY

OU 1 is defined as the groundwater and vadose zone contamination underlying the Yermo Annex. The 1996 remedial investigation identified one large commingled VOC plume emanating from several sources including Comprehensive Environmental Responses, Compensation, and Liability Act Areas of Concern (CAOCs) CAOCs 16, 15/17, 23, 26, and 35 (Figure D-1.1). The OU 1 contaminants of concern (COCs) include of dissolved-phase volatile organic compounds (VOCs), with the primary risk-drivers identified in the ROD as trichloroethene (TCE), tetrachloroethene (PCE), and 1,1-dichloroethene (1,1-DCE). The selected remedy for this plume is pump and treat via the Groundwater Extraction And Treatment System (GETs) with recharge of treated groundwater back into the aquifer, and air sparge/soil vapor extraction (AS/SVE) systems for groundwater and vadose zone VOC mass removal, as described in Table 5-2 of the main Report. In addition, two on-Base groundwater production wells and two off-Base private residential wells that are connected to granular-activated carbon (GAC) treatment systems are operated, monitored, and maintained as part of the OU 1 selected remedy.

1.2 CLEANUP LEVELS AND REMEDIAL ACTION OBJECTIVES

Per the OUs 1 and 2 Record of Decision (ROD) (DON 1998), the groundwater contamination in the northern part of the Yermo Annex, the "*Yermo North*" plume is associated with former industrial wastewater pipeline leaks at CAOC 16, past waste water treatment practices at CAOC 15/17, and landfill activities at CAOC 35. The southern Yermo Annex plume was associated with past landfill operations at CAOC 23. The central and most upgradient portion of the Yermo Annex VOC plume is attributed to CAOC 26, a former packing and maintenance plant. The plumes associated with CAOC 23 and 26 have diminished to below the cleanup levels and are no longer plotted on groundwater monitoring report maps (monitoring for CAOC 23 continues; monitoring for CAOC 26 has been reduced to once-every-five-years). The Yermo North plume is the remaining groundwater plume above cleanup levels at the Yermo Annex.

The OUs 1 and 2 ROD established groundwater cleanup levels for VOCs to prevent human exposure to unsafe levels of COCs. Because the OU 1 contaminant plume is in an aquifer classified as a source of drinking water (Class 1 aquifer) in the Comprehensive Water Quality Control Plan by the Regional Water Quality Control Board - Lahontan Region (RWQCB-Lahontan 2015), the more stringent of the federal or state maximum contaminant levels (MCLs) were selected as VOC cleanup levels. This remedial action performance evaluation considers how the existing remedy, as implemented and operating during this review period, is performing to meet the remedial action objectives (RAOs) established in the ROD. The RAOs are defined by CAOCs and are summarized below:

- CAOCs 16 and 26 groundwater contamination - the RAO is to achieve and maintain compliance with groundwater cleanup standards throughout the contaminant plumes at these CAOCs;

- CAOCs 16 and 26 vadose zone contamination - the RAO for vadose zone cleanup at these CAOCs is to remove contaminant mass in the subsurface soils to the degree necessary to 1) prevent further degradation of the groundwater above groundwater cleanup standards and 2) minimize the aquifer clean up time; and
- CAOCs 15/17, 23 and 35 groundwater contamination - the RAO is to attain groundwater cleanup levels at that "point of compliance", which is the downgradient edges of these units (the selected remedy did not include vadose zone cleanup at these CAOCs).

Performance standards set by the OUs 1 and 2 ROD for the OU 1 remedy include:

- Meeting the substantive requirements of the Regional Water Quality Control Board (RWQCB) – Lahontan Region requirements for Land Disposal of Treated Groundwater;
- Groundwater and vadose zone monitoring to verify that the remedial action is being effective towards achieving the RAOs. The OU 1 long-term monitoring plan includes the monitoring and verification plan for both groundwater and soil vapor;
- Groundwater monitoring for CAOCs 23 and 35 will entail collection and analysis of groundwater samples for compliance monitoring per CCR Title 22 (RCRA landfill closure requirements). The long-term monitoring (LTM) plan established that VOCs were the primary constituents of concern for these CAOCs; monitoring is on-going as VOCs continue to be detected; and
- Groundwater monitoring will be conducted to measure the concentrations of five metals (nickel, chromium, antimony, thallium and aluminum) in a few selected groundwater monitoring wells in the area of CAOC 16 for a minimum of four quarters (1 year). This performance standard is evaluated in Appendix D, D-3 Metal Assessment Report.

The following sections review progress in OU 1 remedy implementation and in achieving the performance standards for groundwater and source reduction.

2.0 OU 1 PLUME REMEDIAL PROGRESS

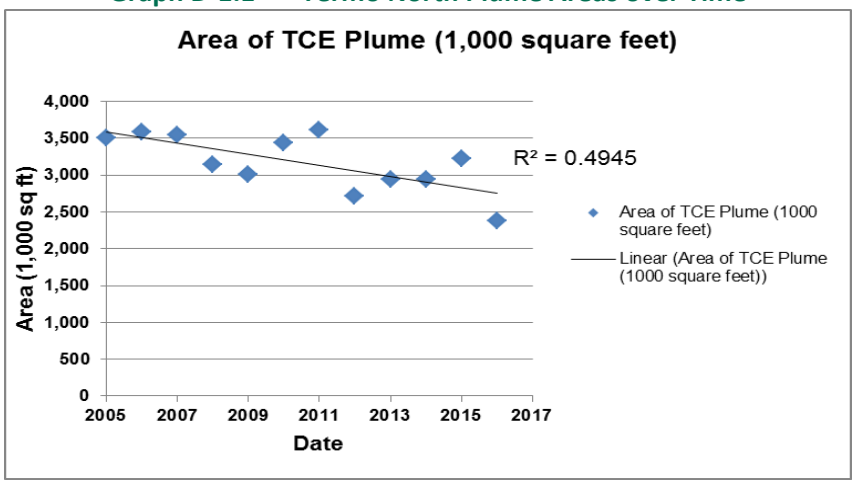
2.1 YERMO NORTH PLUME CHARACTERISTICS AND COC CONCENTRATION TRENDS

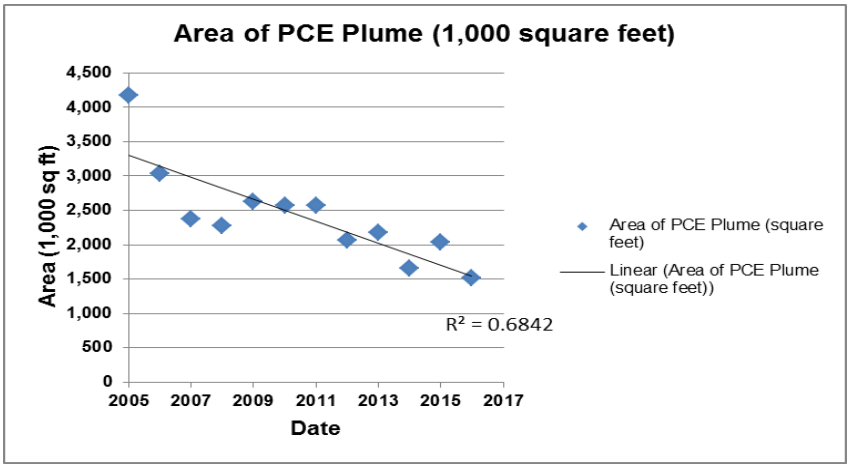
The original extent of the commingled VOC plume at the Yermo Annex was estimated to comprise approximately 6.13 billion gallons over a 12,000- by 4,000-foot area (DON 1998a). The interpreted extents of the remaining Yermo Annex primary COCs, PCE and TCE, for 1996 to 2006 and 2007 through 2016 are presented on Figures D-1.2 and D-1.3, respectively. During this review period, the COC 1,1-DCE was below the cleanup level at all monitoring locations and presented on plume maps in this assessment. The overall Yermo Annex plume extents declined between 1996 and 2006 due primarily to source cleanup efforts at CAOC 26 and the capping of CAOC 23. The extent of the Yermo North TCE and PCE plumes also decreased between 1996 and 2006 with operation of the GETS and CAOC 16 AS/SVE system. The Yermo North plume through the years 2007 – 2016 was more stable and continued to extend off-Base (Figure D-1.3).

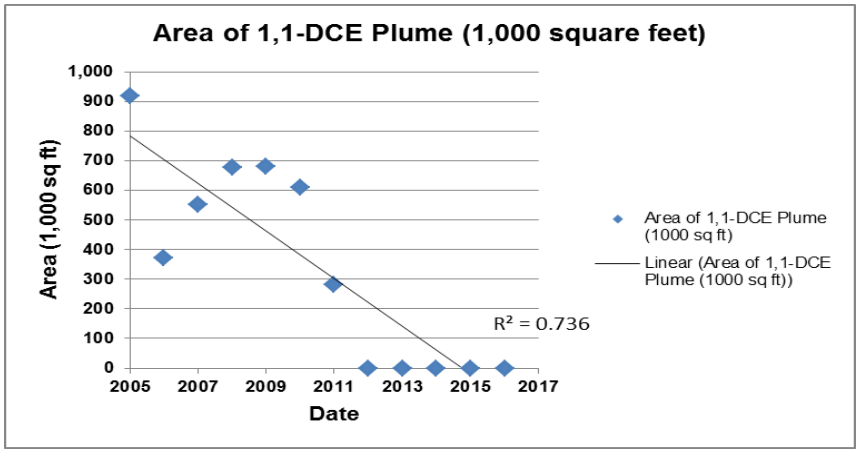
For a closer look, the areas of the Yermo North TCE, PCE, and 1,1-DCE plumes were graphed over time (2005 – 2016), as presented on Graph D-1.1 (page 3). Based on this analysis, the TCE plume area is gradually declining while the PCE and 1,1-DCE plume areas show more consistent and definitive

downward trends. The change in plume extent may be attributed to the combined action of the GETS and AS/SVE system.

Graph D-1.1 Yermo North Plume Areas over Time

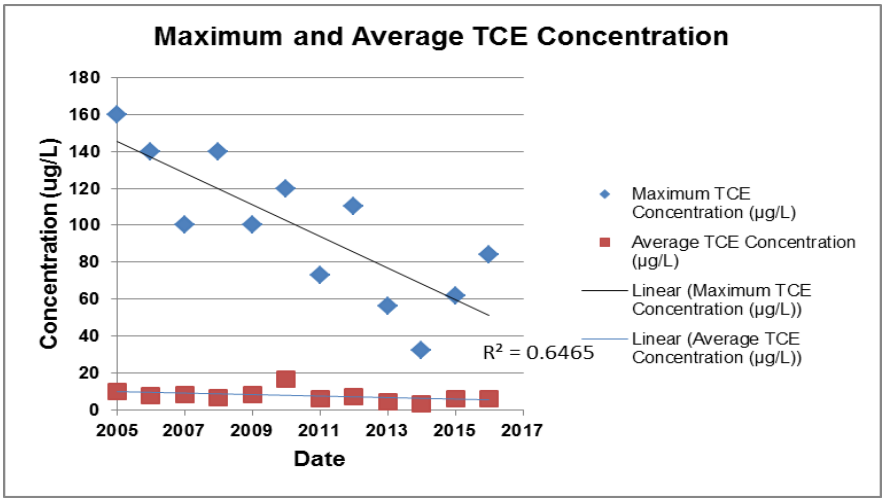


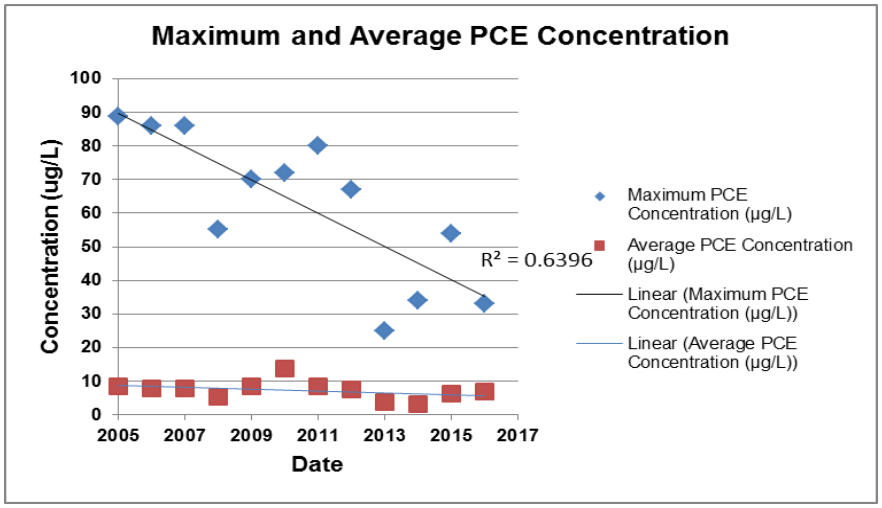




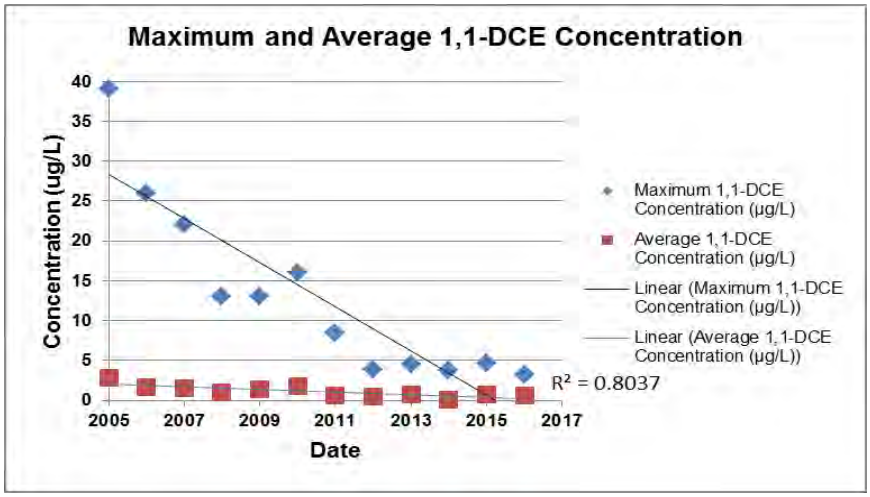
An analysis of the Yermo North plume primary COC concentrations was performed to reveal general trends from 2005 – 2016 (11 year period). Graph D-1.2 (below) shows the trends in maximum and average groundwater concentrations of TCE, PCE, and 1,1-DCE across the plume. The maximum concentration detected per monitoring event for each of the COCs has decreased since 2005, with all three VOCs showing strong declining trends. The low average concentrations over time are consistent with a large diffuse plume.

Graph D-1.2 Maximum and Average Primary COC Concentrations, Yermo North Plume



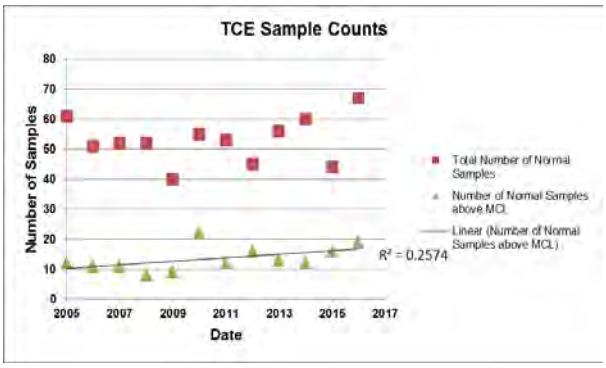


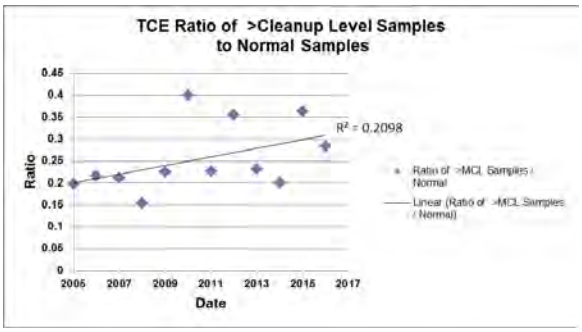
Graph D-1.2 (continued)

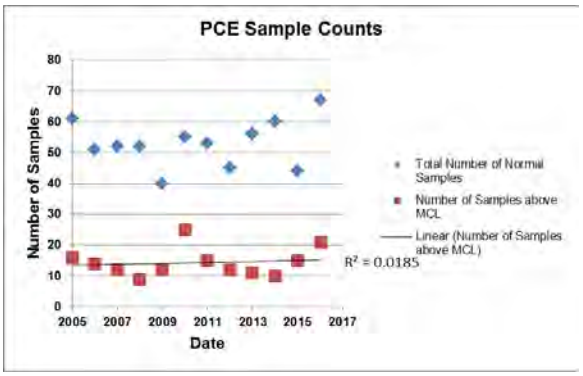


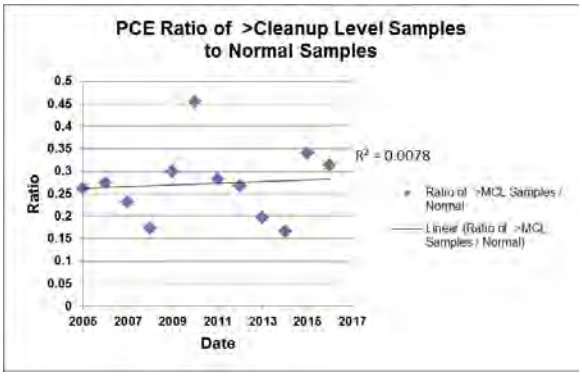
The number of wells sampled during the 2005 – 2016 review period varied from 40 to 67 wells. To account for the variable in the total number of normal samples, the ratio of wells exceeding the cleanup level to the total number of wells sampled was calculated as shown on Graph D-1.3 (next page) for TCE and PCE, and 1,1 DCE. For both TCE and PCE, the ratio of wells exceeding the cleanup level to the total number of wells sampled is weakly correlated and without obvious trend; however, 1,1-DCE has not been detected about the cleanup level since 2011. This analysis, along with declining maximum concentrations and relatively steady low average concentrations, indicate a "mature remedy" with opportunities for optimization steps to improve the time-line of the remedy.

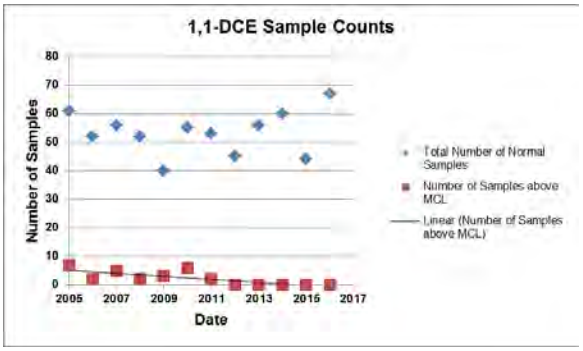
Graph D-1.3 Sample Counts and Cleanup Level Exceedances, Yermo North Plume

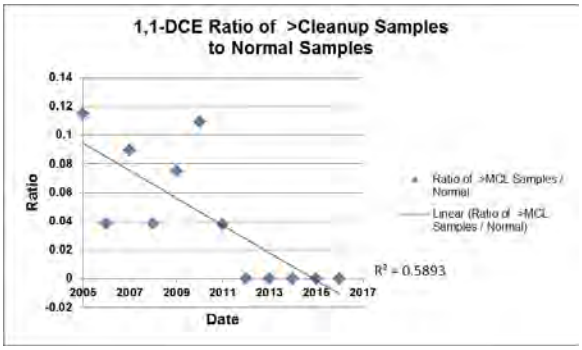






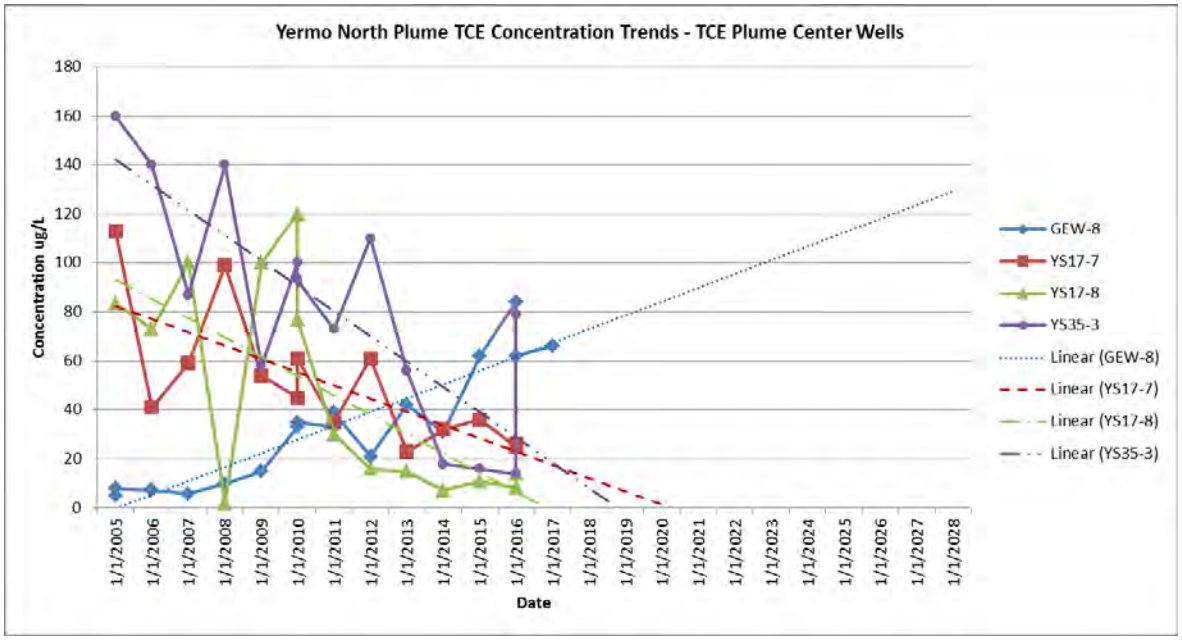


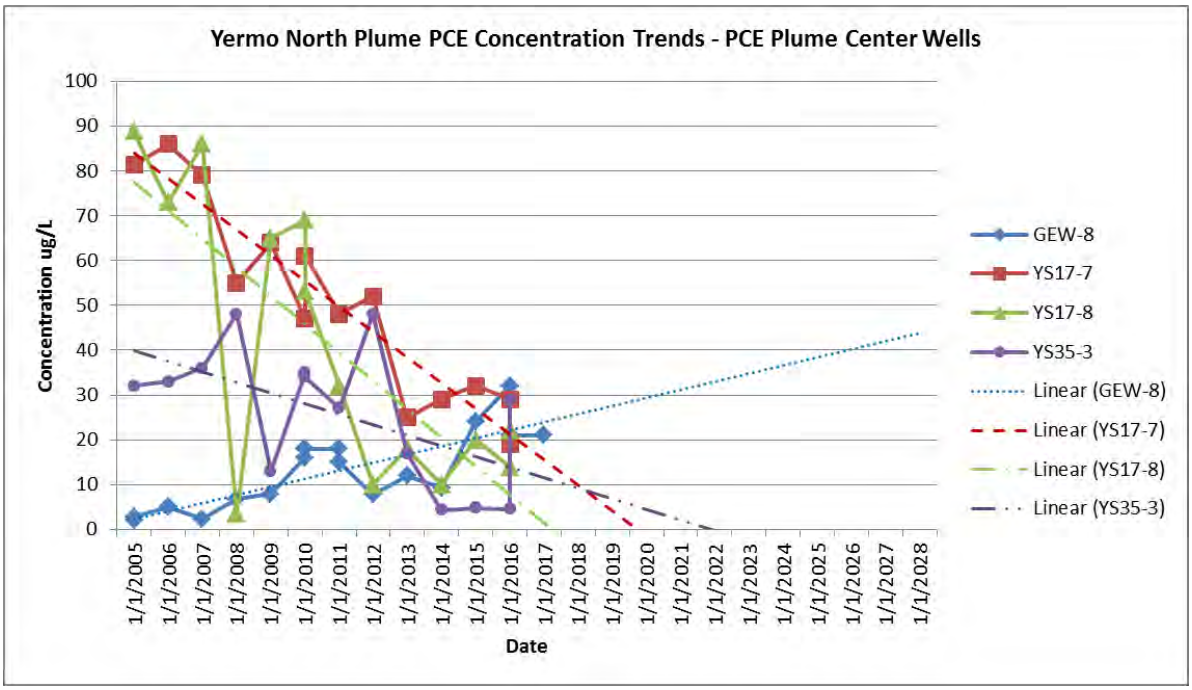




The plume TCE and PCE concentrations in on-Base monitoring wells located approximately along the main plume axis (generally the highest concentrations) were plotted to evaluation trends. Concentrations are generally declining for both TCE and PCE, with the exception of the increasing trends at monitoring well, GEW-8, located at the eastern Base boundary (*see* Graph D-1.4 below).

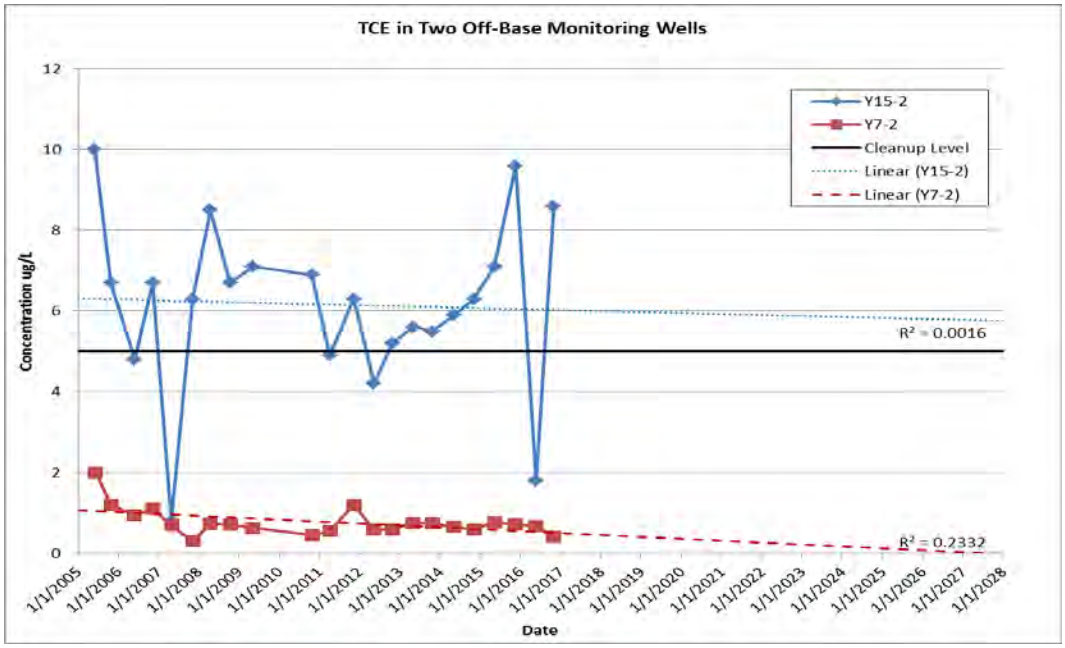
Graph D-1.4 TCE and PCE Trends in Selected On-Base Monitoring Wells, Yermo North Plume

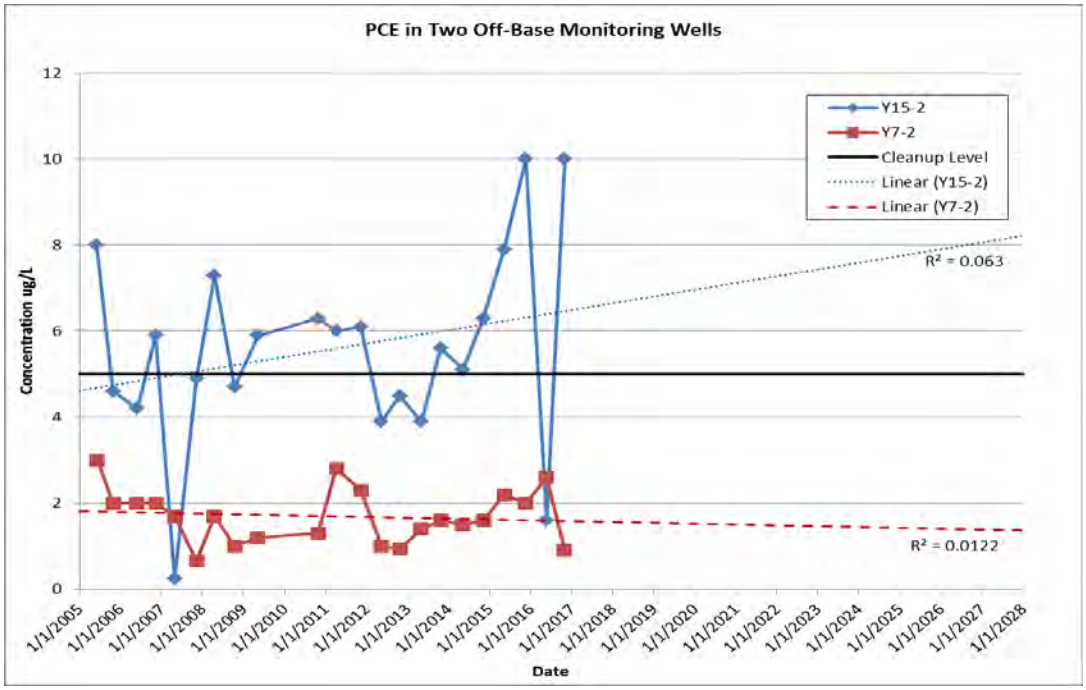




Concentrations of the primary COCs, TCE and PCE, in groundwater samples at off-Base wells do not show clear trends as illustrated in Graph D-1.5 below. Both monitoring wells Y15-2 and Y7-2 went dry in early 2017. The associated deeper-screened monitoring wells, Y15-3 and Y7-3 continue to be monitored and, while TCE and PCE are below cleanup levels, concentrations are rising (not graphed).

Graph D-1.5 TCE and PCE Trends in Off-Base Monitoring Wells, Yermo North Plume





2.2 OU 1 GETS AND AS/SVE SYSTEM PERFORMANCE

The purpose of the GETS is to both hydraulically control the OU 1 plume and remove dissolved-phase VOC mass. The purpose of the AS/SVE system is to remove vadose zone contamination in order to prevent groundwater contamination and reduce groundwater cleanup time. System operation uptime percentages are summarized below for the current Five-Year Review period.

Table D-1.2 OU 1 Remedy Uptimes during 2012 - 2016

Percent Uptime	2012	2013	2014	2015	2016	Average	
GETS	79	85	89	96	95	89	(2012 – 2016)
CAOC 16 AS/SVE	27*	44*	90	91	93	91	(2014 - 2016)

Notes:

*Includes routine bi-weekly shutdown and non-routine repairs.

O&M of the OU 1 systems is performed on a continuous basis, is compliant with the annually updated O&M Manual, and documented in the annual groundwater monitoring reports. The GETS system repairs and upgrades have improved the overall system operational uptimes and efficiency as evidenced by an increase in measured VOC mass removal. Electrical costs to operate the systems were relatively high due to the nature of the remedy. To minimize the systems total operational costs, the systems were optimized by only operating the extraction wells required to meet the RAOs. System Repair and upgrade costs have been relatively high due to the need to repair and upgrade the aging system components, as recommended in the prior Five-Year Reviews. Refer to the O&M costs review provided in Appendix D, O&M Costs Review D-2.

2.2.1 Infiltration Water Quality Substantive Compliance

Per Section 3.6.2 of the OUs 1 and 2 ROD, the GETS treated groundwater will be recharged into the aquifer through infiltration galleries. The infiltrated water quality must substantively comply with the general waste discharge requirements for land disposal of treated groundwater, which are currently defined in Board Order No. R6T-2004-0015 (RWQCB 2004). The general discharge requirements of Board Order No. R6T-2004-0015 also include monitoring requirements to verify compliance.

Treated discharge was in substantive compliance with the discharge limitations set by the RWQCB Lahontan Regional Order Number R6T 2004-0015 during the review period. The OTIE supervising engineer reviewed treatment system monitoring analytical results upon receipt. Concentrations of OU 1 chemicals of concern in the GETS Effluent were below the discharge limits and were therefore determined to be in substantive compliance with the discharge limitations (Table D-1.1, next page).

GETS GAC monitoring is performed on a 60-day (influent and intermediate) and 90-day (effluent) cycle schedule. Based on monitoring results, the GETS GAC is periodically changed-out and vessel inspected and repaired as needed. The next GAC change-out is scheduled for July 2017, in accordance with the O&M Manual and the current VOC concentrations detected at the systems intermediate sampling location.

Table D-1.1 OU 1 GETS - Substantive Compliance with Discharge Limits - Sept. 2012 - Dec. 2016

Detected Analytes[a]	Chromium, Total[b]	Nickel[b]	1,1-Dichloroethene	2-Butanone	Acetone	Bromoform	Carbon tetrachloride	Dichloro-difluoromethane	Tetrachloroethene	Trichloroethene
Discharge Limits[c]	none	none	**6**	none	none	none	none	none	**5**	**5**
Units:	ug/l	ug/L	ug/l	ug/L	ug/l	ug/L	ug/l	ug/L	ug/L	UG/L
Sample Date[d]										
9/19/2012	**1.65**	**1.13**	0.5U	5U	10U	2U	0.5U	0.5U	0.5U	0.5U
12/12/2012	**1.13**	**1.14**	0.5U	5U	10U	1U	0.5U	0.5U	0.5U	0.5U
3/13/2013	0.5U	**2.55**	0.5U	5U	10U	**2**	**0.5**	**0.5**	0.5U	0.5U
5/7/2013	--	--	0.43U	2.2U	6U	0.5U	0.23U	0.46U	0.39U	0.37U
6/12/2013	0.402U	**1.57**	0.43U	**2.2**	**6**	0.5U	0.23U	0.46U	**0.39**	0.37U
8/6/2013	--	--	0.5U	5U	10U	1U	0.5U	0.5U	0.5U	0.5U
9/11/2013	**0.631J**	**1.32**	0.5U	5u	10u	1U	0.5U	0.5u	0.5U	0.5U
12/10/2013	0.5U	**1.28**	0.5U	5U	10U	1U	0.5U	0.5U	0.5U	0.5U
6/17/2014	**1.2**	**3.13**	0.5U	5U	10U	1U	0.5U	0.5U	0.5U	0.5U
12/10/2014	**0.697J**	**1.04**	0.5U	5U	10U	1U	0.5U	0.5U	0.5U	0.5U
2/3/2015	--	--	0.5U	5U	10U	1U	0.5U	0.5U	0.5U	0.5U
3/3/2015	**1.34**	**1.17**	0.43U	2.2U	6U	0.5U	0.23U	0.46U	0.39U	0.37U
6/9/2015	0.5U	**1.86**	0.5U	5U	10U	1U	0.5U	0.5U	0.5U	0.5U
9/9/2015	**0.487J**	**1.27**	0.5U	5U	10U	1U	0.5U	0.5U	0.5U	0.5U
12/9/2015	--	--	0.5U	5U	10U	1U	0.5U	0.5U	0.5U	0.5U
3/9/2016	--	--	0.5U	5U	10U	1U	0.5U	0.5U	0.5U	0.5U
6/1/2016	--	--	0.5U	5U	10U	1U	0.5U	0.5U	0.5U	0.5U
9/7/2016	--	--	0.5U	5U	10U	1U	0.5U	0.5U	0.5U	0.5U
12/6/2016	--	--	0.5U	5U	10U	1U	0.5U	0.5U	0.5U	0.5U
Maximum Detected	1.65	3.13	0	2.2	6	2	0.5	0.5	0.39	0

Bold indicates detected value

-- = not sampled

Notes

a. Analytes shown are detected OU 1 groundwater chemicals of concern (COCs); no other detected analytes exceeded the WDR limits

b. Chromium and nickel were suspected COCs to be evaluated based on monitoring data, per the OU 1 remedy. Metals monitoring in GETS effluent was discontinued in 2015 based on long-term data due to low concentrations.

c. Regional Water Quality Control Board - Lahontan Region, Board Order No. R6T-2004-0015, Waste Discharge Requirements for Land Disposal of Treated Groundwater

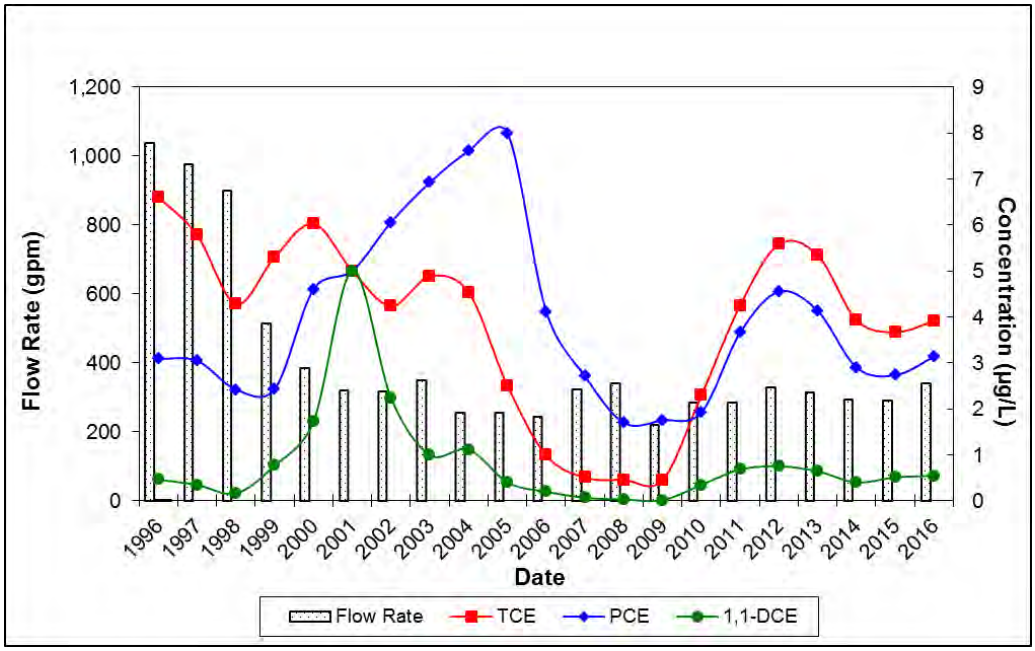
d. Samples collected from sampling port located after GAC treatment; samples representative of water quality discharged to the aquifer via the infiltration galleries

2.2.2 GETS Performance

The GETS was operated with three extraction wells, GAC treatment of extracted groundwater, and treated water re-infiltration, per the selected remedy.

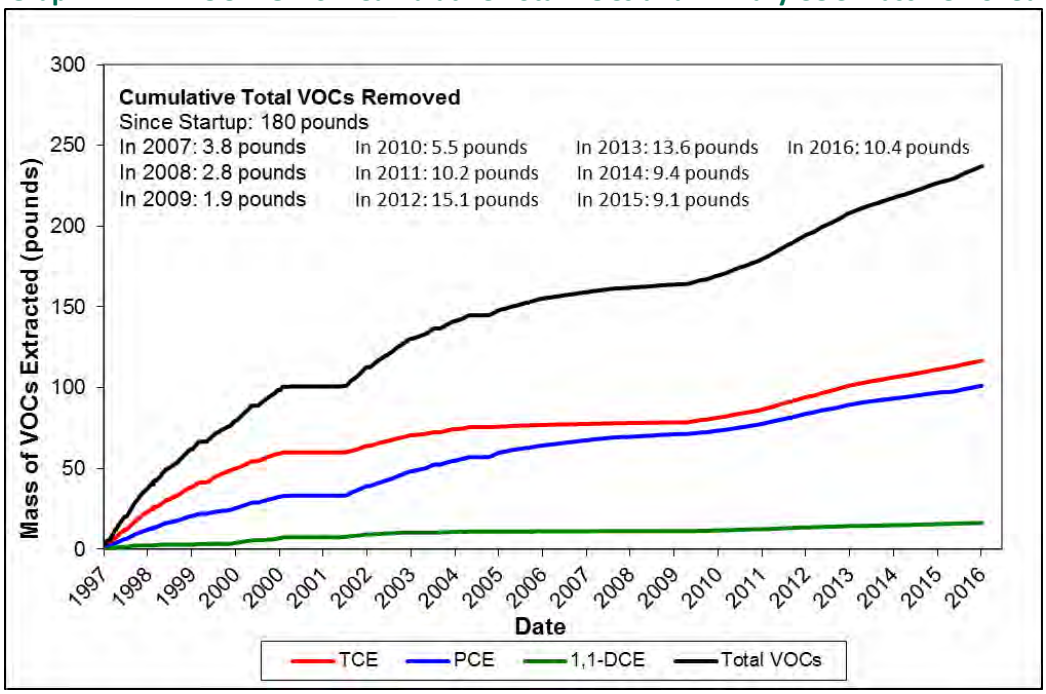
Performance metrics for the GETS system since 1996 are presented in Graph D-1.6, next page. The volume of water treated annually has decreased from its maximum operating year in 1996 as the southern portions of the plume were cleaned up and extraction wells taken off-line. However since about 2001, the volume of treated groundwater has varied within a relatively small range. COC concentrations in the influent of the GETS system had been decreasing since 2005, but began increasing again in 2009. The increase in COC influent concentrations is explained by optimization measures that improved extraction well performance and by the addition of GEW 16 (2010) and GEW-17 (2012) which more effectively captured contaminated groundwater. Hydraulic capture is modeled annually; the latest groundwater flow map with particle tracking is provided on Figure D-1.4 (after-text).

Graph D-1.6 OU 1 GETS – Annual Average Flow Rates and Influent COC Concentrations Over Time



Cumulative VOC mass removal tracks the changes in GETS influent concentration; long-term trends are shown on Graph D-1.7 below. The rate of cumulative mass removal (calculated from influent concentrations and pumping rates) began slowing in 2005 but improved after 2010 because of increased pumping rates in the plume center and increased influent concentrations as discussed above.

Graph D-1.7 OU 1 GETS – Cumulative Total VOCs and Primary COC Mass Removed



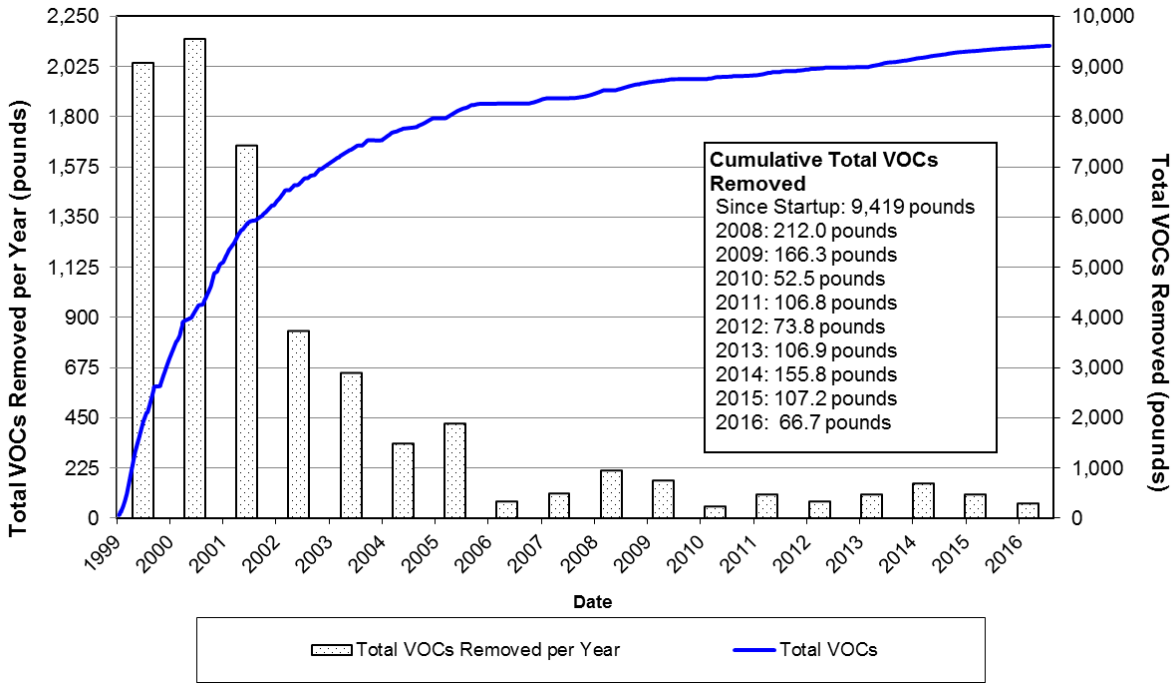
2.2.3 AS/SVE System Performance

Beginning in late 2013, AS/SVE system operations were increased from biweekly to continuous to increase VOC mass removal from the vadose zone and groundwater. Historical AS/SVE system performance, as indicated by the rate of total VOCs removed, is presented on Graph D-1.8. VOC mass was removed at an average rate of 102 pounds per year during 2012 - 2016. As shown in Graph D-1.9 (next page), average annual influent concentrations have declined over time.

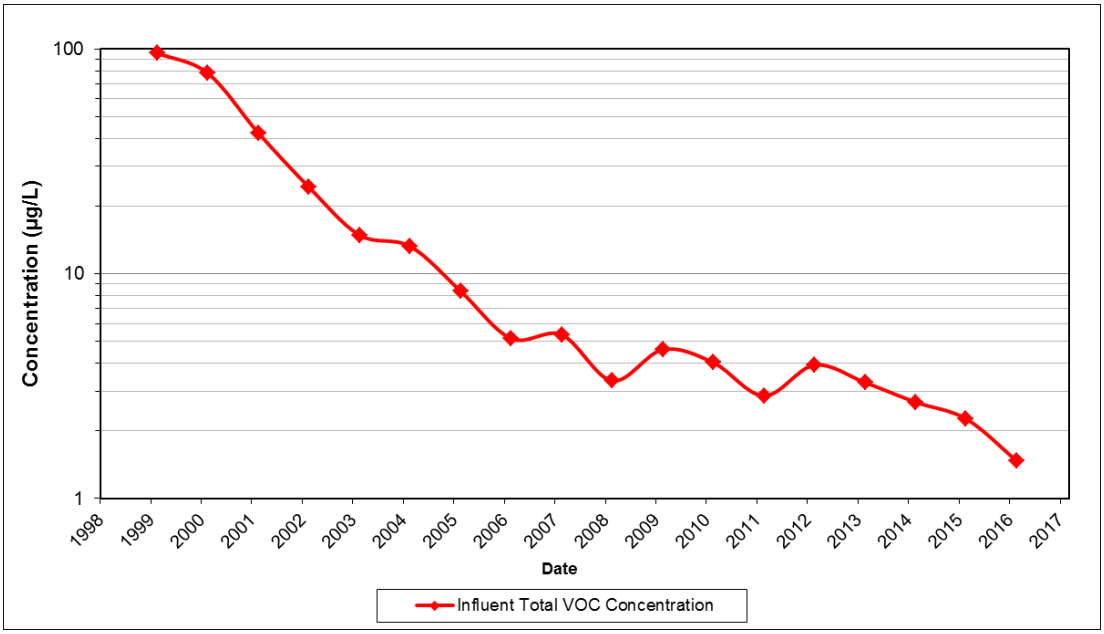
Other considerations affecting the effectiveness of the AS/SVE system are remedial well locations and density of the AS wells.

- The AS wells were installed at a spacing of 100 - 300 feet, which greatly exceeds the general industry practice of 20 to 30 feet well spacing. Declining groundwater levels have eliminated use of the shallow AS wells thus further limiting AS effectiveness; and
- The vapor extraction wells (VEW-1 through -6) are located proximal to the AS wells and their zones of influence are effective at removing contaminant mass within the current area of operation; however, the SVE wells are located over 800 feet from the eastern edge of Building 573 and even further from other suspected sources at CAOCs 16 and 15/17. The SVE wells were operated continuously in 2014 at an average flow rate of 1,975 standard cubic feet per minute (scfm). Vacuum influence is routinely measured to calculate the SVE well radii of influence (ROIs). In 2014 the ROIs were confirmed at up to 1,300 feet at CAOC 16 (OTIE 2015).

Graph D-1.8 OU 1 AS/SVE – Cumulative Total VOCs Mass Removed



Graph D-1.9 OU 1 AS/SVE – Average Influent Total VOCs Concentration over Time



O&M costs are relatively reasonable and within anticipated cost range for operating an AS/SVE system; however, the electrical costs are high due to the operation of the large air compressor and blower required for the deep wells and vast extent of the well field system. Refer to the O&M and monitoring costs for OU-1 (Appendix D, D-2 report). Repair and upgrade costs were reasonable and included repairs and upgrades to aging system components, as recommended in the prior Five-Year Review. The AS/SVE system upgrades and sparge well sediment cleanouts have improved the overall system performance effectiveness. However, as is evident on Graphs D-1.8 and D-1.9, the system as currently configured and operated is likely at the limits of effectiveness.

2.2.4 Air Emissions Substantive Compliance

Samples of the SVE system effluent were collected every 30 days for VOC analysis (GAC treatment was discontinued in 2006). Analytical results are reported in monthly air discharge reports submitted to the DON. The average removal rate of VOCs was approximately 0.20 pounds per day, which is below the MDAQMD discharge limit of 39.6 pound per day (see Appendix C for more details on MCLB Barstow air permits and emissions regulation).

2.3 ARE OU 1 RAOS BEING MET BY THE CURRENT REMEDY?

2.3.1 CAOC 16 Groundwater

The RAO for CAOC 16 groundwater contamination is to achieve and maintain compliance with groundwater cleanup standards throughout the contaminant plume. The groundwater RAO will be achieved through continued operation of the Yermo Annex plume groundwater pump and treat system and the AS/SVE system downgradient of CAOC 16. The RAO for vadose zone cleanup at CAOC 16 is to remove contaminant mass in the subsurface soils to the degree necessary to 1) prevent further degradation of the groundwater above groundwater cleanup standards and 2) minimize the aquifer clean uptime.

As presented in the above analysis, the Yermo North plume areas are generally declining, but with only slow decline seen in the TCE portion of the plume.

- Primary COC maximum concentrations are declining on Base, but COC concentrations at the Base boundary and off-Base are either increasing or exhibit uncertain trends.
- Groundwater concentrations trends for TCE, PCE, and 1,1-DCE (three identified risk-driver COCs in the OUs 1 and 2 ROD) at selected monitoring wells located downgradient of CAOCs 16, 15/17, and 35 are presented in Graph D-1.10 (after-text).
- The current data analysis is limited by data gaps in monitoring locations at the northern and off-Base eastern extent; however, the DON is addressing the data gaps through additional monitoring well installations on-Base and off-Base.

2.3.2 CAOC 16 Soil Vapor

The RAO for CAOC 16 vadose zone cleanup is to remove contaminant mass in the subsurface soils to the degree necessary to 1) prevent further degradation of the groundwater above groundwater cleanup standards and 2) minimize the aquifer clean uptime. The groundwater RAO is be achieved through continued operation of the Yermo Annex plume groundwater pump and treat system and the AS/SVE system downgradient of CAOC 16 (systems were installed as interim measures in 1996). The selected remedy for groundwater includes AS/SVE, which was intended to reduce contaminant mass in the CAOC 16 vadose zone to prevent further degradation of groundwater.

The AS/SVE system is operated and maintained on a continuous basis, in compliance with the annually updated O&M Manual. Upgrades and repairs have improved the overall system operational uptimes and efficiency as evidenced by continued VOC mass removal; however the system is probably at its limits of effectiveness (Graphs D-1.8 and D-1.9, above).

Three vadose zone vapor monitoring wells (YCW-16-1, -16-2, and -16-3) were installed within CAOC 16 (adjacent to Building 573) as part of the remedy (Figure D-1.1). Concentrations of TCE and PCE in the three wells are shown in Graph D-1.11 (after-text). It should be noted that the YCW data were collected as grab samples during AS/SVE system operation and hence represent dynamic site conditions. Both PCE and TCE are generally declining in YCW-16-2 and YCW-16-3. Sample data from YCW-16-1 indicate the highest concentrations and variability during review period. YCW-16-1 (located southeast corner of Building 573) has an upward trend in TCE concentrations at 60 and 85 feet below ground surface (bgs). In general, the data indicate some residual mass remains beneath Building 573.

2.3.3 CAOCS 15/17 AND 35 Groundwater

The RAO for CAOCs 15/17 and 35 groundwater contamination is to attain groundwater cleanup levels at a "*point of compliance*" at the downgradient edges of these units. There is no vadose zone remedy selected for these CAOCs; however the OUs 1 and 2 ROD (Section 2.8.3) recognizes both CAOCs as vadose zone sources.

During the five-year review period, there were no viable groundwater or soil vapor monitoring wells at the downgradient edge of CAOC 15/17; several key monitoring wells installed in the 1990s (YE-14, YE-15, and YE-12, on Figure D.1-1) have long been dry. In March 2017, the DON installed a new multi-screened soil vapor/groundwater monitoring well (YCW-16-4) at the eastern edge of this CAOC downgradient of the former industrial wastewater dry well and east of wastewater evaporation ponds (Figure D-1.1). Monitoring data from this well indicate relatively low TCE and PCE concentrations consistent with prior

plume interpretations (see results on Figure D-1.1). For groundwater analytical results, please refer to the *2016 Annual Groundwater Monitoring Report* (OTIE 2017).

Groundwater potentially affected by CAOCs 15/17 and 35 is within the capture zone of extraction wells GEW-17 and GEW-16. TCE and PCE concentration trends in monitoring wells downgradient from these two CAOCs (and CAOC 16) are shown on Graph D-1.12 (after-text).

2.3.4 CAOC 23 Groundwater

The RAO for CAOC 23 groundwater contamination is to attain groundwater cleanup levels at a "*point of compliance*" at the downgradient edges of this unit. The CAOC 23 concrete cap (Figure D-1.5) is maintained and appears to prevent infiltration that could result in further groundwater contamination. Since the groundwater downgradient of CAOC 23 is currently below the groundwater cleanup levels, the RAO is being met. However, COC concentrations have temporarily spiked above the cleanup levels and at some wells, hover just below the cleanup limit. COC concentration trends at CAOC 23 are shown on Graph D-1.13 (after-text)

The cap at CAOC 23 (wastes-in-place area) has likely resulted in decreased infiltration and hence groundwater contamination; a review of the downgradient monitoring data indicate TCE and PCE concentrations are below cleanup levels but persistent during the October 2012 – October 2017 review period. The long-term groundwater data includes occasional “spikes” of TCE and/or PCE to above cleanup-level concentrations. These spikes maybe related to large precipitation events that mobilize vadose zone contaminants. Additionally, certain monitoring wells exhibit COC concentrations that “*hover*” just below the cleanup level (for example, see YS23-16 on Graph D-1.13)

2.3.5 CAOC 26 Groundwater

The RAO for CAOC 26 groundwater contamination is to achieve and maintain compliance with groundwater cleanup standards throughout the contaminant plume. The RAO for vadose zone cleanup is to remove contaminant mass in the subsurface soils to the degree necessary to 1) prevent further degradation of the groundwater above groundwater cleanup standards and 2) minimize the aquifer clean up time.

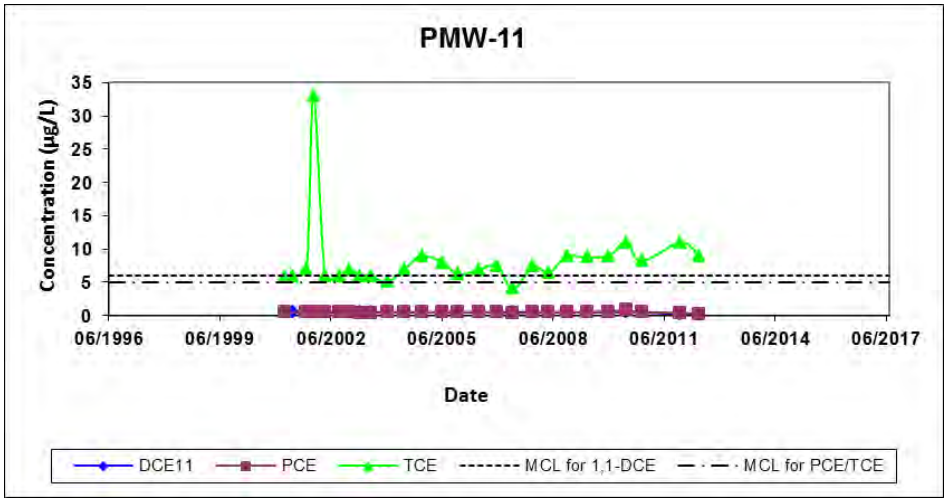
An AS/SVE system was operated at CAOC 26 (Figure D-1.6) between 1996 to 1998, and was formally shut down in 2002 after meeting cleanup objectives, as discussed in the CAOC 26 Technical and Economic Feasibility (TEF) Report (FWENC 2001). Additionally, the CAOC 26 remedy included four on-base extraction wells (GEW 9, 10, 11, and 12). Wells GEW-10, -11, and -12 were shut down in 2003 and the fourth well, GEW-9, was shut down in 2005 after COC concentrations dropped below the MCLs. Long-term monitoring found the CAOC 26 plume had declined to below cleanup levels at all downgradient monitoring locations by about 2007. The pump and treat portion of the remedy for CAOC 26 was shut-down in 2003 - 2005 due to both declining COC concentrations and declining groundwater levels. The CAOC 26 AS/SVE equipment was removed in 2015, and the former GETS wells are scheduled for full decommissioning during 2017.

Since 1998, the CAOC 26 plume has significantly attenuated and concentrations of COCs in both soil vapor and groundwater are greatly reduced (OTIE 2011b). Consequently, the groundwater monitoring frequency was reduced from annual to once every five years at most locations, as recommended in the Second Five-Year Review (DON 2007). Soil vapor monitoring at CAOC 26 was reduced from annual to once every five years (ATJV 2013); the most recent soil vapor monitoring event, completed in 2013, indicated low and over-all declining trends in CAOC 26 related concentrations. Based on these results,

and no indications of impact to groundwater, no further soil vapor monitoring was recommended in the *2014 Annual Groundwater Monitoring Report* (OTIE 2015).

Two nested monitoring wells, PMW-11 (shallow) and PMW-12 (deep) are located approximately 3,160 feet down-gradient of the CAOC 26 area and were included in the CAOC 26 monitoring program. The shallow well PMW-11 (156 – 175 ft bgs) showed persistent concentrations of TCE above the cleanup level until it went dry in 2012 (*see* Graph D-1.15, below). However, VOCs detected at PMW-11 may not be associated with CAOC 26 based on the presence of clean monitoring wells between CAOC 26 and PMW-11/-12 area. An alternative source for the VOCs detected at PMW-11 has not been identified. Groundwater at the deeper nested well, PMW-12, is not impacted by VOCs. The PMW-11/-12 well-nest is located within the CAOC 16 hardstand and is upgradient of the OU 1 AS/SVE and pump-and-treat remedies. Therefore, the PMW-11/-12 well nest was proposed for continued monitoring under the OU 1 groundwater monitoring program. Monitoring well PMW-12 will be sampled on a once-every-five-year frequency (OTIE 2016a). The FFA Stakeholders concurred with the recommendation upon approval of the OUs 1 – 7 Sampling and Analysis Plan in February 2016.

Graph D-1.10 CAOC 26 – Monitoring Location PMW-11



3.0 PROTECTION OF DRINKING WATER WELLS

3.1 ON-BASE PRODUCTION WELLS

The RAO to prevent exposure of humans to groundwater COCs is addressed through on-going monitoring and maintenance of GAC treatment at two on-Base groundwater production wells (YDW-5 and YDW-6). O&M of the drinking water system is the responsibility of the MCLB Barstow Public Works Division under the direction of the Base Water Resources Manager. However, monthly monitoring of VOCs and GAC change-out is performed as part of OU 1 remedial activities.

The GAC in the lead vessel of YDW -5 was changed out during November 2013 in response to detections of VOCs in the intermediate samples; the new carbon vessel was configured to be the lag vessel to ensure clean water was delivered to the system. Production well YDW-6 was inoperable between August 2011 and June 2013 and has been offline since January 2016 due to pump problems. Production well YDW-7 was inoperable between July 2013 and November 2015, due to pump problems.

The DON monitors both the GAC treatment systems on a monthly basis. A third production well, YDW-7, does not have treatment and is beyond the Yermo North plume boundaries; however, as a precaution, the DON monitors the raw water at this well for VOCs. The drinking water protection RAO was met throughout the Fourth Five-Year Review period based on monthly reports filed with the MCLB Barstow Water Resources Manager and periodic GAC change outs.

3.2 TWO OFF-BASE PRIVATE RESIDENTIAL WELLS

Additionally, two off-Base private residential wells have GAC treatment systems that are monitored and maintained as part of the remedy. Monitoring and O&M activities are summarized below.

- **Monitoring**: Quarterly monitoring was performed at the Yount's private well between 2012 and 2014. Sampling frequency was increased from quarterly to bimonthly beginning in 2015 as a precautionary measure by the DON in response to rising groundwater concentrations at the Yount well. Sampling data of the GAC influent, intermediate and effluent (treated water entering the household) showed the treatment systems were functioning as intended to protect the drinking water. Samples indicated no detectable VOC concentrations in the effluent (treated) drinking water samples. If the intermediate samples indicate the presence of VOCs, GAC replacement was conducted. The Yount's treatment system GAC was replaced in July 2012, May 2013 (vessels were also replaced), and in May 2016. COCs in treated water were consistently non-detect during the review period; and
- **O&M:** The DON is responsible for treatment system O&M and monitoring. The off-Base owners are responsible for O&M of their wells and well pumps. Regular planned GAC change-out at the once/five-year interval is scheduled for May 2021 at the Yount's residence. To the DON's knowledge, the Hodges residence has been unoccupied and the well has been inoperable since 2010:
    - One of these residences (Hodges) does not have an operational well and the access agreement with the owner has lapsed. The Hodges residential well is reportedly non-operational since December 2008 and the property has been unoccupied since 2010; however the Navy has not been able to contact the property owner to confirm the current status since 2010. The Hodges well is observable from the public right-of-way and it appears the pump has been removed from the well and that power to the well has been disconnected at the power pole. No direct exposure or ingestion of groundwater COCs is suspected as the well is non-operational. The DON continues to try to contact the property owner who lives out of state; and
    - The other private residence (Yount) had a functional well and the GAC system was properly monitored and maintained until May 2016 when the well went dry. The DON continues to communicate with the resident on status of the well. The GAC treatment system at this location is non-operational, but no direct exposure or ingestion of the groundwater COCs is possible as the well is non-operational.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 YERMO NORTH PLUME

The remaining OU 1 groundwater plume above cleanup levels, the Yermo North plume, is being addressed by the GETS for hydraulic containment and groundwater cleanup. This technical assessment reviewed the GETS remedial system performance, groundwater plume extent, and COC concentration trends.

Yermo North Plume Conclusions:

- The GETS was properly operated, maintained, and optimized to the extent practicable during the review period;
- The GETS treated discharge met the substantive requirements of the current RWQCB-Lahontan Region Order No. R6T-2004-0015 (2014) throughout the current review period;
- Analysis of the Yermo North VOC plume indicates that the remedy is reducing TCE, PCE and 1,1-DCE extent and concentrations on Base.
- The continued presence of off-Base COC concentrations (TCE and PCE) in groundwater indicate the hydraulic containment RAO is not yet being attained despite remedy optimization measures;
- Data gaps in the monitoring well network along the northeastern on-Base and eastern off-Base plume boundaries hinder full evaluation of remedy effectiveness and protectiveness;
- The cause of the persistent rise in COC concentrations in GEW-8 is uncertain. However, the GEW-8 area is within the capture zone of GEW-16 and off-site migration is not suspected based on continued operation of the GETS.

Recommendations:

- Perform a data gaps investigation of the Yermo North plume to improve delineation of the northern and off-site extent.
- Investigate the residual contaminant mass in the vadose zone at CAOCs 16, 15/17, and 35; based on the results evaluate if optimization of the AS/SVE system is required to ensure long-term effectiveness of the remedy.

4.2 CAOC 16 VADOSE ZONE AND GROUNDWATER

CAOC 16 is an identified as source for the OU 1 northern plume. The remedy for CAOC 16 includes AS/SVE to reduce vadose zone VOC mass and the GETS to address groundwater. The RAO for CAOC 16 vadose zone cleanup is to remove contaminant mass in the subsurface soils to the degree necessary to 1) prevent further degradation of the groundwater above groundwater cleanup standards and 2) minimize the aquifer clean uptime. The RAO for groundwater related to CAOC 16 is to achieve and maintain compliance with groundwater cleanup standards throughout the contaminant plumes. The technical assessment reviewed groundwater and soil vapor COC concentration trends in the available monitoring wells.

CAOC 16 Conclusions:

- The groundwater RAO for CAOC 16 is not yet attained, although declining COC concentrations within the on-Base portions of the plume indicate progress is being made on mass removal;
- The AS/SVE system is operated, maintained, and optimized to the extent practicable. Continuous operation of the AS/SVE system beginning in 2014 increased the mass removal rate but that had begun to decline by 2016 and is expected to be lower in 2017. The soil vapor sampling data at the three CAOC 16 monitoring locations indicate generally declining TCE and PCE concentrations, with some variability and continued elevated concentrations notably at the southeast corner of Building 573;
- The AS/SVE system is somewhat distant (800 feet or more east) of CAOC 16, but the radius of influence of the SVE wells is estimated to extend to at least the eastern portion of the site;
- SVE well distance from CAOC 16 and a lack of data on the residual mass existing beneath the CAOC hampers the DON's ability to evaluate and optimize the SVE portion of the remedy; and
- The AS wells are spaced 100 -300 feet apart which is many times the standard industry practice for design of an effective "sparge curtain" to effectively treat groundwater. Additionally, declining groundwater levels have further reduced the effectiveness of the AS wells.

Recommendations:

- Optimization measures to improve remedy performance should be based on further study of the residual vadose zone mass at CAOC 16. Rebound testing should be performed during the next review period. The cost of optimization measures such as expanding the AS/SVE remedy should be evaluated against possible cost savings through reduction in the time required for the pump and treat remedy to achieve RAOs.
- Turn off the AS portion of the remedy because it is now cost-ineffective to operate and there would be no impact to overall remedy effectiveness and protectiveness.

4.3 CAOCs 15/17 AND 35 GROUNDWATER

CAOCs 15/17 and 35 are identified as sources for the OU 1 northern plume. There is no vadose zone remedy selected in the OUs 1 and 2 ROD for CAOCs 15/17 and 35 based on the RI/FS. Groundwater contamination related to these two sites is addressed by the OU 1 pump and treat remedy and the CAOC 16 AS/SVE remedy. Per the OUs 1 and 2 ROD (1998), groundwater cleanup levels must be met at the CAOC boundary for each site.

Conclusions:

- If CAOC 15/17 and 35 are contributing to OU 1 groundwater contamination, which is not certain, the plume would probably be contained by pumping at GEW-17 and GEW-16, based on modeling;
- There are limited monitoring locations to assess the RAO compliance point for CAOC 15/17;
- The potential for CAOC 35 contributions to the Yermo North plume is not well understood due to uncertainties as to the wastes landfilled at this site and lack of data (soil and soil vapor) in the subsurface at this site; and

- Likely the existing SVE system is treating the vadose zones of the eastern portions of CAOC 15/17 and 35, however lack of monitoring locations hinders the ability to fully assess remedial system effectiveness.

Recommendations:

- Although the selected remedy does not include vadose zone treatment for either site, investigation of the residual mass residing under CAOCs 15/17 and 35 would ensure long-term protectiveness and effectiveness of the OU 1 groundwater remedy.

4.4 CAOC 23 GROUNDWATER

The cap remedy is protective of direct exposure to contaminants and prevents precipitation infiltration (*See main text for evaluation of this portion of the remedy*).

Conclusion:

- The groundwater VOC concentrations downgradient of CAOC 23 remain below the groundwater cleanup levels; therefore the RAOs for prevention of groundwater contamination were met during the review period.

Recommendation: None.

4.5 CAOC 26 VADOSE ZONE AND GROUNDWATER

Conclusions:

- The RAOs for the CAOC 26 vadose zone contamination reduction and the RAO for compliance with the groundwater cleanup levels throughout the plume have been met.

Recommendations:

- Document in the Administrative Record that the vadose zone and groundwater remedy is completed at CAOC 26.

4.6 PROTECTION OF DRINKING WATER

Conclusions:

- The RAO to prevent exposure to OU 1 contaminated groundwater was met during the five-year review period at both on-Base and off-Base locations; and

- Problems with wells (dry or non-operational) and site access (Hodges property) have prevented the DON from fully implementing the remedy at the Yount and Hodges off-Base private residences. However, no current exposures to contaminated groundwater are suspected based on inoperable wells.

Recommendations:

- Maintain contact with Yount residence on status of their private well. Continue to pursue access agreement with off-Base Hodges property owner; the situation is being elevated to the DON legal counsel who will review and pursue options to gain access to the Hodges property to ascertain status of the well and GAC system, and to make necessary repairs (if the well is operable) to meet requirements of the ROD. Additionally, upon securing access to the property,

the DON will provide notification to the occupants regarding potentially contaminated groundwater.

5.0 REFERENCES

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_____. 2015. *Water Quality Control Plan for the Lahontan Region, North and South Basins*. Effective March 31, 1995, amendments effective August 1995 through September 10, 2015. Available from : http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/

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FIGURES

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CAOC 35 Cap

Building 573
(CAOC 16)

35
15
17
16
21

YE-13
YS35-8
YDW-5
YS15-2
YE-12
YS16-6
YCW-16-4
YCW-16-2
YCW-16-1
YVE-2
YAM-3
YAM-1
YAM-5
YAM-4
YAS-1
YVE-1
YCW-16-3
YEP-2&3
ASW-13
VEW-6
RSW-12
ASW-11
VEW-5
ASW-10
ASW-9
YS17-8
YM-11
YS17-5
YS17-7
GEW-17
YS35-3&4
YS35-5
VEW-4
ASW-8
ASW-7
YWA-1
VEW-3
YM-10
ASW-6
YWB-1
YWA-2
GEW-13
YWA-3
YWA-4
YM-9
YS18-2
ASW-5
YM-8
YS18-1
VEW-2
ASW-4
ASW-3
VEW-1
ASW-2
ASW-1
YPZ-9
YIMW-7&8
YIMW-1&2
YIMW-3&4
YS34-2
YIMW-5&6
GEW-8
GEW-16
GEW-15
GEW-7
GEW-6
GEW-5
PMW-2
Y3-2
YW-2
Y2-2
Y15-2&3
Y15-4
Y7-2
Y7-3
Hodges
Younts

N
W
E
S

Legend

- Paved Road
- Dirt Road
- Railroad Tracks
- Fence Line
- Remediation Line
- Operable Unit 3 (CAOC ##)
- Operable Unit 5 (CAOC ##)

- YMP-2 Groundwater Monitoring Well
- YPZ-2 Piezometer
- GEW-16 Groundwater Extraction Well (Active)
- GEW-5 Groundwater Extraction Well (Inactive)
- YCW16-1 Combination Well
- VEW-1 Vapor Extraction Well
- ASW-1 Air Sparge Well
- Younts Residential Well

Approximate OU1 Groundwater VOC Plume

Notes

1) Analytical results used to delineate the OU 1 (Operable Unit 1) groundwater plume are a combination of wells sampled during the November 2016 event.

2) CAOC - CERCLA Area of Concern
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

Approximate Scale in Feet

0 400 800

Figure D-1.1
OU 1, Yermo North Site Map

Yermo Annex
Marine Corps Logistics Base
Barstow, California

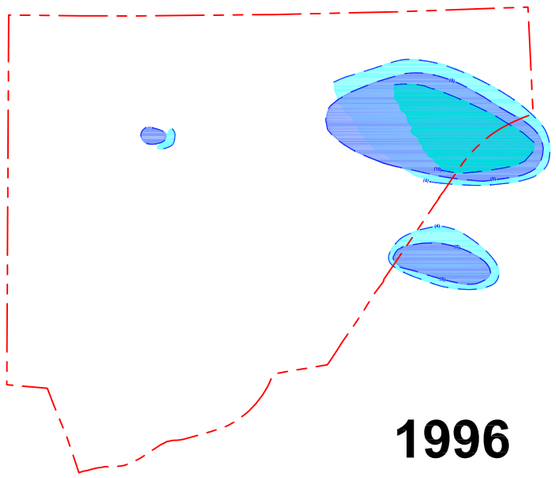
OTIE
An Oneida Nation Company

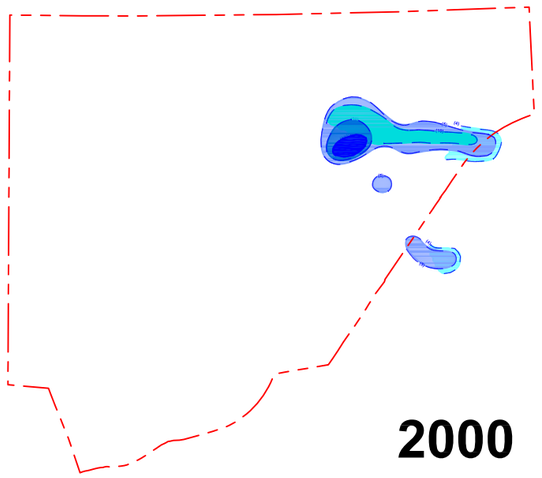
Date: March 8, 2016

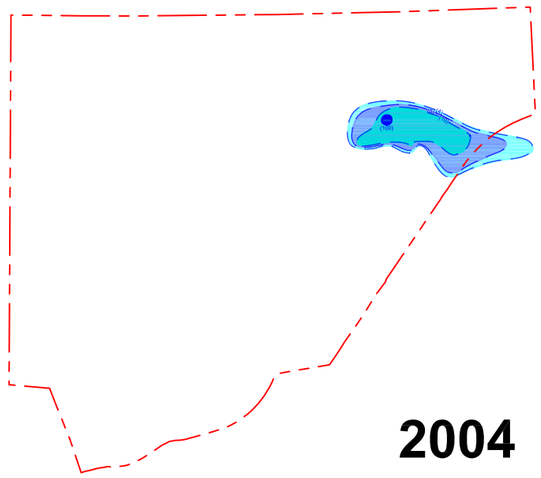
File: Barstow_5yrRev - 2017.dwg

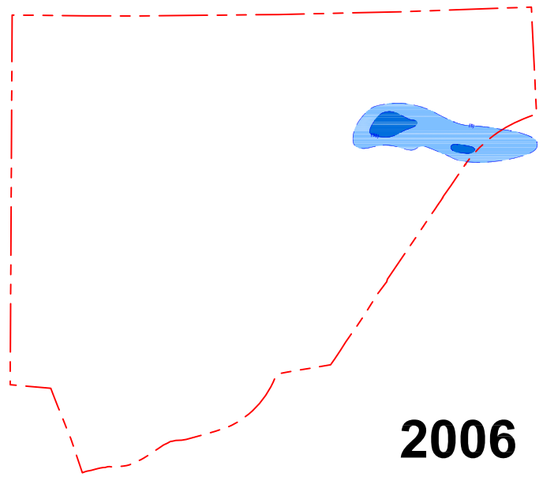
Plotted By: Geoff Brink

Tetrachloroethene

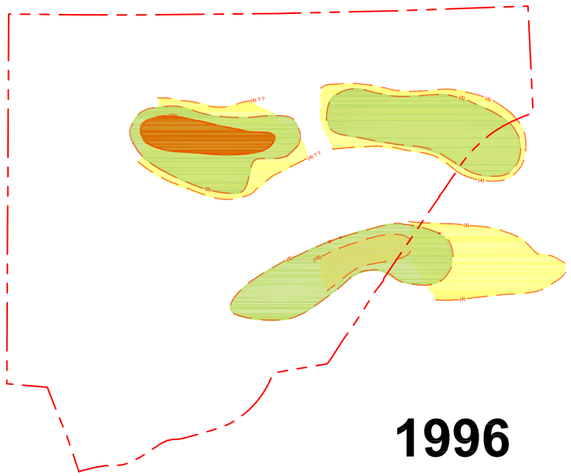


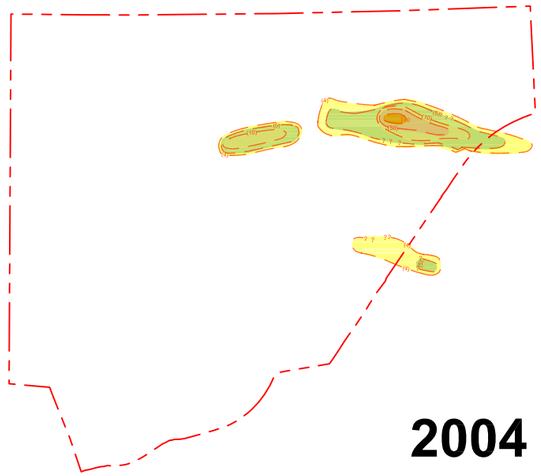


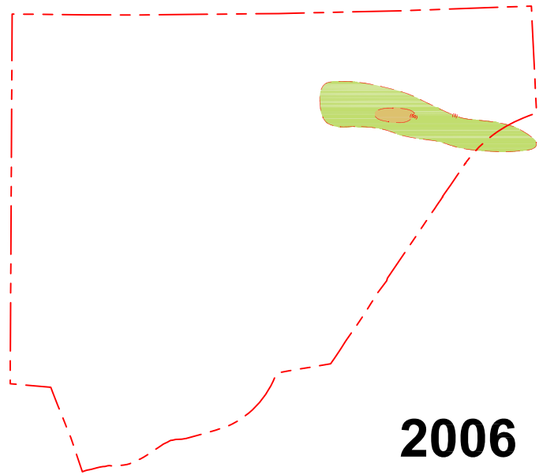




Trichloroethene







Legend

- Yermo Boundary
- 4 ug/L PCE Concentration Area
- 5 ug/L PCE Concentration Area
- 10 ug/L PCE Concentration Area
- 50 ug/L PCE Concentration Area
- 100 ug/L PCE Concentration Area
- 4 ug/L TCE Concentration Area
- 5 ug/L TCE Concentration Area
- 10 ug/L TCE Concentration Area
- 25 ug/L TCE Concentration Area
- 50 ug/L TCE Concentration Area
- 110 ug/L TCE Concentration Area

Notes

1) ug/L = Micrograms per Liter
   TCE = Trichloroethene
   PCE = Tetrachloroethene

N
W E
S

Approximate Scale in Feet

0 3,300 6,600

Figure D-1.2
Historical Extents of PCE/TCE in Groundwater (Select Years from 1996 - 2006)

Yermo Annex
Marine Corps Logistics Base
Barstow, California

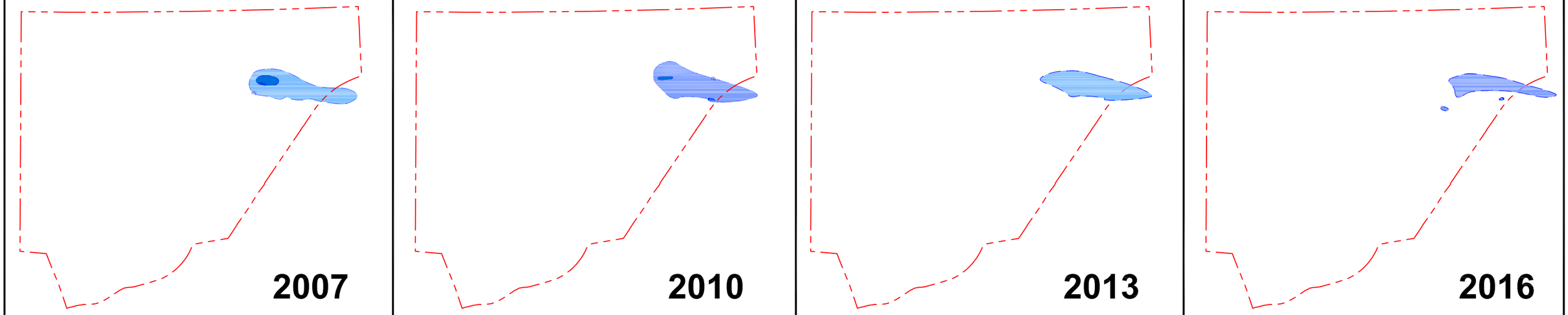
OTIE
An Oneida Nation Company

Date: June 20, 2017

File: Barstow_5yrRev - 2017.dwg

Plotted By: Elizabeth Vasquez

Tetrachloroethene



Trichloroethene

Legend

- Yermo Boundary
- 4 ug/L PCE Concentration Area
- 5 ug/L PCE Concentration Area
- 10 ug/L PCE Concentration Area
- 50 ug/L PCE Concentration Area
- 100 ug/L PCE Concentration Area
- 4 ug/L TCE Concentration Area
- 5 ug/L TCE Concentration Area
- 10 ug/L TCE Concentration Area
- 25 ug/L TCE Concentration Area
- 50 ug/L TCE Concentration Area
- 110 ug/L TCE Concentration Area

Notes

1) ug/L = Micrograms per Liter
   TCE = Trichloroethene
   PCE = Tetrachloroethene

N
W E
S

Approximate Scale in Feet

0 3,300 6,600

Figure D-1.2
Historical Extents of TCE/PCE in Groundwater (Select Years from 2007 - 2016)

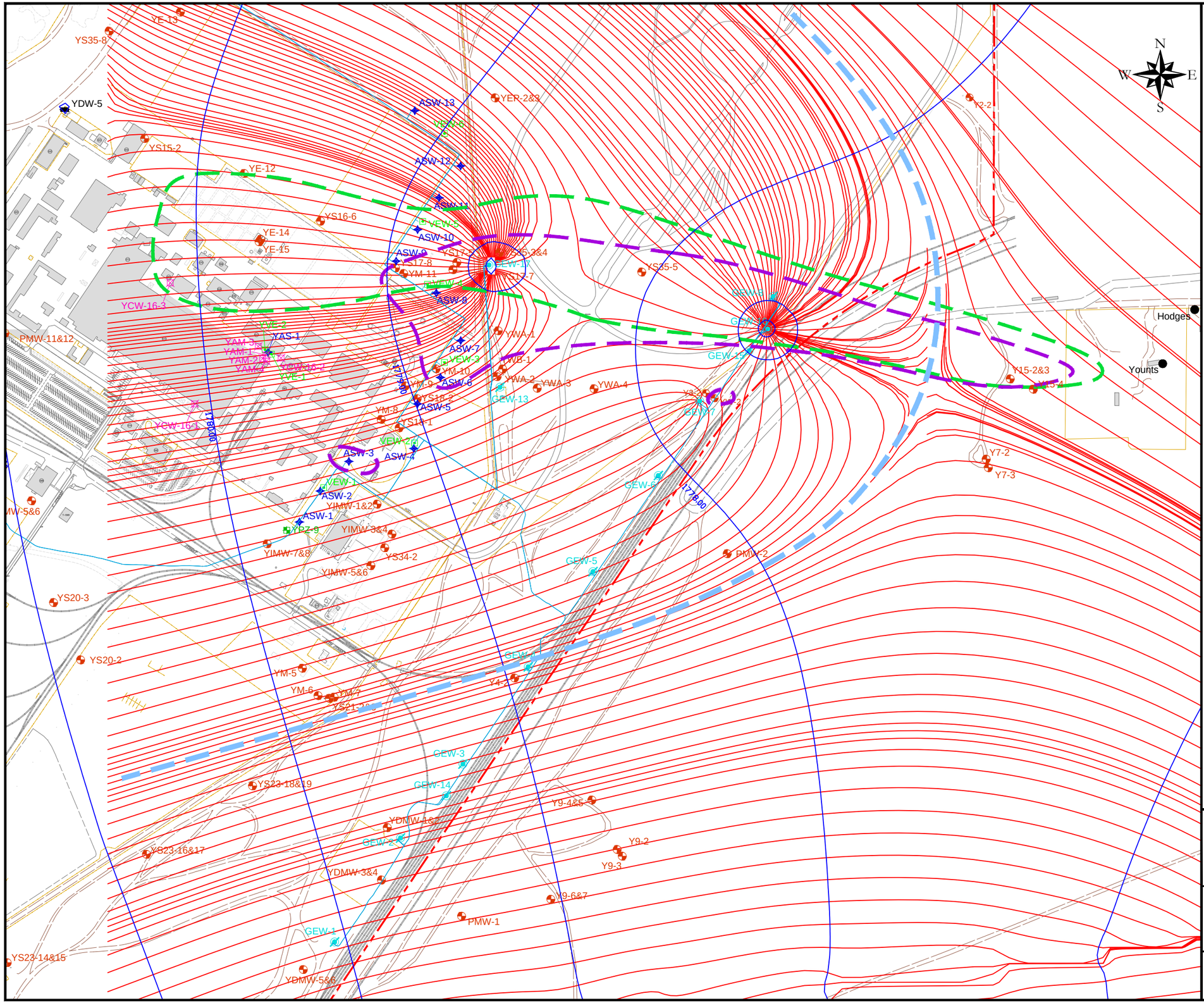
Yermo Annex
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: June 20, 2017

File: Barstow_5YrRev-2017-Hist.dwg

Plotted By: Elizabeth Vasquez



Legend

- Yermo Annex Boundary
- Y2-2 — Groundwater Monitoring Well
- YPZ-2 — Piezometer
- YDW-6 — Base Groundwater Supply Well
- GEW-16 — Groundwater Extraction Well (Active)
- GEW-2 — Groundwater Extraction Well (Inactive)
- VEW-1 — Vapor Extraction Well
- ASW-1 — Air Sparge Well
- YCW16-1 — Combination Well
- Younts — Domestic Well
- 1789 — Model Calculated Groundwater Elevations (ft amsl)
- 5 — Approximate TCE Isoconcentration Contour (ug/L)
- 5 — Approximate PCE Isoconcentration Contour (ug/L)
- Predicted Particle Pathlines
- Modeled Capture Zone
  - GEW-7 @ 39.5 gpm
  - GEW-16 @ 198.6 gpm
  - GEW-17 @ 145.7 gpm

Notes

1) Groundwater pumping rates used for this model are average rates over the specified dates and do not represent any instantaneous point in time.

Acronyms

ft amsl = feet above mean sea level
gpm = gallons per minute
ug/L = micrograms per liter

Approximate Scale in Feet

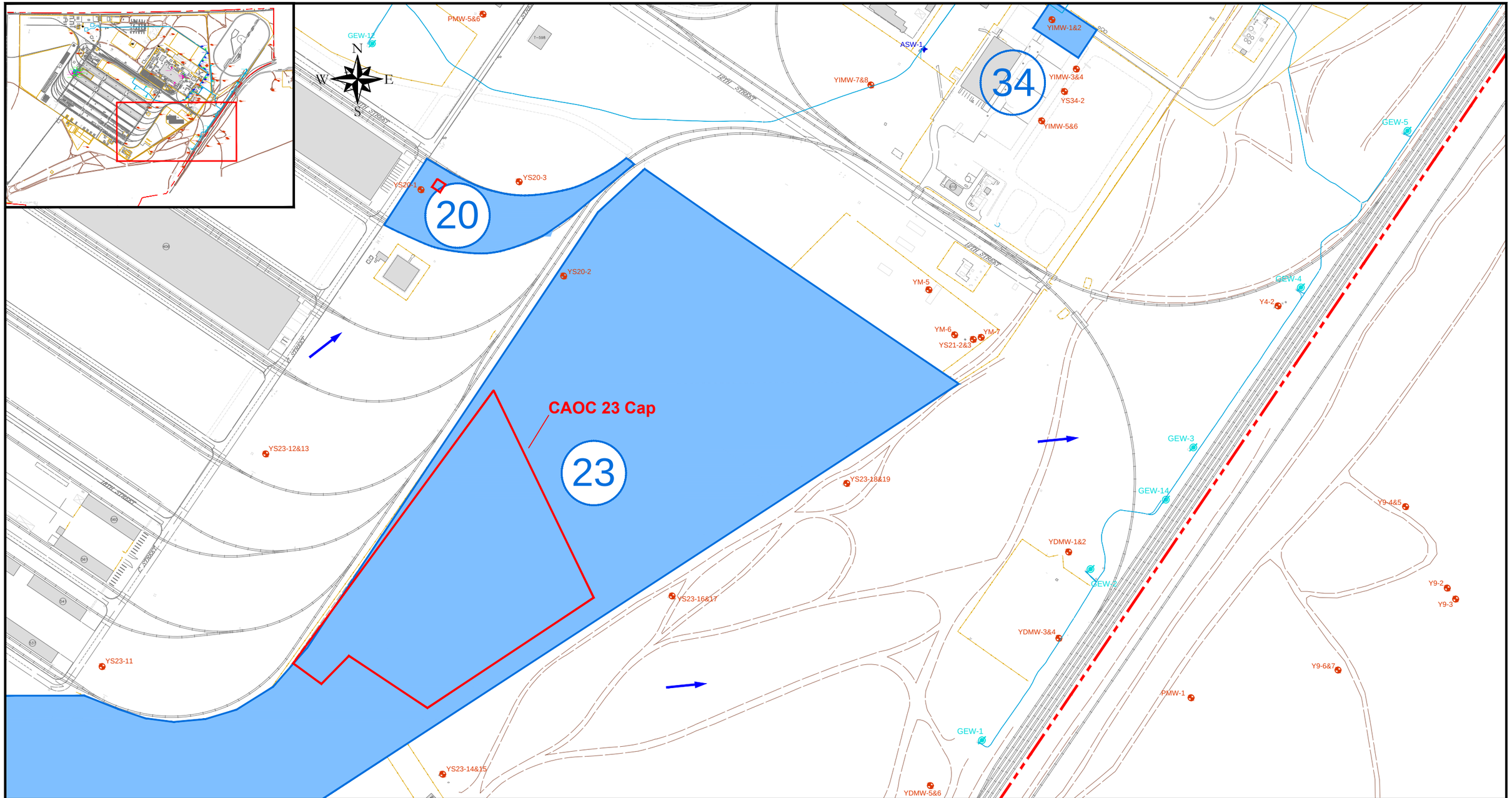
0 500 1000

Figure D-1.4
Model Simulated Groundwater Flow and Particle Pathways Upgradient of Plume
(June - December 2016)

Yermo Annex
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: April 17, 2017
File: Barstow_A16.dwg
Plotted By: Geoff Brink



Legend

- Paved Road
- Dirt Road
- Railroad Tracks
- Fence Line
- Remediation Line
- YS23-11 Groundwater Monitoring Well
- ASW-1 Air Sparge Well
- PZ-A Piezometer
- GEW-1 Groundwater Extraction Well (Inactive)
- Operable Unit 3 (CAOC ##)
- Base Boundary
- Site Boundary
- Groundwater Flow Direction

Notes

1) CAOC - CERCLA Area of Concern
   CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

Approximate Scale in Feet

0 300 600

Figure D-1.5
Site Map for CAOC 23 (OU 1 Groundwater Monitoring)

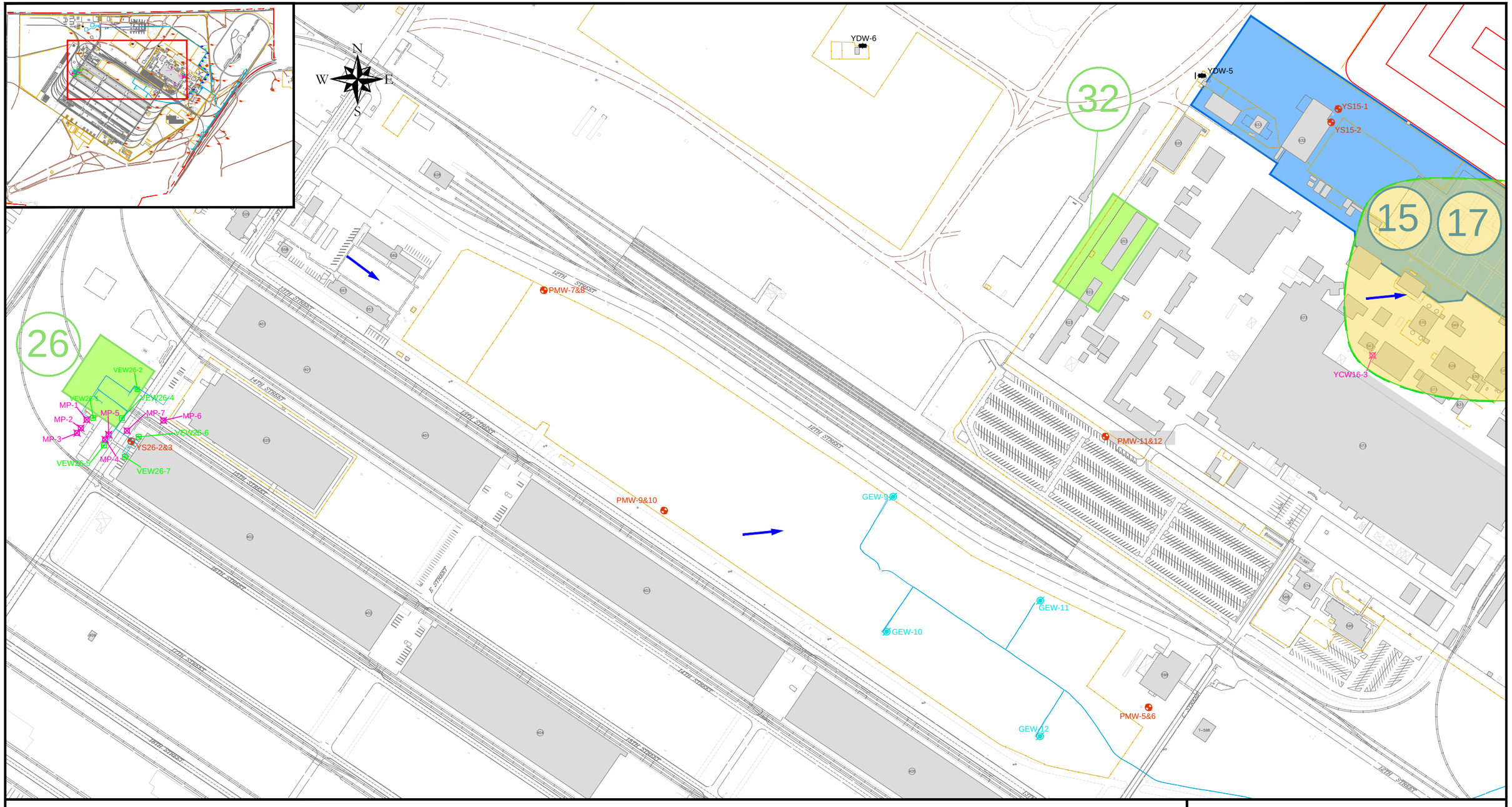
Yermo Annex
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: May 30, 2017

File: Barstow_5yrRev - 2017.dwg

Plotted By: Geoff Brink



Legend

- Paved Road
- Dirt Road
- Railroad Tracks
- Fence Line
- Remediation Line
- YS23-11 Groundwater Monitoring Well
- YCW16-1 Combination Well
- VEW-1 Vapor Extraction Well
- GEW-9 Groundwater Extraction Well (Inactive)
- Operable Unit 3 (CAOC ##)
- Operable Unit 5 (CAOC ##)
- Approximate OU1 Groundwater VOC Plume
- Groundwater Flow Direction

Notes

1) Analytical results used to delineate the OU 1 (Operable Unit 1) groundwater plume are a combination of wells sampled during the November 2016 event.
2) CAOC - CERCLA Area of Concern
   CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

Approximate Scale in Feet

0 300 600

Figure D-1.6
Site Map for CAOC 26
(OU 1 Groundwater Remedy)

Yermo Annex
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: May 30, 2017

File: Barstow_5yrRev - 2017.dwg

Plotted By: Geoff Brink

GRAPHS

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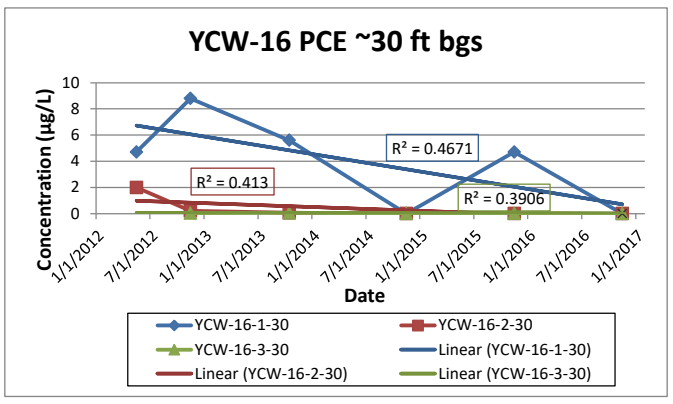
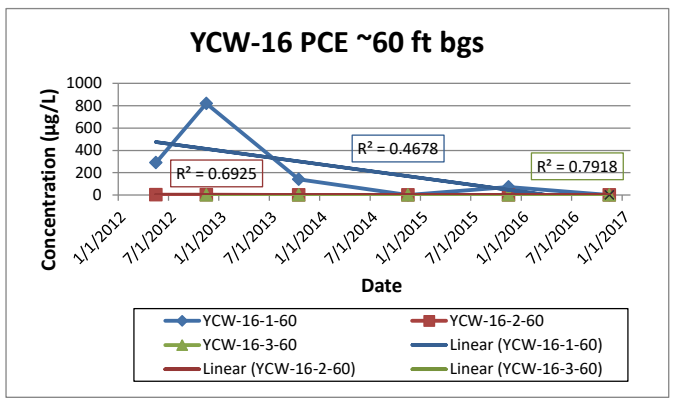
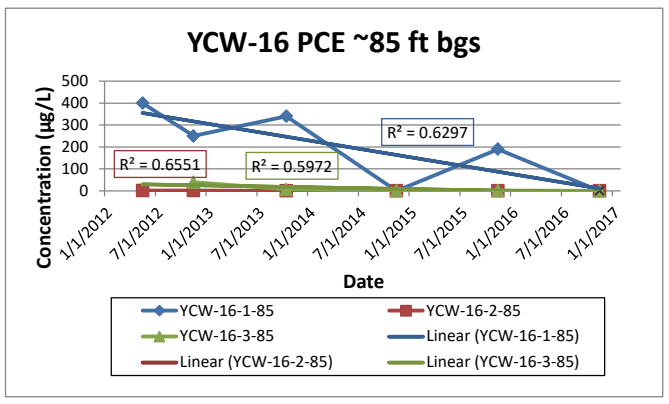
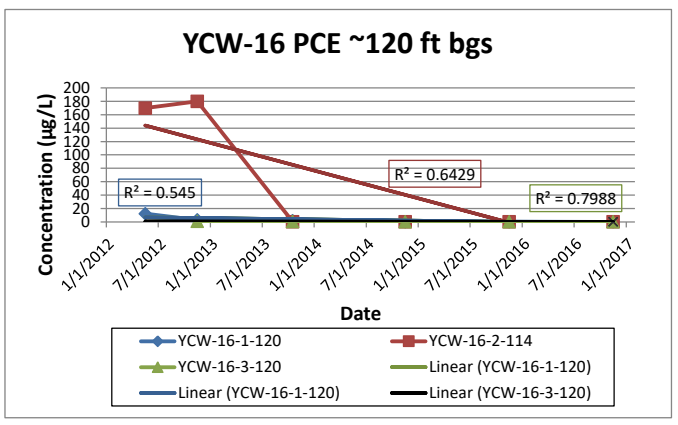
Appendix D - OU 1 Remedy Evaluation
GRAPH D-1.11
CAOC 16 Soil Vapor PCE, TCE Trends over Time
at Monitoring Wells YCW-16-1, YCW-16-2, YCW-16-3

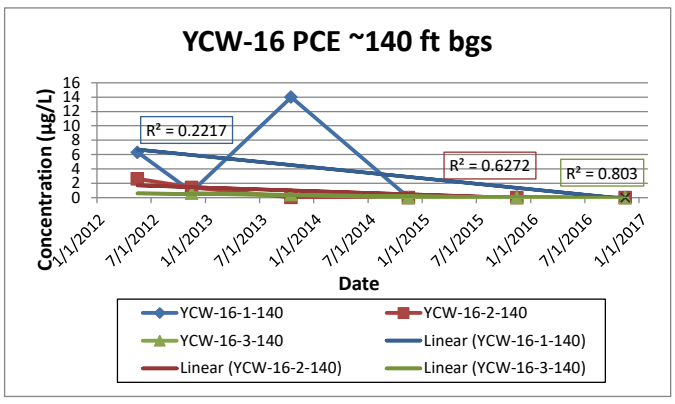
PCE



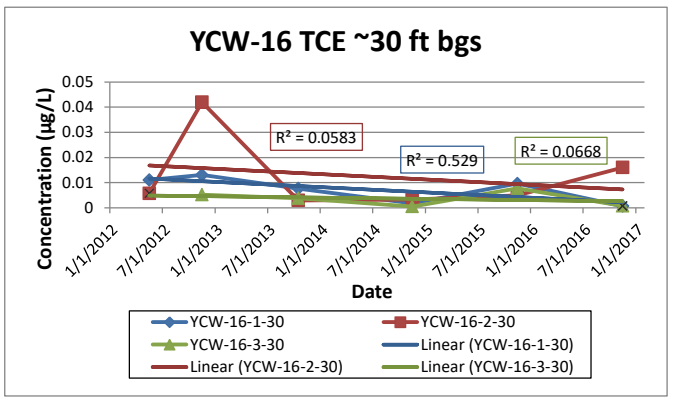


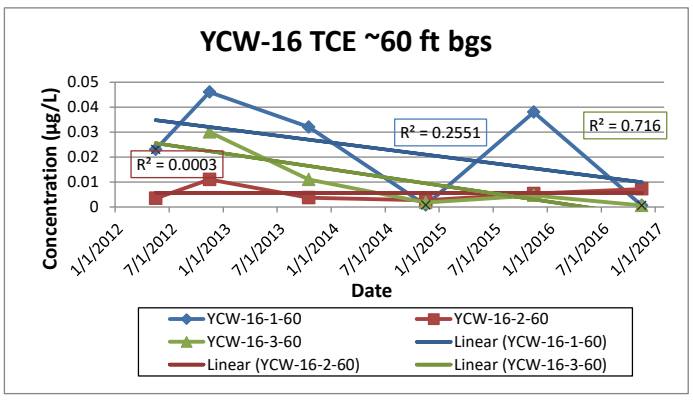


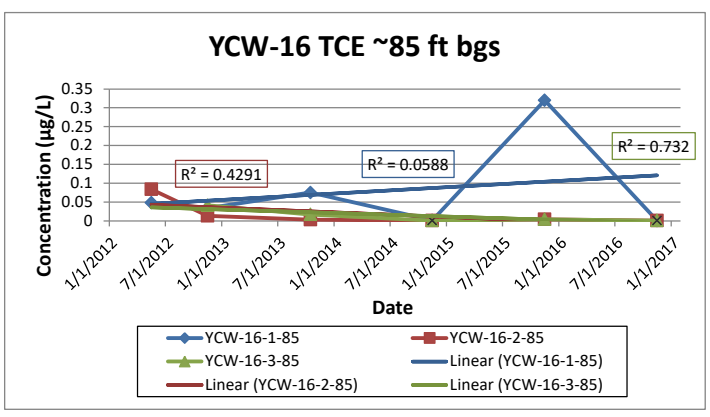


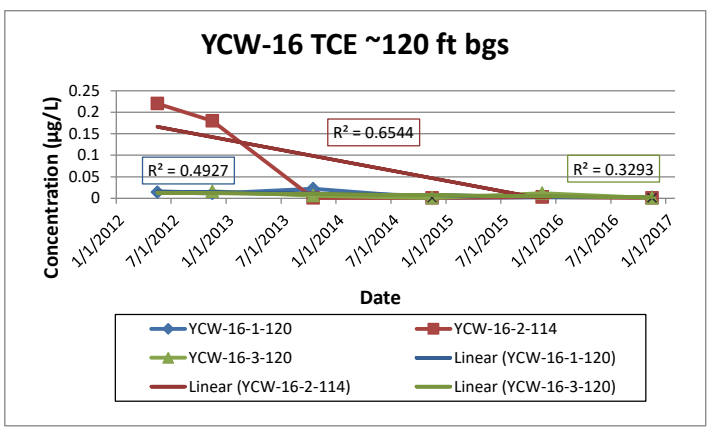


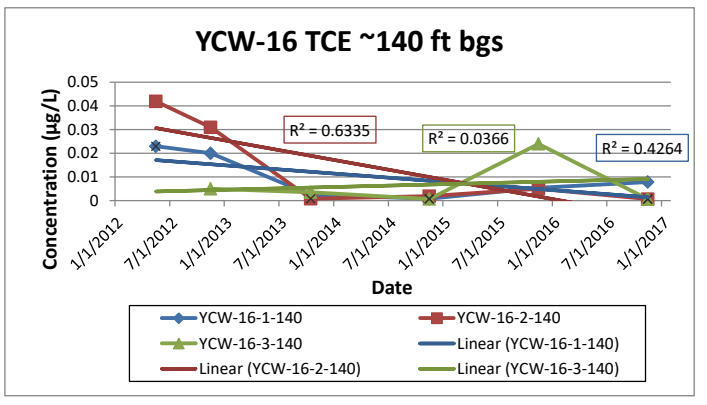
TCE











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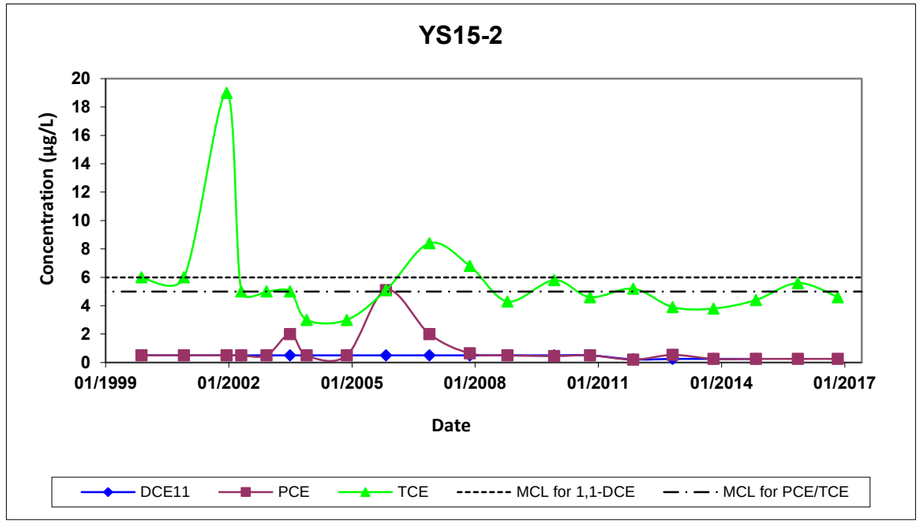
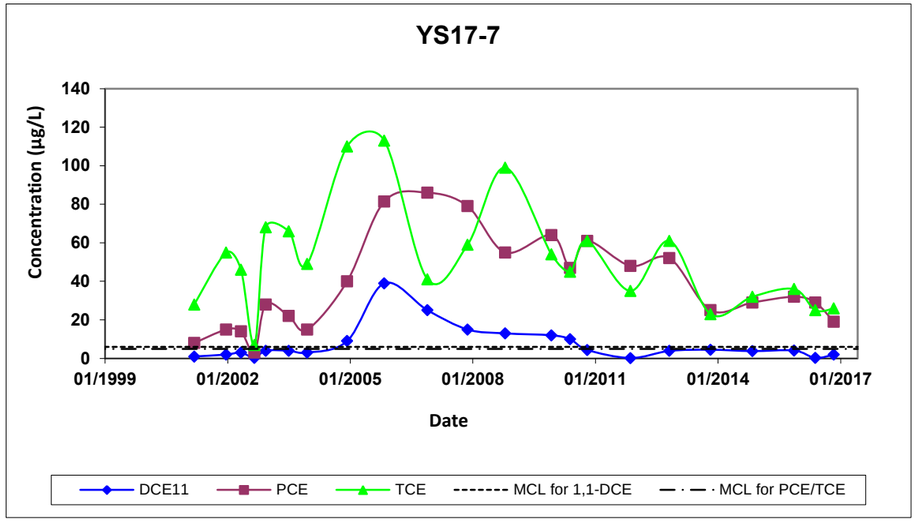
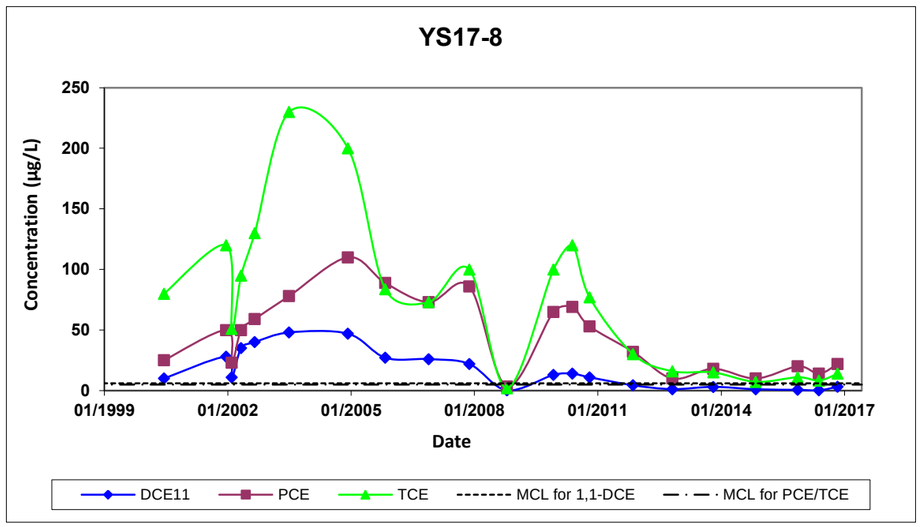
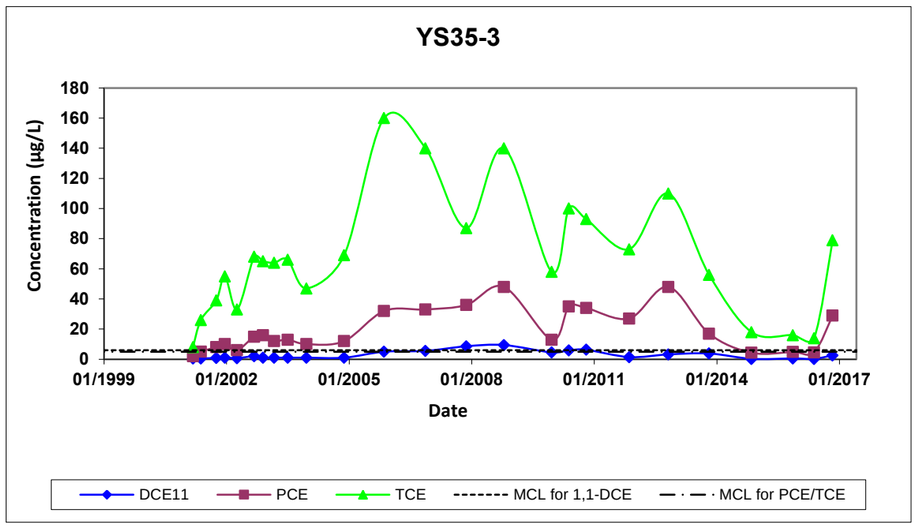
Graph D-1.12
Data Trends in Key Downgradient Monitoring Wells for CAOCs 15/17, 16 and 35
Yermo Annex, MCLB Barstow, CA

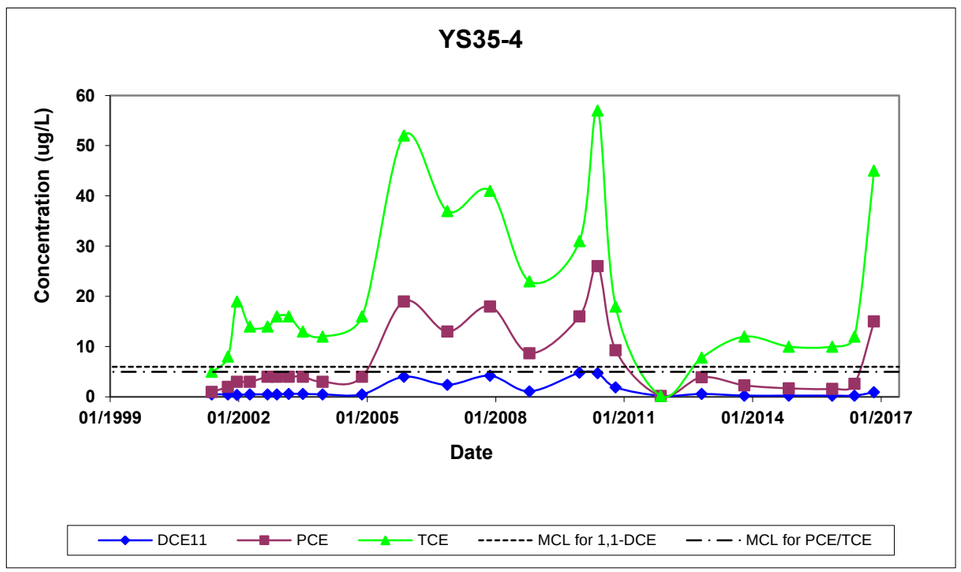


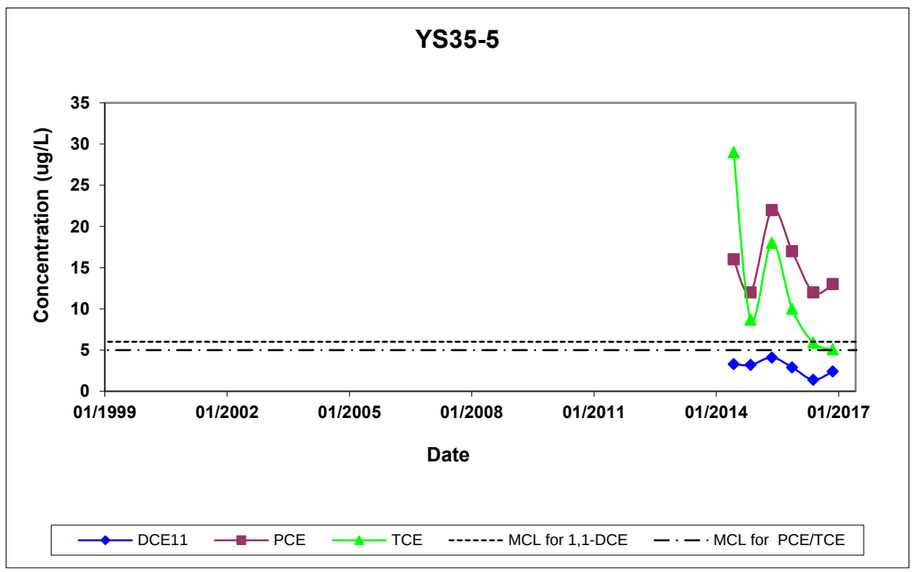


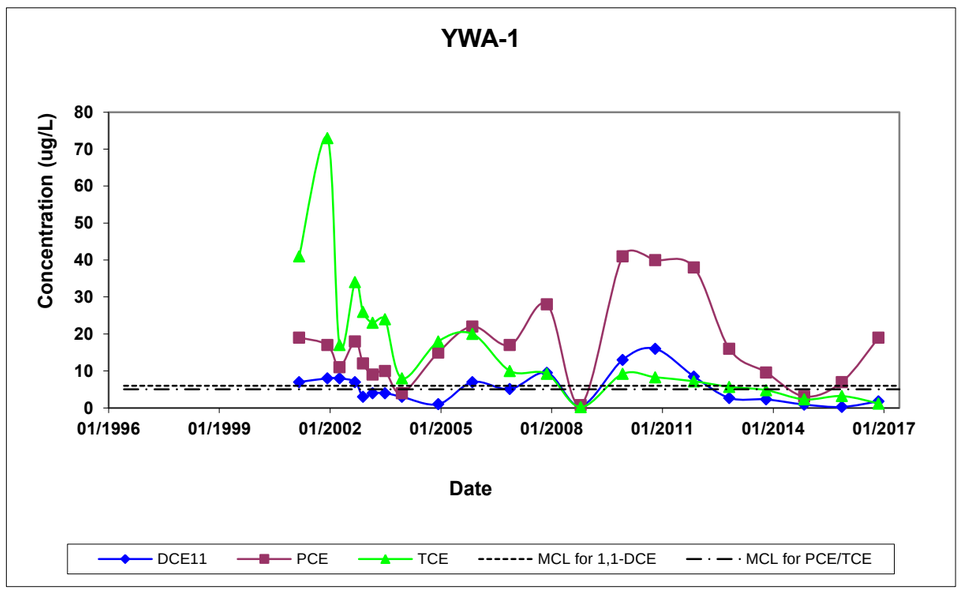


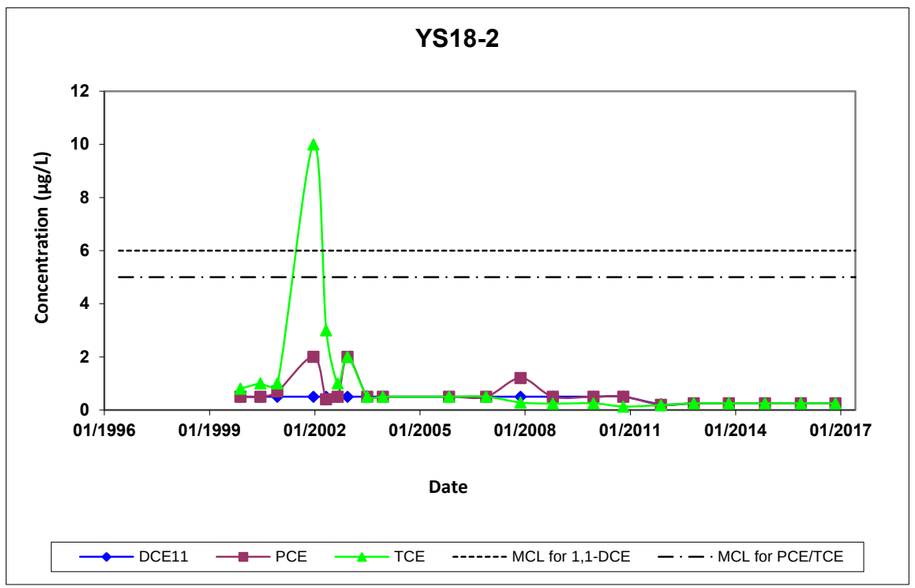


Graph D-1.12
Data Trends in Key Downgradient Monitoring Wells for CAOCs 15/17, 16 and 35
Yermo Annex, MCLB Barstow, CA



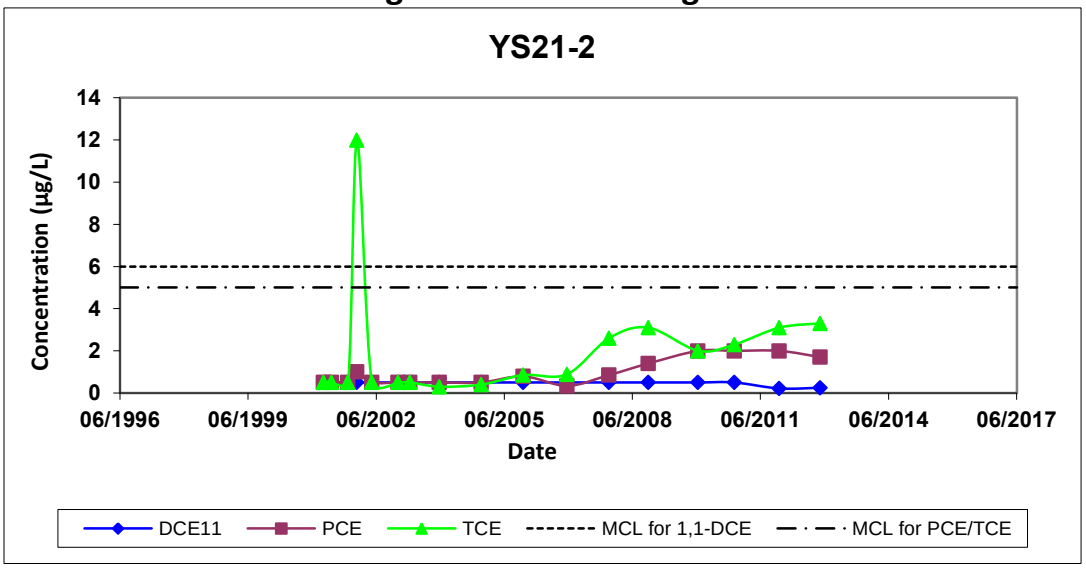


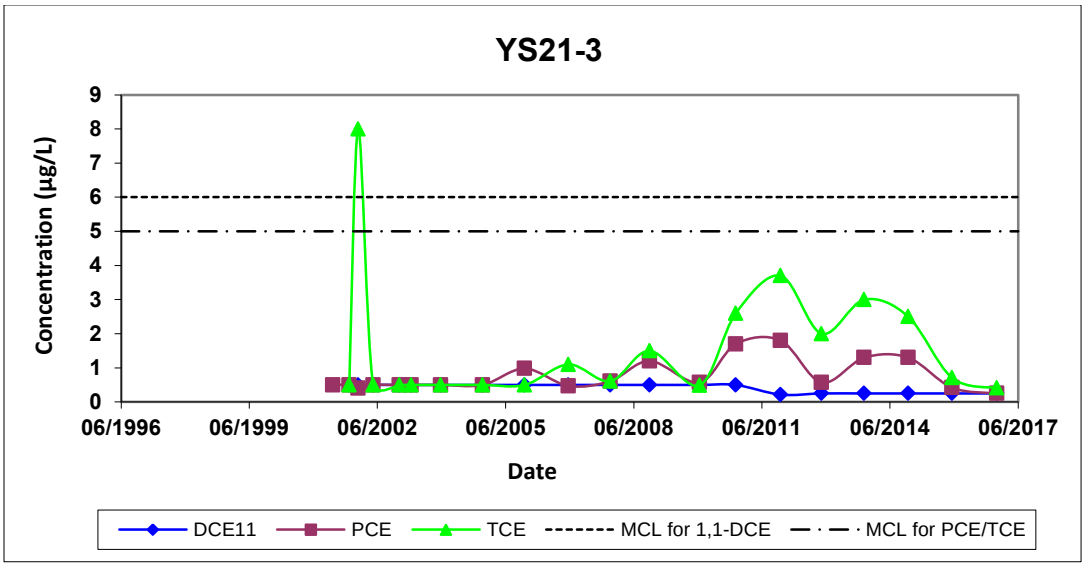


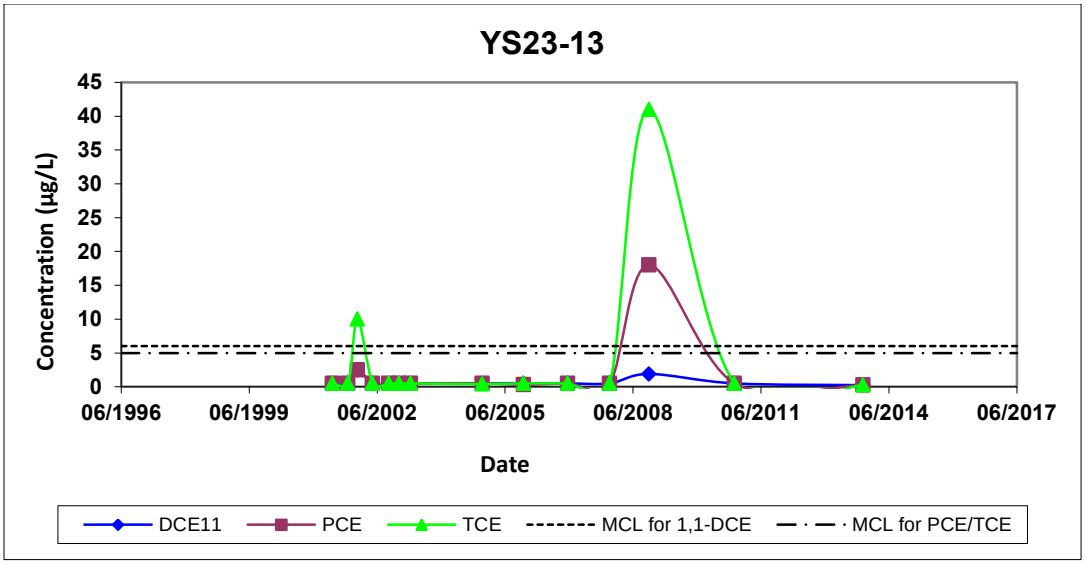


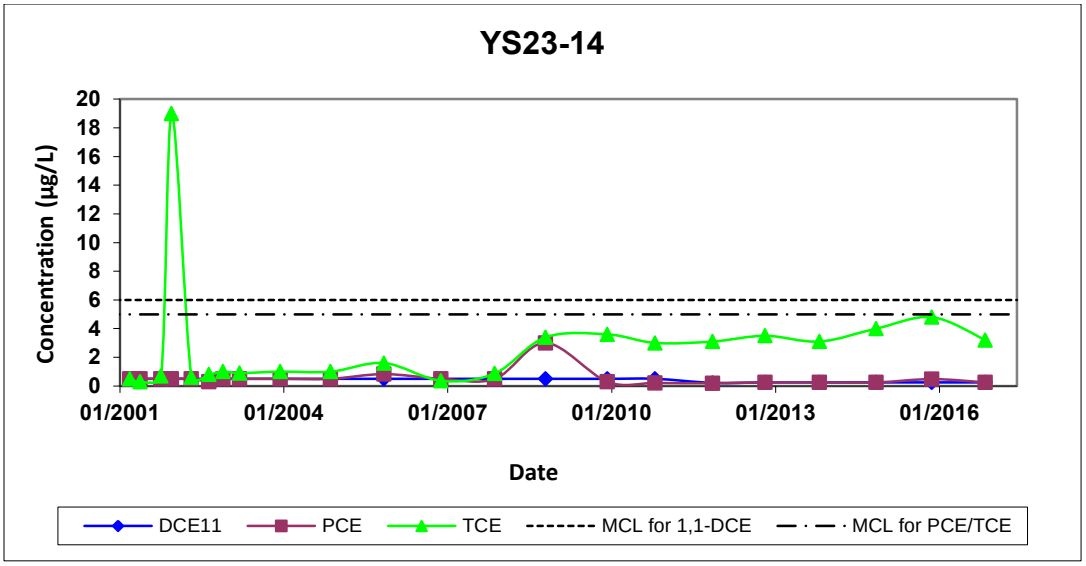
Graph D-1.13
CAOC 23 Groundwater COC Trends
Yermo Annex, MCLB Barstow, California

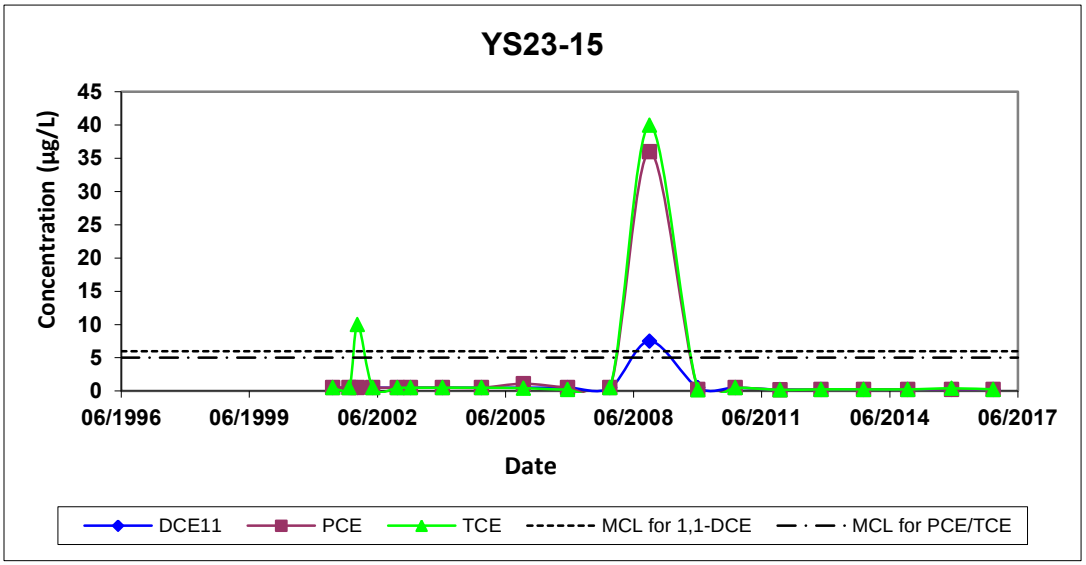
Downgradient Monitoring Wells

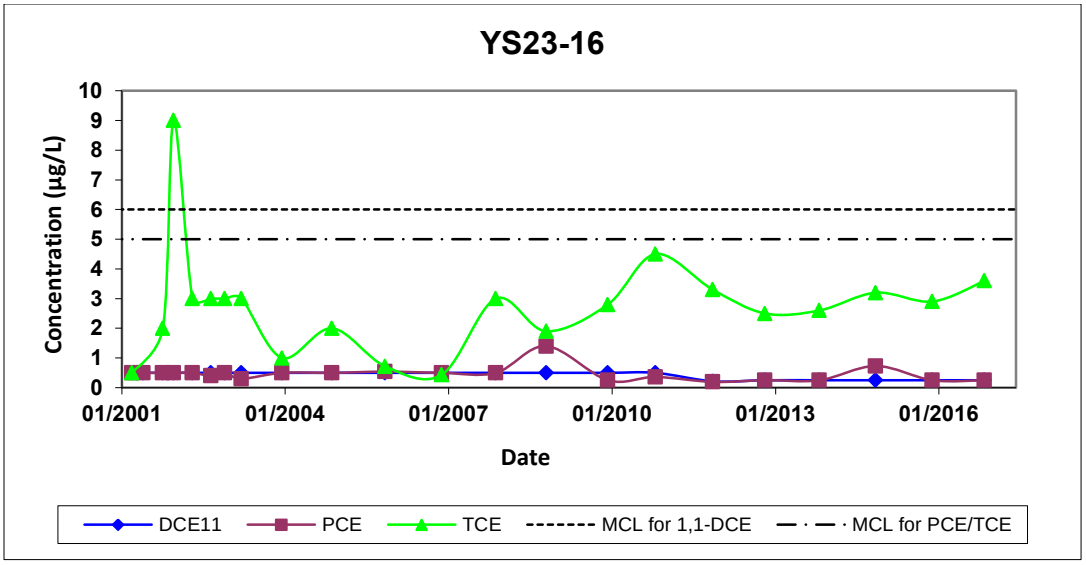


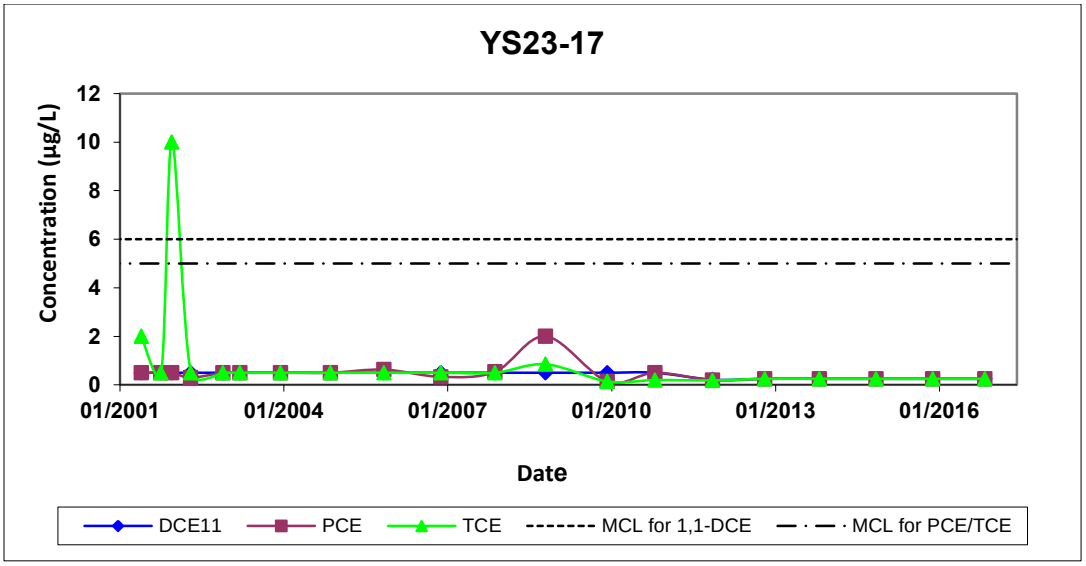


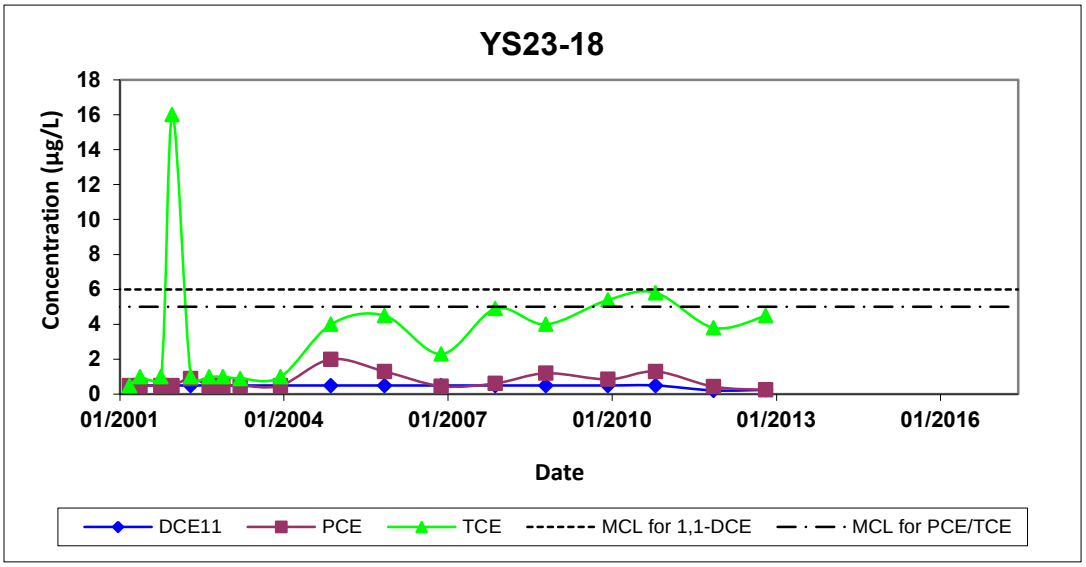

YS23-13
Concentration (µg/L)
45
40
35
30
25
20
15
10
5
0
06/1996
06/1999
06/2002
06/2005
06/2008
06/2011
06/2014
06/2017
Date
DCE11
PCE
TCE
MCL for 1,1-DCE
MCL for PCE/TCE

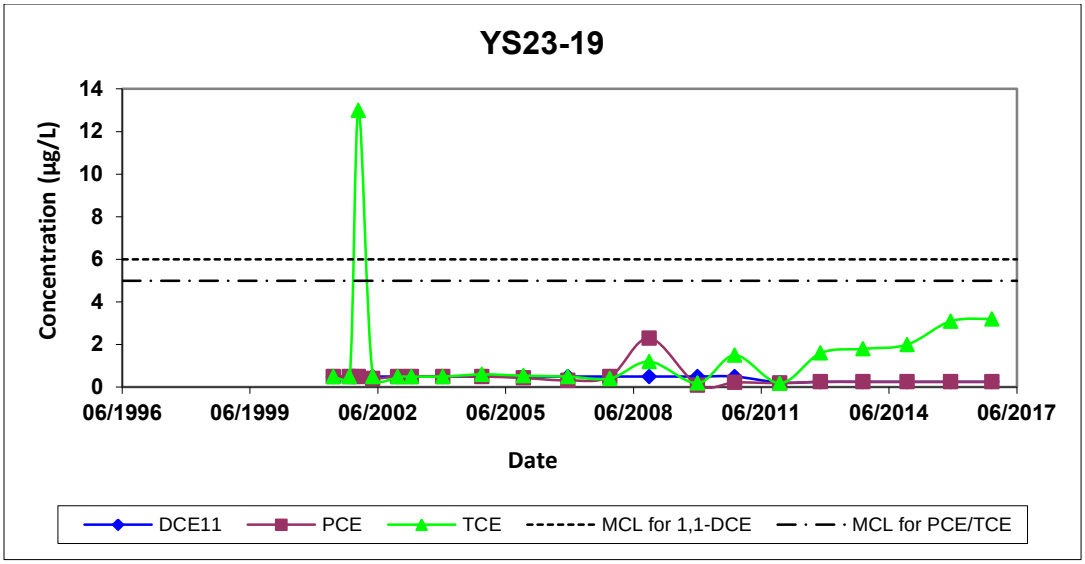

YS23-14
Concentration (µg/L)
20
18
16
14
12
10
8
6
4
2
0
01/2001
01/2004
01/2007
01/2010
01/2013
01/2016
Date
DCE11
PCE
TCE
MCL for 1,1-DCE
MCL for PCE/TCE

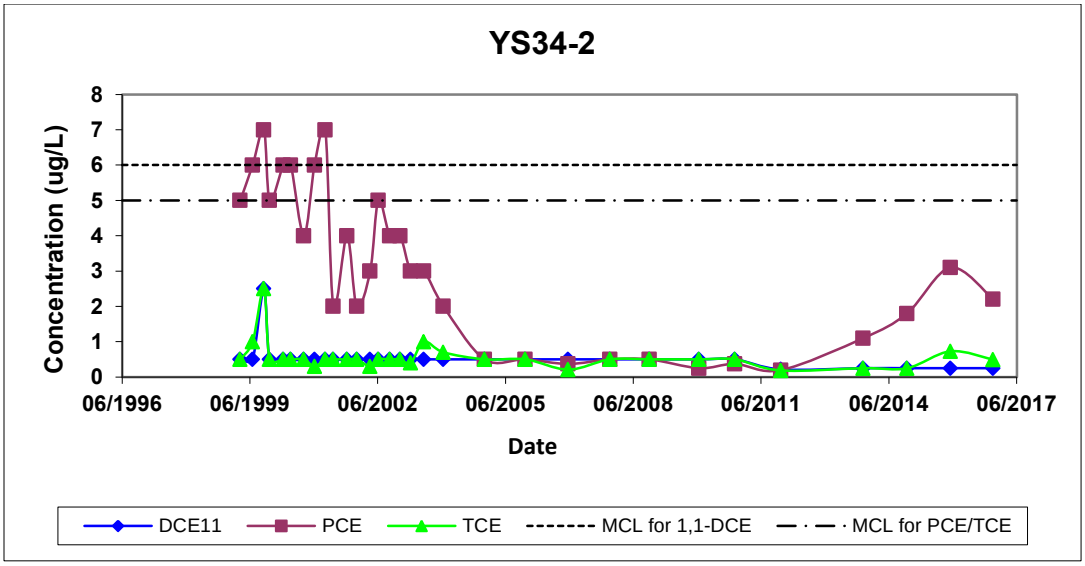

YS23-15
Concentration (µg/L)
45
40
35
30
25
20
15
10
5
0
06/1996
06/1999
06/2002
06/2005
06/2008
06/2011
06/2014
06/2017
Date
DCE11
PCE
TCE
MCL for 1,1-DCE
MCL for PCE/TCE


YS23-16
Concentration (µg/L)
10
9
8
7
6
5
4
3
2
1
0
01/2001
01/2004
01/2007
01/2010
01/2013
01/2016
Date
DCE11
PCE
TCE
MCL for 1,1-DCE
MCL for PCE/TCE

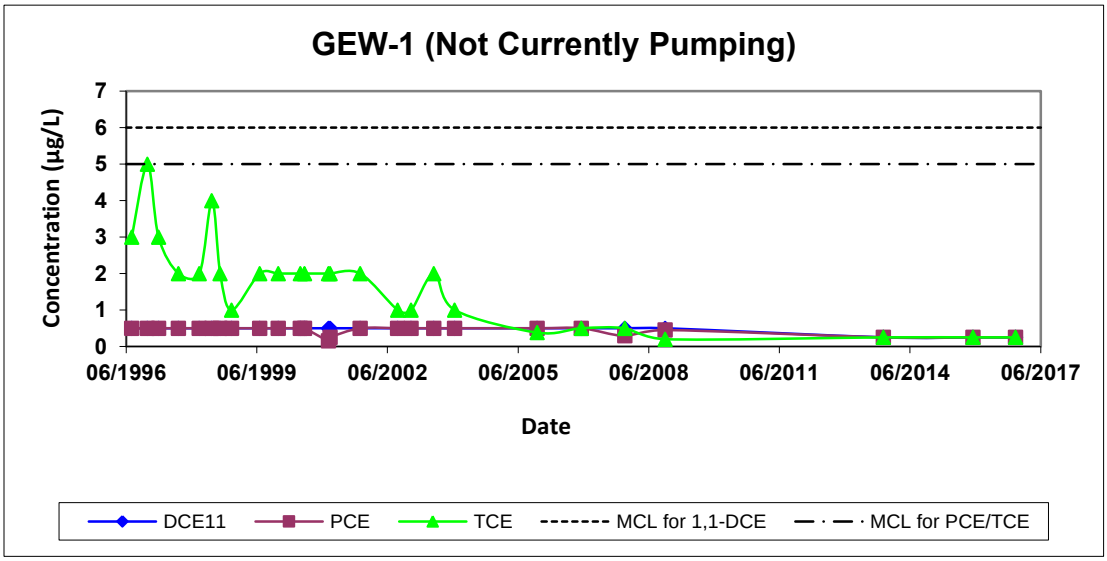

YS23-17
Concentration (µg/L)
12
10
8
6
4
2
0
01/2001
01/2004
01/2007
01/2010
01/2013
01/2016
Date
DCE11
PCE
TCE
MCL for 1,1-DCE
MCL for PCE/TCE

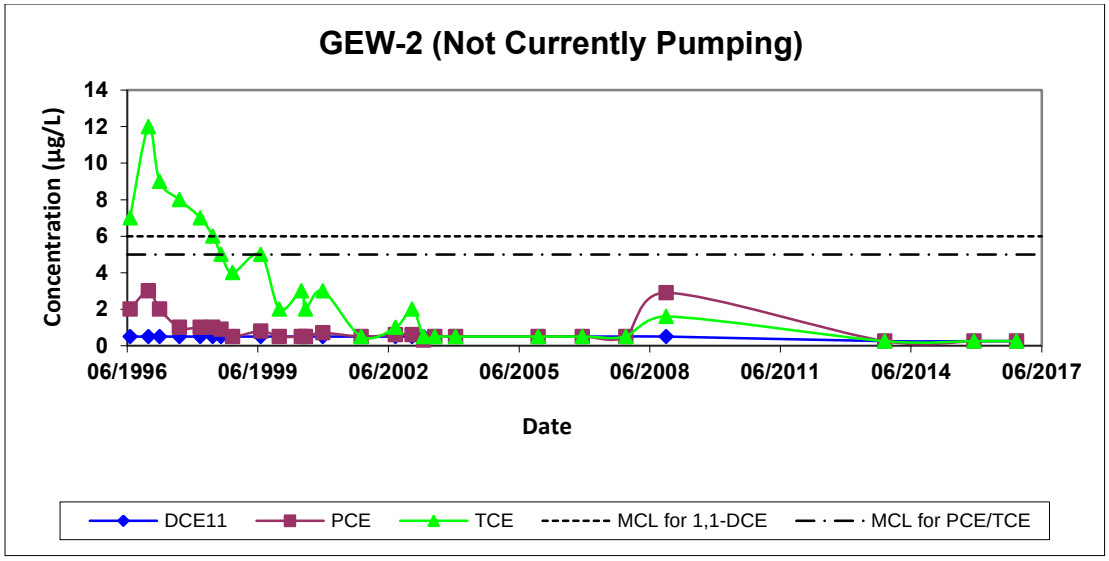

YS23-18
Concentration (µg/L)
18
16
14
12
10
8
6
4
2
0
01/2001
01/2004
01/2007
01/2010
01/2013
01/2016
Date
DCE11
PCE
TCE
MCL for 1,1-DCE
MCL for PCE/TCE

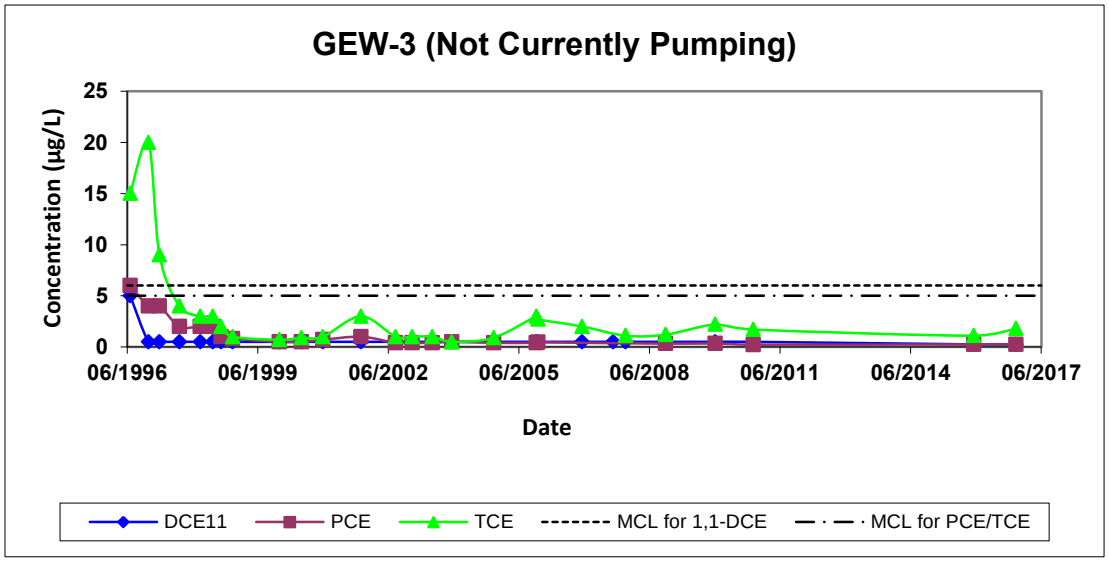


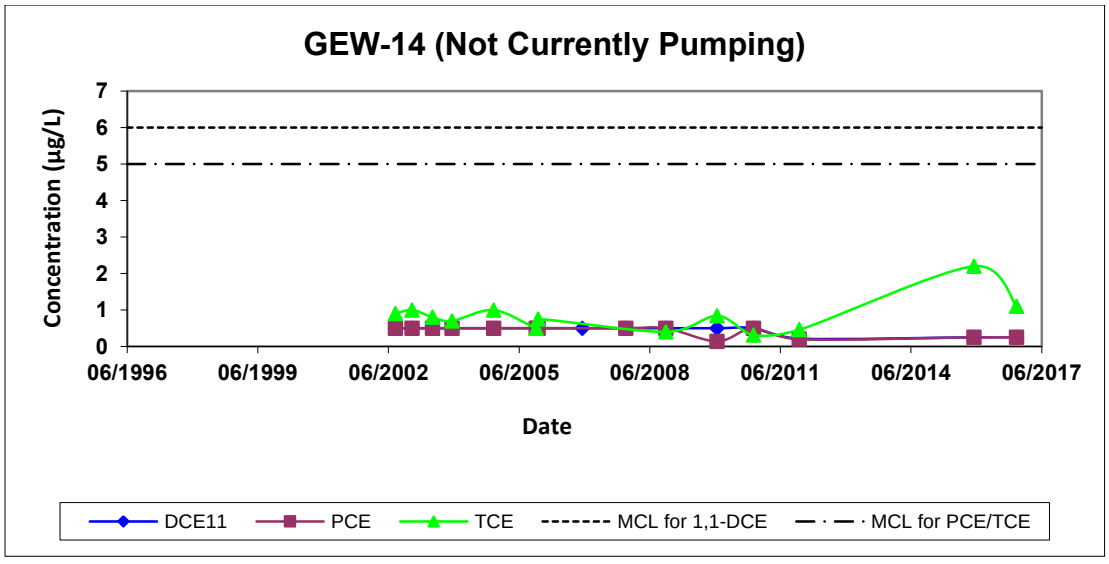


Yermo East Boundary Monitoring Wells




GEW-2 (Not Currently Pumping)
Concentration (µg/L)
14
12
10
8
6
4
2
0
06/1996
06/1999
06/2002
06/2005
06/2008
06/2011
06/2014
06/2017
Date
DCE11
PCE
TCE
MCL for 1,1-DCE
MCL for PCE/TCE


GEW-3 (Not Currently Pumping)
Concentration (µg/L)
25
20
15
10
5
0
06/1996
06/1999
06/2002
06/2005
06/2008
06/2011
06/2014
06/2017
Date
DCE11
PCE
TCE
MCL for 1,1-DCE
MCL for PCE/TCE


GEW-14 (Not Currently Pumping)
Concentration (µg/L)
7
6
5
4
3
2
1
0
06/1996
06/1999
06/2002
06/2005
06/2008
06/2011
06/2014
06/2017
Date
DCE11
PCE
TCE
MCL for 1,1-DCE
MCL for PCE/TCE

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APPENDIX D-2

Technical Assessment Report – OUs 1 and 2

Remedial Actions Operations, Maintenance, Repairs,

Electrical Costs 2013 - 2017

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APPENDIX D

D-2 Technical Assessment Report
OUs 1 and 2 Remedial Systems O&M Cost Review

The remedial systems that were operational during the Fourth Five-Year Review period (2012 – 2017) included:

- Yermo Annex Groundwater Extraction and Treatment System (GETS), CAOC 16 air sparge/soil vapor extraction (AS/SVE) system, and three landfill caps (CAOC 20, 23, and 35); and
- Nebo Main Base: "Nebo North" AS/SVE system, "Nebo South" AS/SVE system, and CAOC 7 landfill cap.

For a description of the remedial systems and landfill caps please refer to Sections 3.4 and 3.5 of the main text.

The costs reported herein and in Tables 6-2 and 6-3 of the main report were obtained from contractors responsible for operation and maintenance (O&M), monitoring, repair, and upgrades of remedial systems and from the Department of the Navy's (DON's) Remedial Project Manager, Lindsey White, P.E.

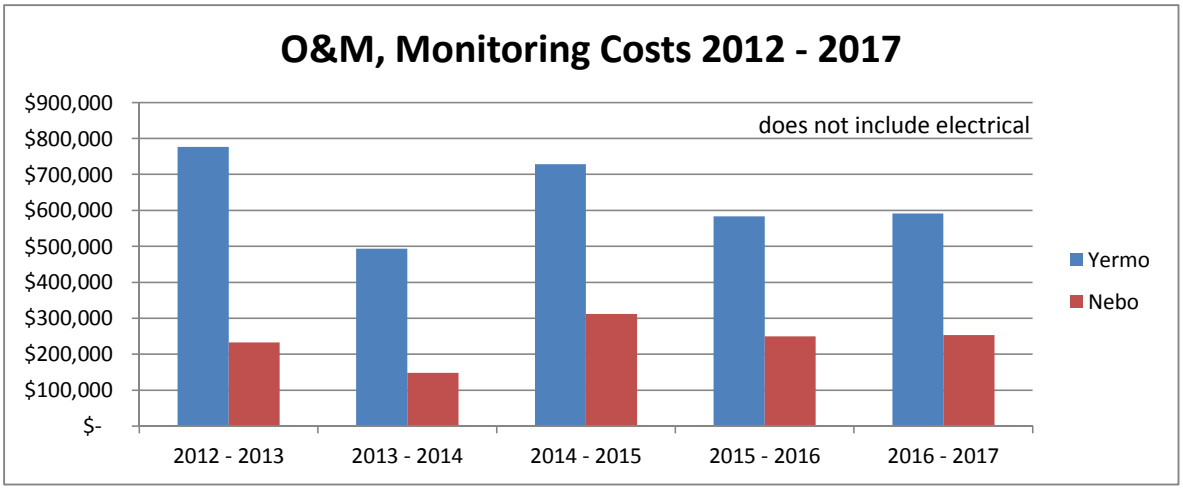
Definitions:

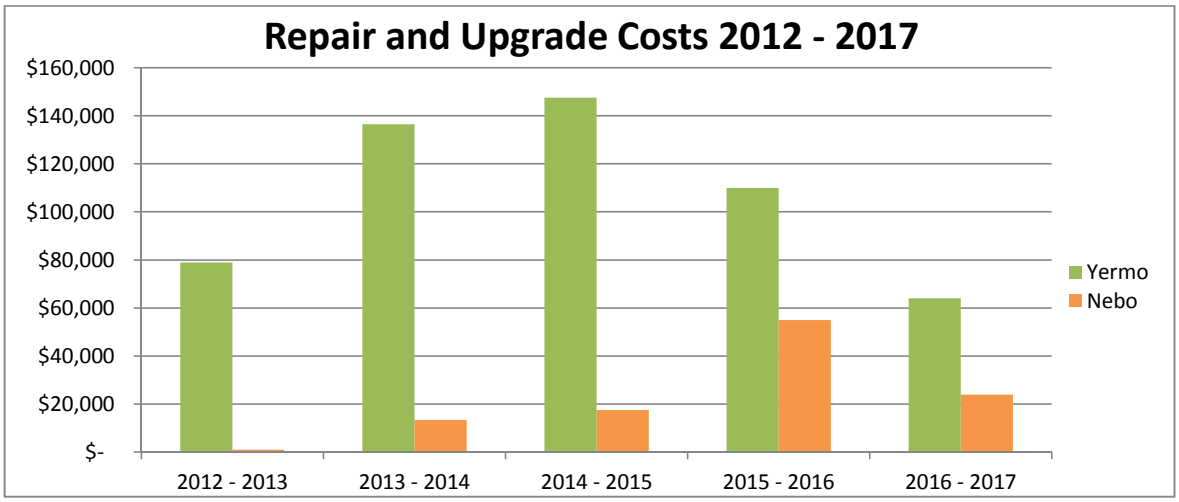
- O&M refers to regular operations and maintenance tasks, including field inspections, trouble-shooting, minor repairs, data collection, and sampling. These tasks are defined in the related remedy O&M Manuals;
- Repairs and Upgrades refers to major remedial system component repairs or replacements (e.g., repair of air compressors/blowers, computer system replacements, worn out part replacements); and
- Electrical costs: The DON's Installation Restoration Program (IRP) pays for the electrical cost of running the OUs 1 and 2 remedial systems.

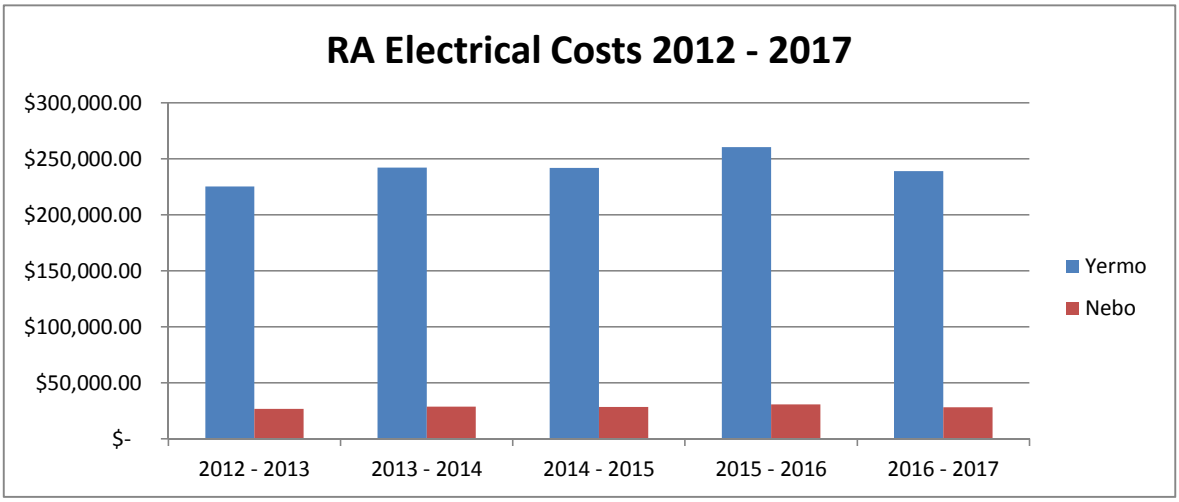
The following page provides a summary table and graphs of trends in costs for the active remedial systems (not including landfills) over the fourth five-year review period by Yermo Annex and Nebo Main Base. The major O&M expense is the Yermo Annex GETS. As reported in the 2016 Annual Groundwater Monitoring Report (OTIE 2017), the GETS is extracting approximately 171 million gallons of groundwater per year.

OU 1 / 2 Remedial Systems

Operation Year	O&M, Monitoring Costs		Repairs & Upgrades		Electrical Costs	
	Yermo	Nebo	Yermo	Nebo	Yermo	Nebo
2012 - 2013	$ 776,532	$ 232,960	$ 79,000	$ 1,000	$ 225,343	$ 26,565
2013 - 2014	$ 493,363	$ 148,009	$ 136,500	$ 13,500	$ 242,244	$ 28,558
2014 - 2015	$ 728,297	$ 312,127	$ 147,500	$ 17,500	$ 242,019	$ 28,531
2015 - 2016	$ 583,089	$ 249,895	$ 110,000	$ 55,000	$ 260,497	$ 30,710
2016 - 2017	$ 591,037	$ 253,302	$ 64,000	$ 24,000	$ 238,977	$ 28,173







APPENDIX D-3

Technical Assessment Report – Evaluation of Nickel and Chromium Groundwater Data - Yermo Annex

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1.0 INTRODUCTION

This technical memorandum was prepared by Oneida Total Integrated Enterprises (OTIE) under contract N39430-16-D-1881, contract task order 0006 in support of the Fourth Five-Year Review.

1.1 PURPOSE AND SCOPE

The purpose of this technical memorandum is to provide data evaluations that will support Navy's resolution of the "*metals question*" posed by the OUs 1 and 2 ROD (DON 1998): are the dissolved metals detected in Yermo Annex groundwater site-related COCs or not, and if they are, should the ROD be amended to incorporate an appropriate remedy? The OUs 1 and 2 ROD (Section 1.4.1 Page 1-4) required groundwater monitoring data to address the question. The ROD specifically states:

> *"Sample groundwater quarterly for 1 year for five dissolved metals (nickel, chromium, antimony, thallium and aluminum) at selected wells in the area of CAOC 16 to ascertain if these metals are naturally occurring or the result of Base activities."*

To date, monitoring for dissolved metals at Yermo has been performed since 1998 without resolution of the "*metals question*" due to various data quality issues. These data quality issues have been largely addressed and the Navy believes there are sufficient comparable data now available to perform the necessary metals data evaluations required by the ROD.

This technical memorandum will:

1. Briefly review the history of groundwater monitoring performed to address the metals question, including elimination of antimony, thallium and aluminum from the monitoring program;
2. Evaluate the groundwater chromium and nickel data set; and
3. Present conclusions and recommendations for future monitoring.

2.0 BACKGROUND AND HISTORY

2.1 OUS 1 AND 2 ROD STATEMENTS ON METALS IN GROUNDWATER

OU 1 consists of CAOC 37, which is the groundwater at Yermo Annex. The remedy for OU 1 was established in the OUs 1 and 2 ROD signed in 1998. The ROD primarily addressed identified groundwater VOC plumes and groundwater monitoring for landfill/capped disposal site remedies under other RODs. In addition, the OU 1 and 2 ROD required monitoring to determine if dissolved metals, particularly chromium and nickel, are site-related contaminants in the CAOC 16 area.

The OUs 1 and 2 ROD sections describing the "*metals question*" are presented below

ROD Section 3.1.1.2 Inorganics (page 3-2).

> Various metal analytes are present in groundwater throughout the Yermo Annex. These analytes are typically present in all natural waters in various Amounts depending on geologic setting, contact time between the water and mineral-rich sediments or bedrock, and other factors.
>
> Most of the metal analytes detected in groundwater at the Yermo Annex, including common ions such as calcium, iron, magnesium, potassium, and sodium, exhibit concentration distributions that can be explained simply as natural variations due to heterogeneity of the subsurface environment.

> Two metal analytes, nickel and chromium, were found to exceed MCLs and to be elevated relative to their statistically defined background levels in several wells near the highly industrial operations at Building 573 on the northern section of the Yermo Annex (i.e., wells YS34 1, YS35-1, YEP-1, YS16-4, and YS16-5). Three other metal analytes, antimony, thallium and aluminum, were also detected in this area at slightly elevated levels relative to their background concentrations. However, an evaluation of the spatial and temporal distributions for these metals indicates that similarly elevated levels were also detected in other on- and off-Base areas (e.g., Well Y8-1) not associated with industrial activities.
>
> In addition to spatial variation, large temporal variations in the concentrations of these metals throughout 4 years of sampling suggest that turbidity or sampling techniques may have also been a factor in the higher reported concentrations. Turbidity during sampling has been an ongoing issue due to the nature of the interbedded sands, silts, and clays in the alluvial aquifers at MCLB Barstow. Changes in iron concentrations from each sampling event (an indicator of Sample turbidity) correlate closely to nickel and chromium concentrations in the suspected wells. All five wells around Building 573 reported their highest iron and chromium concentrations, and three of the five wells exhibited their highest nickel concentrations, during the same January 1994 sampling event. The RI yielded inconclusive answers to the questions of whether the concentrations of these five metals are naturally occurring or the result of Base activities. To resolve this issue, the Marine Corps and regulatory agencies have agreed to measure the concentrations of these five metals in a few selected groundwater monitoring wells for a minimum of four additional quarters (1-year). MCLB Barstow has agreed to amend this ROD to address cleanup options if metals are determined to be a problem after this additional sampling.

ROD Section 3.6.3 Groundwater and Vadose Zone Monitoring (page 3-34), states:

> As discussed in Section 3.1.1.2, groundwater monitoring will be conducted to measure the concentrations of five metals (nickel, chromium, antimony, thallium and aluminum) in a few selected groundwater monitoring wells in the area of CAOC 16 for a minimum of four additional quarters (1-year). The exact wells to be sampled and the sampling schedule will be specified in the Remedial Action Groundwater Monitoring Plan for the Yermo Annex. Data will be provided to the agencies in the Quarterly Groundwater Monitoring Report for the Yermo Annex. The conclusions and recommendations resulting from this sampling will be submitted to the agencies in a primary FFA document.

2.2 MONITORING HISTORY AND FIVE-YEAR REVIEWS RECOMMENDATIONS

The Long-Term Monitoring (LTM) plan for the MCLB Barstow (Jacobs Engineering Group [JEG] 1998) provided the following data quality objective (DQO) for the "*metals question*".

> **Decision:** Does a statistical comparison of upgradient and downgradient monitoring data in conjunction with an evaluation of other pertinent data indicate that detected metals are likely site related?
>
> **Decision Rule:** If evaluation indicates that groundwater quality has been degraded at concentrations statistically above groundwater cleanup standards, then evaluate need for additional remedial response.

The First Five-Year Review (DON 2002) found that inadequate data were available to establish background levels for metals in groundwater at Yermo Annex. Continued monitoring of chromium and nickel and no further monitoring of aluminum, thallium, and antimony was recommended. The review also recommended additional sampling to establish background chromium and nickel in groundwater.

- Chromium and nickel monitoring continued after 2002 and several wells were added to the on-going monitoring program for the purpose of establishing background concentrations; and
- Despite the recommendation of no further monitoring for aluminum, thallium, and antimony, monitoring of these metals continued until 2010 (*see* Section 1.5 for further information).

The Second Five-Year Review (DON, 2007) determined that sufficient data had been conducted between 2003 and 2007 to evaluate background chromium and nickel. The report concluded analytical results for the wells that were upgradient, cross-gradient, and downgradient of CAOC 16 indicated chromium and nickel concentrations were below the respective MCLs. The report also recommended the DON address the on-going problem of turbidity in the YCW series wells, while continuing to monitor chromium and nickel at these wells. The report recommended a statistical evaluation of chromium and nickel concentrations once relatively stable concentrations were achieved over a period of at least four monitoring events.

- In response to the Second Five-Year Review recommendations, the DON performed a down-hole well video survey of the YCW and other monitoring wells at Yermo in 2007. The survey revealed extensive clogging of well screens by organic flocculent and inorganic mineralization, generally described as "*biofouling*". A strong correlation between elevated chromium and nickel concentrations and elevated turbidity in these wells established that the biofouling was negatively impacting data quality at these sampling locations (TN&A 2008);
- Based on recommendations from the 2009 annual groundwater monitoring report (OTIE 2010e), wells associated with the metals monitoring program were cleaned and redeveloped prior to the *2010 Annual Groundwater Monitoring Event*. Monitoring wells YS20-1, YS20-2, YS17 7, YCW-16-3, YCW-16-2, YCW-16-1, YS34-2 and YS29-2 were physically cleaned and redeveloped until turbidity measurements were below 10 Nephelometric Turbidity Units (NTUs) in the post-development water (OTIE 2010); and
- All metals samples were field filtered before preservation beginning in 2010 to provide a comparable data set.

The Third Five-Year Review (DON 2013) reviewed the 2007 - 2011 monitoring data for chromium and nickel as part of the OU 1 Technical Assessment. The review report concluded that, due to inconsistencies in sampling methods over time (some samples filtered, some not) and biofouling in certain wells (which affected data quality), the chromium and nickel data set generated during the review period was not consistent enough to allow statistical evaluation. Recommendations and follow-up actions were to continue of updated sampling procedures to generate a representative data set for statistical analysis.

Upon review of the monitoring data post 2011, the DON decided that corrosion of the stainless steel well screens had affected the metals data quality, rending it unreliable. Chromium and nickel data from PVC-screened wells were retained in the data set; however, data from monitoring wells downgradient

from CAOC 16 and CAOC 20 was insufficient for the analysis. Three PVC wells were installed, as described in Section 2.4.

2.3 ELIMINATION OF ALUMINUM, THALLIUM, ANTIMONY AS POSSIBLE COCS

An evaluation of available aluminum, thallium, and antimony groundwater data for the period of 2006-2010 was performed in 2012 to support optimization of the LTM program. Based on evaluation, the DON concluded that aluminum, antimony, and thallium do not pose a threat to human health and/or the environment; hence these metals were recommended to be eliminated from the *OU 1 Groundwater Monitoring Program* in the *Draft 2012 Sampling and Analysis Plan* for the LTM program (ATJV 2012). The FFA Stakeholders reviewed and concurred with the recommendation (DTSC 2012; RWQCB 2012) and the three metals were removed from the groundwater monitoring program as of the November 2012 Annual Monitoring Event.

2.4 REPLACEMENT MONITORING WELLS AND 2014-2016 MONITORING DATA

Despite prior well cleaning efforts in 2010, nickel and chromium remained elevated in YCW16-1, YCW16-2, YCW16-3, PMW-2 and YS20-1; turbidity levels trended upwards indicating return of fouled conditions in these wells. A review of well construction logs found that these monitoring wells were constructed with stainless-steel well screens. Long-term exposure of stainless steel to corrosive conditions (such as microbiologically influenced corrosion) may result in corrosion and the subsequent contamination of groundwater samples by chromium and nickel. The DON decided to replace stainless-steel screened wells with polyvinyl chloride [PVC] screened wells for future metals monitoring efforts.

Wells YS20-3, YS35-5, and YS16-6 were installed during March – April 2014 and were constructed with PVC-screens (OTIE 2015) (Figure D-3.1). Following development, the three new monitoring wells were sampled for chromium and nickel during regularly scheduled monitoring events.

2.5 GROUNDWATER MONITORING DATA

2.5.1 Background Cr and Ni Groundwater Data

During routine monitoring events between November 2006 and October 2013, a total of 42 samples were collected from selected monitoring wells to establish Cr and Ni background in groundwater at the Yermo Annex. The monitoring well locations were selected if they were upgradient or side-gradient to CAOCs 16 and/or 20. Additionally, only wells with PVC-well screen construction and with groundwater within the well-screen interval were selected. Of these 42 samples, 19 samples had detected concentrations of total Cr ranging from 0.38 to 8.60 µg/L and 13 samples had detected concentrations of Ni ranging from 0.79 to 18.20 µg/L. These samples were selected as the comparison data set for comparison with data from downgradient of CAOCs 16 and 20. The selected background data are summarized on Table D-3.1.

2.5.2 Cr and Ni in Groundwater Downgradient from Potential Sources CAOCs 16 and 20

Groundwater samples for Cr and Ni were collected from the three new wells during routine sampling events in November 2014, May and November 2015, and May and November 2016. Results are shown on Figure D-3.2. Additionally, historical monitoring data from two other wells (YS35-3 and YS18-2) downgradient of CAOC 16 were added into the downgradient data pool are summarized on Table D-3.1.

3.0 EVALUATION OF CHROMIUM AND NICKEL DATA

3.1 TECHNICAL APPROACH

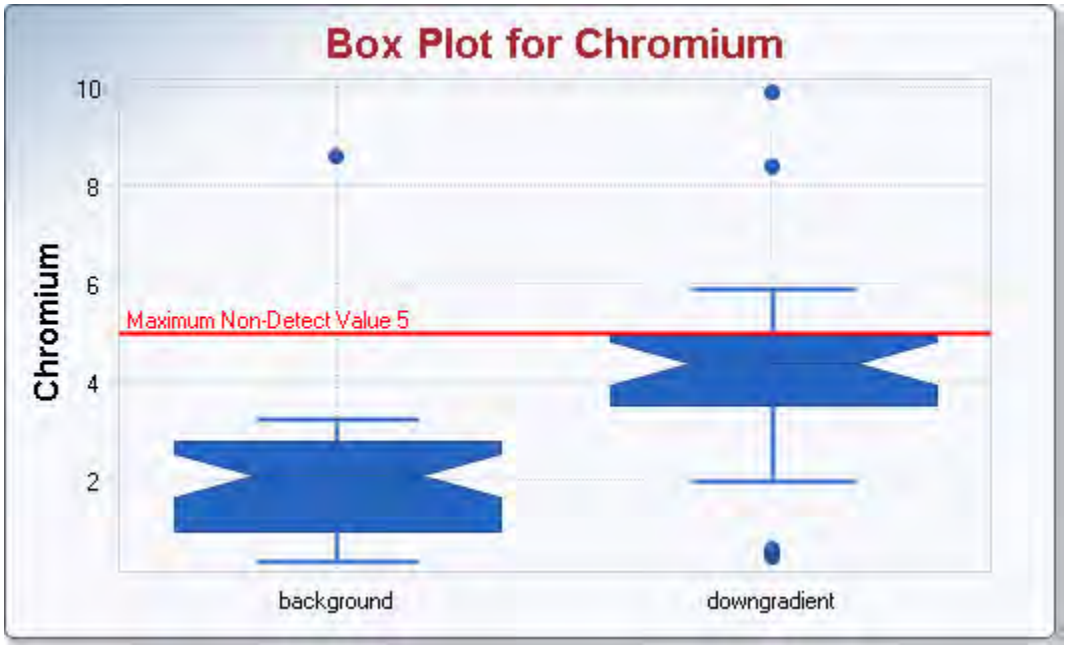
A statistical analysis of the groundwater concentrations of Cr and Ni was conducted following the methods described in EPA (2009). All calculations and graphs were performed using the EPA ProUCL 5.1 software package (EPA 2015).The pooled background and downgradient data were first examined for outliers using box plots and Dixon's formal test for outliers. The downgradient data was then compared to background using a non-parametric two sample hypothesis test, to evaluate whether there was sufficient evidence that the downgradient concentrations were not representative of naturally occurring background. Finally, 95% upper confidence levels (UCLs) of the mean were calculated for downgradient wells to determine if there was sufficient evidence that the site groundwater concentrations exceeded the maximum contaminant levels (MCLs).

Sufficient evidence was found to conclude that the downgradient concentrations of Cr and Ni were significantly higher than naturally occurring background at the 95% confidence level. The 95% UCLs for both Cr and Ni for all downgradient wells were less than the respective MCLs. However, all detected concentrations of Cr were below the current MCL of 50 µg/L and only one occurrence of Ni was above the MCL of 100 µg/L.

3.2 OUTLIER EVALUATION

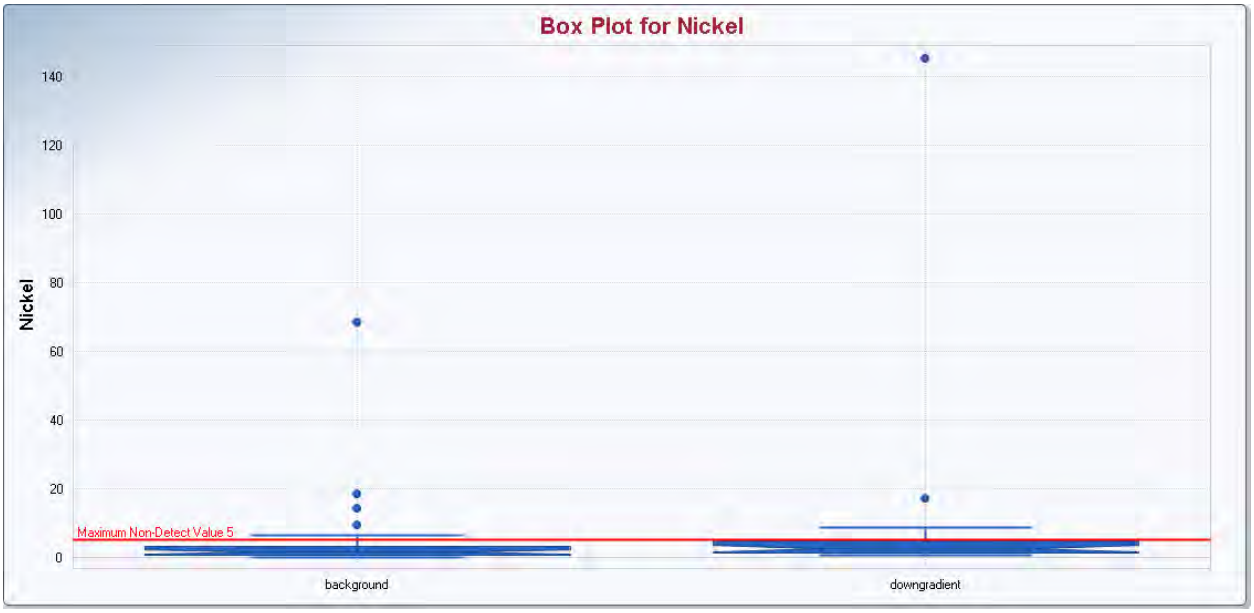
Box plots for Cr suggested that outliers did exist in the background as well as the downgradient datasets (Graph D-1). The boxplot for Cr suggested that the concentration value of 8.6 µg/L from background well PMW-9 was an extreme outlier. The 8.6 µg/L Cr concentration was confirmed to be an outlier at the 1% significance level using Dixon's test for outliers. Because this single value was an extreme outlier from the rest of the background dataset, inclusion of this data point in the analysis would have resulted in an increase chance of false negative errors. Therefore this value was excluded from further analysis.

Graph D-3.1 Box plot for pooled background and downgradient wells for chromium.



The highest downgradient Cr concentration of 9.9 µg/L was reported from a single reporting period for well YS35-4. This result was determined to be an outlier at the 5% significance level, but not at the 1% significance level using Dixon's test for outliers. Because this result was from a potentially impacted downgradient well, it was retained for further analysis.

Graph D-3.2 Box plot for pooled background and downgradient wells for nickel.



Box plots for Ni suggested that outliers did exist in the background as well as the downgradient datasets (Graph D-2). The boxplot for Ni suggested that the concentration value of 68.3 µg/L from background well PMW-9 was an extreme outlier. The 68.3 µg/L Ni concentration was confirmed to be an outlier at the 1% significance level using Dixon's test for outliers. Because this single value was an extreme outlier from the rest of the background dataset, inclusion of this data point in the analysis would have resulted in an increase chance of false negative errors. Therefore this value was excluded from further analysis.

The highest downgradient Ni concentration of 145 µg/L was reported for well YS16-6. This result was determined to be an outlier at the 1% significance level using Dixon's outlier test. Although this result was from a potentially impacted downgradient well, it was inconsistent with other results from the same well during other monitoring periods. Well YS16-6 was sampled 5 times during the period of 2014 to 2016 and the result of 145 µg/L was markedly different from the other analytical results which ranged from 1.22 to 3.61 µg/L. Also there was no apparent trend in concentrations over time and two subsequent results from well YS16-6 were 2.27 and 1.22 µg/L. Therefore this value was excluded for further analysis

3.3 COMPARISON OF DOWNGRADIENT TO BACKGROUND

The downgradient data were then compared to background using a non-parametric two sample hypothesis test, to evaluate whether there was sufficient evidence that the downgradient concentrations were not representative of naturally occurring background. Because the datasets for both Cr and Ni included nondetect values with multiple reporting limits the Gehan (EPA 2015) two sample hypothesis test was used with α=0.05. The null hypothesis was that the downgradient concentrations were less than or equal to background. There was sufficient evidence for both Cr and Ni

to reject the null hypothesis (Excel Objects D-3.1 and D-3.2, beginning next page). Therefore it is concluded that downgradient groundwater concentrations of Cr and Ni are not consistent with naturally occurring background.

3.4 CALCULATION OF 95% UPPER CONFIDENCE LIMITS FOR INDIVIDUAL DOWNGRADIENT WELLS

The 95% upper confidence level (95UCL) of the mean for Cr and Ni concentrations in the downgradient wells were calculated using ProUCL 5.1 (EPA, 2015) for comparison to the respective maximum contaminant levels (MCLs). The data were first examined to determine whether the data distribution fit a normal distribution. The data for Cr were found to fit a normal distribution at the 5% significance level (Excel Object D-3.3). The data for Ni were found to fit a gamma distribution at the 5% significance level (Excel Object D-3.4). The 95UCLs were calculated for each analyte using the Kaplan-Meier method which takes into account multiple MDLs when calculating these statistics (EPA, 2015). The 95UCL for Cr was calculated to be 4.9 µg/L which is below the MCL of 50 µg/L. The 95UCL for Ni was calculated to be 5.2 µg/L which is below the MCL of 100 µg/L. Additional details on the number of samples, detection limits, and range of concentrations observed is provided in Excel Objects D-3.3 and D-3.4 (after-text).

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the statistical analysis of the background and downgradient datasets for Cr and Ni, it appears downgradient groundwater concentrations of Cr and Ni are slightly elevated when compared with the on-Base background data. However, the concentrations of Cr and Ni in groundwater downgradient from CAOC 16 are relatively low and below the federal MCLs.

The following recommendations are made:

1. Cease future monitoring of Cr and Ni at the Yermo Annex;
2. Based on the ROD section 3.6.3 requirement, the Navy is to report its findings to the FFA in a primary document. This technical assessment report, appended to the Fourth Five-Year Review (a primary document) fulfills this obligation; and
3. Submit for FFA Stakeholder review and concurrence a “Memorandum to File” clarifying the OUs 1 and 2 ROD on the “metals question” and stating that no further monitoring and no action is required for metals in groundwater at the Yermo Annex.

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Excel Object D-1 Gehan Two Sample Hypothesis Test for Chromium Downgradient vs Background.

Gehan Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.15/24/2017 9:51:30 AM
From File	Yermo Metals_PUCL_wo1Outlier_052317.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Chromium(downgradient)

Sample 2 Data: Chromium(background)

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	25	42
Number of Missing Observations	0	1
Number of Non-Detects	4	22
Number of Detect Data	21	20
Minimum Non-Detect	0.5	0.5
Maximum Non-Detect	5	3
Percent Non-detects	16.00%	52.38%
Minimum Detect	0.412	0.376
Maximum Detect	9.9	3.2
Mean of Detects	4.373	1.778
Median of Detects	4.43	1.75
SD of Detects	2.215	0.88
KM Mean	3.999	1.29
KM SD	2.251	0.878

Sample 1 vs Sample 2 Gehan Test

H0: Mean/Median of Sample 1 <= Mean/Median of background

Gehan z Test Value	5.236
Critical z (0.05)	1.645
P-Value	8.1932E-8

Conclusion with Alpha = 0.05

Reject H0, Conclude Sample 1 > Sample 2

P-Value < alpha (0.05)

Excel Object D-3.2 Gehan Two Sample Hypothesis Test for Nickel Downgradient vs Background

Gehan Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.15/23/2017 11:54:35 AM
From File	Yermo Metals_PUCL_wo1Outlier_052317.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Nickel(downgradient)

Sample 2 Data: Nickel(background)

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	24	42
Number of Missing Observations	1	1
Number of Non-Detects	6	28
Number of Detect Data	18	14
Minimum Non-Detect	0.952	0.315
Maximum Non-Detect	5	3
Percent Non-detects	25.00%	66.67%
Minimum Detect	0.845	0.479
Maximum Detect	17	18.2
Mean of Detects	3.758	4.899
Median of Detects	2.495	3.155
SD of Detects	3.924	5.365
KM Mean	3.203	1.942
KM SD	3.468	3.653

Sample 1 vs Sample 2 Gehan Test

H0: Mean/Median of Sample 1 <= Mean/Median of background

Gehan z Test Value	2.699
Critical z (0.05)	1.645
P-Value	0.00348

Conclusion with Alpha = 0.05

Reject H0, Conclude Sample 1 > Sample 2

P-Value < alpha (0.05)

Excel Object D-3.3 95% Upper Confidence Level of the Mean for Downgradient Chromium

Normal UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.15/25/2017 10:23:02 AM
From File	Yermo Metals_PUCL_wo1Outlier_DGrdOnly_052317.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Chromium (downgradient)

General Statistics

Total Number of Observations	24	Number of Distinct Observations	23
Number of Detects	21	Number of Non-Detects	3
Number of Distinct Detects	21	Number of Distinct Non-Detects	3
Minimum Detect	0.412	Minimum Non-Detect	0.5
Maximum Detect	9.9	Maximum Non-Detect	5
Variance Detects	4.907	Percent Non-Detects	12.5%
Mean Detects	4.373	SD Detects	2.215
Median Detects	4.43	CV Detects	0.507
Skewness Detects	0.495	Kurtosis Detects	1.314
Mean of Logged Detects	1.284	SD of Logged Detects	0.762

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.941	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.908	Detected Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.156	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.188	Detected Data appear Normal at 5% Significance Level

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	4.07	KM Variance	0.481
KM SD	2.253	KM Standard Error of Mean	5.076
95% KM (BCA) UCL	4.781	97.5% KM (BCA) UCL	5.072
95% KM (t) UCL	4.894	95% KM (Percentile Bootstrap) UCL	4.831
95% KM (z) UCL	4.86	95% KM Bootstrap t UCL	4.959
90% KM Chebyshev UCL	5.512	95% KM Chebyshev UCL	6.165
97.5% KM Chebyshev UCL	7.072	99% KM Chebyshev UCL	8.854

Suggested UCL to Use

95% KM (t) UCL	4.894		

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.

Excel Object D-3.4 95% Upper Confidence Level of the Mean for Downgradient Nickel

Gamma UCL Statistics for Data Sets with Non-Detects			
User Selected Options			
Date/Time of Computation	ProUCL 5.15/25/2017 10:27:28 AM		
From File	Yermo Metals_PUCL_wo1Outlier_DGrdOnly_052317.xls		
Full Precision	OFF		
Confidence Coefficient	95%		
Number of Bootstrap Operations	2000		
Nickel (downgradient)			
General Statistics			
Total Number of Observations	23	Number of Distinct Observations	22
		Number of Missing Observations	1
Number of Detects	18	Number of Non-Detects	5
Number of Distinct Detects	18	Number of Distinct Non-Detects	4
Minimum Detect	0.845	Minimum Non-Detect	0.952
Maximum Detect	17	Maximum Non-Detect	5
Variance Detects	15.39	Percent Non-Detects	21.74%
Mean Detects	3.758	SD Detects	3.924
Median Detects	2.495	CV Detects	1.044
Skewness Detects	2.565	Kurtosis Detects	7.582
Mean of Logged Detects	0.974	SD of Logged Detects	0.814
Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs			
KM Mean	3.295	KM Standard Error of Mean	0.759
KM SD	3.514	95% KM (BCA) UCL	4.593
95% KM (t) UCL	4.599	95% KM (Percentile Bootstrap) UCL	4.607
95% KM (z) UCL	4.544	95% KM Bootstrap t UCL	5.724
90% KM Chebyshev UCL	5.573	95% KM Chebyshev UCL	6.605
97.5% KM Chebyshev UCL	8.038	99% KM Chebyshev UCL	10.85
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.569	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.756	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.136	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.207	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	1.575	k star (bias corrected MLE)	1.35
Theta hat (MLE)	2.386	Theta star (bias corrected MLE)	2.784
nu hat (MLE)	56.71	nu star (bias corrected)	48.59
Mean (detects)	3.758		
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	3.295	SD (KM)	3.514
Variance (KM)	12.35	SE of Mean (KM)	0.759
k hat (KM)	0.879	k star (KM)	0.793
nu hat (KM)	40.44	nu star (KM)	36.5
theta hat (KM)	3.748	theta star (KM)	4.153
80% gamma percentile (KM)	5.388	90% gamma percentile (KM)	8.029
95% gamma percentile (KM)	10.72	99% gamma percentile (KM)	17.08
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (36.50, α)	23.67	Adjusted Chi Square Value (36.50, β)	22.92
95% Gamma Approximate KM-UCL (use when n>=50)	5.081	95% Gamma Adjusted KM-UCL (use when n<50)	5.247
95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)			
Suggested UCL to Use			
95% KM Adjusted Gamma UCL	5.247		
Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.			
Recommendations are based upon data size, data distribution, and skewness.			

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APPENDIX E

OU 2 – Groundwater at Nebo Main Base
Technical Assessment Reports

Appendix E-1	Technical Assessment Report Nebo North Plume Remedy
Appendix E-2	Technical Assessment Report Nebo South Plume Remedy

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APPENDIX E

OU 2 – Groundwater at Nebo Main Base

Technical Assessment Reports

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ATTACHMENTS

Attachment 1 UST Site Investigation Report (Figure 5-1)

For Acronyms and Abbreviations, please see Fourth Five Year Review report text.

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1.0 INTRODUCTION

This Technical Assessment has been prepared to document the evaluation of the Nebo North groundwater plume, specifically around former T 22A/B area. This evaluation was completed in support of the 2017 Five-Year Review. This memorandum was prepared by Oneida Total Integrated Enterprises (OTIE) for the Department of the Navy under Contract No. N39430 16 D 1818, contract task order 0006.

The contaminants of concern (COCs) consist of dissolved-phase volatile organic compounds (VOCs), primarily tetrachloroethene (PCE), trichloroethene (TCE), and 1,1-dichloroethene (1,1-DCE). The Nebo North groundwater plume is described in Section 3.5.1 of the main report. The selected remedy for the Nebo North groundwater plume is air sparge/soil vapor extraction (AS/SVE) of the source area and natural attenuation of the downgradient portions of the plume.

Previously, the remedy included the maintenance of a standby GETS as a contingency plume containment system in the event natural attenuation does not stop plume migration. As part of the third five year review, a statistical analysis of the Nebo North monitoring well data, in accordance with OUs 1 and 2 ROD requirements, was performed. The result of the analysis concluded that the Nebo North GETS was no longer needed and was recommended for decommissioning. The Nebo North GETS was decommissioned and all surface equipment removed in March 2015.

The location of the Nebo North wells and current plume are shown on Figure E-1.1. The remedy is further described in Section 8.2 of the main report.

1.1 WASH PAD AREA SOIL VAPOR VOC REBOUND AND TREATMENT

Soil vapor COC concentration rebounded at two wells, OU2N-T1-M2 (7.8 9.8 feet bgs) and OU2N T1 M3 (7.8-9.8 feet bgs), following AS/SVE system shutdown in March 2011 (see in-text Table E-1.1). Based on a rebound evaluation completed in 2014, the SVE system was recommended to operate within the wash pad area two weeks every six months to address rebound in soil vapor VOC concentrations (OTIE 2015a). A soil vapor rebound evaluation following approximately two to six months of inactivity was also recommended to determine if continued SVE operations are necessary. Because soil vapor VOC rebound was observed following inactivity, the SVE system generally operated two weeks every 6 months since 2014.

Since the system was shut down in 2011, VOC rebound (following 2-week SVE operation events and two to six months of inactivity) in OU2N-T1-M2 and OU2N T1 M3 has had a decreasing trend (see in-text Graph E-1.2 below).

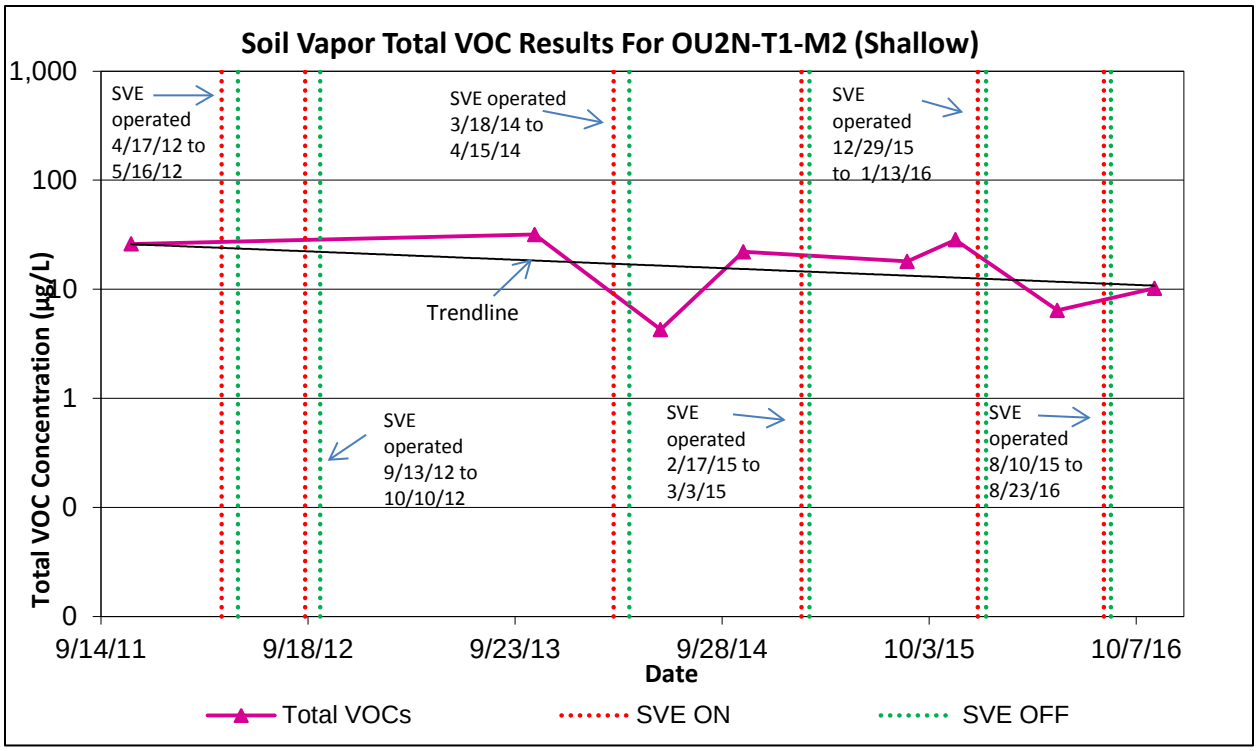
Table E-1.1 Rebound in Wash Pad Area - Summary of Soil Vapor Total VOC Following Focused Nebo North SVE Operation (two weeks on, twice per year)

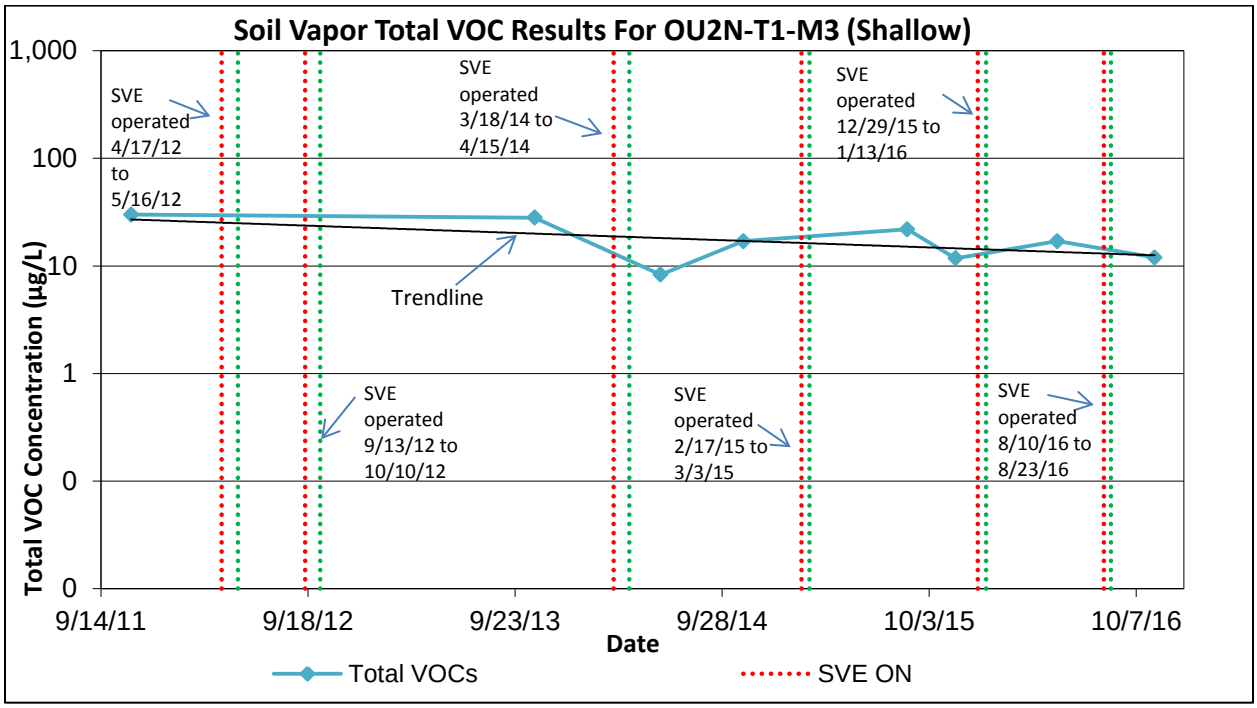
Wash Pad Area Well ID	Total VOCs in Soil Vapor (micrograms per liter)									
	June 2003 (Pre-AS/SVE)	Nov. 2010	Nov. 2011	Nov. 2013	June 2014	Nov. 2014	Aug. 2015	Nov. 2015	May 2016	Nov. 2016
Rebound Post SVE Event Period (months)	N/A	N/A	12	12	2	6	5	8	4	3
OU2N-T1-M2	557	2.6	26	31.7	4.3	22	18.3	28.4	6.4	10.2
OU2N-T1-M3	992.3	12	30	28.1	8.3	17	24.1	11.8	17	12.4

NOTES:

Aug. = August; Nov. = November; N/A = not analyzed; ft bgs = feet below ground surface

Graph E-1.2 Nebo North Soil Vapor VOC Rebound Results for Wash Pad Area Monitoring Wells OU2N-T1-M2 and OU2N-T1-M3





NOTES:

Graphs shows VOC sample results following at least 2 months of SVE system inactivity.

2.0 NEBO NORTH RESIDUAL PLUME

Since the source area (former Building 50 – CAOC 10.12) was cleanup by the AS/SVE system, the Nebo North plume has diminished significantly. The Nebo North plume area decreased from 905,000 square feet in 2006 to 36,000 square feet in 2016. The interpreted extents of the Nebo North plume for the years 2013, 2014, 2015 and 2016 are presented on Figure E-1.2.

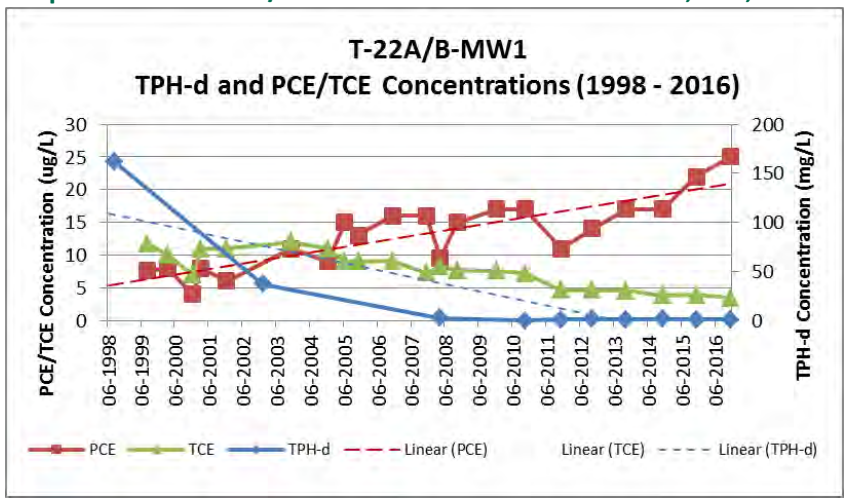
There were no other COCs in groundwater above the respective cleanup level identified within the Nebo North plume area between 2012 and 2016, with all monitoring locations except one exhibiting concentrations below the cleanup levels or method detection limits by 2007. The exception is monitoring well T 22A/B-MW1 located northwest of Warehouse 4. A figure from the 2004 report on this area (BEI 2004) is included for reference (see attached Figure 5-1). Relevant background information is summarized below:

- T 22A/B-MW1 was originally installed to monitoring groundwater downgradient from former Underground Storage Tanks (UST) T-22A and T-22B. These USTs were associated with the former Equipment Maintenance Shop Building 22 (removed) and reportedly stored waste oil (SDV Engineering and Construction 2011). The USTs were removed in early 1950s; no closure documentation was found;
- There are three are functional monitoring wells related to the UST: T-22A/B-MW1, -MW3, and -MW4. Monitoring wells T 22A/B-MW1, T 22A/B MW3 are both downgradient of the former UST/Building 22 area and well T-22A/B-MW4 is upgradient of the area;

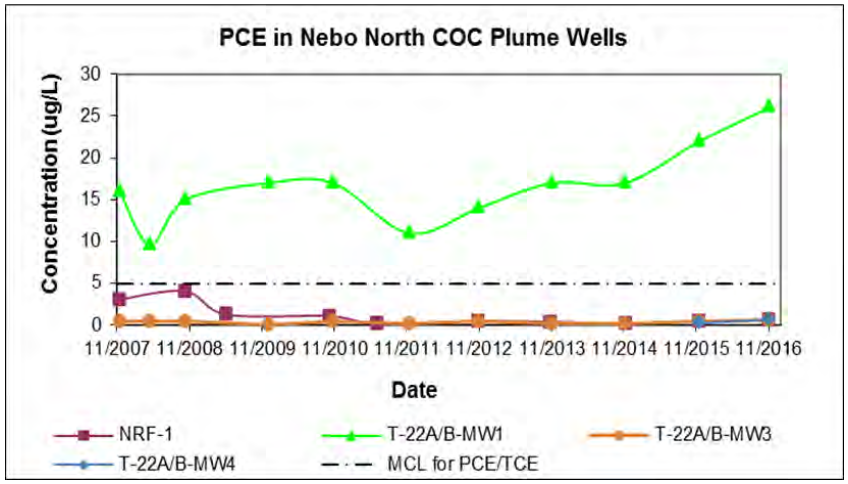
- Of these wells, T 22A/B-MW1 and T 22A/B MW3 have been integrated into the Nebo North plume long-term monitoring program since 1998 and are currently sampled annually for VOCs. The upgradient well, T 22A/B MW4, was only added to the monitoring program beginning in 2015 to better characterize the plume in the T-22A/B area;
- Additionally, the T-22A/B monitoring wells are or were tested for total petroleum hydrocarbons as diesel (TPH-d) per Regional Water Quality Control Board-Lahontan Region (RWQCB) leaking underground fuel tank (LUFT) program requirements. TPH-d concentrations have significantly declined at T-22A/B-MW1 and regulatory closure for the LUFT case files for T-22A/B was recommended in 2011 (SDV Engineering and Construction 2011). TPH-d continues to be tested for annually at T-22A/B-MW1; and
- As VOCs have not been detected in upgradient monitoring well T-22A/B-MW4, the residual plume appears to be related to for the former UST/Building 22 area. Migration of the plume is not suspected based on non-detect monitoring wells downgradient from the site.

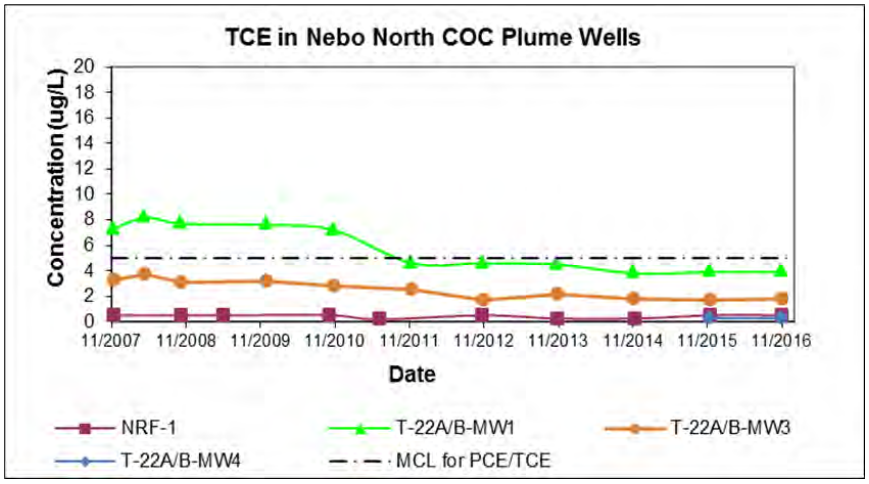
Historical PCE, TCE, and TPH-d trend graphs at monitoring well T 22A/B MW1 are presented on Graphs E-1.1 and E-1.2 (next page). It is notable that PCE concentrations at T 22A/B-MW1 have been consistently above the cleanup level since 1998 and show an increasing concentration trend in recent years (Graph E 1.2). Concurrently, TCE and TPH-d concentrations at T 22A/B MW1 have decreased since 1998, likely attributed to natural attenuation processes.

Graph E-1.1 T-22A/B-MW-1 Concentrations of TPH-d, PCE, and TCE (1998 – 2016)



Graph E-1.2 PCE and TCE Concentrations in Selected Wells – Nebo North Residual Plume (2007 – 2016)





3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 WASH PAD AREA REBOUND

Conclusions:

- The Nebo North SVE system was operated in the former wash pad area for 2-week increments since 2012 because of rebound observed in two shallow soil vapor wells as a protective measure for groundwater. Groundwater VOC concentrations in the source area treated by the Nebo North AS/SVE system have remained below cleanup levels and were not detected in the latest 2016 annual monitoring sample; and
- Soil vapor VOC concentrations in the wash pad area vadose zone are rebounding at a decreasing trend since 2011.

Recommendation:

- Conduct two rounds of targeted SVE at the Wash Pad Area during 2017 and evaluate if soil vapor VOC rebound concentrations indicate the need for further SVE treatment. Document the evaluation and recommendations in the 2017 Annual Groundwater Monitoring Report.

3.2 RESIDUAL PLUME IN T-22A/B AREA

Conclusions:

- The residual Nebo North groundwater contamination area at T-22A/B is relatively small and does not appear to be migrating based on clean downgradient monitoring wells;
- The persistent and increasing PCE concentrations in samples from monitoring well T 22A/B MW1 do not fit the overall pattern of the diminished Nebo North groundwater plume and are likely due to residual source at the former UST T-22A/B and/or former Building 22 (Equipment Maintenance Shop). The USTs reportedly stored engine motor oil and were removed in the early 1950s (BNI 1998a); and
- TPH-d has also been detected in groundwater samples from T-22A/B-MW1. A localized reducing environment associated with petroleum compound releases from T-22A/B is demonstrated by low DO, negative ORP, and the presence of chlorinated VOC breakdown products in groundwater samples from wells downgradient of the former tanks.

Recommendations:

- Given the increasing trend in PCE concentrations at T-22A/B-MW1, the long-term protectiveness of the remedy would be assured with an improved understanding of the source and extent of the T-22A/B area groundwater contamination. Consider a limited subsurface investigation to identify the source and determine if there is a need for additional response action in this area; and
- The OUs 1 and 2 ROD did not identify Warehouse 4 (CAOC 10.5), Building 22, or the T-22 USTs as sources for the Nebo North plume. A Memorandum to File clarifying the ROD to include this area as a source for the Nebo North plume and remedy would ensure proper long-term management of the residual plume under OU 2.

4.0 REFERENCES

Department of the Navy (DON). 1998. Operable Units 1 and 2, Final Record of Decision Report. April.

Oneida Total Integrated Enterprises (OTIE). 2017. *Draft 2016 Annual Groundwater Monitoring Report Operable Units 1 and 2, Marine Corps Logistics Base, Barstow, California*. 17 May.

_____. 2016. *Final 2015 Annual Groundwater Monitoring Report Operable Units 1 and 2, Marine Corps Logistics Base, Barstow, California*. 29 April.

SDV Engineering & Construction JV (SDV). 2011. *Technical Memorandum – Underground Storage Tank Closure Status and Closure Request*. December.

Bechtel Environmental, Inc. (BEI). 2004. *Final Site Investigation Report UST Sites T-22A and B, T-197, and T-354, and 14 MTBE Collection Sites, Marine Corps Logistics Base Barstow, California*. March.

Bechtel National, Inc. (BNI). 1998. *Draft Final RCRA Facility Assessment Report. Marine Corps Logistics Base, Barstow*. February.

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FIGURES

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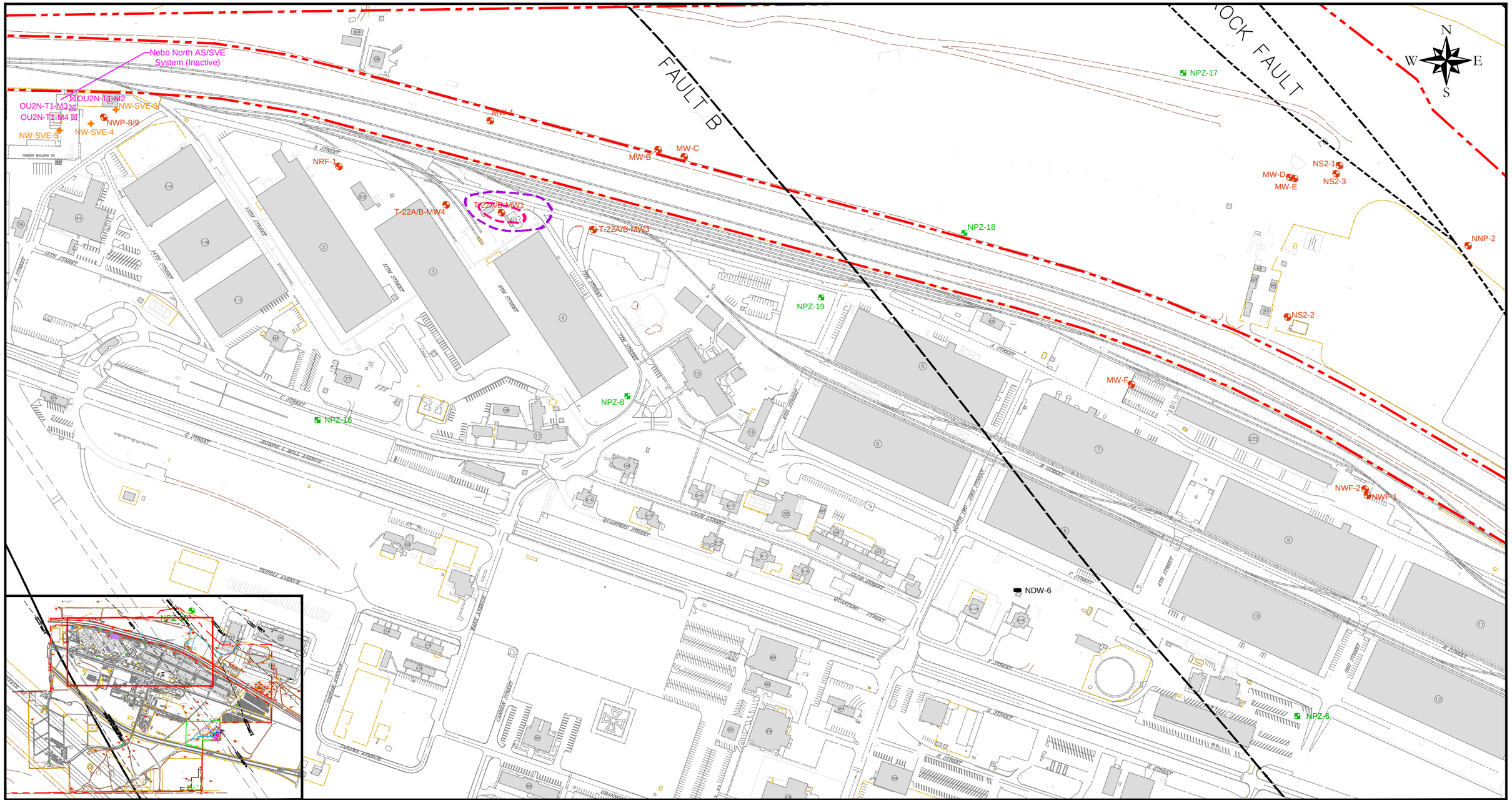


Legend

Paved Road	MW-B	Groundwater Monitoring Well
Dirt Road	NPZ-8	Piezometer
Railroad Tracks	NDW-6	Base Groundwater Supply Well
Fence Line	EW-B	Groundwater Extraction Well (Inactive)
Base Boundary	NW-SVE-3	Vapor Extraction Well
Fault Traces (strike-slip)	OU2N-T1-M2	Combination Well
	5	Approximate PCE Isoconcentration Contour (ug/L)
	10	Approximate PCE Isoconcentration Contour (ug/L)

Notes

1) Analytical results shown in ug/L (micrograms per liter) for the wells sampled during the 2016 Annual Groundwater Monitoring Event.
2) The highest detection is reported when a duplicate sample is collected.
3) TCE = Trichloroethene
   PCE = Tetrachloroethene
   MCL = Maximum Contaminant Level
   ft bgs = feet below ground surface

Approximate Scale in Feet

0 350 700

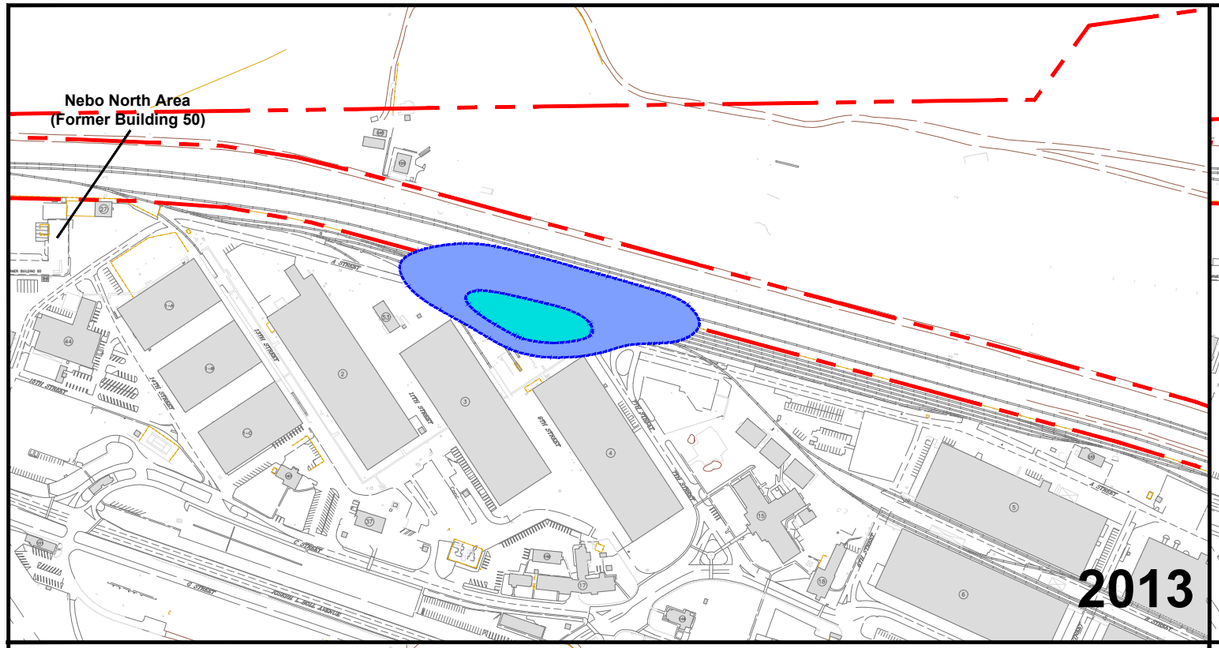
Figure E-1.1
Nebo North Data Evaluation
(November 2016)

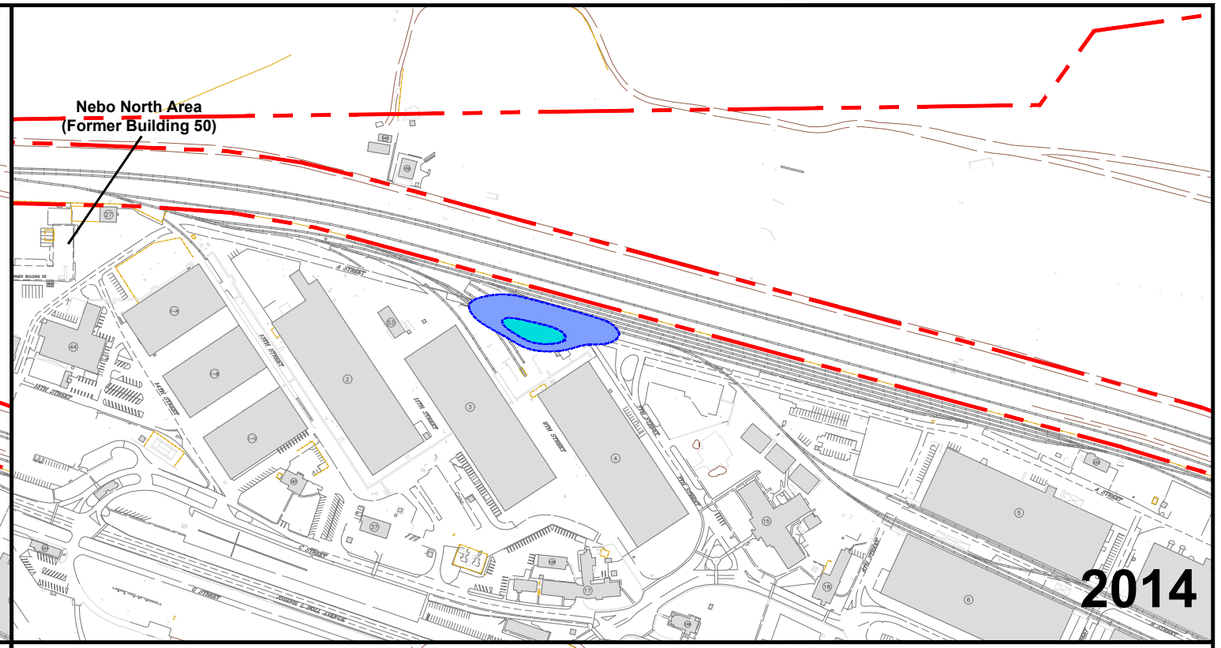
Nebo Main Base
Marine Corps Logistics Base
Barstow, California

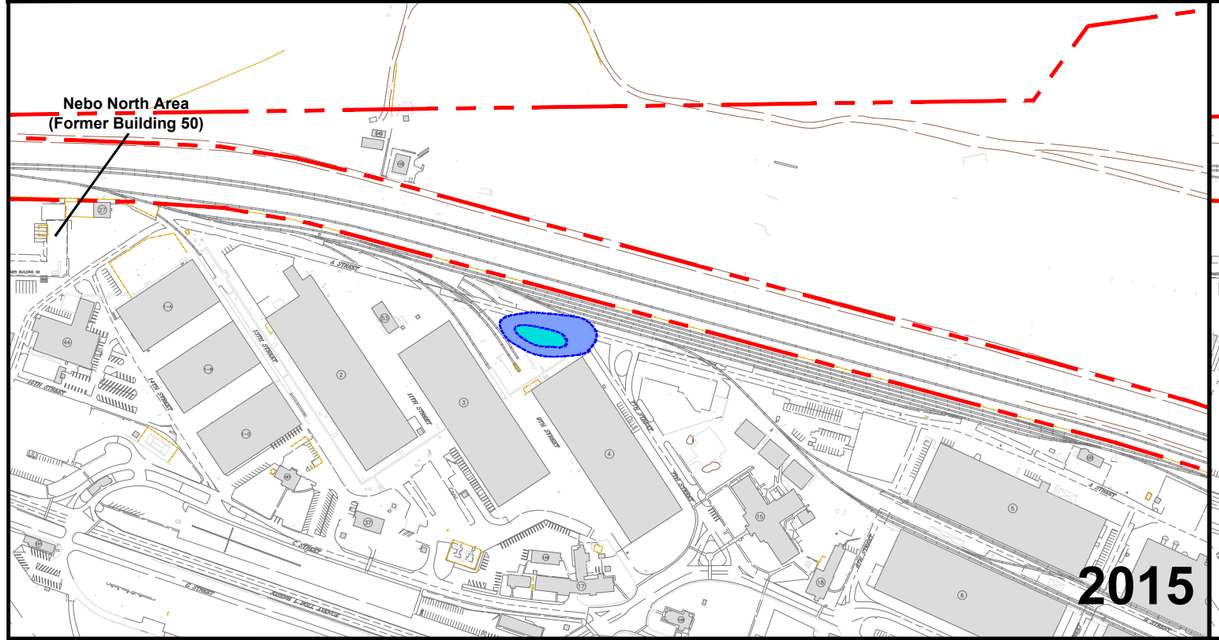
OTIE
An Oneida Nation Company

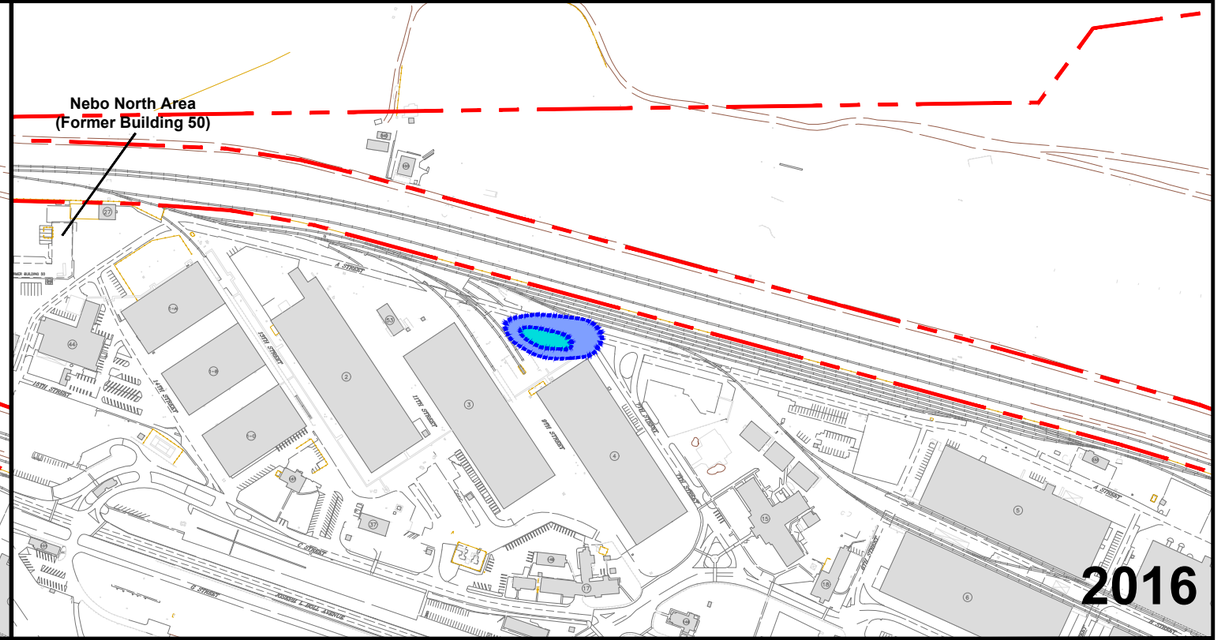
Date: March 27, 2017

File: Barstow_5yrRev - 2017.dwg
Plotted By: Mario Camacho









Legend

- Nebo Boundary
- 5 ug/L PCE Concentration Area
- 10 ug/L PCE Concentration Area

Notes

1. TCE has not exceeded the MCL of 5 ug/L in any of the Nebo North groundwater monitoring wells since 2011.
2. ug/L = Micrograms per Liter
   TCE = Trichloroethene
   PCE = Tetrachloroethene

N
W E
S

Approximate Scale in Feet

0 500 1,000

Figure E-1.2
Nebo North Historical Groundwater
PCE TCE Extents, 2013-2016

Nebo Main Base
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: April 4, 2017

File: NeboHist_5YrRev.dwg

Plotted By: Mario Camacho

ATTACHMENTS

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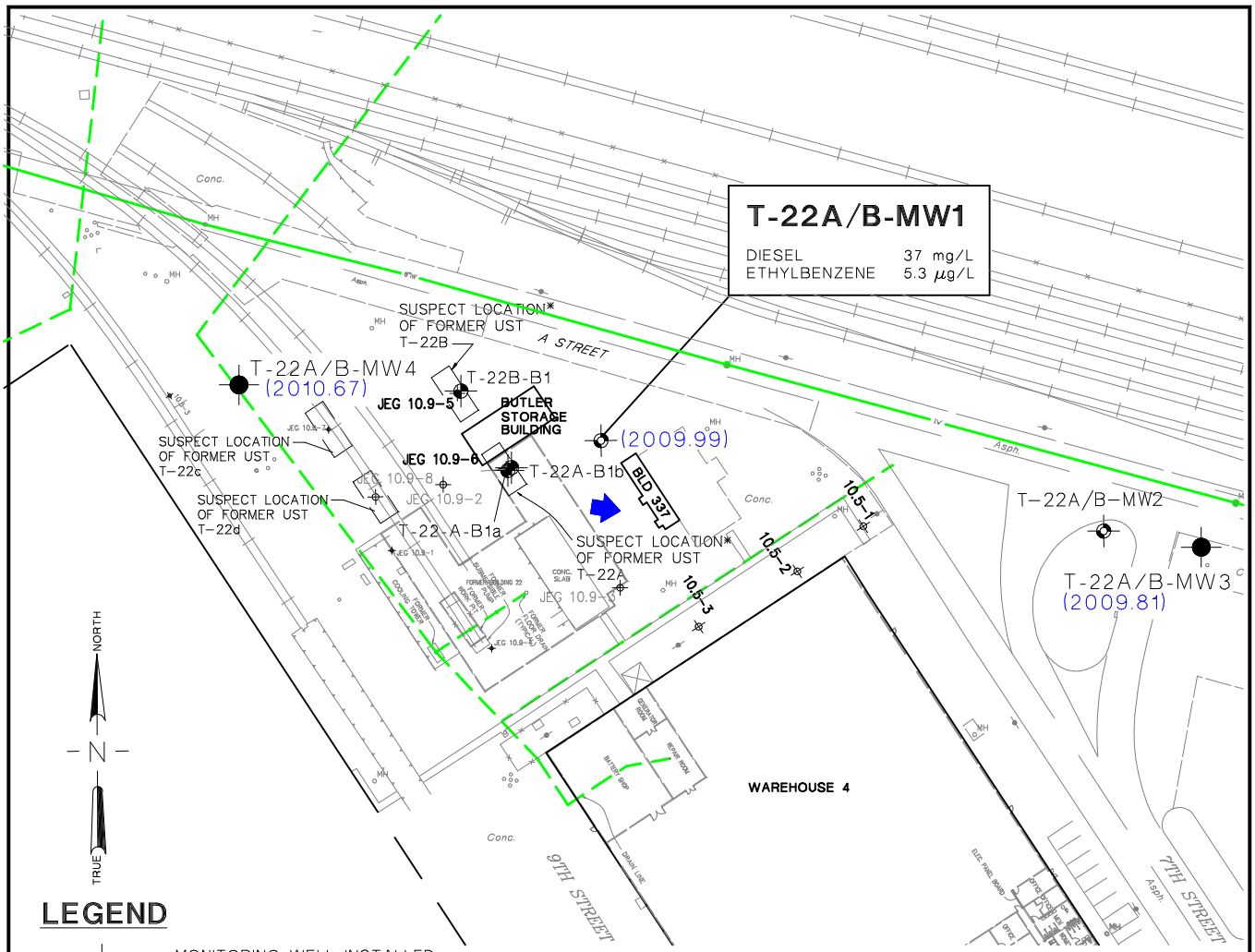

LEGEND

- MONITORING WELL INSTALLED BY BEI (MARCH 2003)
- T-22B — SOIL BORING DRILLED BY BNI (NOVEMBER 1997)
- T-22A/B-MW1 — MONITORING WELL INSTALLED BY BNI (AUGUST 1998)
- ESTIMATED DIRECTION OF GROUNDWATER FLOW
- (2010.67) — WATER-LEVEL ELEVATION IN FEET ABOVE MEAN SEA LEVEL (MSL)
- RAILROAD
- FENCE
- ROAD/CURB/OTHER SURFACE FEATURE
- BUILDING OR STRUCTURE

SAMPLE IDENTIFICATION

T-22A/B-MW1

DIESEL — ANALYTE NAME

37 mg/L — CONCENTRATION

CONCENTRATION UNITS

0 100 200

FEET

NOTES:

BEI - BECHTEL ENVIRONMENTAL, INC.

BNI - BECHTEL NATIONAL, INC.

µg/L - MICROGRAMS PER LITER

mg/L - MILLIGRAMS PER LITER

UST - UNDERGROUND STORAGE TANK

* - LOCATION BASED ON JACOBS ENGINEERING GROUP 1992, TANK SIZE UNKNOWN

AN OBSTRUCTION WAS ENCOUNTERED IN MW2 AT 33.3 FEET BELOW TOP OF CASING AND WAS NOT SAMPLED

SOURCE:

PHOTOGRAMMETRY MAP BY INLAND SURVEYS INC.
PHOTOGRAPHY DATE: 1-14-98, COORDINATE SYSTEM IN NAD 83

UST Site Investigation Report
Figure 5-1
USTs T-22A/B - Groundwater Analytical Results - Nebo Main Base

MCLB Barstow, California

Bechtel Environmental, Inc.
CLEAN 3 Program

Date: 7/22/03
File No: 026A11014
Job No: 23818-026
Rev No: G

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APPENDIX E-2

Technical Assessment Report
Nebo South Plume Remedy

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4.0 REFERENCES E-4

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Figure F-2.2 OU 2, Nebo South (CAOC 6) Groundwater COC Concentrations (November 2016)

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Graph E-2.1. Area of Nebo South TCE Plume E-1

GRAPHS (AFTER TEXT)

Graph E-2.2 OU 2 Nebo South Plume: TCE Concentration Trends (2012 - 2016)

Graph E-2.3 Historical CAOC 6 AS/SVE System Performance

For Acronyms and Abbreviations, please see Fourth Five-Year Review report text.

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1.0 INTRODUCTION

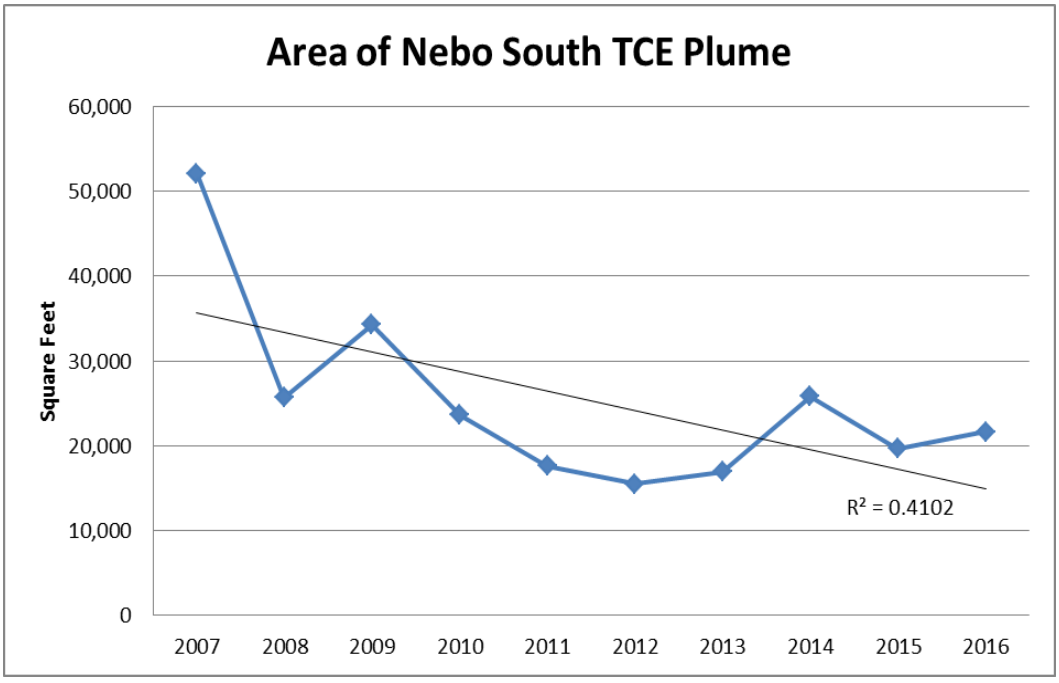
This Technical Assessment has been prepared to document the technical assessment of the performance of the groundwater remedy for the Operable Unit 2 (OU 2) Nebo South groundwater plume. This evaluation was completed in support of the Fourth Five-Year Review and covers the timeframe from October 2012 through October 2017 (data from system startup up through November 2016 were reviewed). This memorandum was prepared by Oneida Total Integrated Enterprises (OTIE) for the Department of the Navy (DON) under Contract No. N39430 16 D 1818 task order 0006.

The Nebo South groundwater plume and the plume source area, the Comprehensive Environmental Response, Compensation, and Liability Act Area of Concern (CAOC) 6, are described in Section 3.5 of the Fourth Five-Year Report. The Nebo South groundwater plume contaminants of concern (COCs) consist of dissolved-phase volatile organic compounds (VOCs), primarily trichloroethene (TCE), tetrachloroethene (PCE), and 1,1-dichloroethene (1,1-DCE). The selected remedy for this plume is operation of an air sparge/soil vapor extraction (AS/SVE) systems for groundwater and vadose zone VOC mass removal as described in Section 8.2 of the Fourth Five-Year Report. The OU 2 Record of Decision (ROD) selected air sparge/soil vapor extraction (AS/SVE) as the final remedy along with land use controls for the CAOC 6 source area (DON 2006).

1.1 TCE PLUME AREA

The interpreted extents of the Nebo South TCE plume from 2013 to 2016 are presented on Figure E-2.1. As shown below on Graph E-2.1, the overall TCE plume area has decreased since 2007; however, the current trend is relatively flat with a slight increase from 2012 – 2016.

Graph E-2.1. Area of Nebo South TCE Plume



2.0 HISTORICAL GROUNDWATER TCE CONCENTRATION TRENDS OVER TIME

The primary COC in groundwater at Nebo South is TCE; other VOCs are not detected or are detected below OU 2 cleanup limits. A summary of detected TCE concentrations for 2005 through 2016 are presented in Table E-2.1 below

Table E-2.1 Summary of Nebo South TCE Detections (2005 – 2106)

Year	Minimum TCE Detection (µg/L)	Maximum TCE Detection (µg/L)	Average TCE Detection (µg/L)	Total Number of Groundwater Samples	Number of Groundwater Samples with TCE detections above cleanup level*
2005	0.5 J	180	17.07	26	9
2006	0.27 J	81	6.23	22	5
2007	0.38 J	92	8.83	26	7
2008	0.39 J	25	3.89	33	8
2009	0.14 J	10 U	2.51	15	3
2010	0.17 J	25 U	3.27	28	4
2011	0.58 J	8	1.71	27	3
2012	0.38 J	11	2.48	21	3
2013	0.5 J	20	2.34	21	2
2014	0.37 J	12	2.12	21	4
2015	0.54 J	21	2.62	21	2
2016	0.54 J	16	2.37	21	3

ACRONYMS:

J = laboratory estimated concentration, U = detection limit, µg/L = micrograms per liter
*Cleanup level for TCE is 5 µg/L

Groundwater concentrations from select groundwater monitoring wells at Nebo South are presented in Graph E-2.2, following the text. The detected groundwater COC data show TCE concentrations have been reduced to below the cleanup level (5 µg/L) at all but four wells (NS6-4, NS6-5, NS6-V1, and NS6-V3) located near the Nebo Main Base east boundary. There is an increasing trend in detected TCE concentrations at wells NS6-V1, NS6-4, and NS6-5 during the past four years. However, COC concentrations in off-base monitoring wells (NEP-7, NEP-8, and NEP-9) remained below the respective cleanup levels during this review period. Well locations and November 2016 groundwater concentrations are shown on Figure E-2.2.

An analysis of TCE concentration trends is presented Graph E-2.2 (following the text); maximum and average detected TCE concentrations across the plume, the total number of samples collected, and the number of samples with COC detections exceeding the respective MCL are plotted. The number of wells with TCE concentrations with detections exceeding the MCL ranged from 2 to 4 wells during the reporting period (2012 through 2016). To account for the variable total number of TCE samples, the ratio of wells exceeding MCL to the total number of wells sampled was calculated. The ratio of wells

exceeding the MCL to the total number of wells sampled has remained stable throughout the review period.

2.1.1 AS/SVE Remedial System Performance Evaluation

The Nebo South AS/SVE system was installed to reduce the contamination in the OU 2 Nebo South groundwater plume and the vadose zone of CAOC 6, considered to be the source area of the plume, per the 2006 OU 2 ROD (DON 2006). The AS/SVE system at Nebo South operated in pilot and extended pilot testing modes beginning in October 2001. Operations were then designated an Interim Remedial Action in January 2004 (Tetra Tech FW, Inc. 2004). The OU 2 ROD was signed on 28 September 2006 and designated AS/SVE as the final remedy for the Nebo South groundwater plume and vadose zone of CAOC 6 (DON 2006).

Treatment and control of the Nebo South plume is performed through the operation of an AS/SVE system. Historical AS/SVE system performance, as indicated by the rate of total VOCs removed and cumulative totals, is presented on Graph E-2.3. The rate of COC removal (as measured in effluent concentrations) has flattened significantly since start-up. Since about 2006 the extraction rate appears relatively unchanged. A slight increase in mass removal rates in late 2011 is likely due to replacement of the air compressor, which improved system operation uptime and general functioning. The slight uptick in mass removal rate beginning in late 2015 was likely due to well repairs and increased operation time in early 2017 in an attempt to reduce the remaining TCE groundwater concentrations detected at monitoring wells NS6 V1, NS6-V3, NS6-4, and NS6-5.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Detected TCE concentrations in the groundwater samples collected from the offsite wells remained below the cleanup level. The on-Base plume size increased slightly during the review period and there was a slight upward trend in maximum detected TCE concentration; however, the average TCE concentrations were relatively stable. The number of monitoring wells with TCE detections exceeding cleanup level has remained stable between 2 and 4 wells. These variable plume characteristics are not well understood, but may point to some residual contamination beyond the radius of the influence of the currently configured system. Performance of the AS/SVE system has generally declined in effectiveness overtime, but maintenance and optimization measures have maximized performance during the review period.

The remaining plume is relatively small and off-site migration is prevented by operation of the AS/SVE system. The detected TCE concentrations in the off-Base wells remained below the cleanup level during the review period; therefore the remedy remains protective for potential off-site receptors.

Recommendations include:

- Continue operation of the AS/SVE system to prevent off-Base migration of the remaining plume. Continue to evaluate system performance and monitoring data and optimize system operations to the extent feasible;
- Consider reducing the number of upgradient monitoring wells, particularly those far from the plume and with consistent detections below cleanup level concentrations. Reduce off-base monitoring frequency from semi-annual to annual based on the long-term non-detect or concentrations detections at trace-level (below cleanup levels).

4.0 REFERENCES

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Department of the Navy (DON). 2006. *Final Record of Decision, Nebo South Groundwater – Operable Unit 2, Marine Corps Logistics Base, Barstow, California.* Prepared by Naval Facilities Engineering Command, Southwest Division. 20 September.

FIGURES

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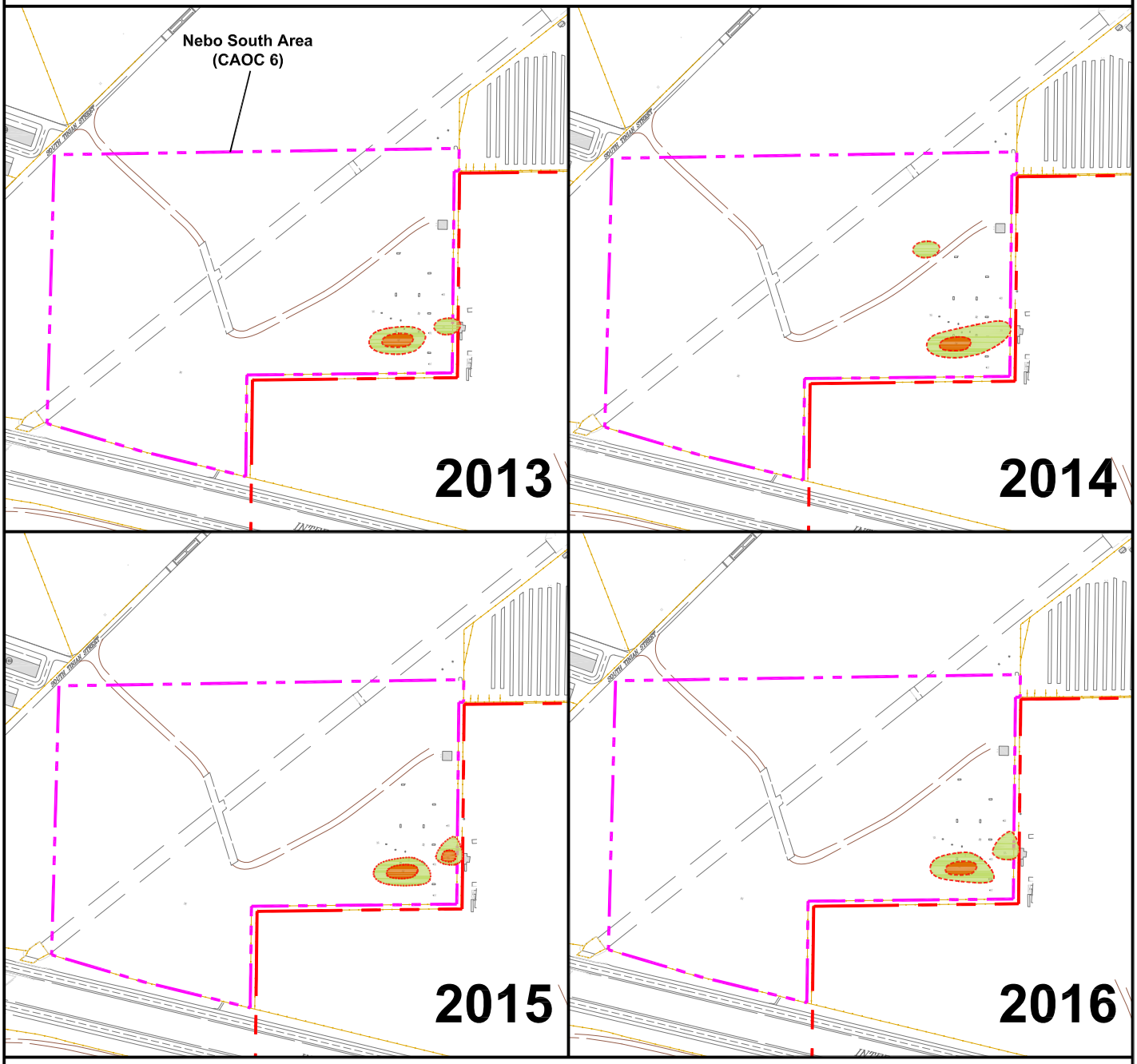
Trichloroethene



Legend

- Nebo Boundary
- Nebo South Land Use Control Boundary
- 5 ug/L TCE Concentration Area
- 10 ug/L TCE Concentration Area

N
W E
S

Notes

1) ug/L = Micrograms per Liter
TCE = Trichloroethene

Approximate Scale in Feet

0 500 1,000

Figure E-2.1

Nebo South Historical Groundwater
TCE Extents, 2013 - 2016

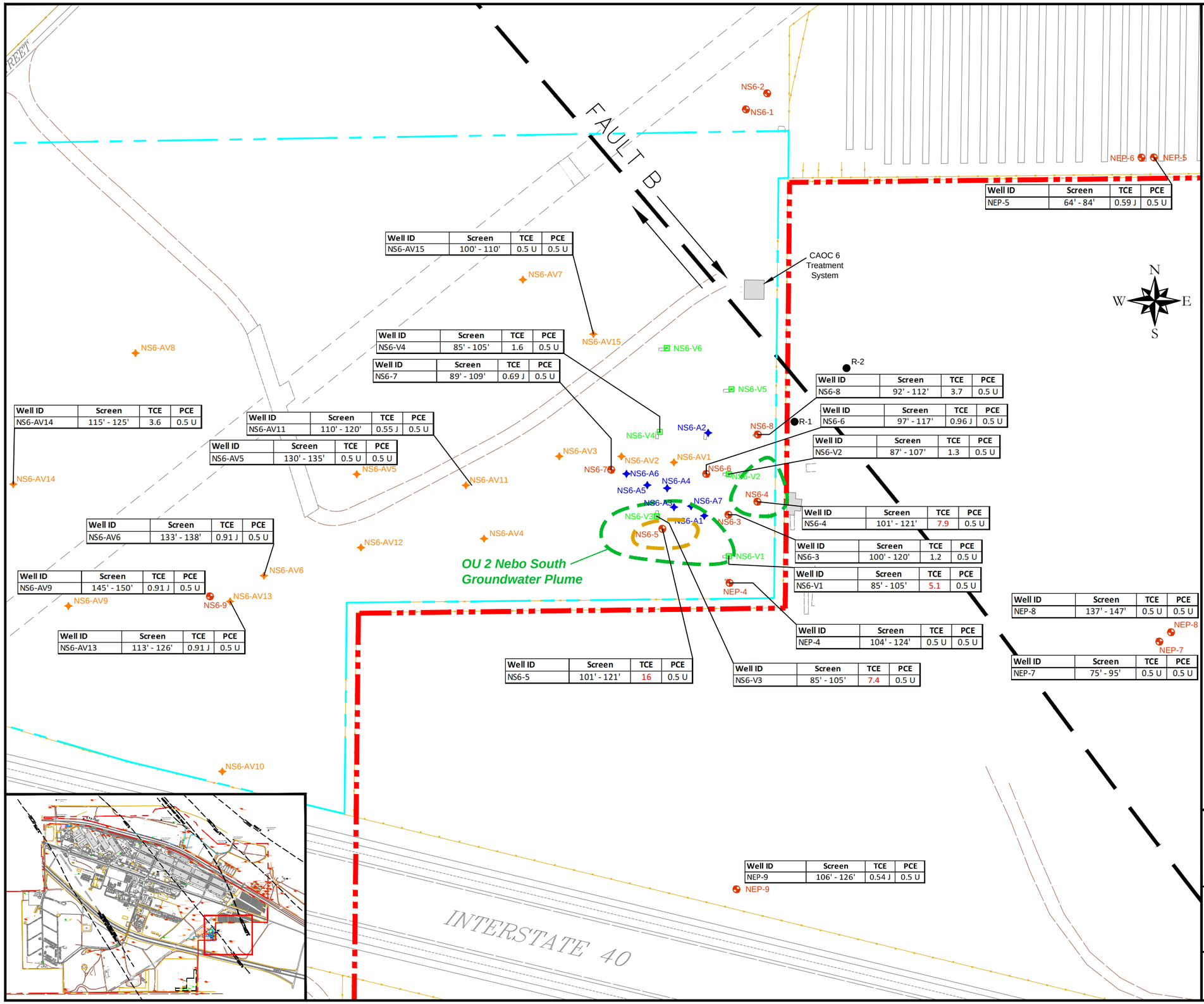
Nebo Main Base
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: April 10, 2017

File: NeboHist_5YrRev.dwg

Plotted By: Marlo Camacho



Well ID	Screen	TCE	PCE
NS6-AV15	100' - 110'	0.5 U	0.5 U

Well ID	Screen	TCE	PCE
NS6-V4	85' - 105'	1.6	0.5 U

Well ID	Screen	TCE	PCE
NS6-7	89' - 109'	0.69 J	0.5 U

Well ID	Screen	TCE	PCE
NS6-AV14	115' - 125'	3.6	0.5 U

Well ID	Screen	TCE	PCE
NS6-AV11	110' - 120'	0.55 J	0.5 U

Well ID	Screen	TCE	PCE
NS6-AV5	130' - 135'	0.5 U	0.5 U

Well ID	Screen	TCE	PCE
NS6-AV6	133' - 138'	0.91 J	0.5 U

Well ID	Screen	TCE	PCE
NS6-AV9	145' - 150'	0.91 J	0.5 U

Well ID	Screen	TCE	PCE
NS6-AV13	113' - 126'	0.91 J	0.5 U

Well ID	Screen	TCE	PCE
NS6-5	101' - 121'	16	0.5 U

Well ID	Screen	TCE	PCE
NS6-V3	85' - 105'	7.4	0.5 U

Well ID	Screen	TCE	PCE
NEP-9	106' - 126'	0.54 J	0.5 U

Well ID	Screen	TCE	PCE
NEP-5	64' - 84'	0.59 J	0.5 U

Well ID	Screen	TCE	PCE
NS6-8	92' - 112'	3.7	0.5 U

Well ID	Screen	TCE	PCE
NS6-6	97' - 117'	0.96 J	0.5 U

Well ID	Screen	TCE	PCE
NS6-V2	87' - 107'	1.3	0.5 U

Well ID	Screen	TCE	PCE
NS6-4	101' - 121'	7.9	0.5 U

Well ID	Screen	TCE	PCE
NS6-3	100' - 120'	1.2	0.5 U

Well ID	Screen	TCE	PCE
NS6-V1	85' - 105'	5.1	0.5 U

Well ID	Screen	TCE	PCE
NEP-4	104' - 124'	0.5 U	0.5 U

Well ID	Screen	TCE	PCE
NEP-8	137' - 147'	0.5 U	0.5 U

Well ID	Screen	TCE	PCE
NEP-7	75' - 95'	0.5 U	0.5 U

Legend

- Paved Road
- Dirt Road
- Fence Line
- Base Boundary
- CAOC 6 Land Use Control Boundary
- NEP-1 — Groundwater Monitoring Well
- NS6-V4 — Vapor Extraction Well
- NS6-A7 — Air Sparge Well
- NS6-AV7 — Air Sparge/Vapor Extraction Well
- R-1 — Residential Well
- 5 — Approximate TCE Isoconcentration Contour (ug/L)
- 10 — Approximate TCE Isoconcentration Contour (ug/L)
- Fault Traces (strike-slip)

Monitoring Well Sample

Well Screen Interval (ft bgs) — Analyte

Well ID	Screen	TCE	PCE
NS6-4	101' - 121'	7.9	0.5 U

Red Result indicates a cleanup level excedence

Notes

1) Analytical results shown in ug/L (micrograms per liter) for the wells sampled during the 2016 Annual Groundwater Monitoring Event.
2) The highest detection is reported when a field duplicate is collected.
3) The groundwater cleanup level is 5 ug/L for PCE/TCE.

Acronyms

TCE = Trichloroethene
PCE = Tetrachloroethene
ft bgs = feet below ground surface
J = Estimated Value
U = Not Detected (value indicates detection limit)
CAOC = CERCLA Area of Concern
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
OU = operable unit

Approximate Scale in Feet

0 — 150 — 300

Figure E-2.2
OU 2, Nebo South (CAOC 6) Groundwater COC Concentrations (November 2016)

Nebo Main Base
Marine Corps Logistics Base
Barstow, California

OTIE — An Oneida Nation Company

Date: May 5, 2017

File: Barstow_A16.dwg

Plotted By: Geoff Brink

GRAPHS

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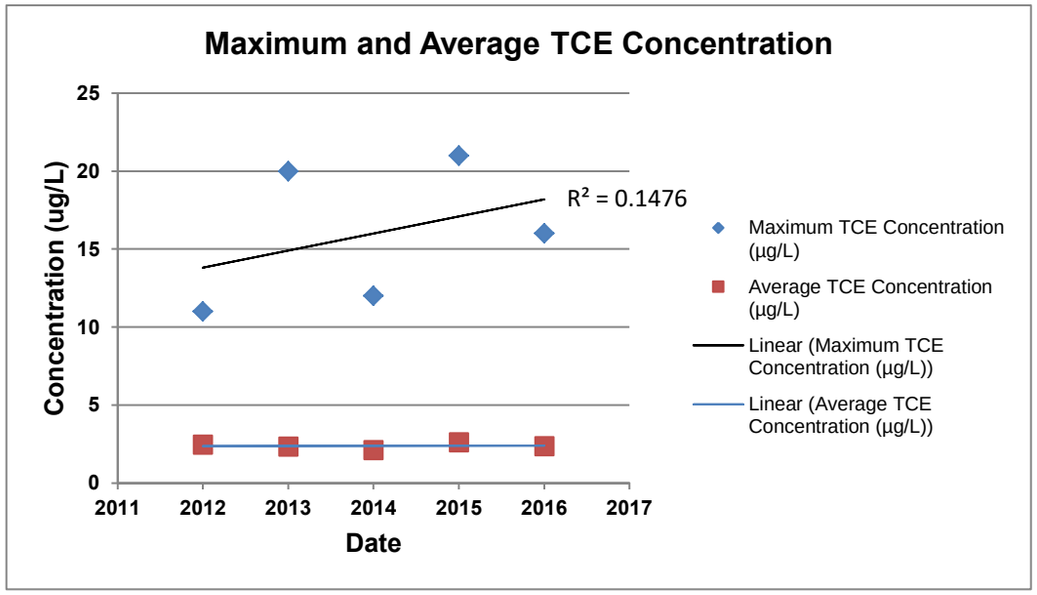
Graph E-2.2

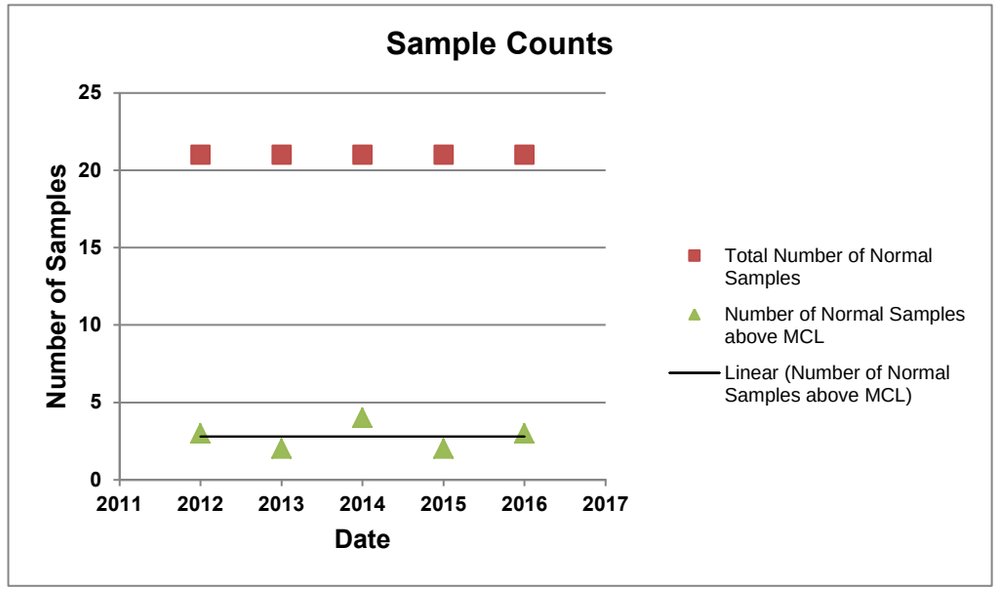
OU 2 Nebo South Plume: TCE Concentration Trends (2012 - 2016)

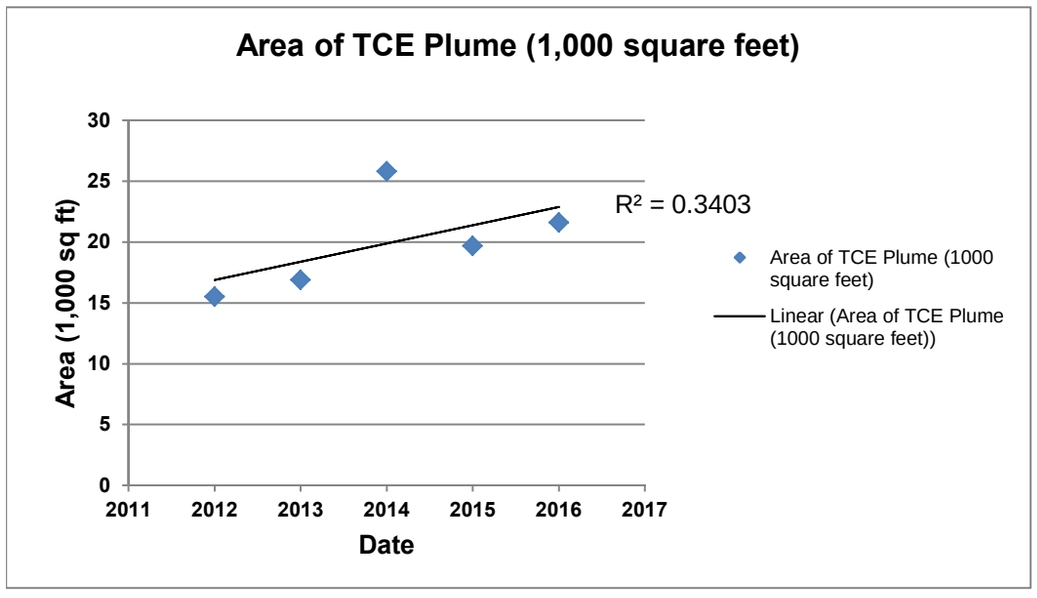
Nebo Main Base, MCLB Barstow, CA

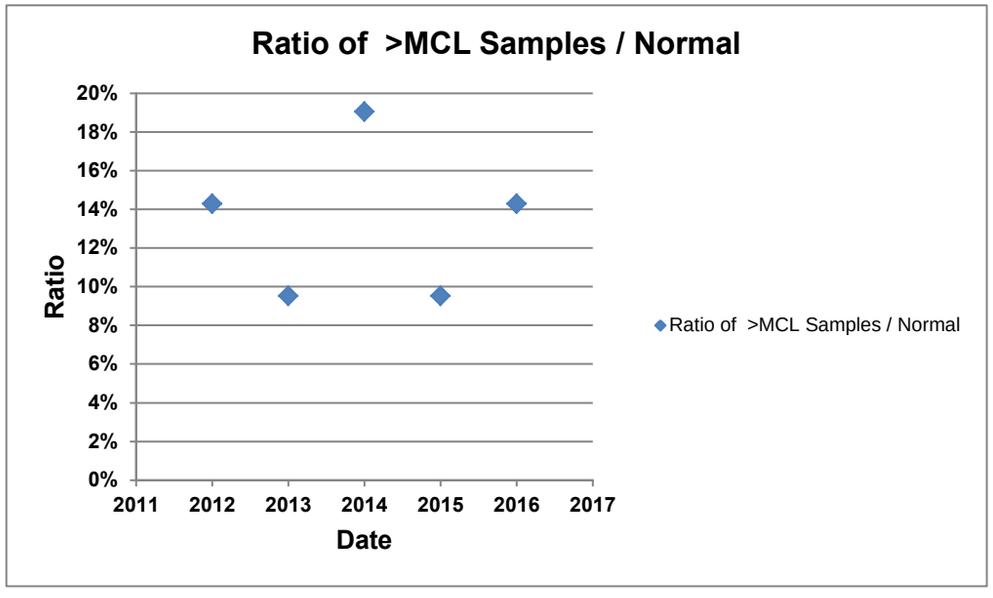
	2012	2013	2014	2015	2016
Maximum TCE Concentration (µg/L)	11	20	12	21	16
Average TCE Concentration (µg/L)	2.48	2.34	2.12	2.62	2.37
Total Number of Normal Samples	21	21	21	21	21
Number of Normal Samples above MCL	3	2	4	2	3
Area of TCE Plume (1000 square feet)	15.5	16.9	25.8	19.7	21.6

(Kaplan-Meier method)
(See Well Selection for how the wells were selected)

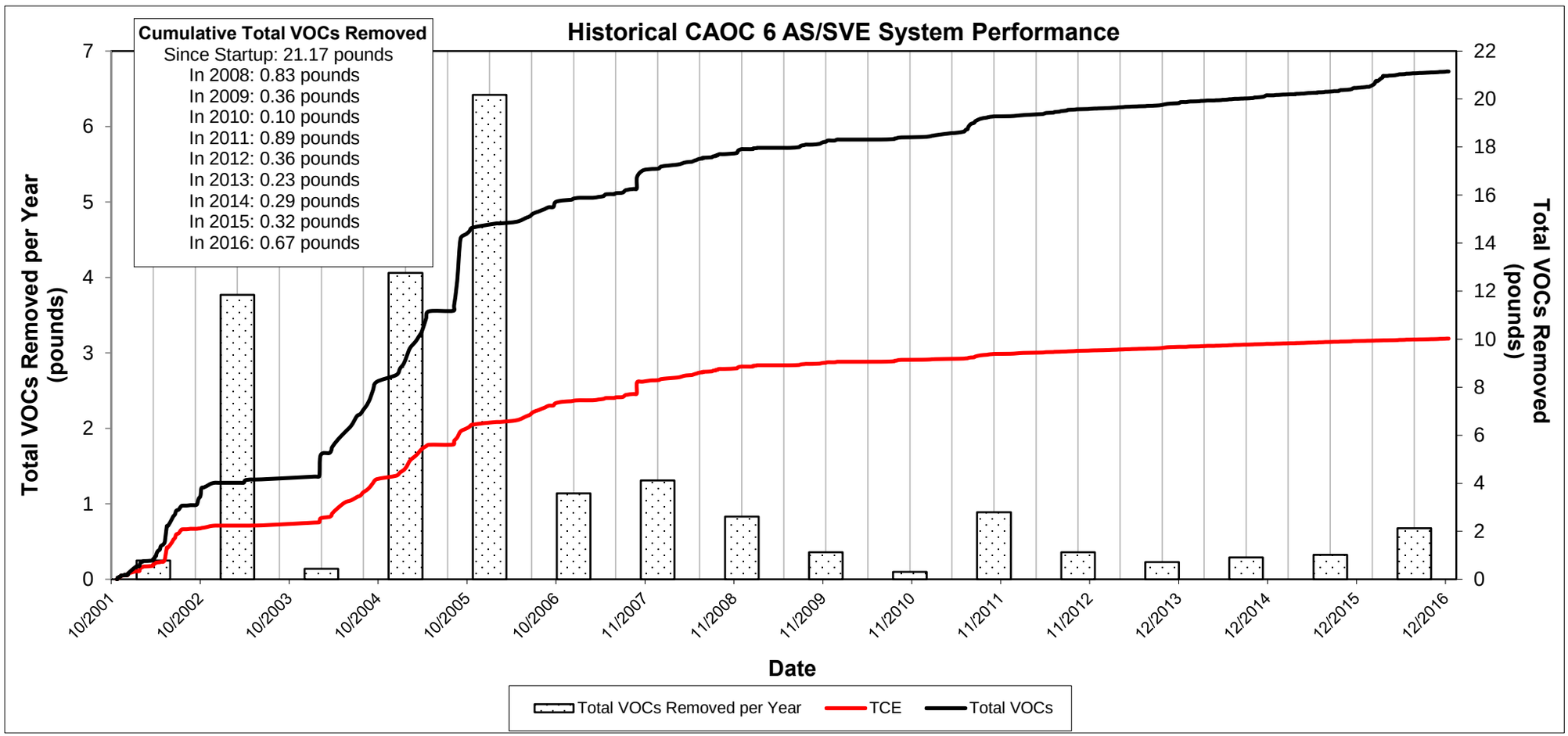








Graph E-2.3
Historical CAOC 6 AS/SVE System Performance
Nebo Main Base, MCLB Barstow, CA



Definitions:

AS/SVE = air sparging/soil vapor extraction; TCE = trichloroethene; VOCs = volatile organic compounds.

APPENDIX F

Technical Assessment Report – OU 3 CAOC 20

Fourth Five Year Review - Remedy Performance Evaluation

Marine Corps Logistic Base Barstow, California

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1.0 INTRODUCTION

This Technical Memorandum has been prepared to document the evaluation of the remedy implemented for Operable Unit 3 (OU 3) CAOC 20, a waste disposal site at the Yermo Annex. This evaluation was completed in support of the 2017 Fourth Five-Year Review. Specifically, the remedy protectiveness of groundwater is examined. This memorandum was prepared by Oneida Total Integrated Enterprises (OTIE) for the Department of the Navy (DON) under Contract No. N39430-16-D-1881 TO 0006.

CAOC 20, Second Hazardous and Low-Level Radiological Area, is located in the east-central portion of the Yermo Annex. This site is bounded on the east and southeast by the Industrial Waste Disposal Area (CAOC 21) and Landfill Area (CAOC 23) and by railroad tracks to the north and south (Figure 5-3 in Main Report). CAOC 20 was divided into three strata for remedial investigation purposes:

- Stratum 1 is in the northwest corner of the CAOC and includes a low-level radiological waste disposal well capped by a 60- by 60-foot concrete pad and surrounded by a chain-link fence;
- Stratum 2 comprises 31 uncapped (native soil cover only) nonradioactive waste disposal dry wells; and
- Stratum 3 lies in the northeastern portion of the CAOC between the convergence of the railroad tracks and included areas of discoloration observed in aerial photographs of the CAOC.

The Strata 1 and 2 disposal wells are approximately 30 feet deep and 4 feet in diameter. Although no engineering drawings were obtained for any of the disposal wells, they are likely unlined and were drilled by a large-diameter solid-stem soil auger. A pit containing metallic debris was located near the eastern boundary of the site (SWDIV 1993). An underground water line runs beneath the site in a northeast-southwest direction.

The selected remedy for CAOC 20 Strata 1 and 2 in the OUs 3 and 4 Record of Decision (ROD) (DON 1997) is Institutional Controls (ICs) to reduce risk to human health and the environment through controlling and monitoring exposure pathways. The remedy requires land-use controls (LUCs), groundwater monitoring, vadose zone precipitation infiltration monitoring, surface drainage control, modification of the existing concrete cap in Stratum 1, and relocation of a buried water line. The remedy construction was completed in 2000 as documented in the OUs 3 and 4 Remedial Action Report (DON 2000). The Base Master Plan was amended in 2010 to incorporate the ICs/LUCs at CAOC 20 (DON 2010). The on-going operations and maintenance (O&M) of the caps is reviewed in the Main report; this technical assessment focuses on groundwater monitoring portion of the remedy.

1.1 ROD REQUIREMENTS FOR GROUNDWATER MONITORING AND DATA ASSESSMENT

The OUs 3 and 4 ROD required installation of one upgradient and one downgradient monitoring well at CAOC 20. The CAOC 20 remedial action was to be evaluated after the fourth year of monitoring with the evaluation and recommendations presented in the Forth Five-Year Review Report. The OUs 3 and 4 ROD states that, if the monitoring proposed under the final remedy indicates a statistically significant release at CAOC 20, any appropriate action will be proposed after consultation with Federal Facilities Agreement stakeholders.

Two monitoring wells (YS20-1 and YS20-2) were installed in June 1999 to 185 feet below ground surface (bgs). The intended downgradient monitoring well YS20-2 was actually in a side-gradient position. Additional downgradient monitoring locations were added to the CAOC 20 monitoring program, but

other problems were encountered with fouling and well screen corrosion potentially affecting the data from YS20-1 and YS20 2.

Groundwater monitoring was initially performed annually for pH, anions, cations, volatile organic compounds (VOCs), metals, radium-226, radium-228, gross alpha, and gross beta. The CAOC 20 monitoring analytical program was optimized, with FFA stakeholder approval, to remove pH, anions, cations, and all metals except chromium and nickel. The radiological monitoring program was revised based on an analysis of the best practice for assessing potential discharges from the suspected radium-painted dials disposed at CAOC 20 Stratum 1 (DON, 2010). The analytical program in place during the fourth five-year review period (2012 – 2016 data set) included VOCs, chromium, nickel, radium-226, radium-228, gross beta, and tritium.

1.2 PRIOR REVIEWS OF GROUNDWATER MONITORING DATA

The CAOC 20 monitoring data have been reviewed in the second and third Five Year Reviews (DON 2007, 2012) and are summarized below:

- **2007 Second Five-Year Review Findings and Recommendations:** Gross alpha concentrations in groundwater in the upgradient and cross-gradient wells exhibit exceedances (Note: Downgradient well gross alpha concentration during 2005 was less than the respective MCL.) Additional investigations to further evaluate these exceedances. If it is determined that the source of the exceedances is CAOC 20, a reevaluation of the remedy for CAOC 20 may be required. Appropriate action will be proposed after consultation with the FFA signatories; and
- **2012 Third Five-Year Review Findings and Recommendations:** No significant or readily identifiable concentration trends for gross beta or radium isotopes 226, or 228 have been observed in CAOC 20 wells since November 2004. YS20-1 and YS20-2 were cleaned and redeveloped in October 2010 to reduce biofouling and improve data quality. The November 2011 data indicated dissolved chromium and nickel concentrations at YS20-1 exceeded the RAOs. For YS20-2, only dissolved nickel concentration exceeded the RAO. However, continued elevated turbidity measurements in these wells could indicate non-representative conditions in the wells and surrounding aquifer. Additionally YS20-1 had only 3 feet of water in the screen, which could reduce sample quality. Groundwater monitoring wells should be periodically cleaned and redeveloped to address biofouling that could impact data quality. Evaluate four consecutive years of monitoring data in accordance with OUs 3 and 4 ROD.

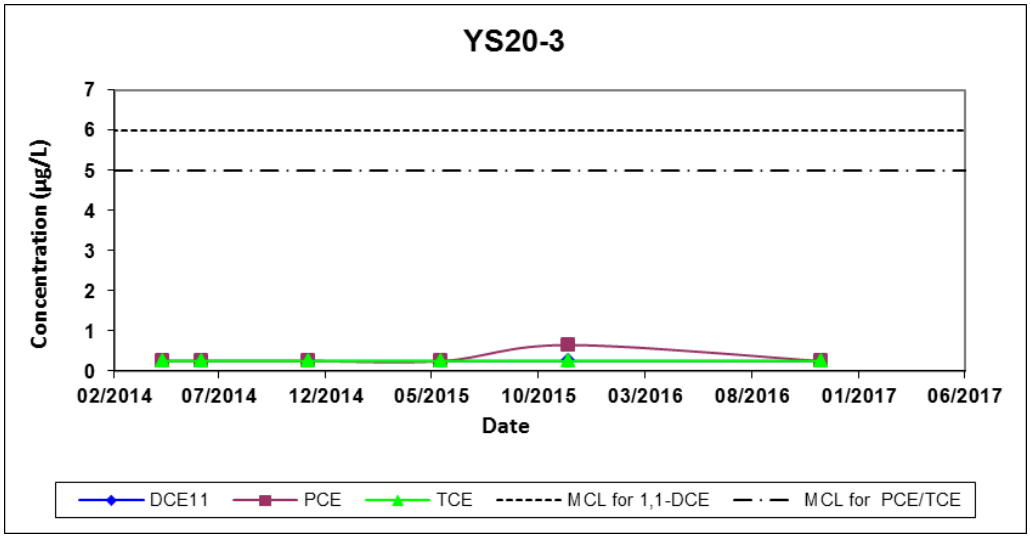
A new down-gradient PVC-screened monitoring well, YS20-3, was installed during 2014 to replace YS20-1 and YS20-2. Replacement was required because corrosion of the stainless-steel well screens at the original wells generated turbidity and dissolved chromium and nickel. Additionally, as regional groundwater levels declined, and both YS20-1 and YS20-2 went dry (2012 – 2013). Monitoring well YS20-3 is located downgradient of CAOC 20 and is monitored annually. Because the new well is believed to best represent downgradient water quality, only the data from this well are evaluated for this five year review period.

2.0 EVALUATION OF DOWNGRADIENT GROUNDWATER DATA (YS20-3)

2.1 VOLATILE ORGANIC COMPOUNDS

Six rounds of groundwater monitoring for VOCs have been performed at YS20-3 since installation. Sampling to date has not identified VOCs are present in groundwater, except perhaps at trace levels as shown on Graph F-1.1.

Graph F-1.1. CAOC 20 Downgradient Groundwater VOC Trends



It should be noted that, during installation of YS20-3, a layer of VOC-contaminated soil was encountered at 120 and 124 feet below ground surface (ft bgs) (OTIE 2014). The soil was sampled within and below the contaminated zone; the results are summarized below:

- Sample YS20-3-123 (123-foot depth): acetone (60 µg/kg), benzene (0.21 J µg/kg), 2-butanone (35 µg/kg), n-Butylbenzene (0.28 J µg/kg), carbon disulfide (0.35 J µg/kg), and p/m-xylene (0.25 J µg/kg) (J indicates an estimated quantity); and
- Sample from 148 ft bgs had no detectable VOC concentrations.

Depth to groundwater at this well ranged from 184.04 – 187.19 feet bgs (2014 – 2016), leaving approximately 60 feet of vadose zone thickness between the contaminated soil layer and groundwater. Nonetheless, based on wastes being disposed in unlined dry wells and the finding of contaminated soil at depth, there remains a potential for VOC contamination of groundwater at CAOC 20.

2.2 RADIOLOGICAL PARAMETERS

Only three rounds of monitoring for radiological parameters have been performed at CAOC 20, YS20-3. Additionally, since installation of YS20-3, the DON selected and sampled several Yermo Annex groundwater monitoring wells in order to develop a background data set for radium-226, radium-228, gross beta, and tritium. The background data were collected in lieu of replacing the upgradient monitoring well at CAOC 20; four rounds of background data have been compiled as of the date of this report. Table F-1.1 summarizes the available three rounds of radiological parameters from YS20-3; Graph F-1.2 (next page) shows the trends over time in comparison to the respective MCL and background values to date.

Table F-1.1 CAOC 20 Radiological Parameters in Groundwater at Monitoring Well YS20-3

Analyte		Gross Beta	Radium-226	Radium-228	Total Radium[3]	Tritium[4]
Units		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
MCL[1]		50			5[2]	20,000
Background Range (max, min)		5.09 - 19.1	0.242 - 1.04	1.59 - 3.27	0.242 - 4.19	(not detected)
Average Background Value[5]		10.9	0.71	2.32	1.81	NC
Sample Type	Sample Date					
N	11/11/2014	9.74	4.56	1.04 U	4.56	700 U
N	11/12/2015	11.7	0.943 UJ	2.92	2.92	102 U
N	11/7/2016	6.43	1.24	1.28 U	1.24	480 U

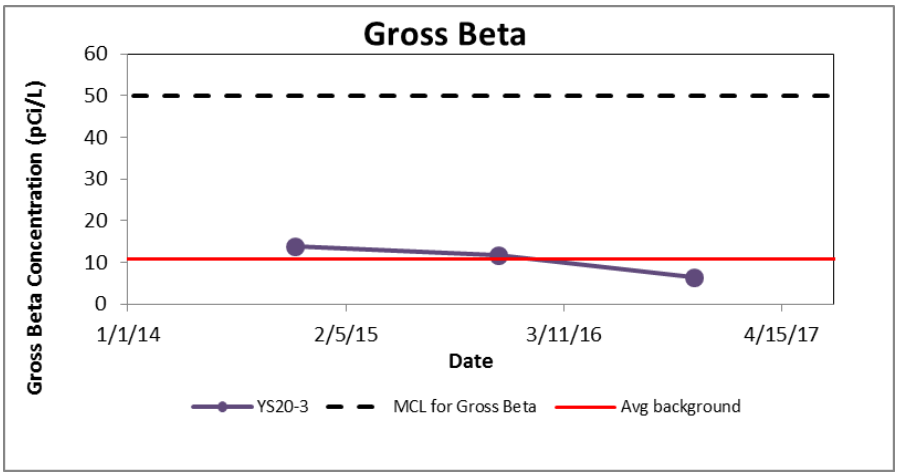
NOTES:

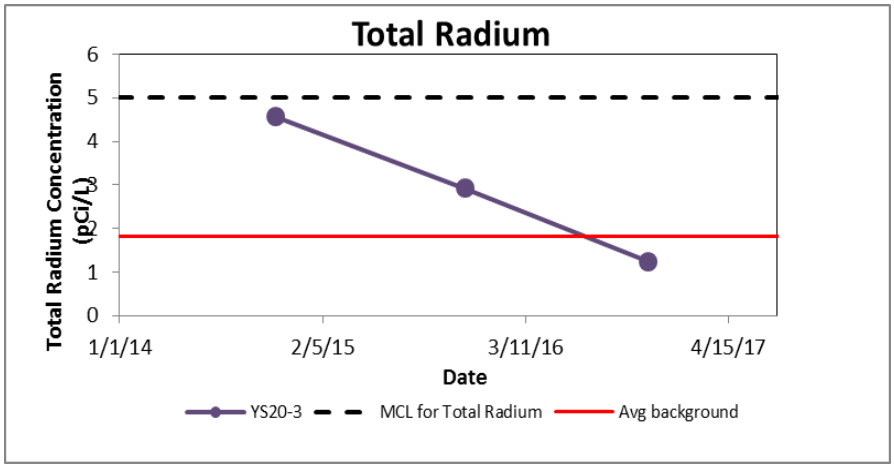
Bolded results indicate detections; shaded cell indicates result is above the average background value
Samples were analyzed by EPA Method 900 for Gross Beta, EPA Method 903.1 for Radium-226, EPA Method 904 for Radium-228, and EPA Method 906.0 for Tritium
[1]MCL per State Water Resources Control Board, 1 July 2014 (no cleanup level selected in OUs 3 and 4 ROD)
[2]California MCL for combined radium-226 and radium-228 is 5 pCi/L.
[3]Sum of radium-226 and radium-228
[4]Tritium not detected above reporting limit in background samples.
[5]Average values from background locations sampling (Draft 2016 Annual Groundwater Monitoring Report, OUs 1 – 7 , MCLB Barstow; OTIE 2017)

DEFINITIONS:

J = estimated value, detected between the detection limit and limit of quantification; MCL = maximum contaminant level; MDA = minimum detectable activity; N = normal; pCi/L = picoCuries per liter; NC = not calculable; U = not detected above the MDA; UJ = not detected and detection limit is estimated.

Graph F-1.2 CAOC 20 – Downgradient Groundwater Gross Beta and Total Radium Trends





2.3 CHROMIUM AND NICKEL

See Appendix D, Technical Assessment Report D-3, for an evaluation of the OU 1 metals monitoring program including YS20-3.

3.0 CONCLUSIONS AND RECOMMENDATIONS

CAOC 20 is a capped waste-left-in-place remedy; the RAOs are to prevent direct contact with wastes through ICs and LUCs and protection of groundwater. The OUs 3 and 4 ROD required an assessment of the potential for CAOC 20 to contaminate groundwater. The original monitoring wells were installed in 2000, but only one was in the correct position to evaluate upgradient groundwater; the second well was side-gradient. Both wells had stainless-steel well screens that corroded and affected the groundwater quality. A new down-gradient monitoring well, installed in 2014, provides the opportunity to collect groundwater representative of CAOC 20. At the time of this evaluation, less than four rounds of radiological monitoring data were available for assessment; therefore one additional sampling round is required before the assessment required by the ROD can be completed. However, the six rounds of VOC groundwater data were reviewed. Conclusions and recommendations are summarized below.

Conclusion:

- Based on the six semiannual monitoring events for VOCs since well installation in 2014, CAOC 20 was not a source of VOCS in groundwater.

Recommendation:

- Discontinue VOC monitoring at CAOC 20 based on the ROD requirement for evaluation of four rounds of monitoring data.
- Collect one additional sample at monitoring well YS20-3 for the radiological parameters and perform the analysis per the ROD; report in the next annual groundwater monitoring report.

4.0 REFERENCES AND DATA SOURCES

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APPENDIX G

Technical Assessment Report

Evaluation of the Monitored Natural Attenuation (MNA)

Remedies for Three Groundwater Plumes

Under Operable Unit (OU) 7,

Marine Corps Logistic Base (MCLB) Barstow, California

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1.0 INTRODUCTION

This document presents the current status of the monitored natural attenuation (MNA) remedy of three groundwater plumes located in Operable Unit (OU) 7 at the Marine Corps Logistic Base (MCLB) Barstow, California. The selected groundwater remedies for the three plumes are documented in the OU 7 Record of Decision (ROD) (Department of the Navy [DON] 2014). Analytical data from October 2012 through December 2016 was reviewed for this report.

1.1 PURPOSE AND SCOPE

This status report evaluates the MNA remedy for groundwater contamination identified at the following Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Areas of Concern (CACOs): CAOC 10.38/10.39 Unit 7, CAOC 7 Stratum 1, and groundwater area NPZ-14. The contaminants of concern (COCs) in groundwater include trichloroethene (TCE) and tetrachloroethene (PCE).

This MNA status report is part of the five-year review to evaluate the effectiveness and protectiveness of the MNA remedy. The five-year review of the MNA remedy will be evaluated using the eight performance metrics and statistical evaluations of the long-term monitoring data as outlined in the OU 7 ROD (DON 2014) and Remedial Design – Remedial Action Work Plan (RD-RA WP) (Oneida Total Integrated Enterprises [OTIE] 2015).

Statistical evaluation of COCs was conducted in accordance with the following EPA guidance documents:

- Performance Monitoring of MNA Remedies for VOCs in Groundwater (U.S. EPA 2004), which recommends performing trend analyses on parameters of interest; and
- An Approach for Evaluating the Progress of Natural Attenuation in Groundwater (U.S. EPA 2011), for the evaluation of OU 7 MNA groundwater.

Data collected over the past five years (2011 – 2016) was evaluated using the 2011 EPA guidance to evaluate attenuation and estimate the timeframe to attain Site cleanup goals. The selected data set extends beyond the current five-year review period because this is the first review. For some wells, there is less than five years of data, depending on the date of installation.

The relative extent of each plume (shrinking, expanding, or remaining stable) was also evaluated following the methods described in *A Practical Method to Evaluate Ground Water Contaminant Plume Stability* (Ricker 2008).

Each of the eight performance metrics specified in the OU 7 ROD will be used to evaluate whether cleanup levels will likely be achieved within an acceptable timeframe (statistical analysis) and if the MNA remedy is remaining protective and effective. If these goals are not estimated to be achievable as indicated by: (1) expanding or migrating plume; (2) increasing COC concentrations; (3) insufficient decrease of COCs within a reasonable time frame; and (4) unacceptable exposure risks; collection of additional data will be required to further evaluate the remedy.

1.2 ROD SUMMARY

The OU 7 ROD presented selected remedies for soil and groundwater at 18 remaining sites at MCLB Barstow, California not covered under the previous RODs for OUs 1 through 6. Within the OU 7 ROD, sites CAOC 10.38/10.39 Unit 7, CAOC 7 Stratum 1, and groundwater area NPZ-14 selected MNA with Land Use Controls (LUCs) as the preferred remedy to protect human health or welfare or the

environment. The Remedial Action Objectives, COCs, and groundwater cleanup levels are summarized below for the three MNA sites.

Site	REMEDIAL ACTION OBJECTIVEs	COCs	Cleanup Level
CAOC 10.38/10.39 Unit 7	Protect human receptors from unacceptable risks due to ingestion of groundwater impacted with PCE and TCE, and prevent the migration of site COCs in groundwater at concentration greater than cleanup levels.	PCE and TCE	5 µg/L
CAOC 7 Stratum 1	Protect human receptors from unacceptable risks due to ingestion of groundwater impacted with TCE, to mitigate further impact to groundwater from TCE in soil vapor, and prevent the migration of site COCs in groundwater at concentration greater than cleanup levels.	TCE	5 µg/L
NPZ-14	Protect human receptors from unacceptable risks due to ingestion of groundwater impacted with TCE, and prevent the migration of site COCs in groundwater at concentration greater than cleanup levels.	TCE	5 µg/L

1.3 RICKER ANALYSIS

The Ricker Analysis is a statistical method of evaluating plume stability related to natural attenuation of dissolved contaminants in groundwater. The method calculates and assesses historical trends for various contaminated plume characteristics including area, average concentration, contaminant mass, and center of mass. Using this data a statistical trend analysis is conducted to assess plume stability: growing, shrinking, or stable (Ricker 2008). Shell Global Solutions developed an Excel module, called the GroundWater Spatio-Temporal Data Analysis Tool, or GWSDAT, to graphically represent groundwater monitoring data. The plume maps and graphs are produced using the GWSDAT software with the statistical calculations and graphical output generated using the open source statistical program R (API 2017). The spatial-temporal plume maps are calculated using the 5 µg/L isopleth (the cleanup goal for PCE and TCE) from which an estimated mass and area can be calculated. Statistical calculations cannot be generated if the plume boundary is incomplete (i.e., open); therefore the plume must be defined by up- and down-gradient monitoring wells with COC concentrations below the cleanup goals.

1.4 STATISTICAL ANALYSIS

Groundwater concentration trend statistics were calculated following the methods described in *An Approach for Evaluating the Progress of Natural Attenuation in Groundwater* (EPA 2011). Sampling dates were converted to decimal years and the natural log of contaminant concentrations were calculated. The Excel correlation formula was used to calculate the Pearson Correlation Coefficient (r). Critical values (α=0.05) for the number of data pairs were obtained from Triola (1997).The null hypothesis of no linear correlation was rejected if the absolute value of r exceeded the critical value.

Ordinary least squares regression analysis, using the Excel regression function, was conducted for wells where a significant linear correlation was observed. The attenuation factor (inverse of the regression coefficient) was calculated for the 95% lower confidence level (CL) and the 95% upper CL. If both the upper and lower 95% CL attenuation rates were positive, it was concluded that there was sufficient evidence that natural attenuation was occurring, and that concentrations were decreasing over time. If both the upper and lower 95% CL attenuation rates were negative, it was concluded that there was sufficient evidence that the concentrations were increasing over time.

If the regression analysis indicated that natural attenuation was occurring, an estimated date for reaching the MCL was calculated for the best fit linear regression attenuation rate and also for the upper 95% CL of the attenuation rate using a one-tailed test using the formula:

$$ln\left(\frac{C_g}{C_o}\right) = kt$$

Where:

C_g= concentration goal (Maximum Contaminant Level)

C_0= original concentration, average concentration over all sampling times

k= attenuation rate

t= time required to reach the concentration goal.

2.0 REVIEW OF PERFORMANCE METRICS AND STATISTICAL EVALUATIONS

2.1 CAOC 10.38/10.39 UNIT 7

CAOC 10.38/10.39 Unit 7 is in an area of former industrial operations located in the central portion of Nebo Main Base (Figure G-1). Sources of TCE/PCE groundwater contamination may include historical releases or discharges to the former Unit 7 surface drainage ditches or from the former industrial activities, equipment storage, and USTs in the area. Evaluation of MNA performance at Unit 7 follows the eight performance metrics outlined in the OU 7 ROD, as well as comparison to the baseline conditions summarized in the MNA RD-RA Work Plan (Table 3-5, Section 3.2.6). MNA performance monitoring evaluates both the effectiveness and protectiveness of the MNA remedy, which is outlined on Table 4-1 in the OU 7 ROD (DON 2014). Plume diagnostics are based on the Ricker Model whereby monitoring well data for wells within and proximal to the presumed source are plotted over time with a spatial context that outlines the plume parameters.

The Remedial Action Objectives: 1) protect human receptors from unacceptable risks due to ingestion of groundwater impacted with TCE (NPZ-14, CAOC 7) or TCE and PCE (CAOC 10.38/10.39 Unit 7), and 2) prevent the migration of COCs in groundwater at concentrations greater than cleanup levels. (Section 4.2.5 of RD-RA WP, 2015).

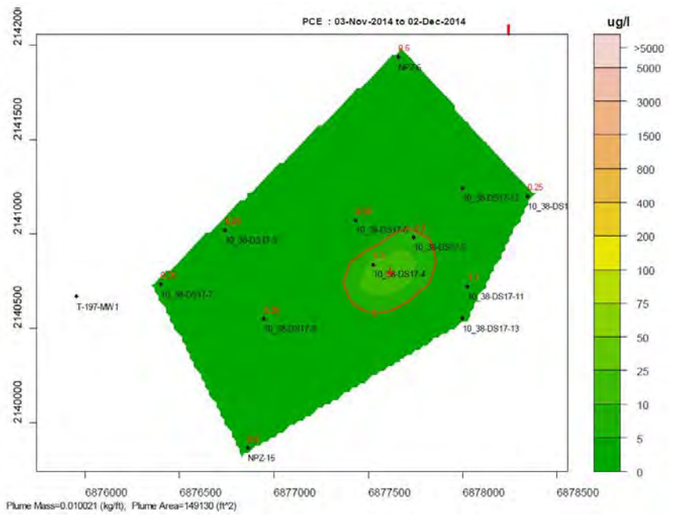
No.	Performance Metric	Evaluation of CAOC 10.38/10.39 Unit 7 PCE/TCE Plume	Conclusions and Recommendations
1	Is Natural Attenuation occurring according to expectations?	**Description:** Natural attenuation achieves reduction of VOC contamination to below cleanup levels through natural processes including microbial and geochemical degradation, sorption, dilution, volatilization, and dispersion. • PCE concentrations are increasing with a statistically significant trend in two wells and the trend is not significantly different than zero in a third well; and • TCE concentration trends are not significantly different than zero in four wells and are decreasing with a statistically significant trend in one well. **Trigger for additional action:** If natural attenuation is not occurring according to expectations, the DON will further evaluate the remedy and propose alternative response actions per Section 5.4 of RD-RA WP (OTIE 2015).	**Conclusion:** • Natural attenuation of PCE is not occurring according to expectations; and • Natural attenuation of TCE is not occurring according to expectations.
2	Are the LUCs effectively protecting potential receptors?	**Description:** The Base Environmental Division is responsible for implementation of the groundwater use LUCs. The LUCs measures implemented in OUs 1 and 2 ROD (DON 1998) will be maintained at the OU 7 groundwater sites to prevent groundwater use until cleanup levels are achieved. **Trigger for additional action:** If COC concentrations increase or the plume expands beyond the Base groundwater LUC area(s) such that a person or persons could potentially be exposed to impacted groundwater resulting in unacceptable exposure risks.	**Conclusion:** • Current plume boundaries and COC concentrations have not migrated beyond the maintained LUCs; therefore, LUCs remain protective.
3	Have Groundwater Contaminants dropped below cleanup levels?	**Description:** Fourteen monitoring wells are sampled during the semiannual and/or annual monitoring events: 10.38-DS17-4 through 10.38-DS17-13, NPZ-6, NPZ-7, NPZ-15, and T-197-MW1 to assess current concentrations of PCE and TCE relative to the cleanup goal of 5 µg/L. **Groundwater Monitoring Data (October 2012 to December 2016):** • PCE concentrations detected above the 5 µg/L cleanup goal during the reporting period are from: (1) well 10.38-D17-4, ranging from 5.1 to 23 µg/L; and (2) well 10.38-D17-5, ranging from 2.3 to 13 µg/L. • TCE concentrations detected above the 5 µg/L cleanup goal during the reporting period are from: (1) well 10.38-D17-4, ranging from 9 to 26 µg/L; (2) well 10.38-D17-5 ranging from 7.4 to 28 µg/L; well 10.38-D17-4, ranging from 9 to 26 µg/L; and (3) well 10.38-D17-6 ranging from 7.5 to 12 µg/L.	**Conclusion:** • PCE concentrations remain above the cleanup levels in two of the 14 monitoring wells; and • TCE concentrations remain above the cleanup levels in three of the 14 monitoring wells.

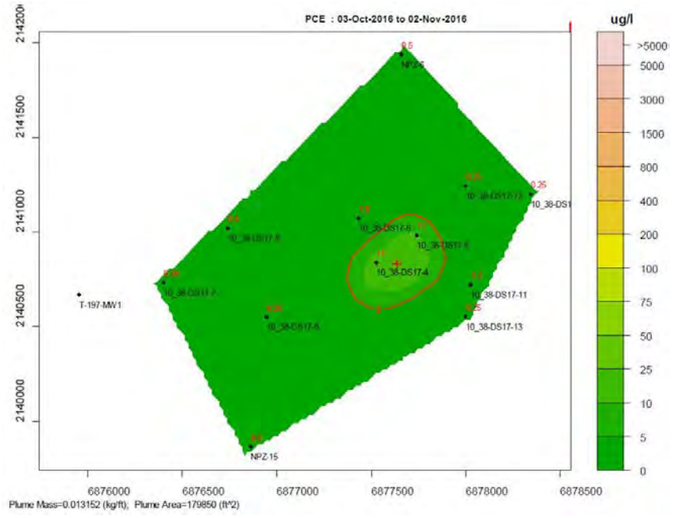
No.	Performance Metric	Evaluation of CAOC 10.38/10.39 Unit 7 PCE/TCE Plume	Conclusions and Recommendations
4	Have any of the natural environmental conditions changed that could affect natural attenuation processes?	**Description:** The semiannual and annual monitoring events include collection of field data parameters and groundwater elevation data to evaluate changes in aquifer conditions that might affect natural attenuation processes. **Field data parameters:** • Dissolved oxygen concentrations have remained relatively constant in the area with concentrations over 1.0 milligram per liter; and • Oxidation-reduction potential levels have remained relatively constant in the area with levels typically positive. Groundwater elevations within this area have been relatively stable to slightly decreasing over the past five years. A fault trace cuts the area and could affect local groundwater flow conditions. **Trigger for additional action:** If MNA fails to remain protective and effective, the DON will evaluate the remedy per Section 5.4 of the RD-RA WP (OTIE 2015).	**Conclusion:** • Field data parameters and groundwater elevations have remained relatively stable over the past five years.
5	Have any potentially toxic and/or mobile transformation products been formed?	**Description:** The semiannual and annual monitoring events included analyses that would detect potential toxic and/or mobile transformation products (i.e., daughter products) produced through site-specific natural attenuation processes. The COCs at 10.38/10.39 Unit 7, PCE and TCE, would produce dichloroethene (DCE) congeners, vinyl chloride (VC), and innocuous ethane under sequential degradation. Analytical results for historic and current groundwater samples have not detected DCE or VC above 0.5 µg/L. **Trigger for additional action:** If the presence of potentially toxic and/or mobile transformation products indicate failure of MNA to remain protective and effective, the DON will evaluate the remedy per Section 5.4 of the RD-RA WP (OTIE 2015).	**Conclusion:** • Toxic or mobile transformation products have not been detected; • The absence of degradation products suggests sequential degradation is not effectively occurring at the site; and • Other natural attenuation processes, such as abiotic transformation, can degrade PCE/TCE without the generation of toxic daughter products.
6	Have any new detected contaminants been released to the environment that could impact the effectiveness of the natural attenuation remedy?	**Description:** The Base Environmental Division will inform the DON IRP manager of any new spills or releases within the MNA area. No new spills or releases have been recorded in the MNA area. **Trigger for additional action:** If a new release of contaminants to the environment causes failure of MNA to remain protective and effective, the DON will evaluate the remedy per Section 5.4 of the RD-RA WP (OTIE 2015).	**Conclusions:** • No new releases have been reported, therefore there is no potential impact by previously undetected contaminants to the effectiveness of the natural attenuation remedy.

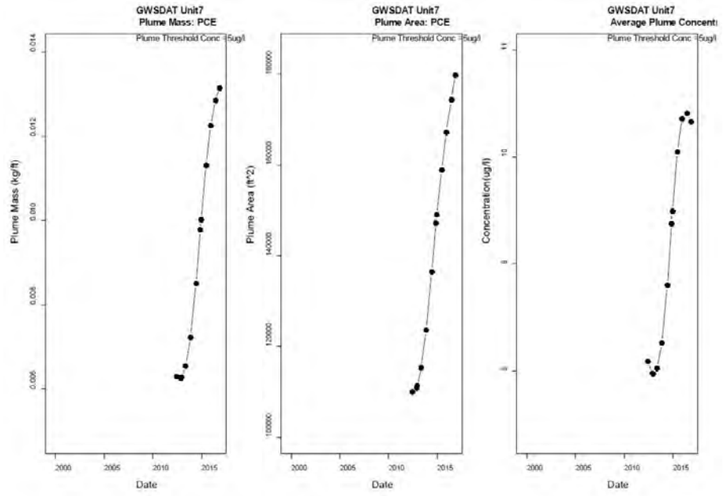
No.	Performance Metric	Evaluation of CAOC 10.38/10.39 Unit 7 PCE/TCE Plume	Conclusions and Recommendations
7	Is the plume expanding either vertically or laterally, shrinking, and are groundwater concentrations decreasing in a reasonable time frame?	**Description:** Statistical analysis of long-term monitoring data will be performed in accordance with U.S. EPA guidance to assess plume stability and concentrations trends. A Ricker analysis was conducted on historical PCE and TCE data collected at CAOC 10.38/10.39 Unit 7 to assess plume size and mass (Attachment 1). As a comparison, the RD-RA WP estimated the November 2014 PCE and TCE plumes (areas enclosed by the 5 µg/L isopleth) to be 47,000 and 280,000 square feet (sq. ft), respectively. The Ricker analysis estimates the PCE and TCE plumes to be 149,130 and 292,020 sq. ft, respectively using the same November 2014 data. Four additional PCE-TCE plume plots generated from the 2015-2016 data summarized below: • PCE plume area expands outward and slightly to the northeast (downgradient) from approximately 149,130 sq. ft (November 2014) to 179,850 sq. ft (November 2016). This represents about a 20 percent (%) increase in plume area; • PCE plume mass increased from 0.010021 kilograms per foot (kg/ft) in November 2014 to 0.013152 kg/ft in November 2016, or about a 30 % increase in plume mass; • The average PCE plume concentration increased from 9.5 to 10.5 µg/L from 2015 to 2016, but decreased in November 2016 (see plume graph); • The PCE center of mass moved slightly to the northeast toward well 10.38-DS17-5; • The TCE plume area remained relatively stable from approximately 292,020 sq. ft (May 2015) to 303,908 sq. ft (November 2016) or a 4% increase. The TCE plume shrank in 2015 by about 4% before increasing in 2016; • The TCE plume mass increased from 0.021424 kg/ft (November 2014) to 0.02548 kg/ft (November 2016), or a 19% increase; • The average TCE plume concentration increased from 10.5 to 11.7 µg/L from 2015 to 2016 (*see* plume graph); and • The TCE center of mass moved slightly to the northeast toward well 10.38-DS17-5.	**Conclusions:** • The PCE and TCE plumes have become larger in mass and areal extent, migrating slightly downgradient toward well 10.38-D17-5. PCE and TCE plume areas have increased by 20 and 4%, respectively, since 2014. However, there is no observable trend of COC concentrations increasing in monitoring wells outside the PCE-TCE plume boundaries (i.e., above 5 µg/L); and • Although both the PCE and TCE plumes have increased, they remained localized around two (PCE) or three (TCE) wells with the center of mass moving slightly downgradient toward well 10.38-D17-5. **Recommendations:** • Both plumes remain localized, continued monitoring at current intervals is recommended; and • The plume mass, area, and average concentration of each plume should be analyzed for any significant increases, in particular if COC concentration increases in groundwater outside the current plume boundaries (i.e., wells 10.38-D17-11 and -12).

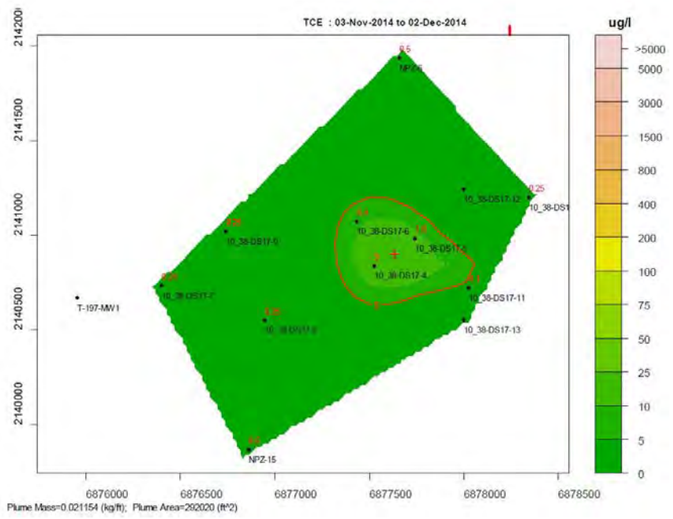
No.	Performance Metric	Evaluation of CAOC 10.38/10.39 Unit 7 PCE/TCE Plume	Conclusions and Recommendations
		In addition to the Ricker Analysis, the RD-RD WP established baseline conditions for which future MNA data evaluations would be compared. These baseline conditions are summarized below: • TCE Plume - horizontal extent o 280,000 sq. ft (November 2014); and o 303,980 sq. ft (November 2016). • Maximum COC concentrations o TCE = 9.0 µg/L; PCE = 5.1 µg/L (Nov 2014); and o TCE = 22 µg/L; PCE = 11 µg/L (Nov 2016). • Number of wells with COC concentrations above MCLs: o Nov 2014 TCE (3 wells) and PCE (1 well); and o Nov 2016 TCE (3 wells) and PCE (2 wells). **Trigger for additional action:** If a plume expands and/or migrates downgradient, additional evaluation and possible action will be initiated by the DON. A migrating plume is defined as increasing concentrations in downgradient monitoring wells.	
8	Are downgradient receptors protected from exposure risks?	**Description:** Annual groundwater monitoring and reporting will assess whether plume migration is or will potentially affect downgradient receptors. **Trigger for additional action:** If monitoring data indicate unacceptable exposure risks due to increasing COC concentrations and/or a plume migration outside the current LUCs, the DON will perform additional studies to refine the CSM and, if necessary, implement an alternative or amended remedy.	**Conclusions:** • Plume migration and COC concentrations remain localized and no exposure pathway exists downgradient, or outside the current LUCs.

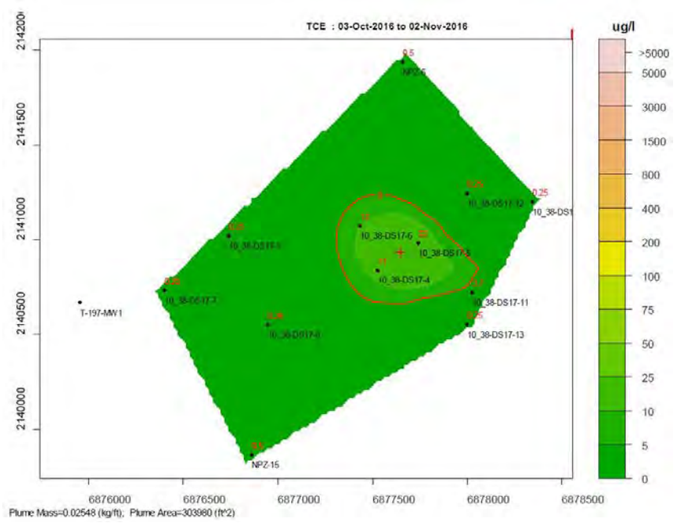
Model Outputs for CAOC 10.38/10.39 Unit 7

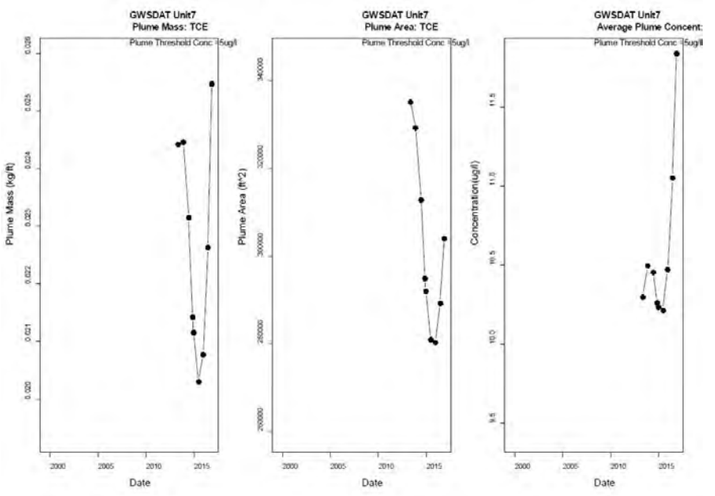












2.2 NPZ-14 GROUNDWATER AREA

The NPZ-14 groundwater area is located in a relatively isolated area in the southern part of Nebo Main Base, which was used as a storage area for military equipment from the 1950s to 1965 (Figure G-1). Evaluation of MNA performance at the NPZ-14 groundwater area follows the eight performance metrics outlined in the OU 7 ROD, as well as comparison to the baseline conditions summarized in the MNA RD-RA Work Plan (Table 3-10, Section 3.3.6). MNA performance monitoring evaluates both the effectiveness and protectiveness of the MNA remedy, which is outlined on Table 4-1 in the OU 7 ROD (DON 2014). Plume diagnostics are based on the Ricker Model whereby monitoring well data for wells within and proximal to the presumed source are plotted over time with a spatial context that outlines the plume parameters.

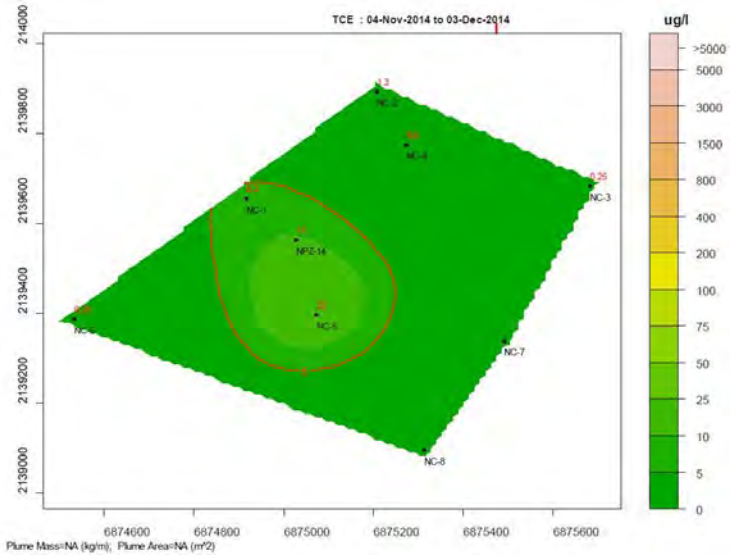
No.	Performance Metric	Evaluation of the NPZ-14 TCE Plume	Conclusions and Recommendations
1	Is Natural Attenuation occurring according to expectations?	**Description:** Natural attenuation involves reducing VOC contamination to below cleanup levels through natural processes including microbial and geochemical degradation, sorption, dilution, volatilization, and dispersion. • The TCE concentration during the reporting period decreased with a statistically significant trend in well NPZ-14, the trend was not significantly different than zero in well NC-6, and the concentration increased with a statistically significant trend in well NC-1. When calculated based on the best fit linear regression line, natural attenuation of the NPZ-14 TCE concentration would reach the MCL by 2032. Using the 95% upper confidence interval to account for uncertainty in the attenuation rate, the cleanup goal would be reached by 2087. **Trigger for additional action:** If natural attenuation is not occurring according to expectations, the DON will further evaluate the remedy and propose alternative response actions per Section 5.4 of RD-RA WP (OTIE 2015).	**Conclusion:** • The ROD did not specify a projected date for achieving the cleanup goal by natural attenuation. Although the TCE concentration in well NPZ-14 is decreasing, the conservative projection is that the cleanup goal will be reached by 2087. The TCE concentration was not changing in well NC-6 and was increasing significantly in well NC-1; and • The overall conclusion is that natural attenuation is not occurring at a rate that would attain the cleanup goal within a reasonable period of time.
2	Are the LUCs effectively protecting potential receptors?	**Description:** The Base Environmental Division is responsible for implementation of the groundwater use LUCs. The LUCs measures implemented in OUs 1 and 2 ROD (DON 1998) will be maintained at the OU 7 groundwater sites to prevent groundwater use until cleanup levels are achieved. **Trigger for additional action:** If COC concentrations increase or the plume expands beyond the Base groundwater LUC area(s) such that a person or persons could potentially be exposed to impacted groundwater resulting in unacceptable exposure risks.	**Conclusion:** • Current plume boundaries and COC concentrations have not migrated beyond the maintained LUCs, therefore, LUCs remain protective.

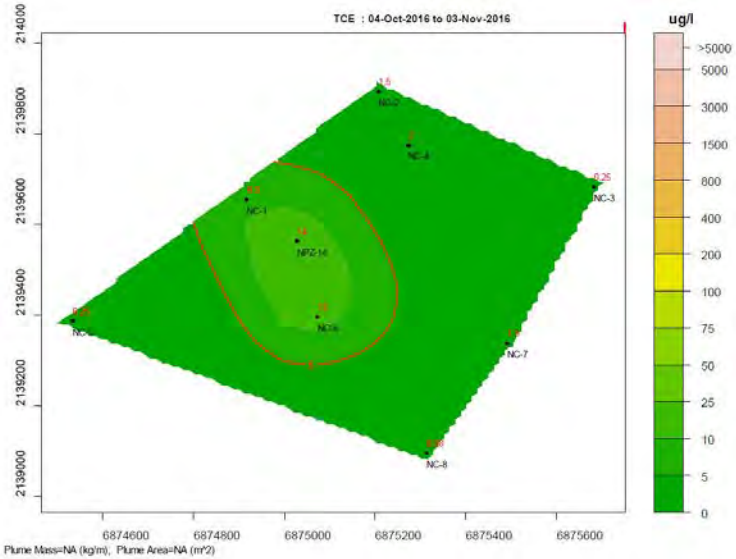
No.	Performance Metric	Evaluation of the NPZ-14 TCE Plume	Conclusions and Recommendations
3	Have Groundwater Contaminants dropped below cleanup levels?	**Description:** Nine monitoring wells are sampled during the semiannual and/or annual monitoring events: NC-1 through NC-8 and NPZ-14 to assess current concentrations of TCE, the main COC at this site, to the cleanup goal of 5 µg/L. **Groundwater Monitoring Data (October 2012 to December 2016):** • TCE concentrations detected above the 5 µg/L cleanup goal during the reporting period are from: (1) well NC-1, ranging from 3.7 to 9.4 µg/L; (2) well NC-6, ranging from 12to 26 µg/L; and (3) well NPZ-14, ranging from 9.7 to 18 µg/L. TCE concentrations in wells NC-2, NC-3, NC-4, NC-5, and NC-8 are below the cleanup goal.	**Conclusion:** • TCE concentrations remain above the cleanup levels in three of nine wells.
4	Have any of the natural environmental conditions changed that could affect natural attenuation processes?	**Description:** The semiannual and annual monitoring events will include collection of field data parameters and groundwater elevation data to evaluate the any changes in aquifer conditions that might affect natural attenuation processes. **Field data parameters:** • Dissolved oxygen concentrations have remained relatively constant in the area with concentrations typically over 1.0 milligram per liter; and • Oxidation-reduction potential levels are highly variable between wells and analysis indicates ranges over 200 millivolts (mVs) and levels being positive and/or negative. Groundwater elevations within this area have been relatively stable to slightly decreasing over the past five years. A fault trace cuts the area and could affect local groundwater flow conditions. **Trigger for additional action:** If MNA fails to remain protective and effective, the DON will evaluate the remedy per Section 5.4 of the RD-RA WP (2015).	**Conclusion:** • Field data parameters have been variable, but within the normal range for the area.
5	Have any potentially toxic and/or mobile transformation products been formed?	**Description:** The semiannual and annual monitoring events included analyses that would detect potential toxic and/or mobile transformation products (i.e., daughter products) produced through site-specific natural attenuation processes. The COC at NPZ-14, TCE, would produce toxic DCE congeners, VC, and innocuous ethane under sequential degradation. Historical and current groundwater data have not detected DCE or VC above 0.5 µg/L in groundwater samples collected from well NPZ-14. **Trigger for additional action:** If the presence of potentially toxic and/or mobile transformation products indicate failure of MNA to remain protective and effective, the DON will evaluate the remedy per Section 5.4 of the RD-RA WP (2015).	**Conclusion:** • Toxic or mobile transformation products have not been detected in well NPZ-14; and • The absence of degradation products suggests sequential degradation is not effectively occurring at the site; and •

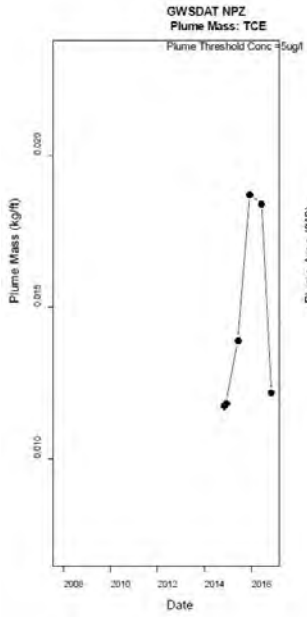
No.	Performance Metric	Evaluation of the NPZ-14 TCE Plume	Conclusions and Recommendations
6	Have any new detected contaminants been released to the environment that could impact the effectiveness of the natural attenuation remedy?	**Description:** The Base Environmental Division will inform the DON IRP manager of new spills or releases within the MNA area. New spills or releases have been not recorded in the MNA area. **Trigger for additional action:** If a new release of contaminants to the environment results in failure of MNA to remain protective and effective, then the DON will evaluate the remedy per Section 5.4 of the RD-RA WP (2015).	**Conclusions:** • New releases have not been reported, therefore there is no potential impact by new contaminants to the effectiveness of the natural attenuation remedy.
7	Is the plume expanding either vertically or laterally, shrinking, and groundwater concentrations decreasing in a reasonable time frame?	**Description:** Statistical analysis of long-term monitoring data will be performed in accordance with U.S. EPA guidance to assess plume stability and concentration trends. A Ricker analysis was conducted on historical TCE data collected at NPZ-14 to assess plume size and mass (Attachment 1). As a comparison, the RD-RA WP estimated the November 2014 TCE plume (areas enclosed by the 5 µg/L isopleth) to be 239,000 square feet (sq. ft), respectively. The Ricker analysis estimates the TCE plume to be 158,450 sq. ft using the same November 2014 data. In order to calculate plume diagnostics for the NPZ-14 plume, it was necessary to add a data point to the northwest (well NPZ-12) and an assumption was made that TCE was not detected in well NPZ-12. Four additional TCE plume plots are generated from the 2015-2016 data and summarized below: • The TCE plume area is relatively stable and increased from approximately 184,200 sq. ft (May 2015) to 194,330 sq. ft (November 2016) or a 5.5% increase. The TCE plume shrank from May 2016 to November 2016 by about 20%; • The TCE plume mass increased from 0.011832 kg/ft (November 2014) to 0.012193 kg/ft (November 2016), or a 3% increase; • The average TCE plume concentration decreased from 10.5 to 9.0 µg/L from 2015 to 2016 (see plume graph); and • The TCE center of mass moved slightly to the north toward well NPZ-14. In addition to the Ricker Analysis, the RD-RD WP established baseline conditions for which future MNA data evaluations would be compared. These baseline conditions are summarized below: • TCE Plume Horizontal extent o 158,450 sq. ft (November 2014); and o 194,330 sq. ft (November 2016). • Maximum COC concentrations o TCE = 24 µg/L (NC-6; Nov 2014); and	**Conclusions:** • The TCE plume expanded downgradient to the northeast from November 2014 through to May 2016, then retreated in November 2016. This migration was likely due to the increasing concentrations in NPZ-14 from NC-1 and slightly higher detections from downgradient wells NC-2 and NC-4. However, no additional wells had TCE detections above the cleanup goal; • The TCE plume remains localized around wells NC-1, NC-6, and NPZ-14, with the center of mass moving slightly downgradient toward well NPZ-14; and • The overall average plume TCE concentration has decreased through 2016. **Recommendations:** • The TCE plume contracted based on November 2016 data; therefore continued semi-annual monitoring at present intervals is recommended to assess plume area and migration.

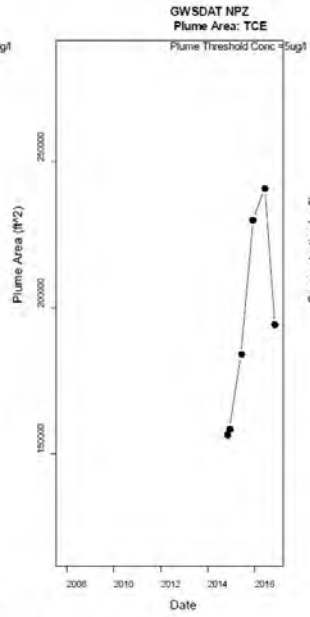
No.	Performance Metric	Evaluation of the NPZ-14 TCE Plume	Conclusions and Recommendations
		○ TCE = 14 µg/L (NPZ-14; Nov 2016). • Number of wells with COC concentrations above cleanup goal: ○ Nov 2014 TCE (3 wells); and ○ Nov 2016 TCE (3 wells). **Trigger for additional action:** If a plume expands and/or migrates downgradient, additional evaluation and possible action will be initiated by the DON. A migrating plume is defined as increasing concentrations in downgradient monitoring wells.	
8	Are downgradient receptors protected from exposure risks?	**Description:** Annual groundwater monitoring and reporting will assess whether plume migration will potentially affect downgradient receptors. **Trigger for additional action: :** If monitoring data indicate unacceptable exposure risks due to increasing COC concentrations and/or a plume migration outside the current LUCs, the DON will perform additional studies to refine the CSM and, if necessary, implement an alternative or amended remedy.	**Conclusions:** • Plume migration and COC concentrations remain localized and no exposure pathway exists.

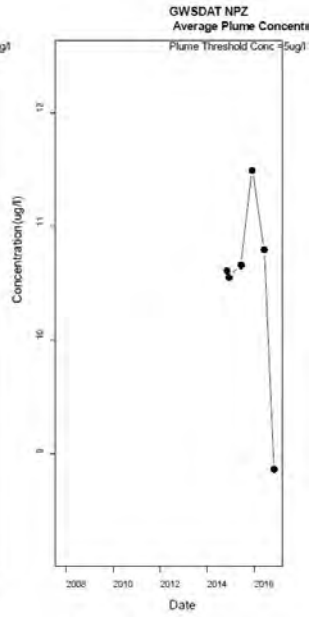
Model Output for the NPZ-14 TCE Plume











2.3 CAOC 7 STRATUM 1

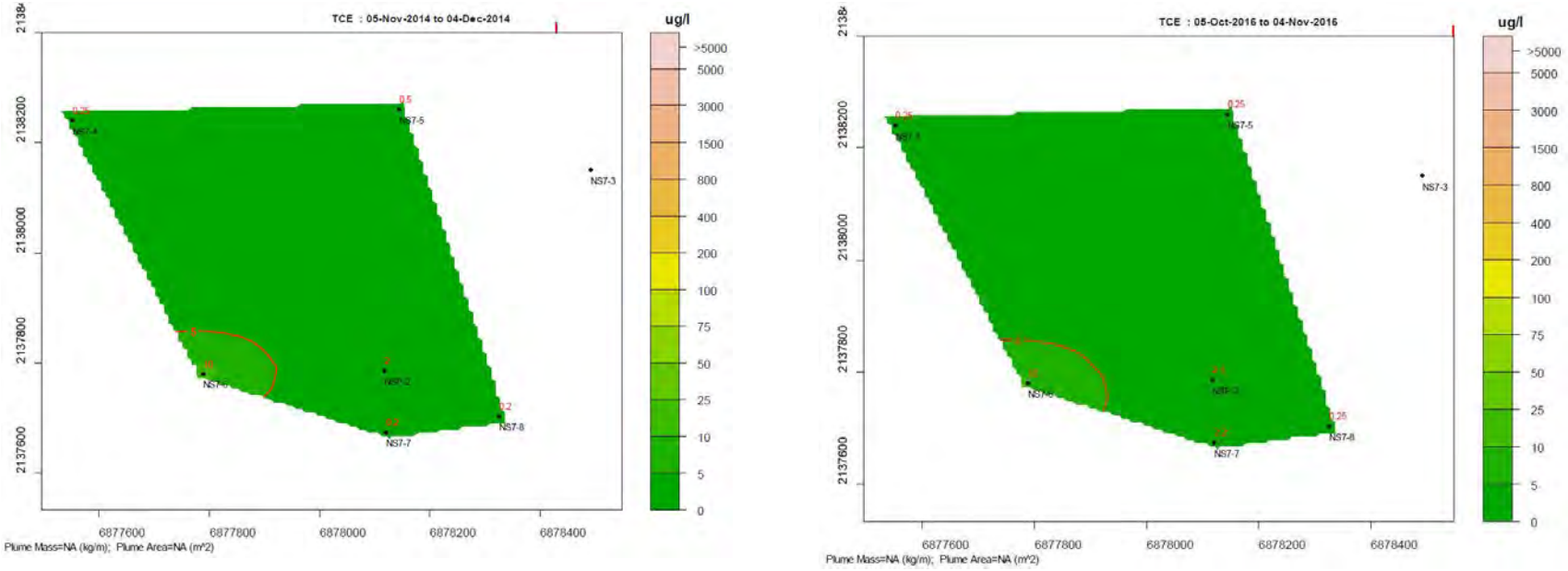
CAOC 7 Stratum 1 is a former burn dump and waste disposal area with a soil cap in the southeastern corner of Nebo Main Base (Figure G-2). Evaluation of MNA performance at CAOC 7 Stratum 1 follows the eight performance metrics outlined in the OU 7 ROD, as well as comparison to the baseline conditions summarized in the MNA RD-RA Work Plan (Table 3-10, Section 3.3.6). MNA performance monitoring evaluates both the effectiveness and protectiveness of the MNA remedy, which is outlined on Table 4-1 in the OU 7 ROD (DON 2014). Plume diagnostics are based on the Ricker Model whereby monitoring well data for wells within and proximal to the presumed source are plotted over time with a spatial context that outlines the plume parameters.

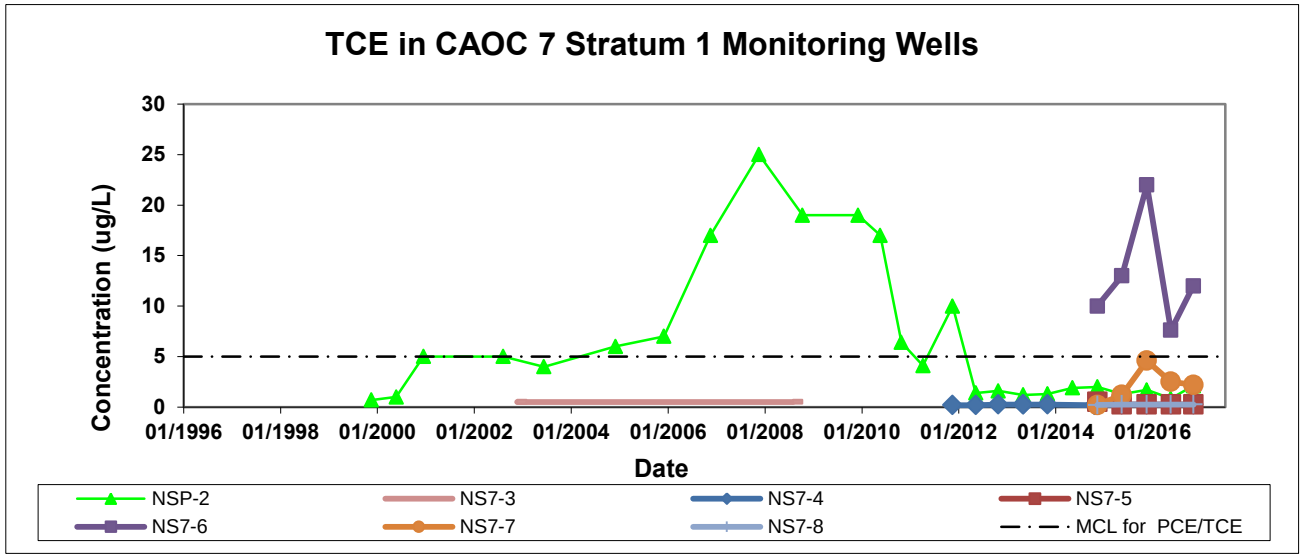
No.	Performance Metric	Evaluation of CAOC 7 Stratum 1 TCE Plume	Conclusions and Recommendations
1	Is Natural Attenuation occurring according to Expectations?	**Description:** Natural attenuation involves reducing VOC contamination to below cleanup levels through natural processes including microbial and geochemical degradation, sorption, dilution, volatilization, and dispersion. • The TCE concentration decreased with a statistically significant trend in well NSP-2 over the time period from November 16, 2007 when the maximum TCE concentration of 25 µg/L was observed through the latest sampling date of November 3, 2016; and • The TCE concentration trend was not significantly different than zero in well NS7-6 over the five sampling dates monitored. **Trigger for additional action:** If natural attenuation is not occurring according to expectations, the DON will further evaluate the remedy and propose alternative response actions per Section 5.4 of RD-RA WP (2015).	**Conclusion:** • The TCE concentration trend in well NSP-2 from the time of the maximum observed concentration to the latest sampling date is consistent with natural attenuation occurring to achieve the MCL in a reasonable period of time. The TCE concentration trend in well NS7-6 was not significantly different than zero; however, the monitoring period was too short to draw conclusions.
2	Are the LUCs effectively protecting potential receptors?	**Description:** The Base Environmental Division is responsible for implementation of the groundwater use LUCs. The LUCs measures implemented in OUs 1 and 2 ROD (Don 1998) will be maintained at the OU 7 groundwater sites to prevent groundwater use until cleanup levels are achieved. **Trigger for additional action:** If COC concentrations increase or the plume expands beyond the Base groundwater LUC area(s) such that a person or persons could potentially be exposed to impacted groundwater resulting in unacceptable exposure risks.	**Conclusion:** • Current plume boundaries and COC concentrations have not migrated beyond the maintained LUCs, therefore, LUCs remain protective.
3	Have Groundwater Contaminants Dropped below cleanup levels?	**Description:** Six monitoring wells are sampled during the semiannual and/or annual monitoring events: NS7-4 through NS7-8 and NSP-2 to assess current concentrations of TCE, the main COC at this site, to the cleanup goal of 5 µg/L. **Groundwater Monitoring Data (October 2012 to December 2016):** • TCE concentrations detected above the 5 µg/L cleanup goal during the reporting period are only from well NS7-6, ranging from 7.6 to 22 µg/L. • Remaining wells do not have TCE concentrations above the cleanup goal.	**Conclusion:** • TCE concentrations remain above the cleanup goal from well NS7-6; however, this well has only been sampled five times, so there is no clear trend has been established.

No.	Performance Metric	Evaluation of CAOC 7 Stratum 1 TCE Plume	Conclusions and Recommendations
4	Have any of the natural environmental conditions changed that could affect natural attenuation processes?	**Description:** The semiannual and annual monitoring events will include collection of field data parameters and groundwater elevation data to evaluate the any changes in aquifer conditions that might affect natural attenuation processes. **Field data parameters:** • Dissolved oxygen concentrations have remained relatively constant in the area with concentrations typically over 1.0 milligram per liter; and • Oxidation-reduction potential levels are highly variable between wells and sampling events with wells having ranges over 200 mVs and levels being positive and/or negative. Groundwater elevations within this area have been relatively stable to slightly decreasing over the past five years. A fault trace cuts the area to the northeast that could have some influence on hydrological conditions. **Trigger for additional action:** If reduced efficacy of MNA results in failure of the remedy to remain protective and effective, then the DON will evaluate the remedy per Section 5.4 of the RD-RA WP (2015).	**Conclusion:** • Natural environmental conditions have been variable, but within the normal range for the area.
5	Have any potentially toxic and/or mobile transformation products been formed?	**Description:** The semiannual and annual monitoring events will include analytical methods that would detect any potential toxic and/or mobile transformation products (i.e., daughter products) that would be produced through site-specific natural attenuation processes. • The CAOC-7 Stratum 1 COC is TCE, which under sequential degradation would produce toxic dichloroethene congeners, vinyl chloride, and innocuous ethene. Historical and current groundwater data have not detected DCE or VC above 0.5 µg/L. **Trigger for additional action: :** If the presence of potentially toxic and/or mobile transformation products indicate failure of MNA to remain protective and effective, the DON will evaluate the remedy per Section 5.4 of the RD-RA WP (OTIE 2015).	**Conclusion:** • No toxic or mobile transformation products have been detected; • The absence of degradation products suggests sequential degradation is not effectively occurring at the site; and • Other natural attenuation processes, such as abiotic transformation, can degrade TCE without the generation of toxic daughter products.
6	Have any new detected contaminants been released to the environment that could impact the effectiveness of the natural attenuation remedy?	**Description:** The Base Environmental Division will inform the DON IRP manager of any new spills or releases within the MNA area. • New spills or releases have not been recorded in the MNA area. **Trigger for additional action:** If a new release of contaminants to the environment results in failure of MNA to remain protective and effective, the DON will evaluate the remedy per Section 5.4 of the RD-RA WP (2015).	**Conclusions:** • No new releases have been reported, therefore there is no potential impact by previously undetected contaminants to the effectiveness of the natural attenuation remedy

No.	Performance Metric	Evaluation of CAOC 7 Stratum 1 TCE Plume	Conclusions and Recommendations
7	Is the plume expanding downgradient either vertically or laterally, shrinking, and groundwater concentrations decreasing in a reasonable time frame?	**Description:** Statistical analysis of long term monitoring data will be performed in accordance with U.S. EPA guidance to assess plume stability and concentration trends. A Ricker analysis was conducted on historical TCE data collected at CAOC 7 Stratum 1 to assess plume size and mass (Attachment 1). The RD-RA WP estimated the November 2014 TCE plume (areas enclosed by the 5 µg/L isopleth) to be 46,000 sq. ft. The limited data set for CAOC 7 Stratum 1 precludes a plume diagnostic analysis using the Ricker method as there is no useful TCE data located to the west of NS7-6. Nevertheless, four additional TCE plume plots were generated from the 2015-2016 data and summarized below: • The TCE plume is undefined to the west and area and volume calculations are not possible; and • The eastern edge of the TCE plume appears to expand from 2014 through 2015 based on the increases in groundwater TCE concentrations from well NS7-6 and downgradient wells NS7-7 and NSP-2 before retreating in 2016. In addition to the Ricker Analysis, the RD-RD WP established baseline conditions for which future MNA data evaluations would be compared. These baseline conditions are summarized below: • TCE Plume Horizontal extent o 46,000 sq. ft (November 2014). • Maximum COC concentrations o TCE = 10 µg/L (NS7-6; Nov 2014); and o TCE = 12 µg/L (NS7-6; Nov 2016). • Number of wells with COC concentrations above MCL: o Nov 2014 TCE (1 well); and o Nov 2016 TCE (1 well). **Trigger for additional action:** If a plume is expanding and/or migrating downgradient, additional evaluation and possible action will be initiated by the DON. A migrating plume is defined as increasing concentrations in downgradient monitoring wells.	**Conclusions:** • The TCE plume expanded slightly downgradient toward the east from November 2014 to November 2015, then retreated through November 2016. This migration was likely due to increased TCE concentrations in NSP-2 from NS7-7 during 2015. However, no additional wells had TCE detections above the cleanup goal; and • The TCE plume remains localized around well NS7-6. **Recommendations:** The TCE plume has contracted toward the end of 2016; therefore continued monitoring at present intervals is recommended to assess whether it continues to decrease in size.
8	Are downgradient receptors protected from exposure risks?	**Description:** Annual groundwater monitoring and reporting will assess whether plume migration is or will potentially affect downgradient receptors. **Trigger for additional action: :** If monitoring data indicate unacceptable exposure risks due to increasing COC concentrations and/or a plume migration outside the current LUCs, the DON will perform additional studies to refine the CSM and, if necessary, implement an alternative or amended remedy.	**Conclusions:** • Plume migration and COC concentrations remain localized and no exposure pathway exists.

Model Output for the CAOC 7 Stratum 1 TCE Plume





3.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of this evaluation, natural attenuation cannot be proven at CAOC 10.38/10.39 Unit 7 and CAOC 7 Stratum 1; it appears to be occurring at a slow rate at NPZ-14 groundwater area. However, the MNA remedy remains protective at all three sites because LUCs are maintained preventing exposure to contaminated groundwater and the PCE and/or TCE plumes are not expanding or migrating downgradient from the originally defined plume boundaries. A remedial timeframe calculation was only possible for groundwater area NPZ-14, which estimated achieving the cleanup goal by 2087.

The recommendations for the three OU 7 MNA remedies at Nebo Main Base include:

- Continued semi-annual monitoring at all three Sites;
- At CAOC 7 Stratum 1, implement the soil vapor extraction remedy, followed by reevaluation of the MNA groundwater remedy;
- At CAOC 7 Stratum 1, install one or more monitoring wells to address the data gap to the west of the defined plume;
- Investigate the source area(s) at NPZ-14 and CAOC 10.38/10.39 Unit 7 to facilitate future evaluations and ensure the overall protectiveness of the LUCs; and

4.0 REFERENCES

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FIGURES

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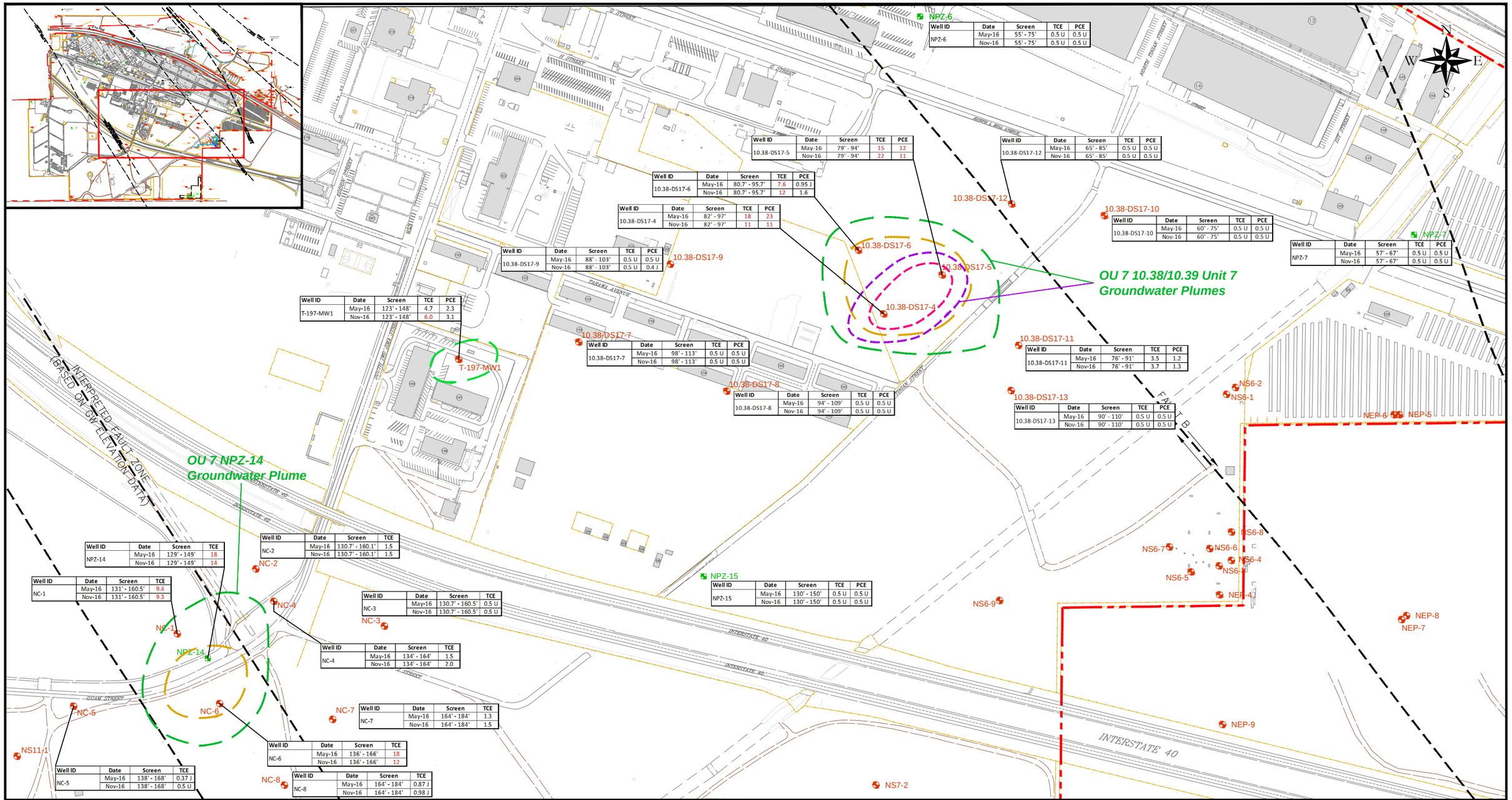


Well ID	Date	Screen	TCE	PCE
NPZ-6	May-16	55' - 75'	0.5 U	0.5 U
	Nov-16	55' - 75'	0.5 U	0.5 U

Well ID	Date	Screen	TCE	PCE
10.38-DS17-5	May-16	79' - 94'	15	12
	Nov-16	79' - 94'	22	11

Well ID	Date	Screen	TCE	PCE
10.38-DS17-12	May-16	65' - 85'	0.5 U	0.5 U
	Nov-16	65' - 85'	0.5 U	0.5 U

Well ID	Date	Screen	TCE	PCE
10.38-DS17-6	May-16	80.7' - 95.7'	7.6	0.95 J
	Nov-16	80.7' - 95.7'	12	1.6

Well ID	Date	Screen	TCE	PCE
10.38-DS17-10	May-16	60' - 75'	0.5 U	0.5 U
	Nov-16	60' - 75'	0.5 U	0.5 U

Well ID	Date	Screen	TCE	PCE
10.38-DS17-4	May-16	82' - 97'	18	23
	Nov-16	82' - 97'	11	11

Well ID	Date	Screen	TCE	PCE
NPZ-7	May-16	57' - 67'	0.5 U	0.5 U
	Nov-16	57' - 67'	0.5 U	0.5 U

Well ID	Date	Screen	TCE	PCE
10.38-DS17-9	May-16	88' - 103'	0.5 U	0.5 U
	Nov-16	88' - 103'	0.5 U	0.4 J

Well ID	Date	Screen	TCE	PCE
T-197-MW1	May-16	123' - 148'	4.7	2.3
	Nov-16	123' - 148'	6.0	3.1

Well ID	Date	Screen	TCE	PCE
10.38-DS17-7	May-16	98' - 113'	0.5 U	0.5 U
	Nov-16	98' - 113'	0.5 U	0.5 U

Well ID	Date	Screen	TCE	PCE
10.38-DS17-11	May-16	76' - 91'	3.5	1.2
	Nov-16	76' - 91'	3.7	1.3

Well ID	Date	Screen	TCE	PCE
10.38-DS17-8	May-16	94' - 109'	0.5 U	0.5 U
	Nov-16	94' - 109'	0.5 U	0.5 U

Well ID	Date	Screen	TCE	PCE
10.38-DS17-13	May-16	90' - 110'	0.5 U	0.5 U
	Nov-16	90' - 110'	0.5 U	0.5 U

Well ID	Date	Screen	TCE
NPZ-14	May-16	129' - 149'	18
	Nov-16	129' - 149'	14

Well ID	Date	Screen	TCE
NC-2	May-16	130.7' - 160.1'	1.5
	Nov-16	130.7' - 160.1'	1.5

Well ID	Date	Screen	TCE
NC-1	May-16	131' - 160.5'	9.4
	Nov-16	131' - 160.5'	9.3

Well ID	Date	Screen	TCE
NC-3	May-16	130.7' - 160.5'	0.5 U
	Nov-16	130.7' - 160.5'	0.5 U

Well ID	Date	Screen	TCE
NC-4	May-16	134' - 164'	1.5
	Nov-16	134' - 164'	2.0

Well ID	Date	Screen	TCE
NC-7	May-16	164' - 184'	1.3
	Nov-16	164' - 184'	1.5

Well ID	Date	Screen	TCE
NC-6	May-16	136' - 166'	18
	Nov-16	136' - 166'	12

Well ID	Date	Screen	TCE
NC-5	May-16	138' - 168'	0.37 J
	Nov-16	138' - 168'	0.5 U

Well ID	Date	Screen	TCE
NC-8	May-16	164' - 184'	0.87 J
	Nov-16	164' - 184'	0.98 J

Well ID	Date	Screen	TCE	PCE
NPZ-15	May-16	130' - 150'	0.5 U	0.5 U
	Nov-16	130' - 150'	0.5 U	0.5 U

Legend

- Paved Road
- Dirt Road
- Railroad Tracks
- Fence Line
- Base Boundary
- Fault Traces (strike-slip)

- MW-B — Groundwater Monitoring Well
- NPZ-8 — Piezometer
- 5 — Approximate TCE Isoconcentration Contour (ug/L)
- 10 — Approximate TCE Isoconcentration Contour (ug/L)
- 5 — Approximate PCE Isoconcentration Contour (ug/L)
- 10 — Approximate PCE Isoconcentration Contour (ug/L)

Monitoring Well Sample

Well Screen Interval (ft bgs) — Analyte

Well ID	Date	Screen	TCE	PCE
10.38-DS17-6	May-16	80.7' - 95.7'	7.6	0.95 J
	Nov-16	80.7' - 95.7'	12	1.6

Concentration (ug/L)

Red Result indicates a cleanup level excedence

Approximate Scale in Feet

0 — 350 — 700

Notes

1) Analytical results shown in ug/L (micrograms per liter) for the wells sampled during the 2016 Annual Groundwater Monitoring Event.
2) The highest detection is reported when a field duplicate is collected.
3) The groundwater cleanup level is 5 ug/L for PCE/TCE.

Acronyms

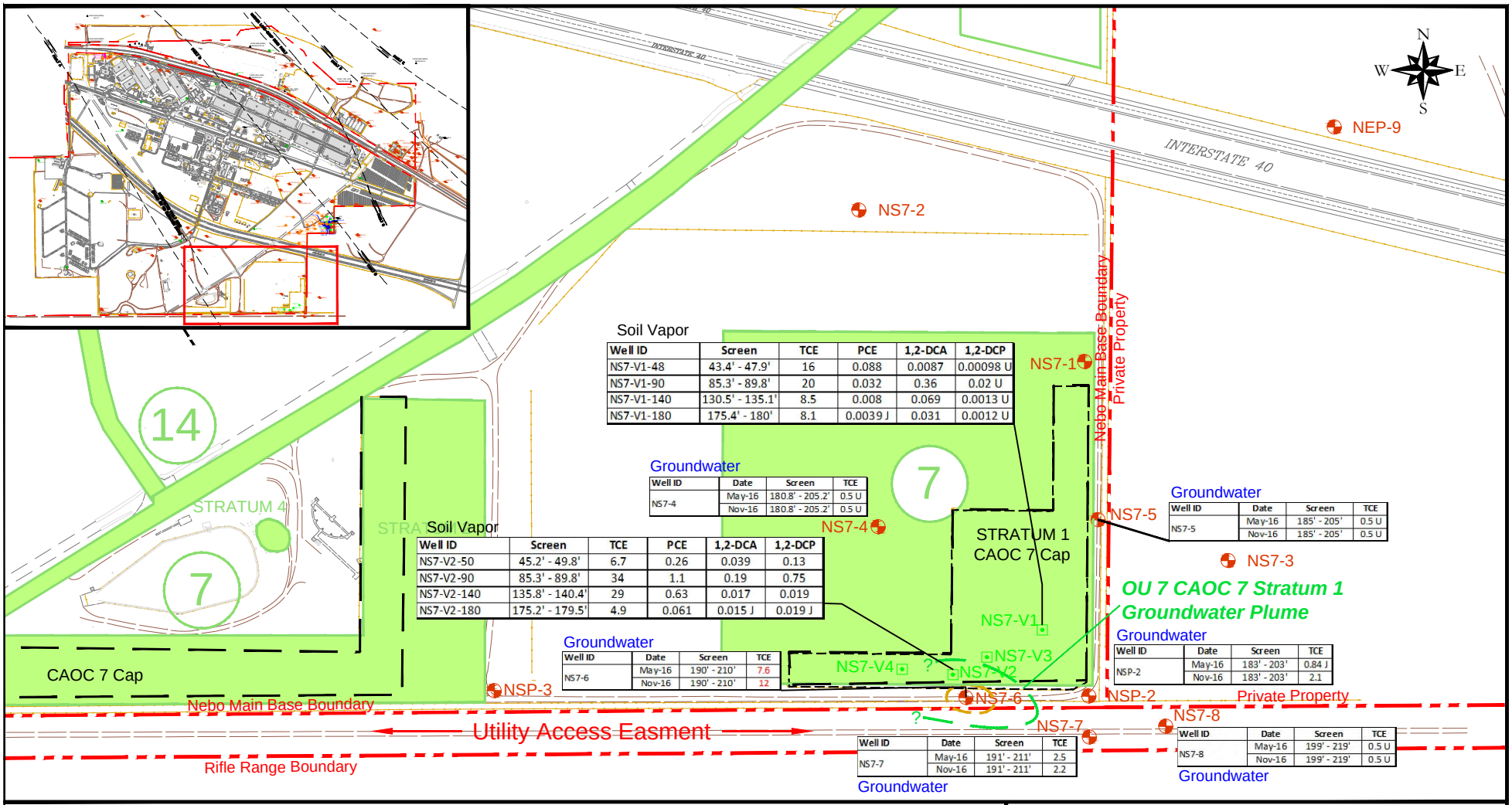
COC = contaminant of concern
TCE = Trichloroethene
PCE = Tetrachloroethene
J = Estimated Value
ft bgs = feet below ground surface
U = Not Detected (value indicates detection limit)
OU = operable unit
CAOC - CERCLA Area of Concern
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

Figure G-1
OU 7, NPZ-14 Area and CAOC 10.38/10.39 Unit 7 Groundwater COC Concentrations

Nebo Main Base
Marine Corps Logistics Base
Barstow, California

OTIE — An Oneida Nation Company

Date: May 5, 2017
File: Barstow_A16.dwg
Plotted By: Geoff Brink



Soil Vapor

Well ID	Screen	TCE	PCE	1,2-DCA	1,2-DCP
NS7-V1-48	43.4' - 47.9'	16	0.088	0.0087	0.00098 U
NS7-V1-90	85.3' - 89.8'	20	0.032	0.36	0.02 U
NS7-V1-140	130.5' - 135.1'	8.5	0.008	0.069	0.0013 U
NS7-V1-180	175.4' - 180'	8.1	0.0039 J	0.031	0.0012 U

Groundwater

Well ID	Date	Screen	TCE
NS7-4	May-16	180.8' - 205.2'	0.5 U
	Nov-16	180.8' - 205.2'	0.5 U

Soil Vapor

Well ID	Screen	TCE	PCE	1,2-DCA	1,2-DCP
NS7-V2-50	45.2' - 49.8'	6.7	0.26	0.039	0.13
NS7-V2-90	85.3' - 89.8'	34	1.1	0.19	0.75
NS7-V2-140	135.8' - 140.4'	29	0.63	0.017	0.019
NS7-V2-180	175.2' - 179.5'	4.9	0.061	0.015 J	0.019 J

Groundwater

Well ID	Date	Screen	TCE
NS7-6	May-16	190' - 210'	7.6
	Nov-16	190' - 210'	12

Groundwater

Well ID	Date	Screen	TCE
NS7-5	May-16	185' - 205'	0.5 U
	Nov-16	185' - 205'	0.5 U

Groundwater

Well ID	Date	Screen	TCE
NSP-2	May-16	183' - 203'	0.84 J
	Nov-16	183' - 203'	2.1

Groundwater

Well ID	Date	Screen	TCE
NS7-7	May-16	191' - 211'	2.5
	Nov-16	191' - 211'	2.2

Groundwater

Well ID	Date	Screen	TCE
NS7-8	May-16	199' - 219'	0.5 U
	Nov-16	199' - 219'	0.5 U

Groundwater

Legend

- Paved Road
- Dirt Road
- Fence Line
- Base Boundary
- Operable Unit 6 (CAOC 7)
- NSP-3 — Groundwater Monitoring Well
- NS7-V1 — Vapor Extraction Well
- 5 — Approximate TCE Isoconcentration Contour (ug/L)
- 10 — Approximate TCE Isoconcentration Contour (ug/L)
- Stratum 1 Armored Cap Boundary

Monitoring Well Sample

Well Screen Interval (ft bgs)

Well ID	Date	Screen	TCE
NS7-6	May-16	190' - 210'	7.6
	Nov-16	190' - 210'	12

Analyte

Red Result indicates a cleanup level excedence

Notes

1) Analytical results shown in ug/L (micrograms per liter) for the wells sampled during the 2016 Annual Groundwater Monitoring Event.
2) The highest detection is reported when a field duplicate is collected.
3) The groundwater cleanup level is 5 ug/L for TCE.
4) TCE = Trichloroethene
   ft bgs = feet below ground surface
   U = Not Detected (value indicates detection limit)
   CAOC - CERCLA Area of Concern
   CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

Approximate Scale in Feet

0 400

Figure G-2
CAOC 7 Stratum 1 COC Concentrations in Groundwater and Soil Gas (2016)

Nebo Main Base
Marine Corps Logistics Base
Barstow, California

OTIE
An Oneida Nation Company

Date: June 19, 2017

File: Barstow_5yrRev - 2017.dwg

Plotted By: Adam Goldenberg

ATTACHMENTS

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Attachment 1

Ricker Analysis Model Output

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MNA SITE 10.38/10.39 UNIT 7

PCE

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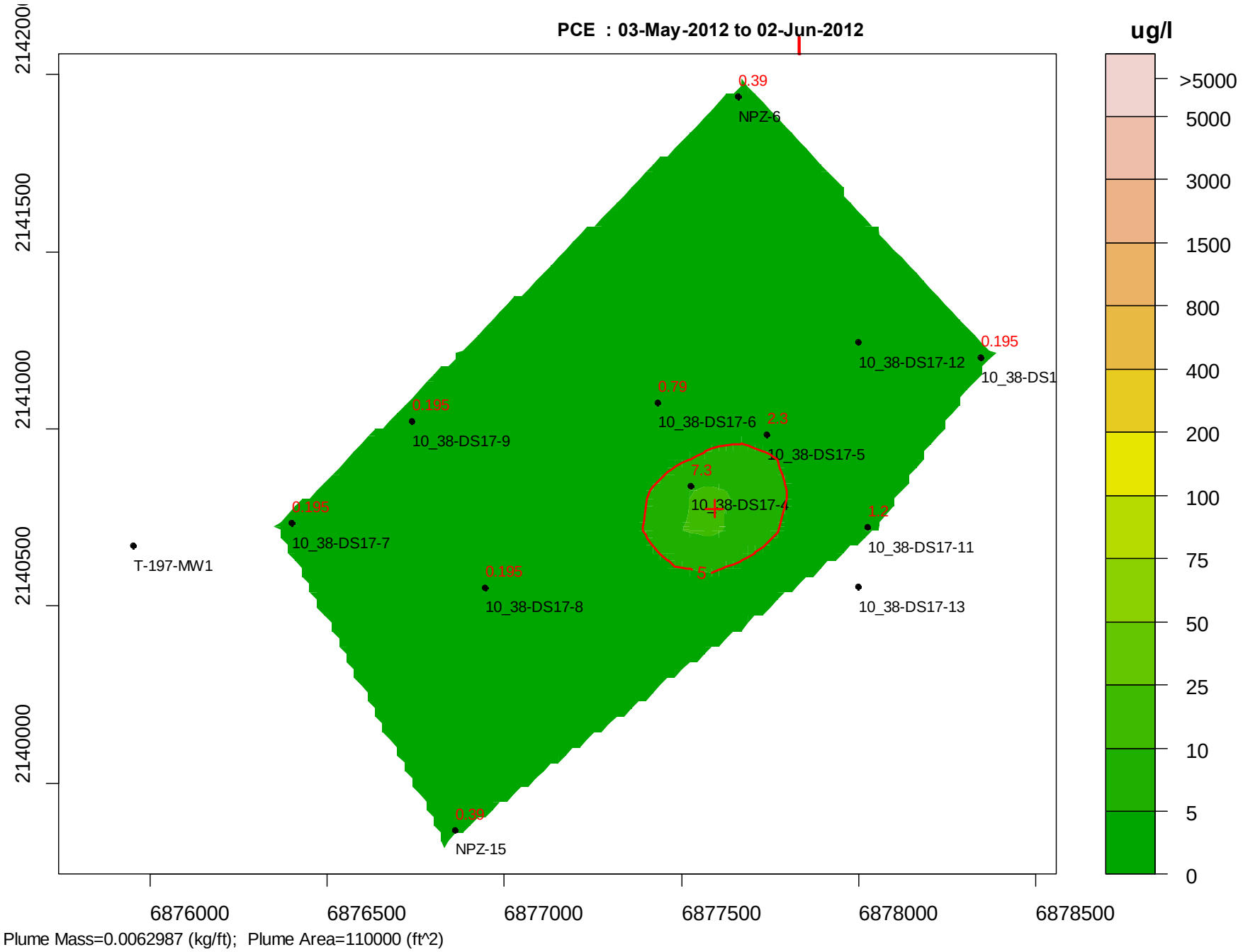
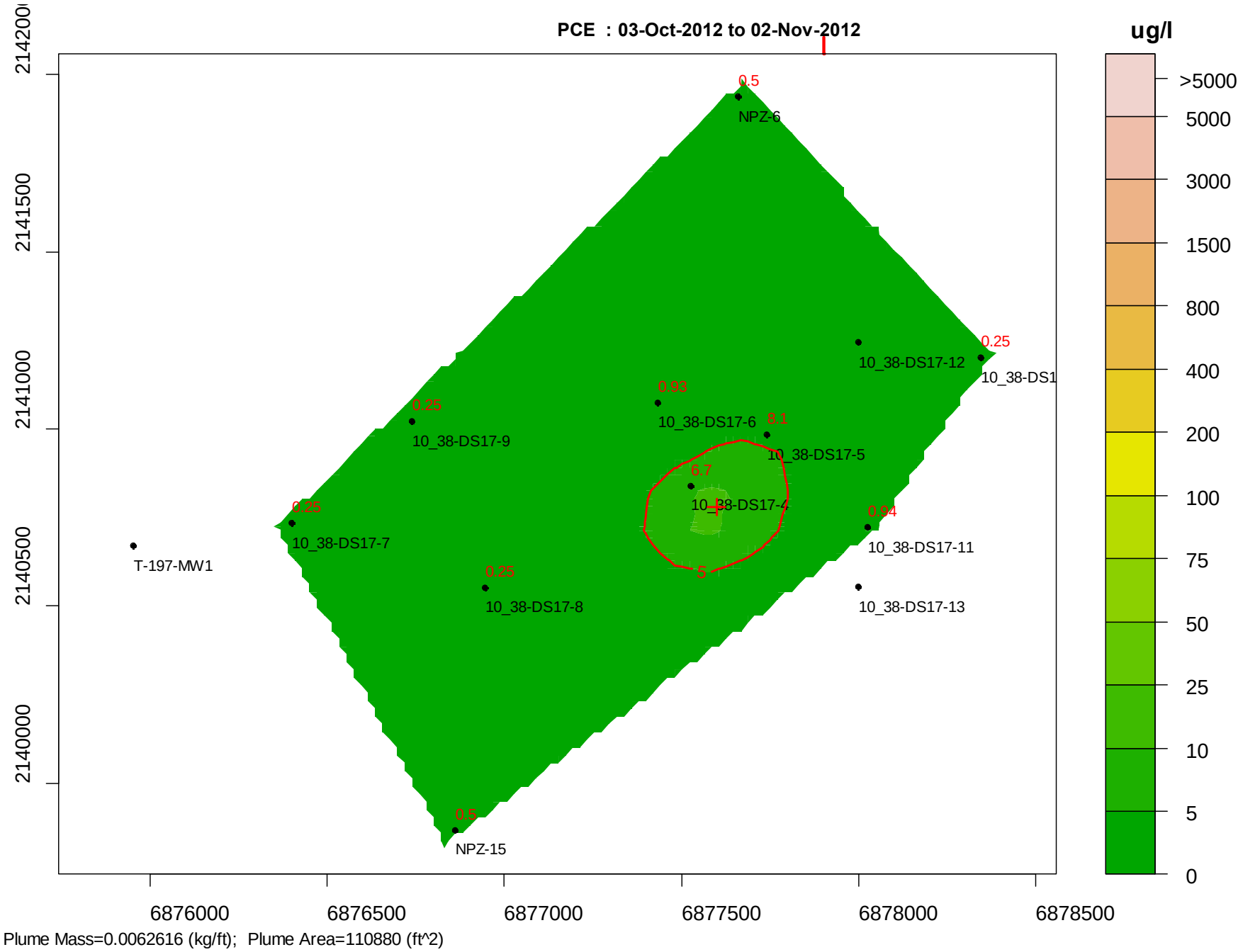


Plume Mass=0.0062987 (kg/ft); Plume Area=110000 (ft^2)


PCE : 03-Oct-2012 to 02-Nov-2012
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
0.5
NPZ-6
0.25
10_38-DS17-12
10_38-DS1
0.93
10_38-DS17-6
8.1
0.25
10_38-DS17-9
10_38-DS17-5
6.7
10_38-DS17-4
0.25
10_38-DS17-7
0.94
10_38-DS17-11
T-197-MW1
5
0.25
10_38-DS17-8
10_38-DS17-13
0.5
NPZ-15
2142000
2141500
2141000
2140500
2140000
6876000
6876500
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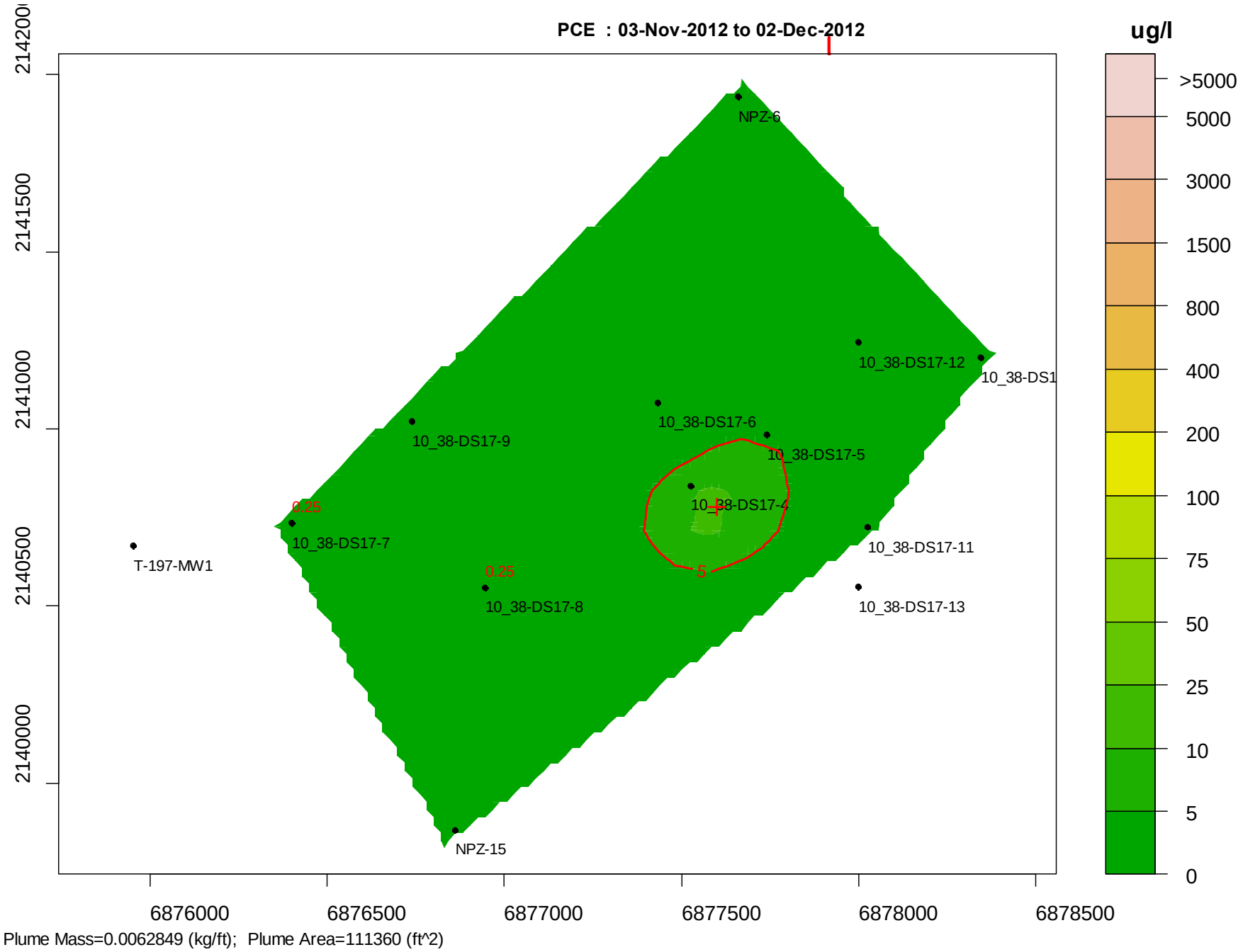
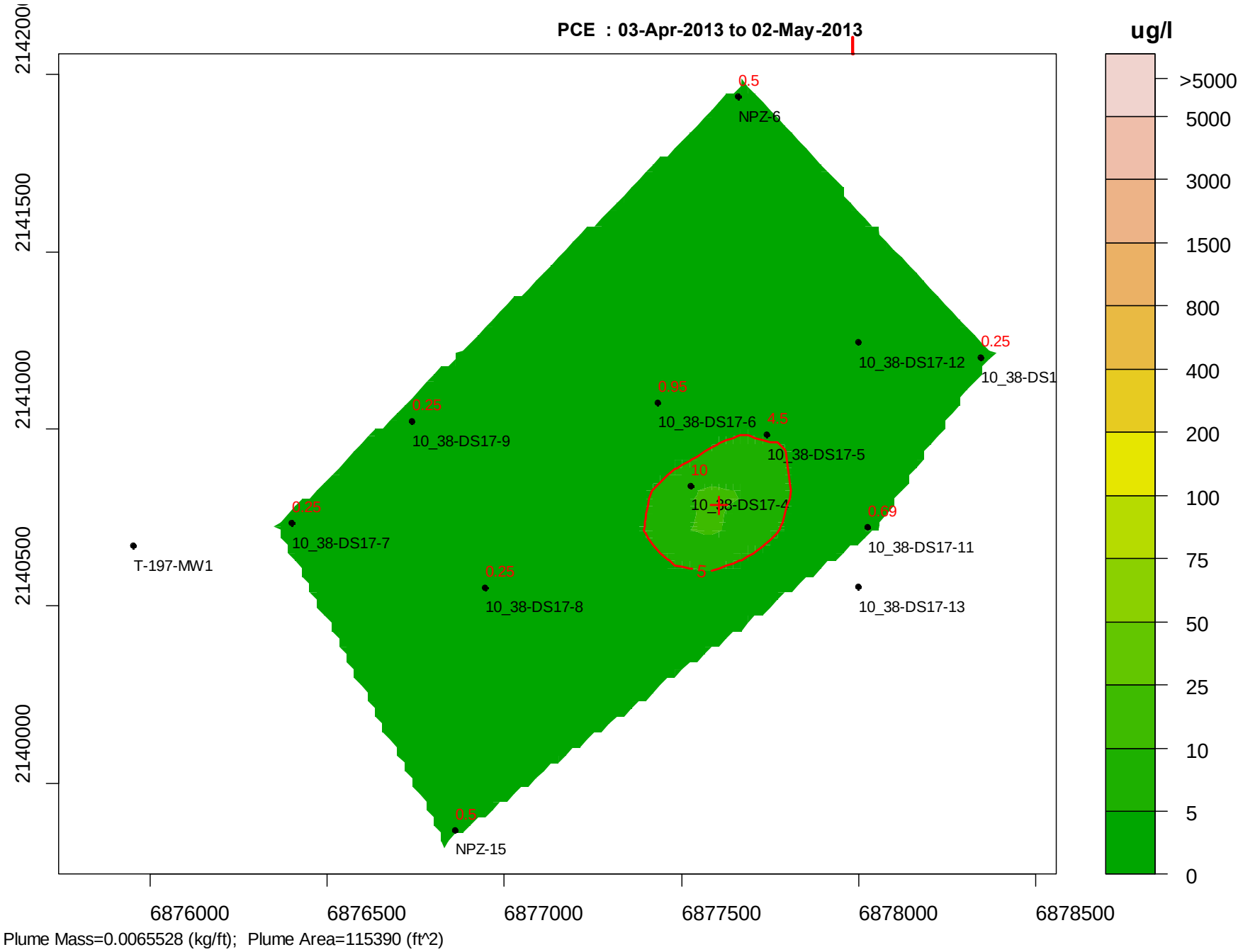
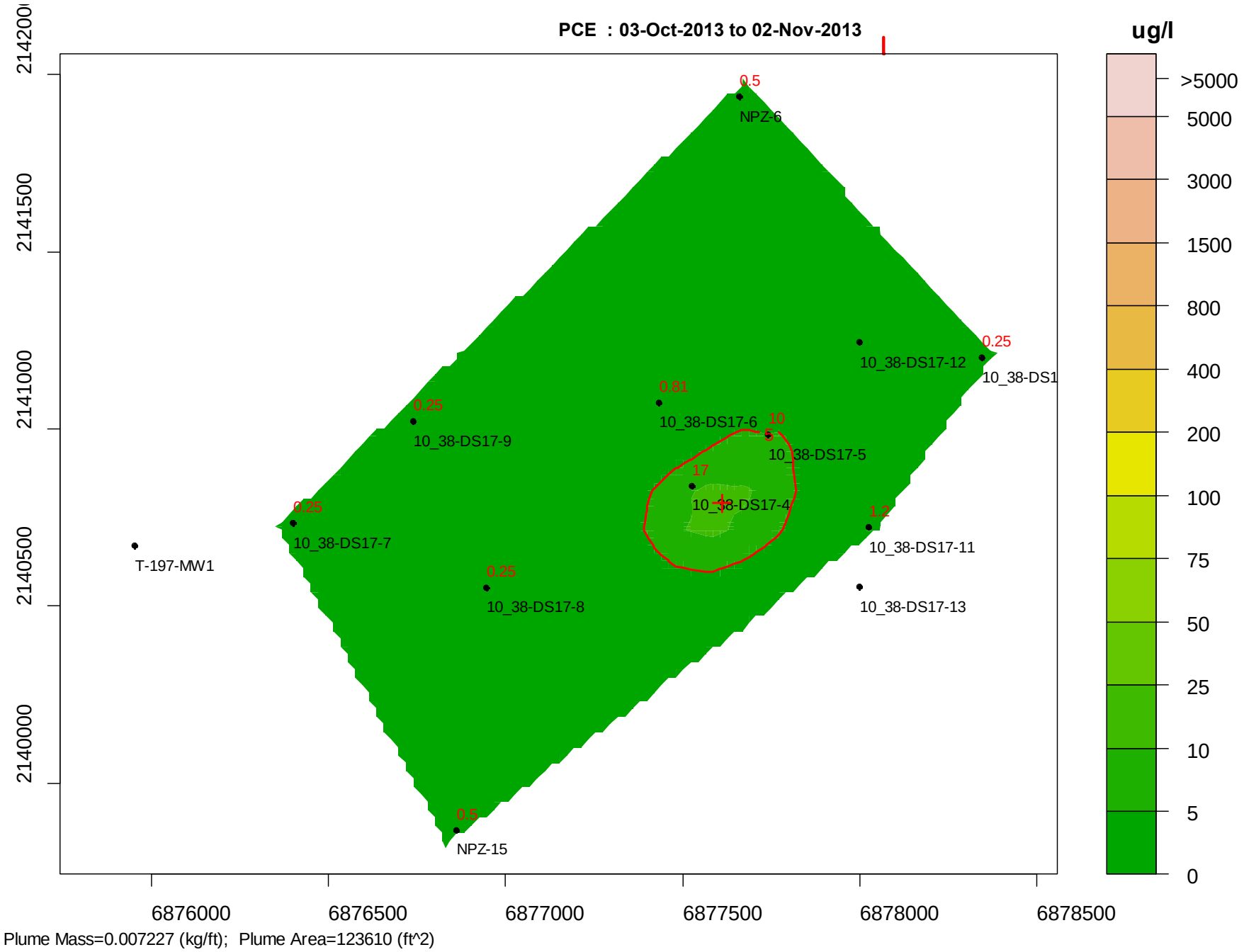
6878000
6878500
Plume Mass=0.0062616 (kg/ft); Plume Area=110880 (ft^2)



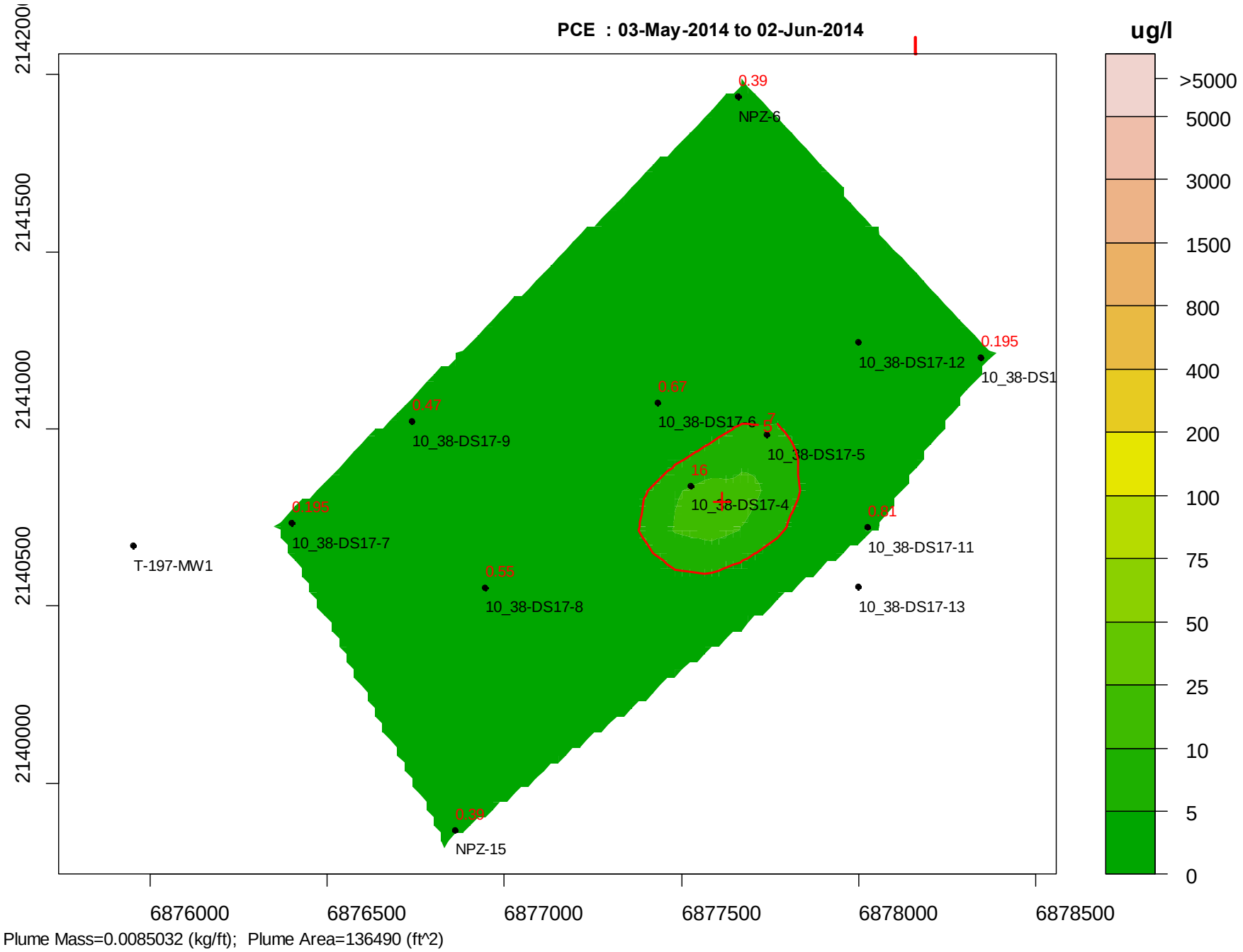
Plume Mass=0.0062849 (kg/ft); Plume Area=111360 (ft^2)

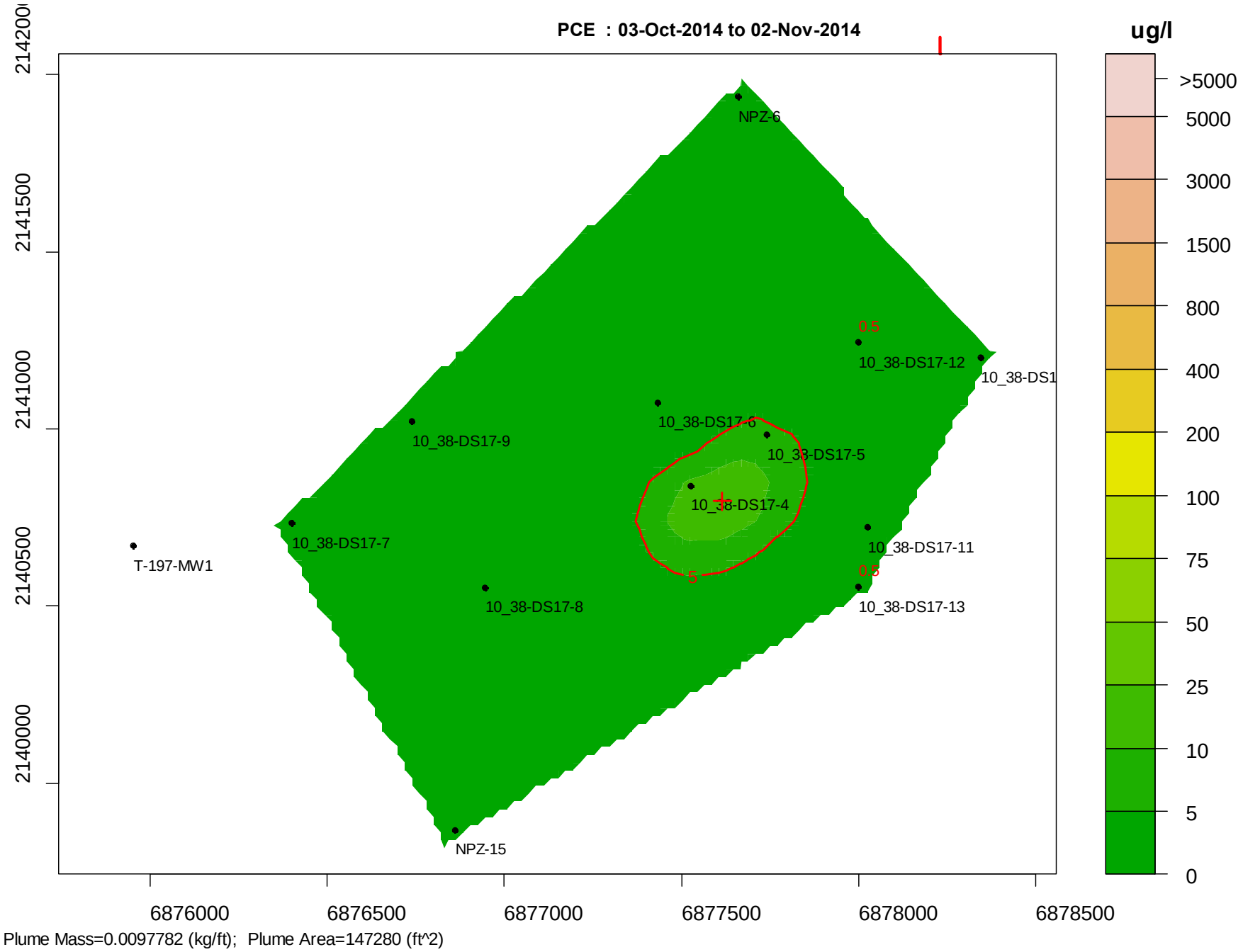


Plume Mass=0.0065528 (kg/ft); Plume Area=115390 (ft^2)

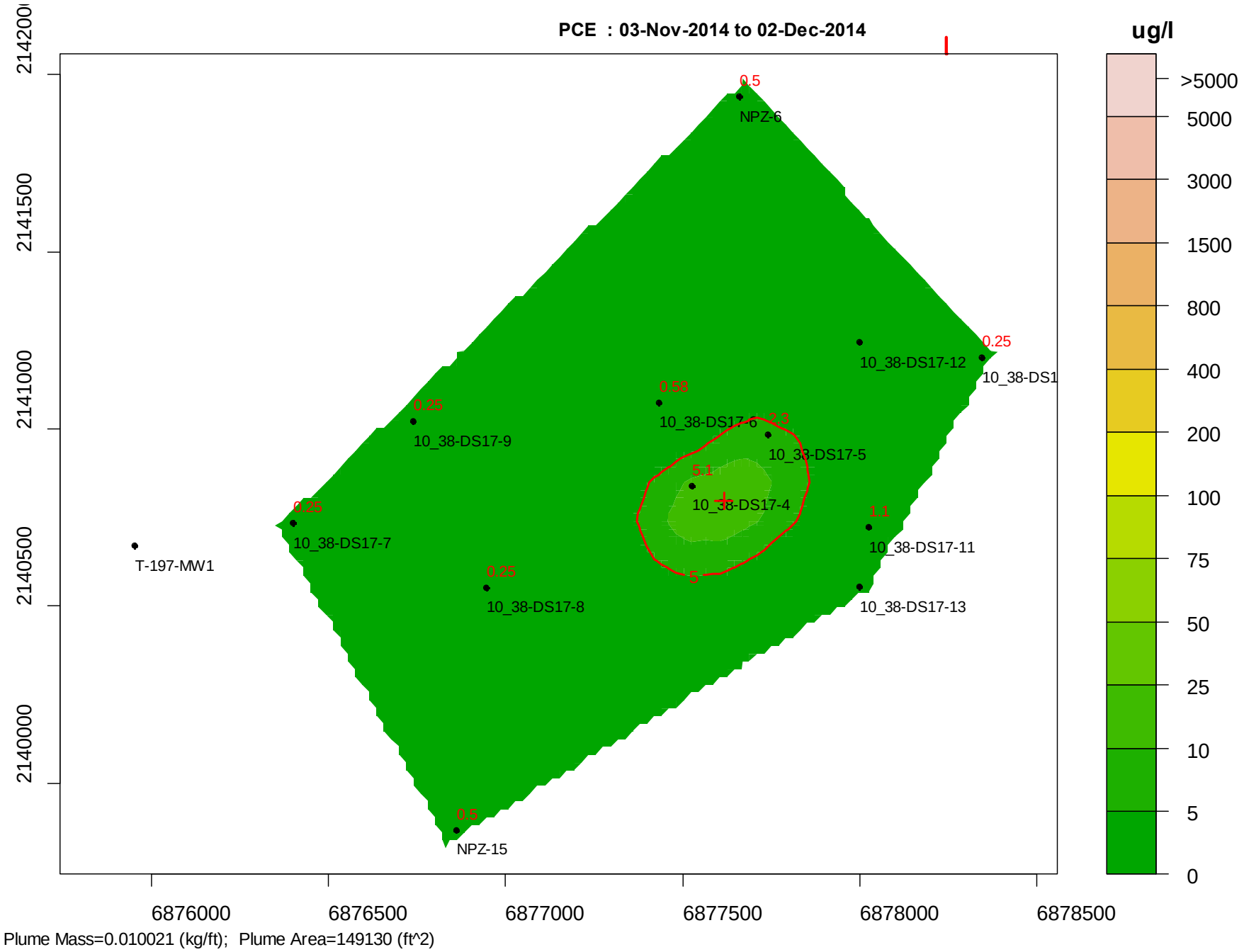


Plume Mass=0.007227 (kg/ft); Plume Area=123610 (ft^2)

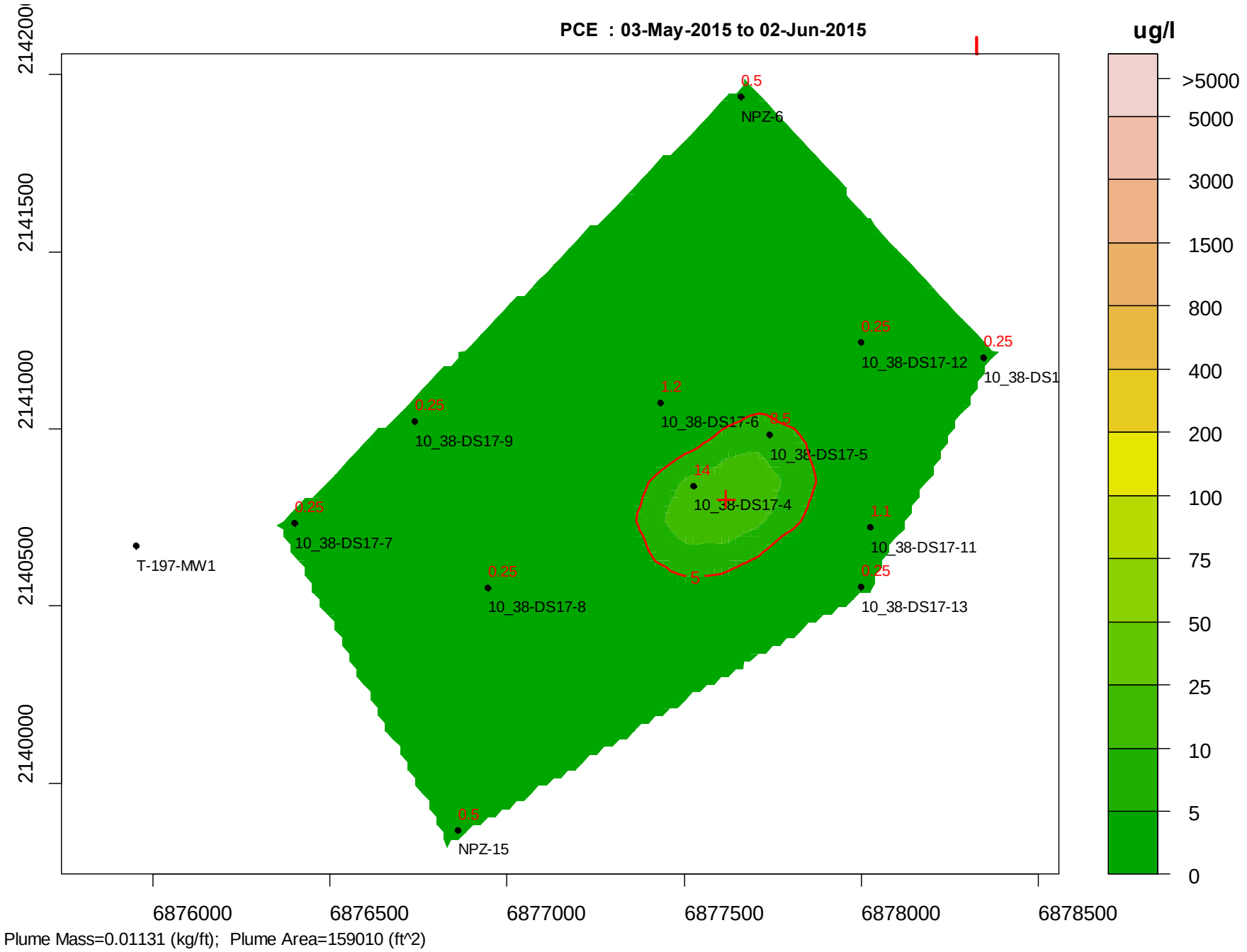

PCE : 03-May-2014 to 02-Jun-2014
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
0.39
NPZ-6
0.195
10_38-DS17-12
10_38-DS1
0.67
10_38-DS17-6
0.47
10_38-DS17-9
10_38-DS17-5
16
10_38-DS17-4
0.195
10_38-DS17-7
0.81
10_38-DS17-11
T-197-MW1
0.55
10_38-DS17-8
10_38-DS17-13
0.39
NPZ-15
2142000
2141500
2141000
2140500
2140000
6876000
6876500
6877000
6877500
6878000
6878500
Plume Mass=0.0085032 (kg/ft); Plume Area=136490 (ft^2)

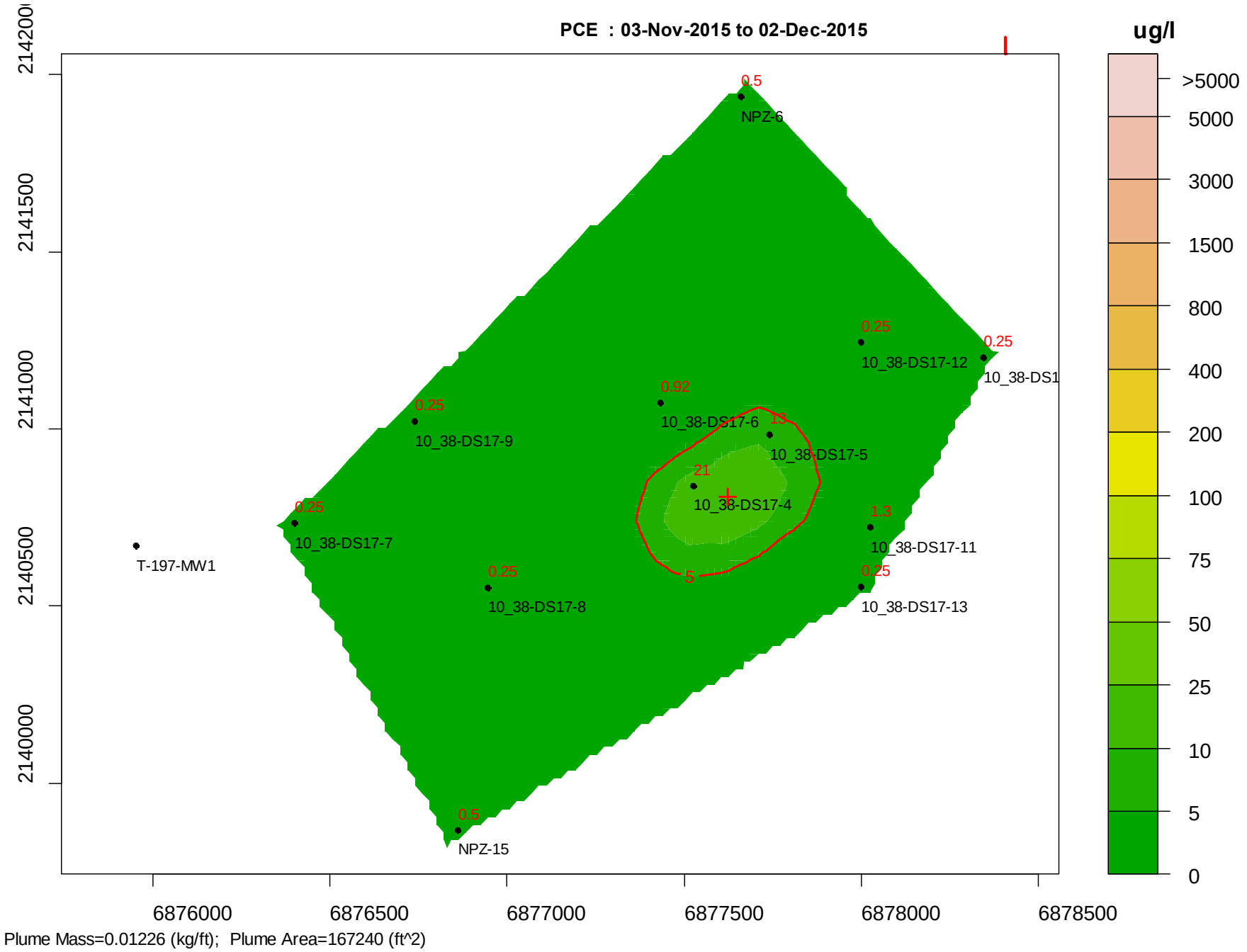


Plume Mass=0.0097782 (kg/ft); Plume Area=147280 (ft^2)

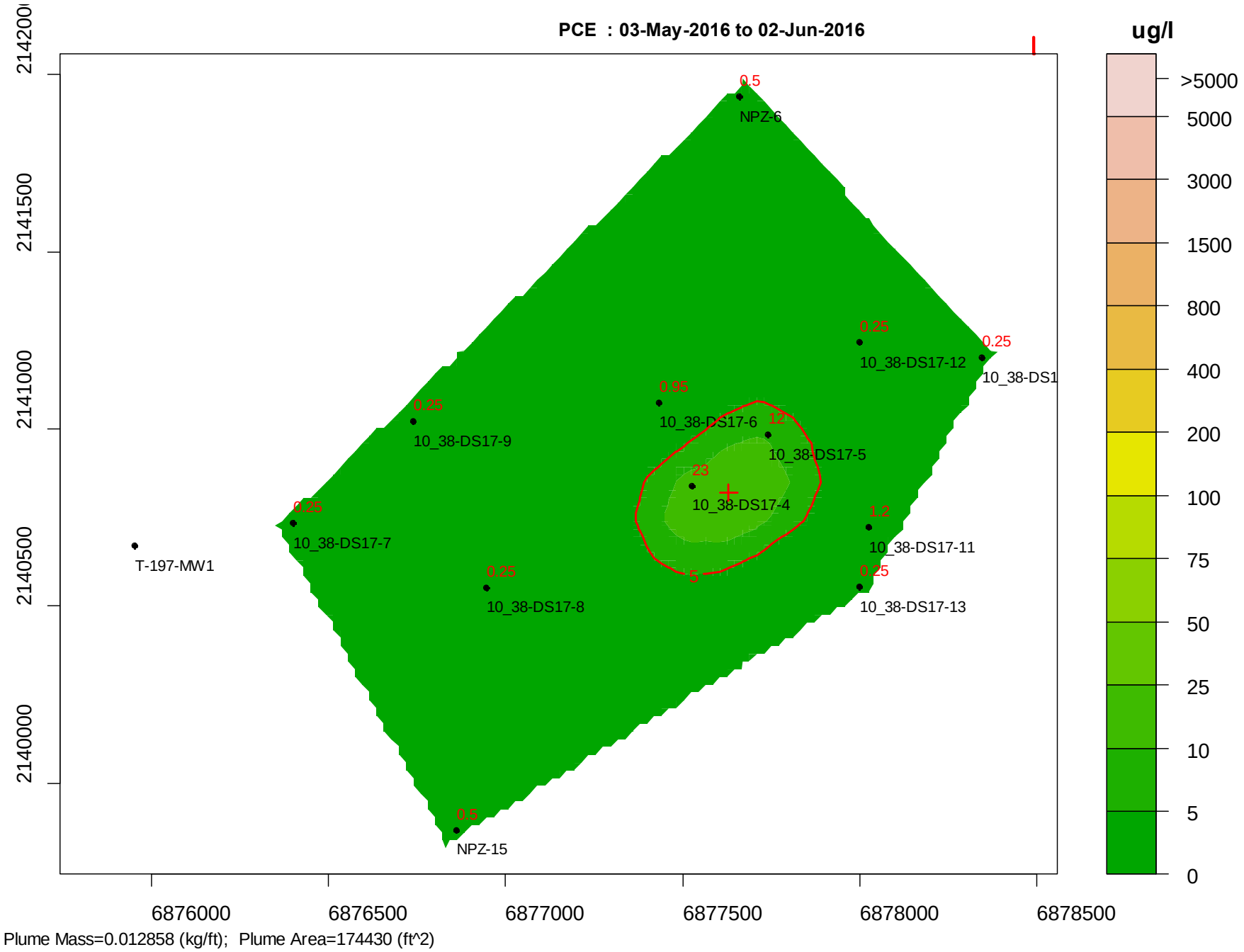


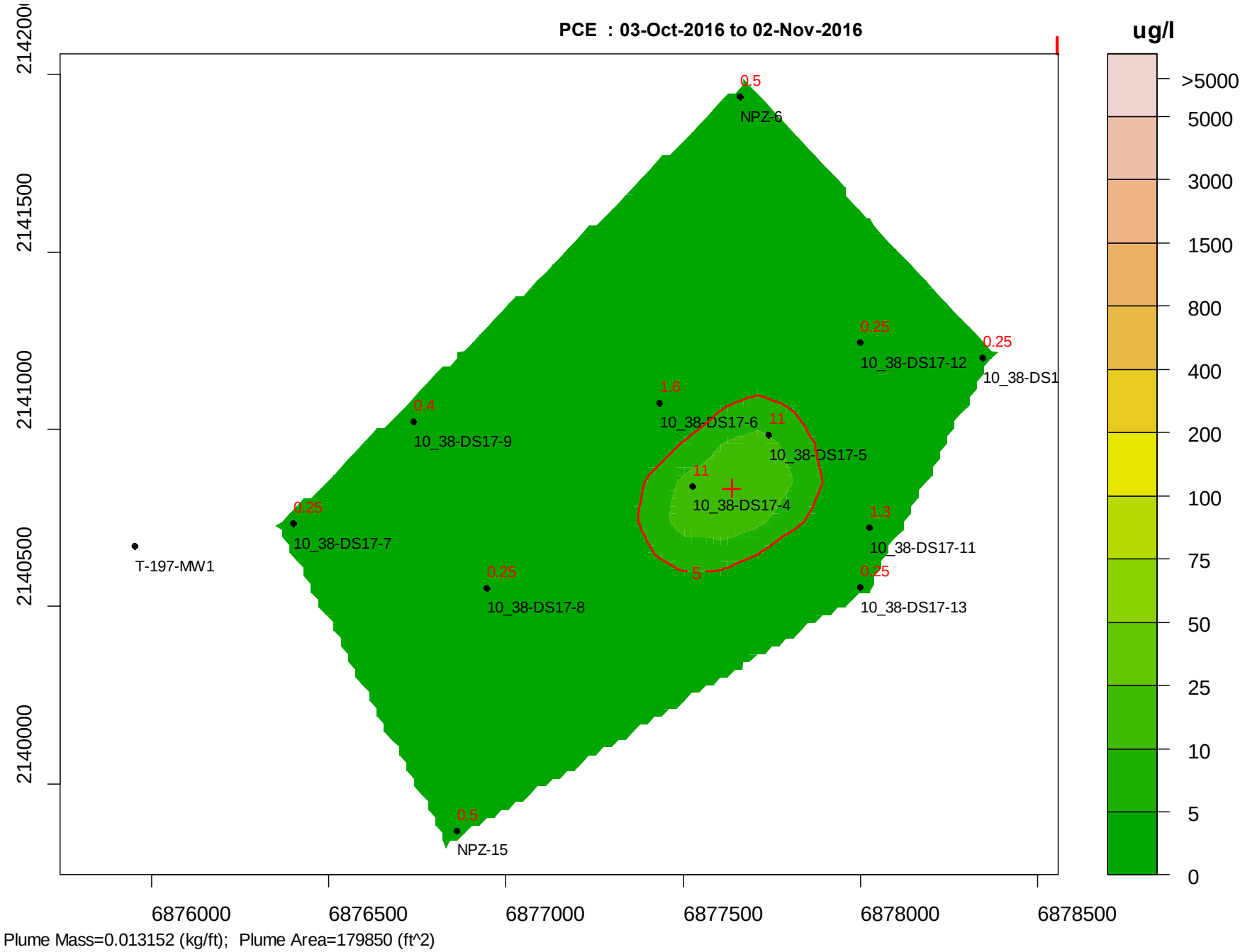
Plume Mass=0.010021 (kg/ft); Plume Area=149130 (ft^2)


PCE : 03-May-2015 to 02-Jun-2015
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
0.5
NPZ-6
0.25
10_38-DS17-12
0.25
10_38-DS1
1.2
10_38-DS17-6
0.25
10_38-DS17-9
1.5
10_38-DS17-5
14
10_38-DS17-4
0.25
10_38-DS17-7
1.1
10_38-DS17-11
T-197-MW1
0.25
10_38-DS17-8
5
0.25
10_38-DS17-13
0.5
NPZ-15
2142000
2141500
2141000
2140500
2140000
6876000
6876500
6877000
6877500
6878000
6878500
Plume Mass=0.01131 (kg/ft); Plume Area=159010 (ft^2)

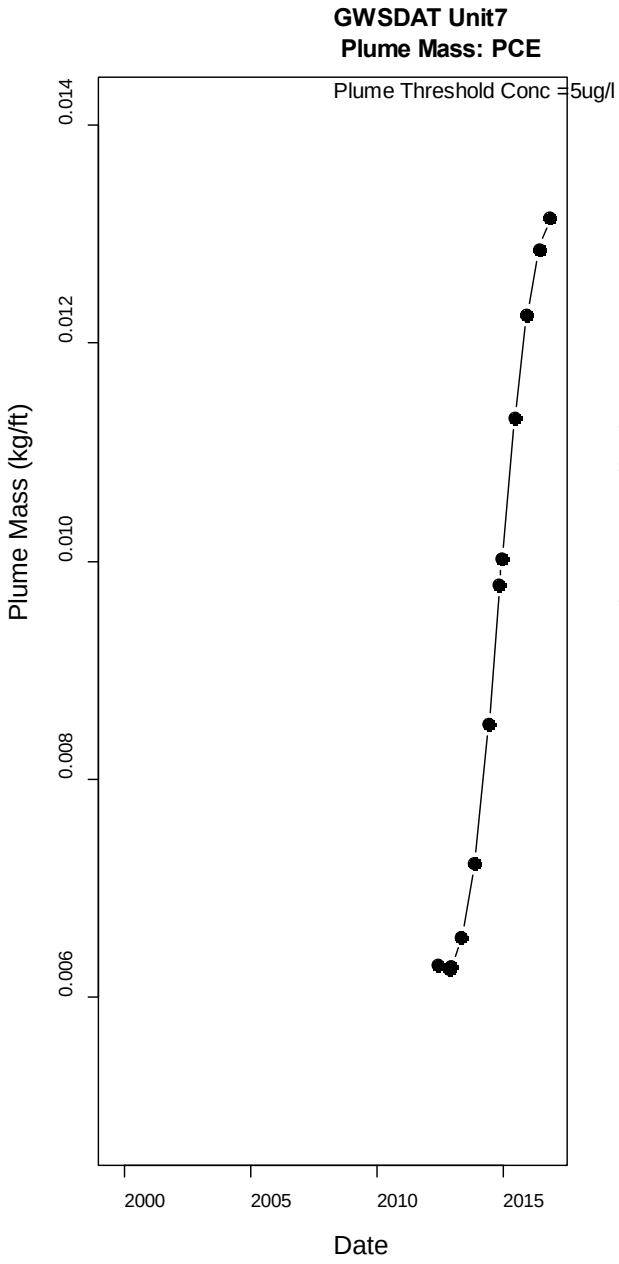


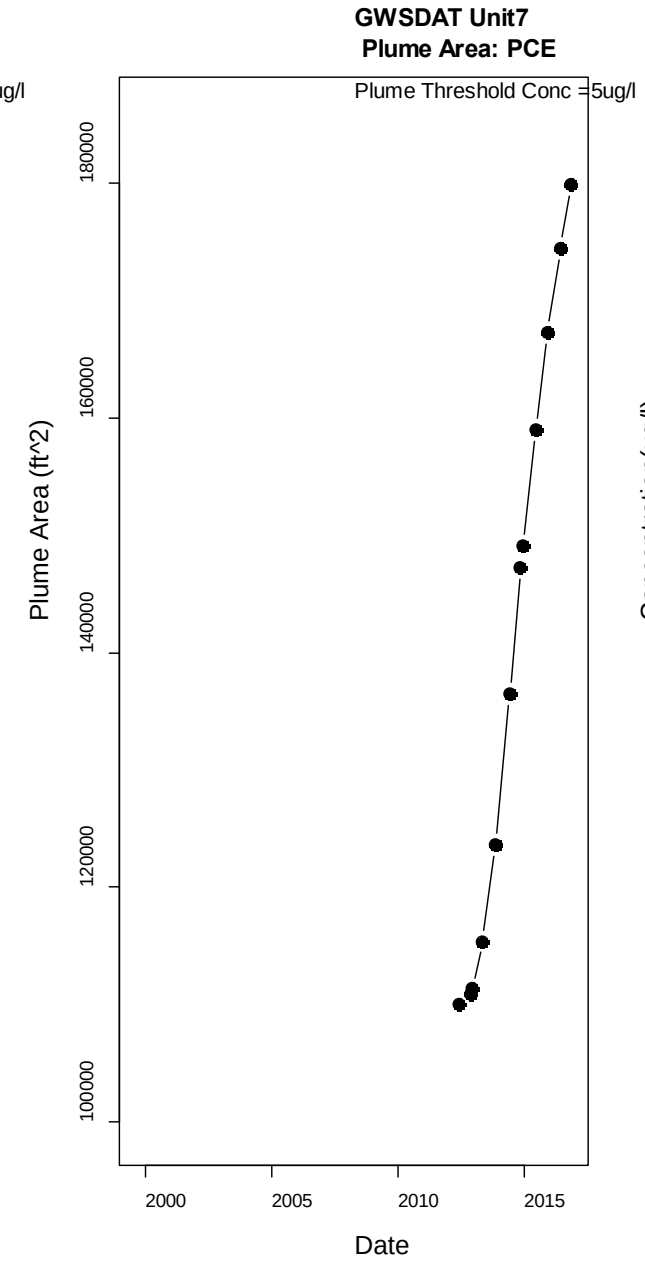
Plume Mass=0.01226 (kg/ft); Plume Area=167240 (ft^2)

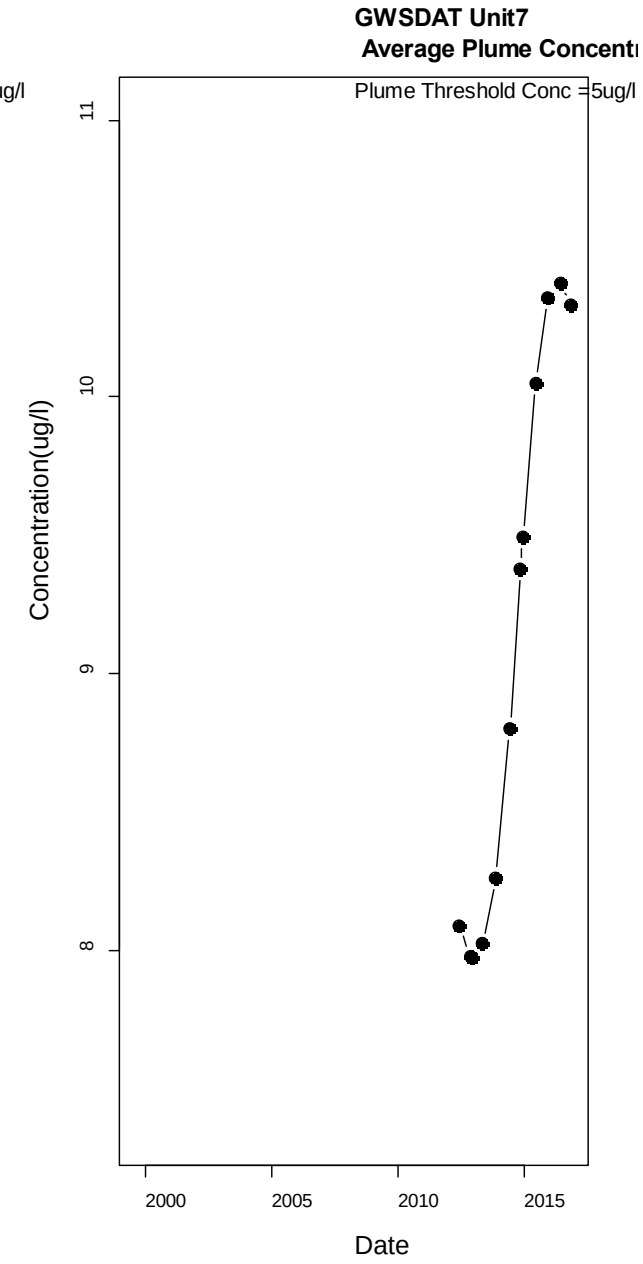

PCE : 03-May-2016 to 02-Jun-2016
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
0.5
NPZ-6
0.25
10_38-DS17-12
0.25
10_38-DS1
0.95
10_38-DS17-6
12
10_38-DS17-5
0.25
10_38-DS17-9
23
10_38-DS17-4
0.25
10_38-DS17-7
1.2
10_38-DS17-11
T-197-MW1
0.25
10_38-DS17-8
5
0.25
10_38-DS17-13
0.5
NPZ-15
2142000
2141500
2141000
2140500
2140000
6876000
6876500
6877000
6877500
6878000
6878500
Plume Mass=0.012858 (kg/ft); Plume Area=174430 (ft^2)



Plume Mass=0.013152 (kg/ft); Plume Area=179850 (ft^2)


GWSDAT Unit7
Plume Mass: PCE
Plume Threshold Conc =5ug/l
Plume Mass (kg/ft)
0.006
0.008
0.010
0.012
0.014
2000
2005
2010
2015
Date


GWSDAT Unit7
Plume Area: PCE
Plume Threshold Conc =5ug/l
Plume Area (ft^2)
100000
120000
140000
160000
180000
2000
2005
2010
2015
Date


GWSDAT Unit7
Average Plume Concentr
Plume Threshold Conc =5ug/l
Concentration(ug/l)
8
9
10
11
2000
2005
2010
2015
Date

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TCE

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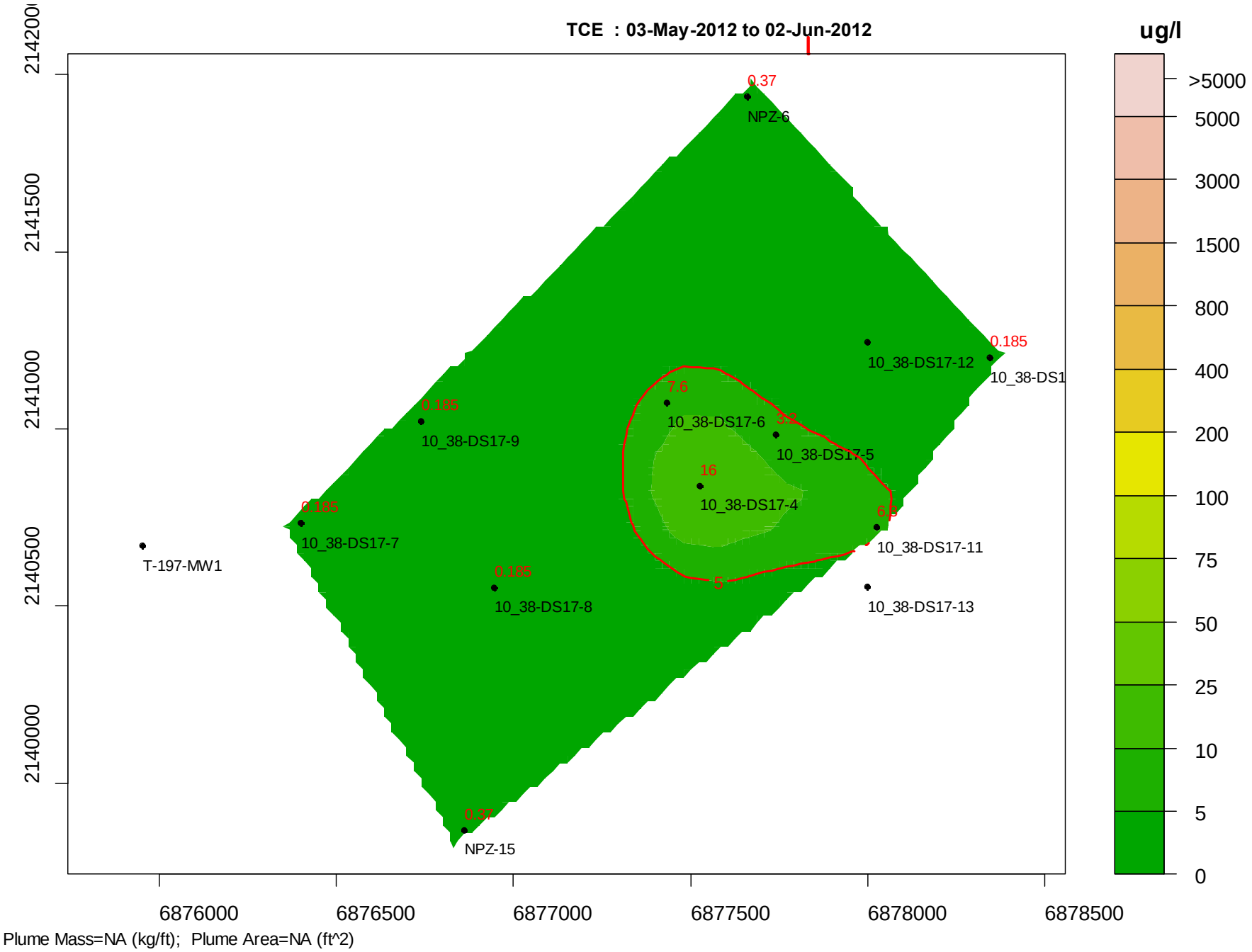
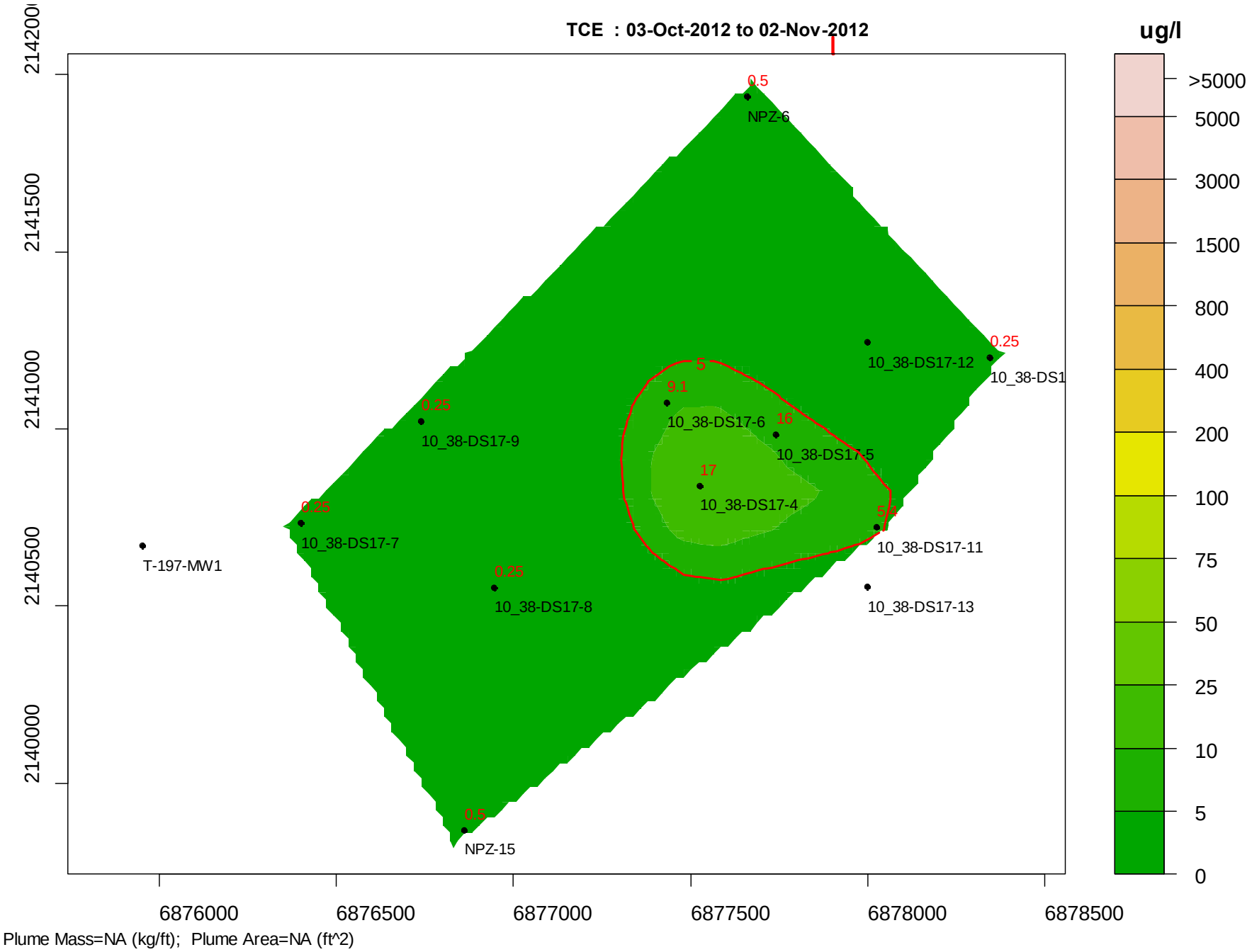
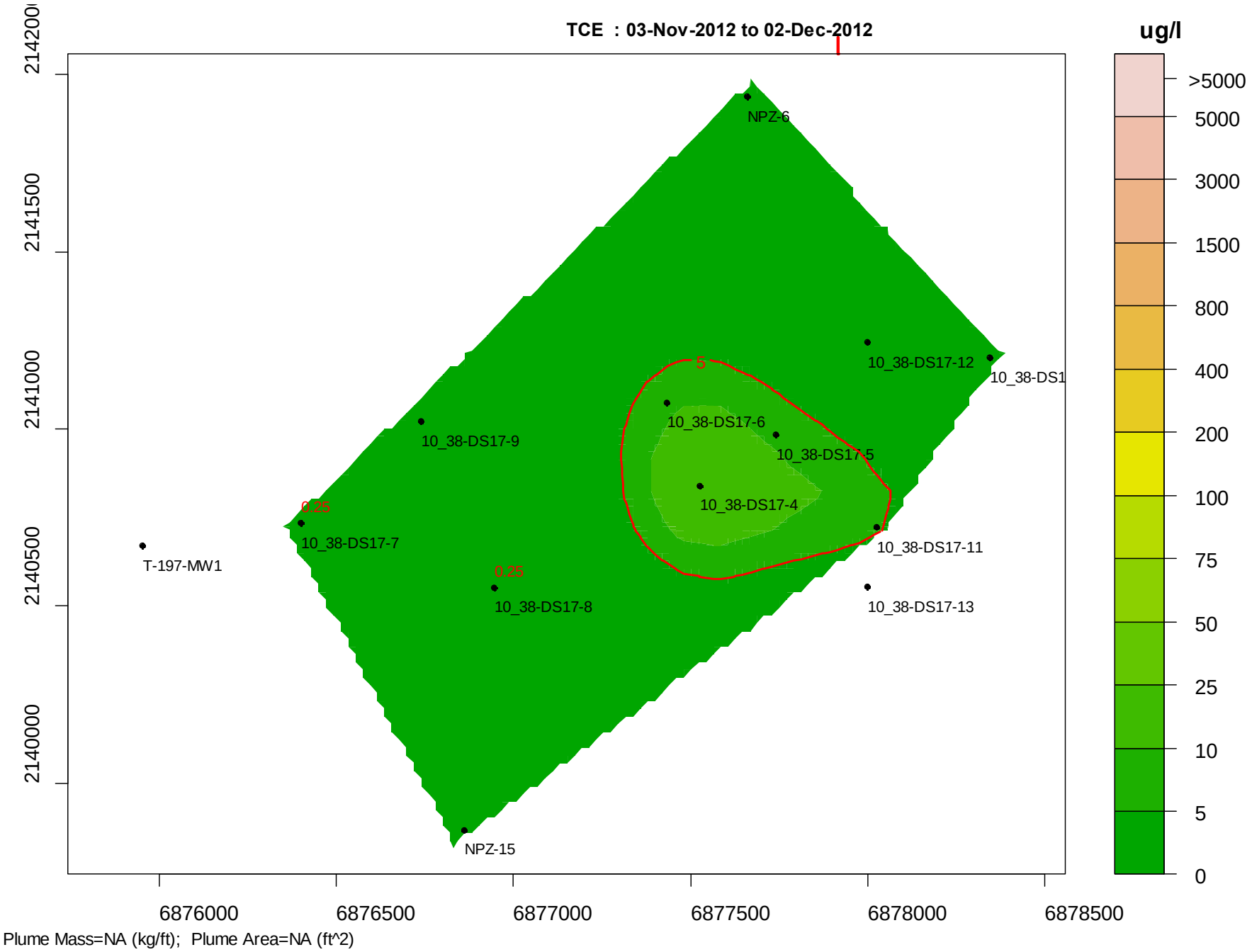


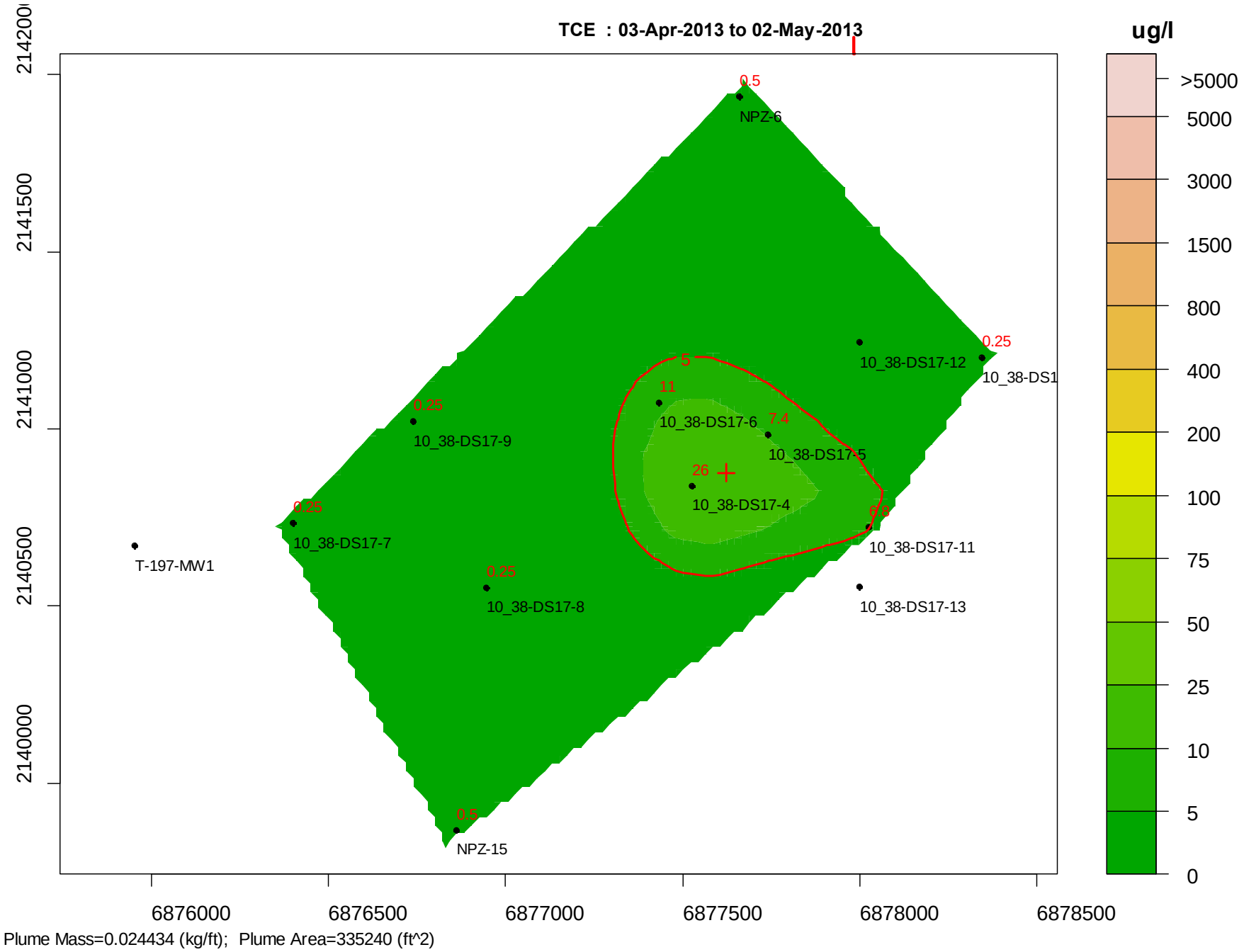
Plume Mass=NA (kg/ft); Plume Area=NA (ft^2)



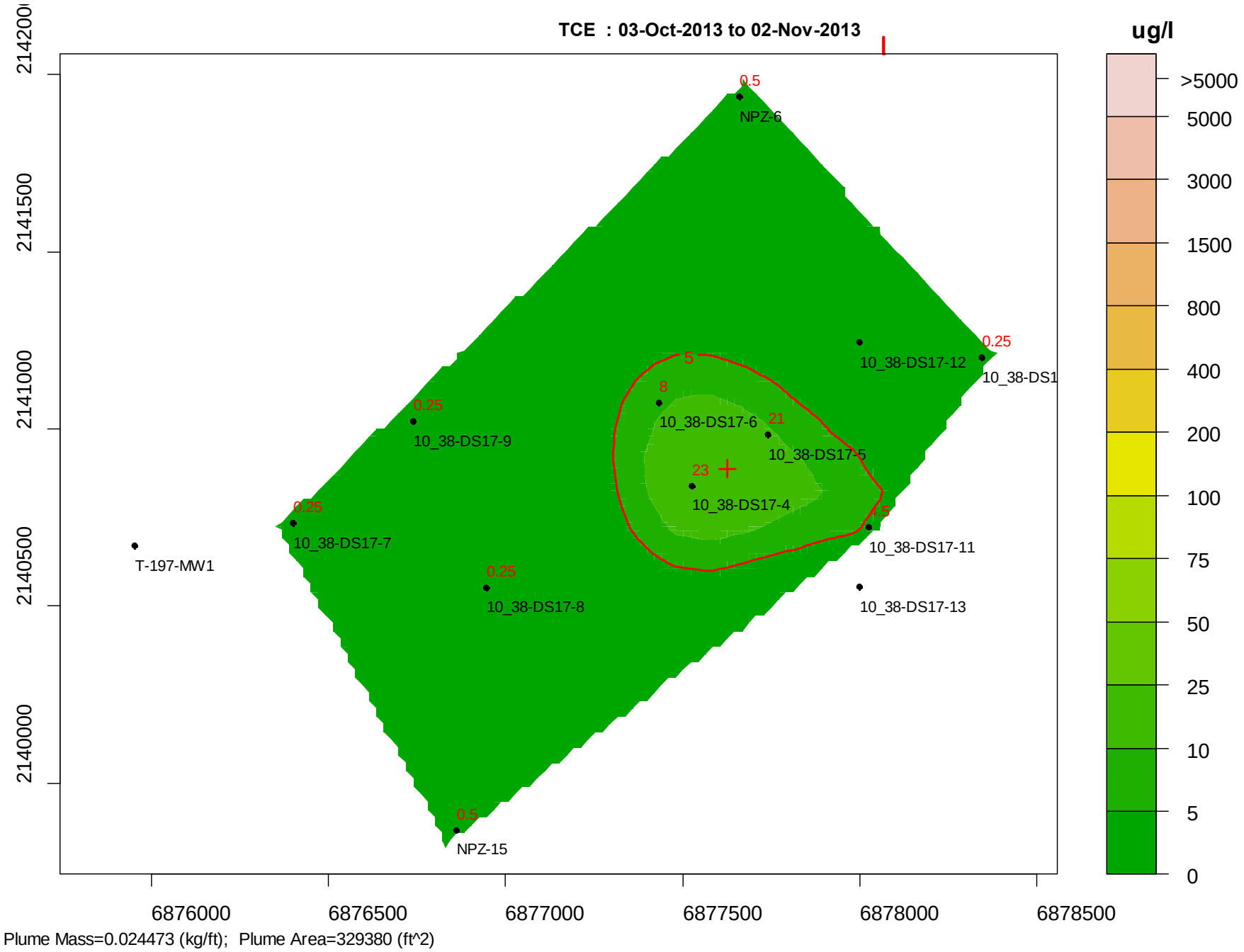
Plume Mass=NA (kg/ft); Plume Area=NA (ft^2)



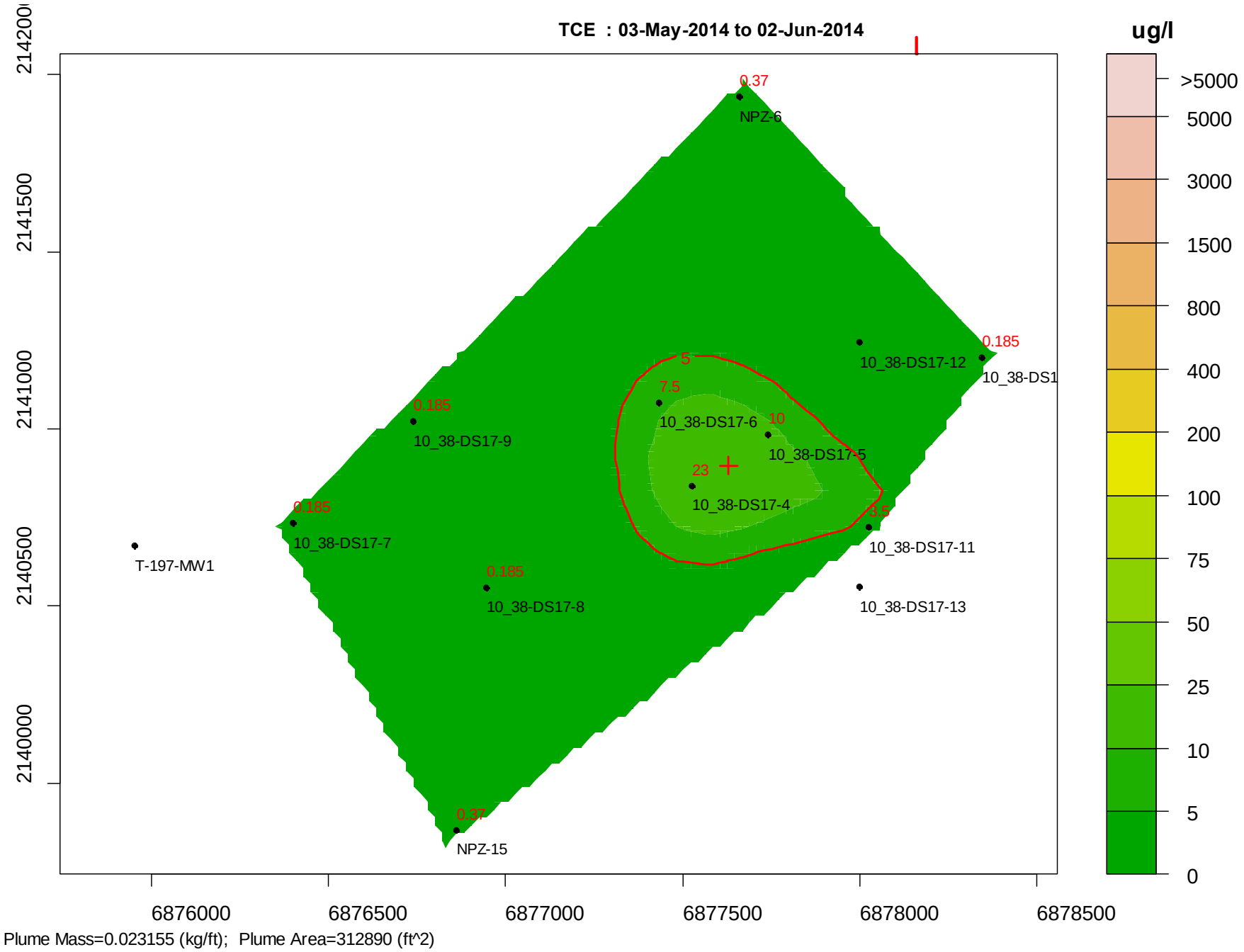
Plume Mass=NA (kg/ft); Plume Area=NA (ft^2)

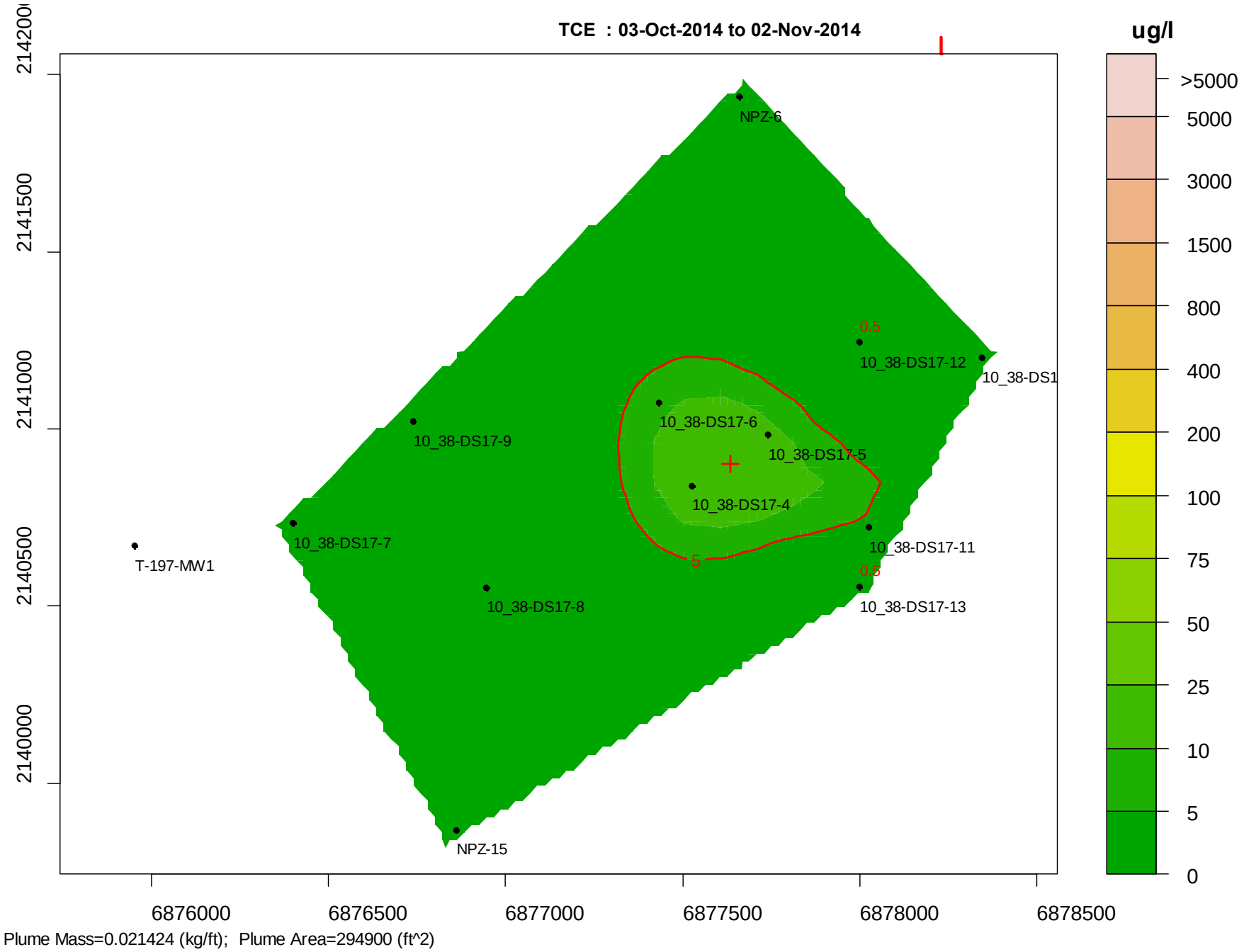


Plume Mass=0.024434 (kg/ft); Plume Area=335240 (ft^2)

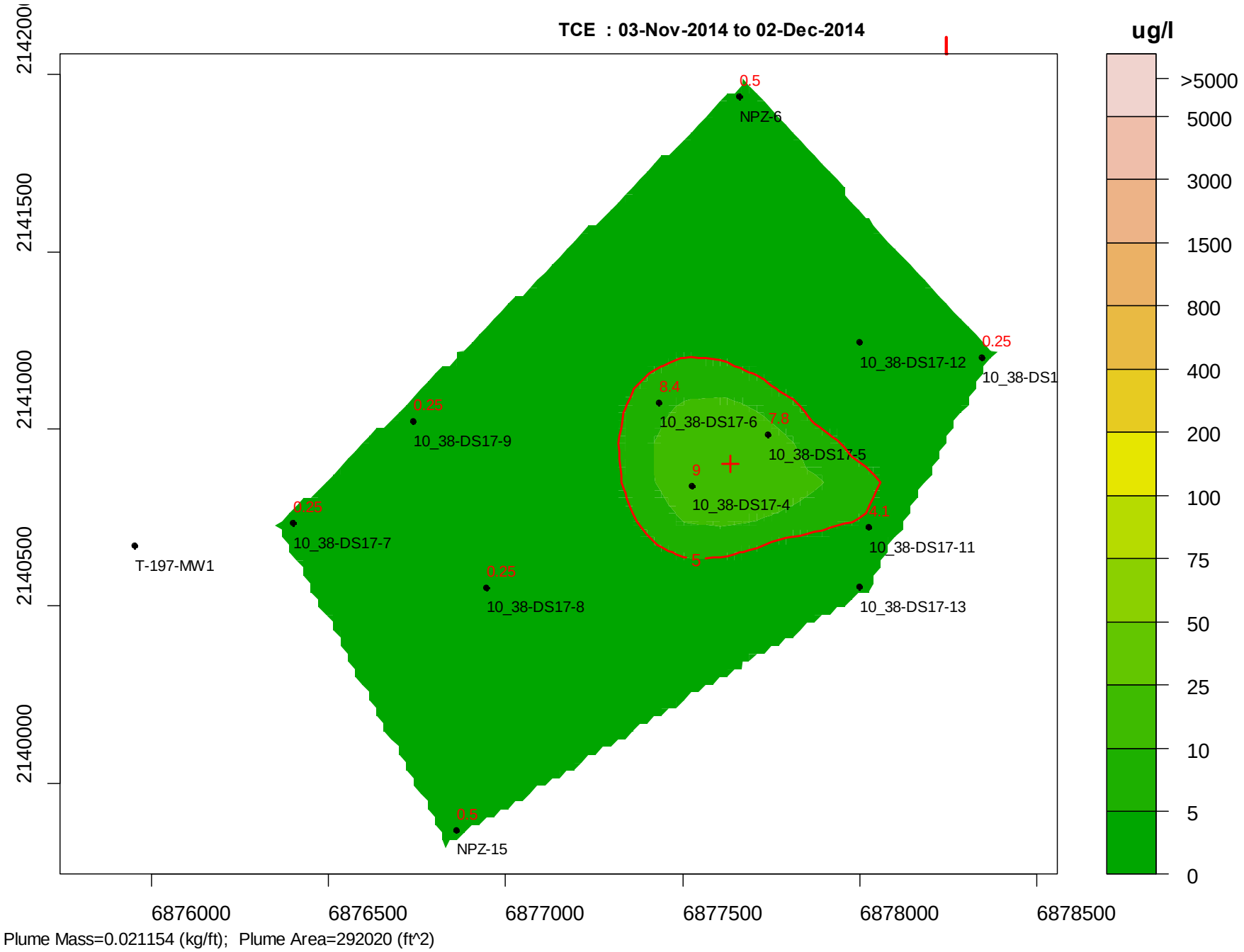


Plume Mass=0.024473 (kg/ft); Plume Area=329380 (ft^2)

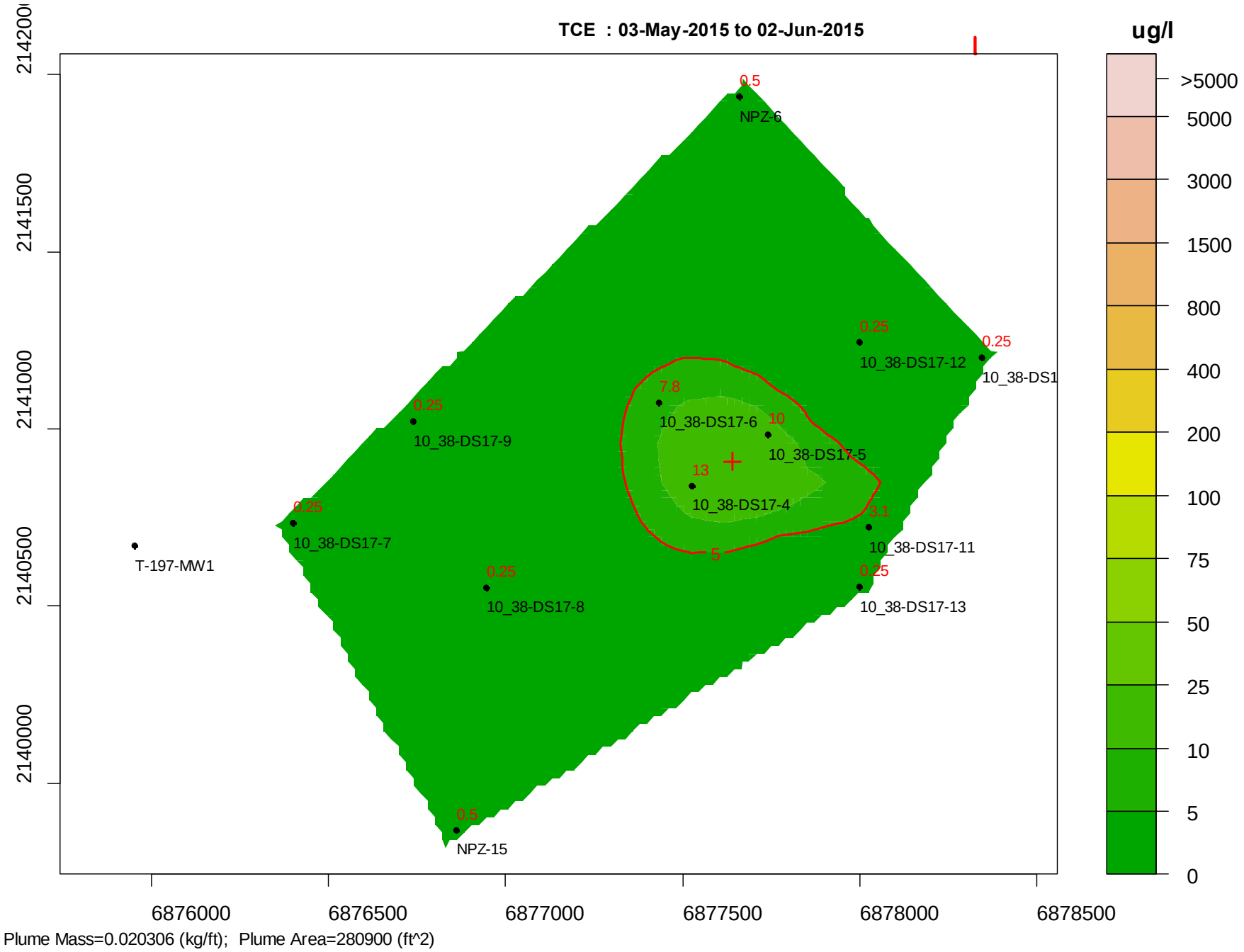

TCE : 03-May-2014 to 02-Jun-2014
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
0.37
NPZ-6
0.185
10_38-DS17-12
10_38-DS1
5
7.5
10_38-DS17-6
10
10_38-DS17-5
23
10_38-DS17-4
0.185
10_38-DS17-9
0.185
10_38-DS17-7
3.5
10_38-DS17-11
T-197-MW1
0.185
10_38-DS17-8
10_38-DS17-13
0.37
NPZ-15
2142000
2141500
2141000
2140500
2140000
6876000
6876500
6877000
6877500
6878000
6878500
Plume Mass=0.023155 (kg/ft); Plume Area=312890 (ft^2)



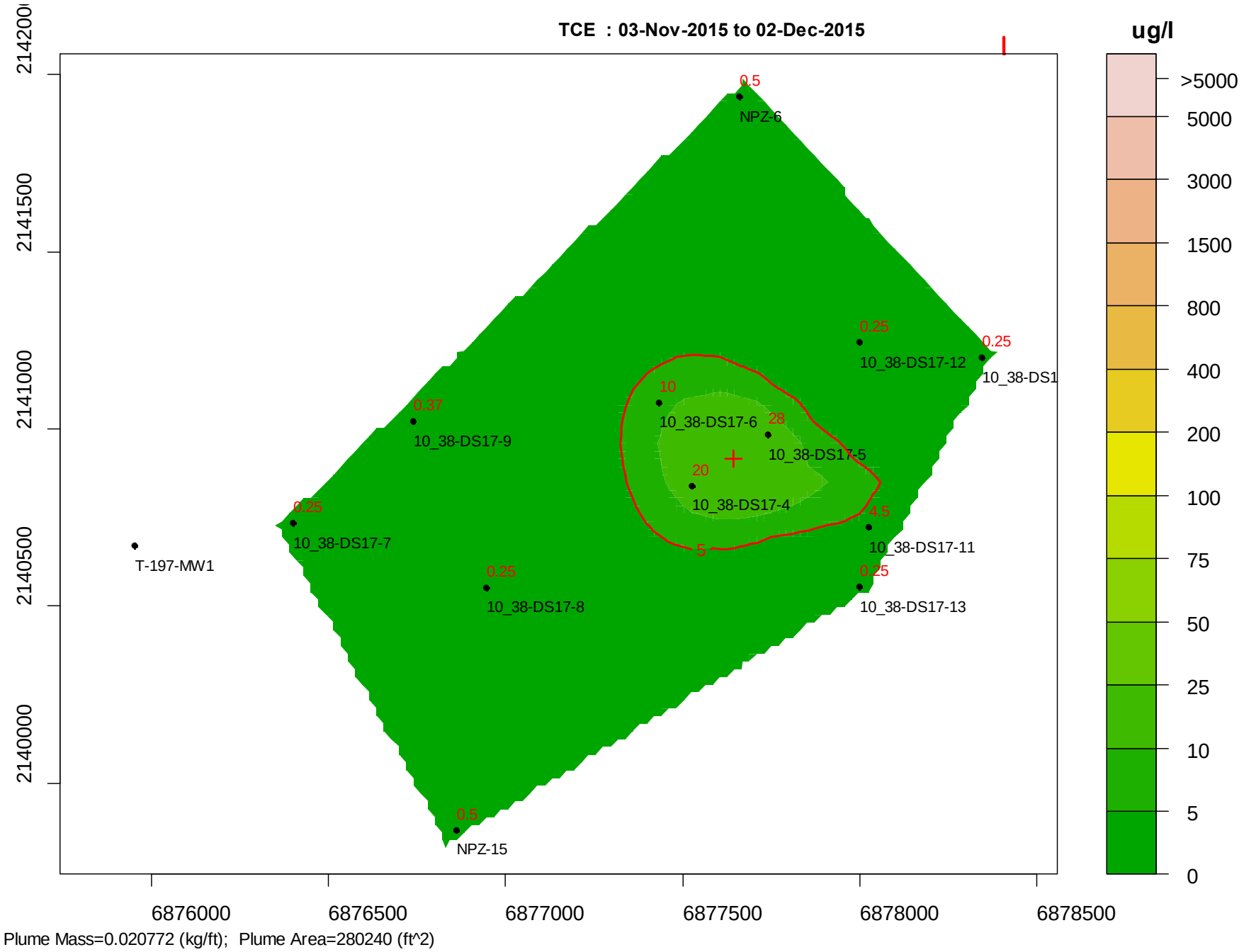
Plume Mass=0.021424 (kg/ft); Plume Area=294900 (ft^2)



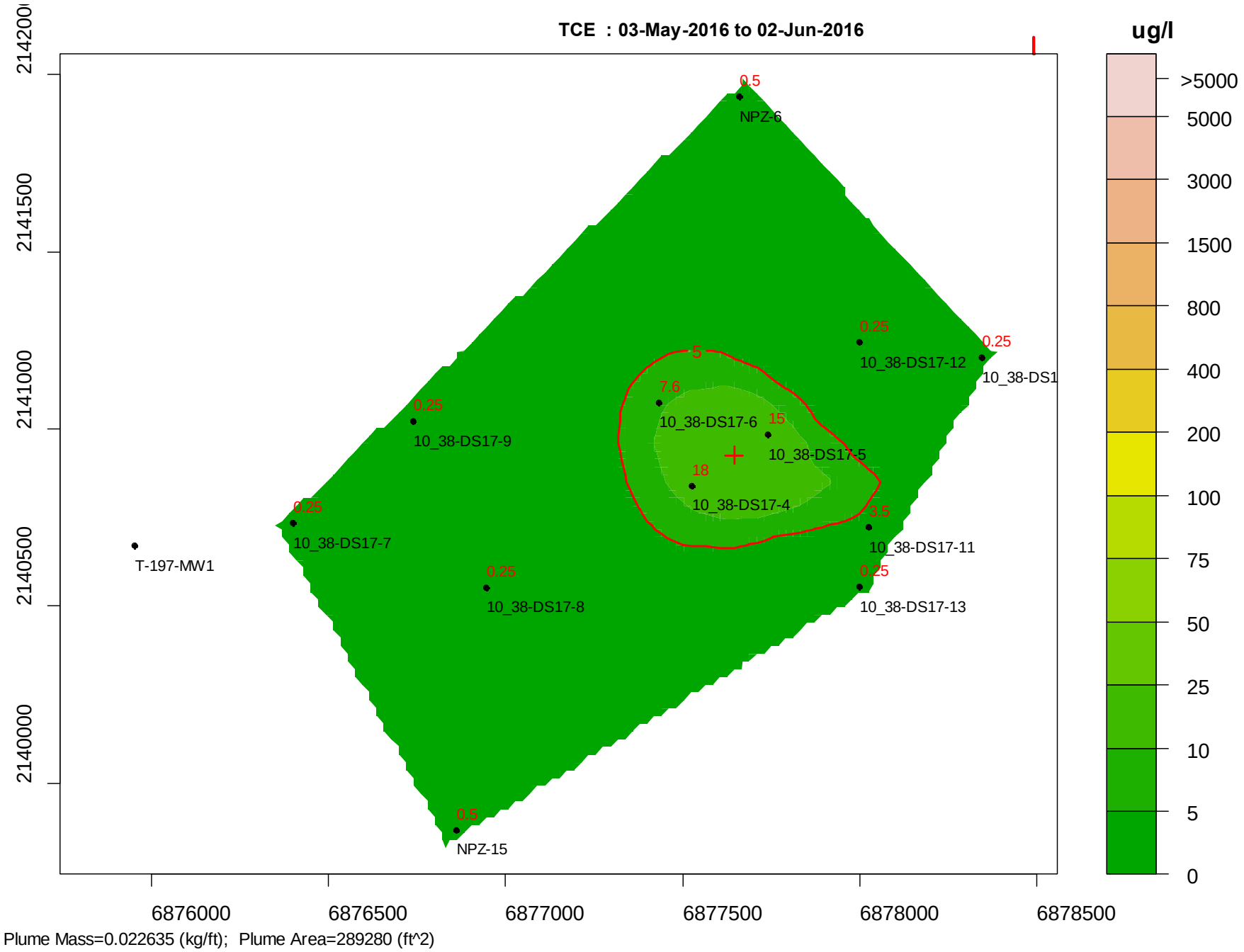
Plume Mass=0.021154 (kg/ft); Plume Area=292020 (ft^2)



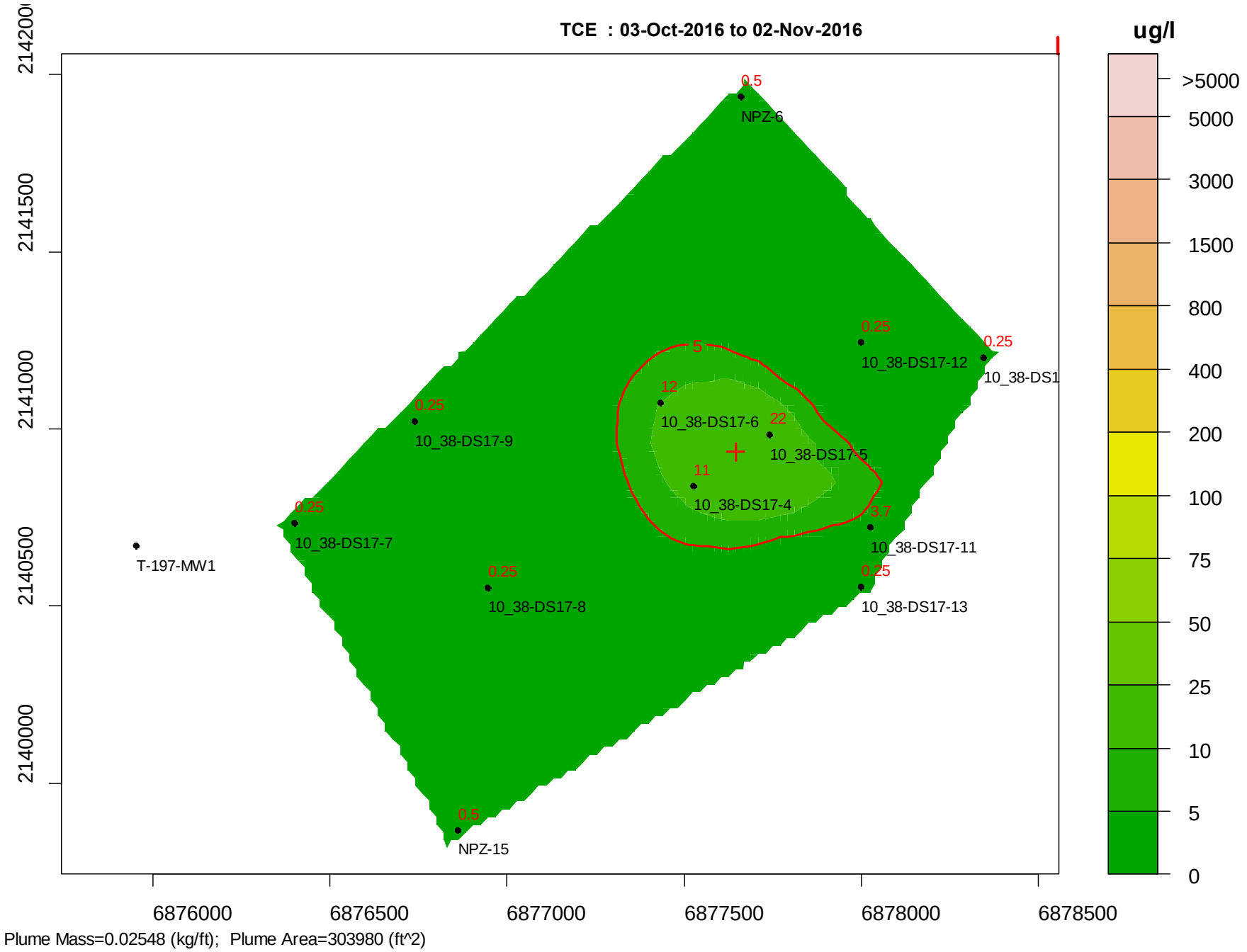
Plume Mass=0.020306 (kg/ft); Plume Area=280900 (ft^2)



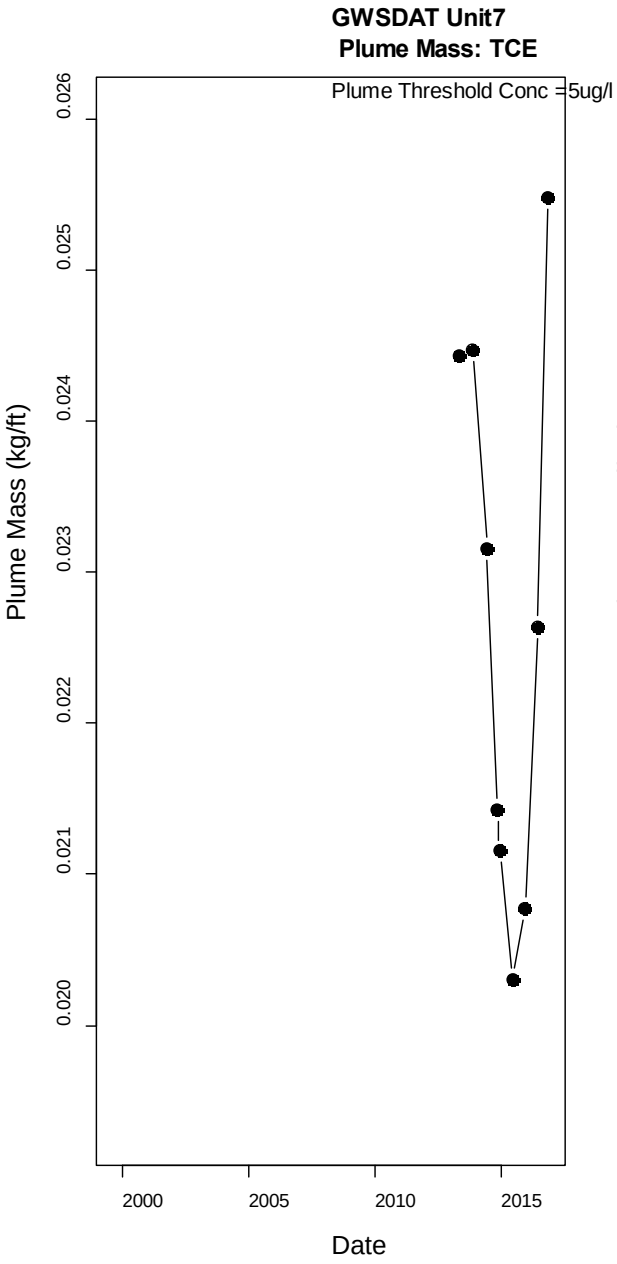
Plume Mass=0.020772 (kg/ft); Plume Area=280240 (ft^2)

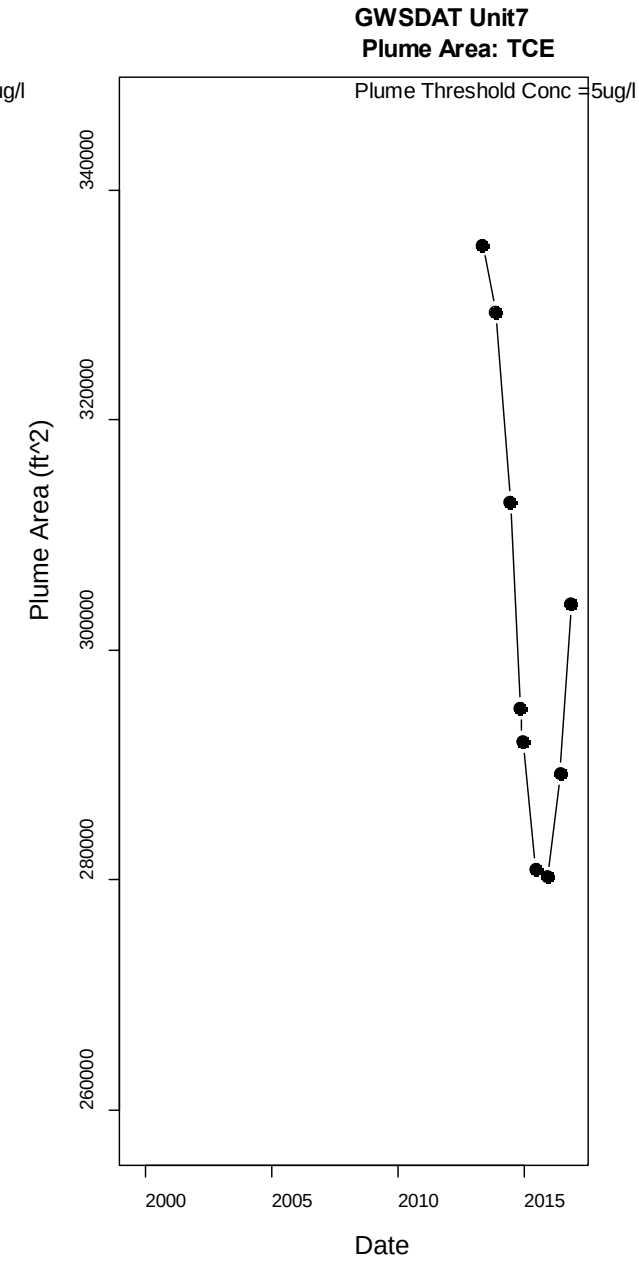


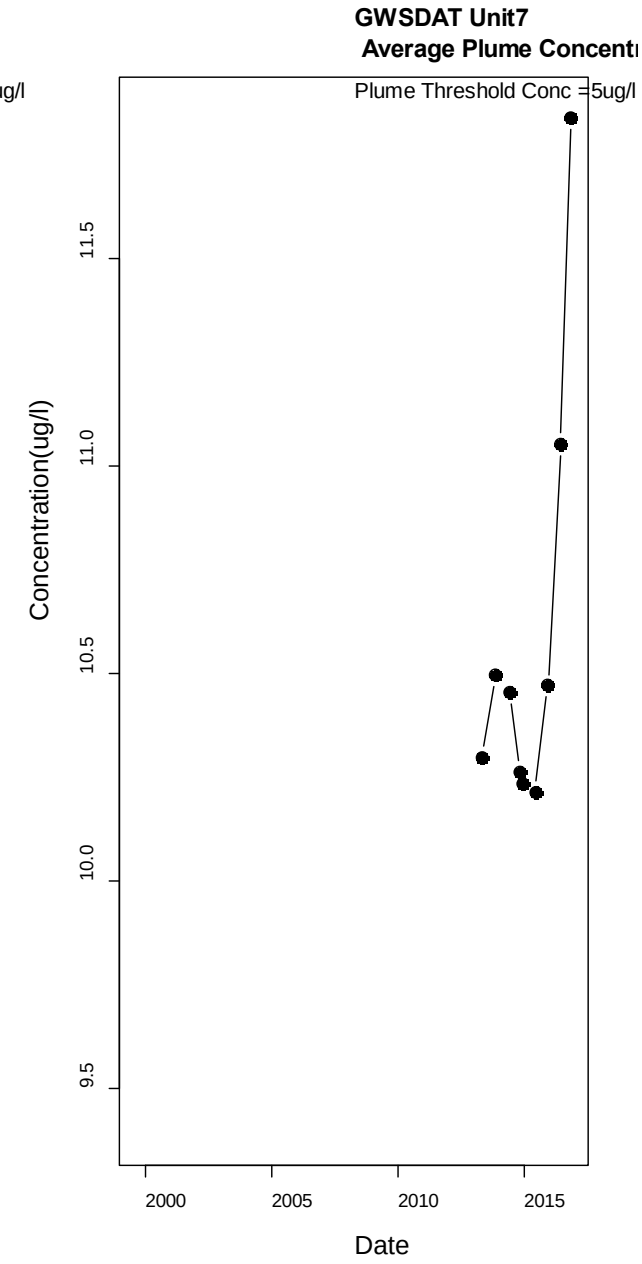
Plume Mass=0.022635 (kg/ft); Plume Area=289280 (ft^2)



Plume Mass=0.02548 (kg/ft); Plume Area=303980 (ft^2)


GWSDAT Unit7
Plume Mass: TCE
Plume Threshold Conc =5ug/l
Plume Mass (kg/ft)
0.020
0.021
0.022
0.023
0.024
0.025
0.026
2000
2005
2010
2015
Date


GWSDAT Unit7
Plume Area: TCE
Plume Threshold Conc =5ug/l
Plume Area (ft^2)
260000
280000
300000
320000
340000
2000
2005
2010
2015
Date


GWSDAT Unit7
Average Plume Concentr
Plume Threshold Conc =5ug/l
Concentration(ug/l)
9.5
10.0
10.5
11.0
11.5
2000
2005
2010
2015
Date

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MNA SITE NPZ-14

TCE

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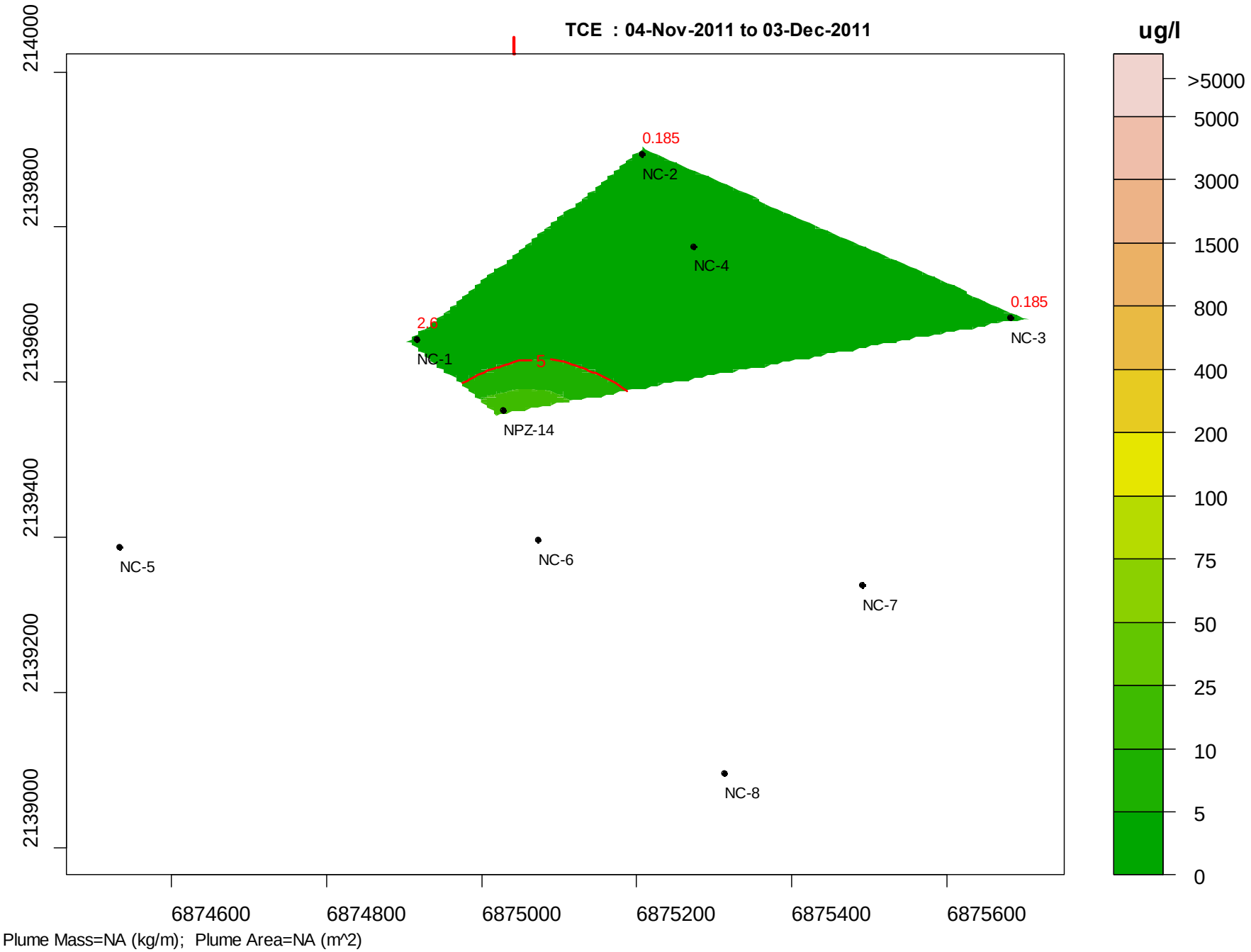
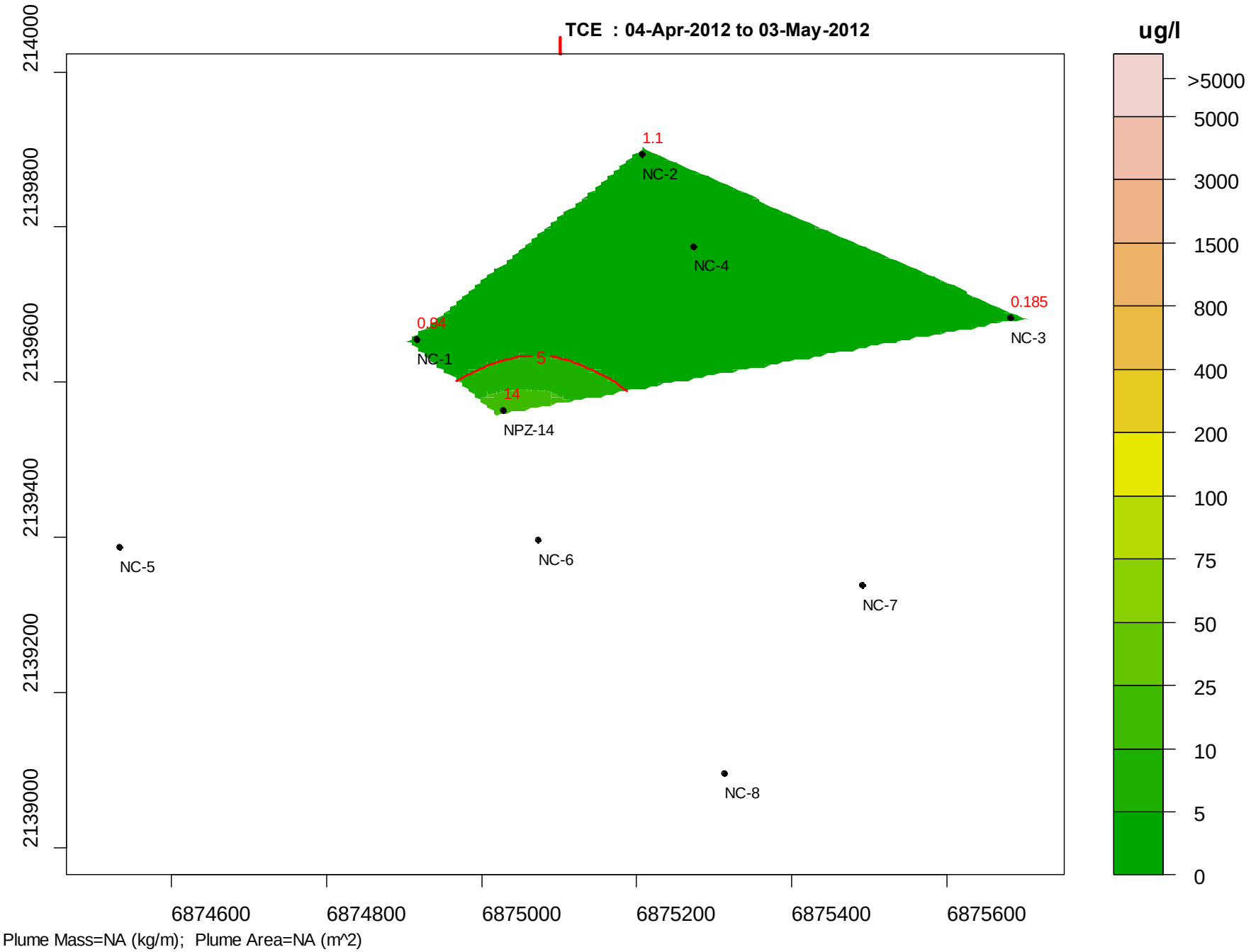
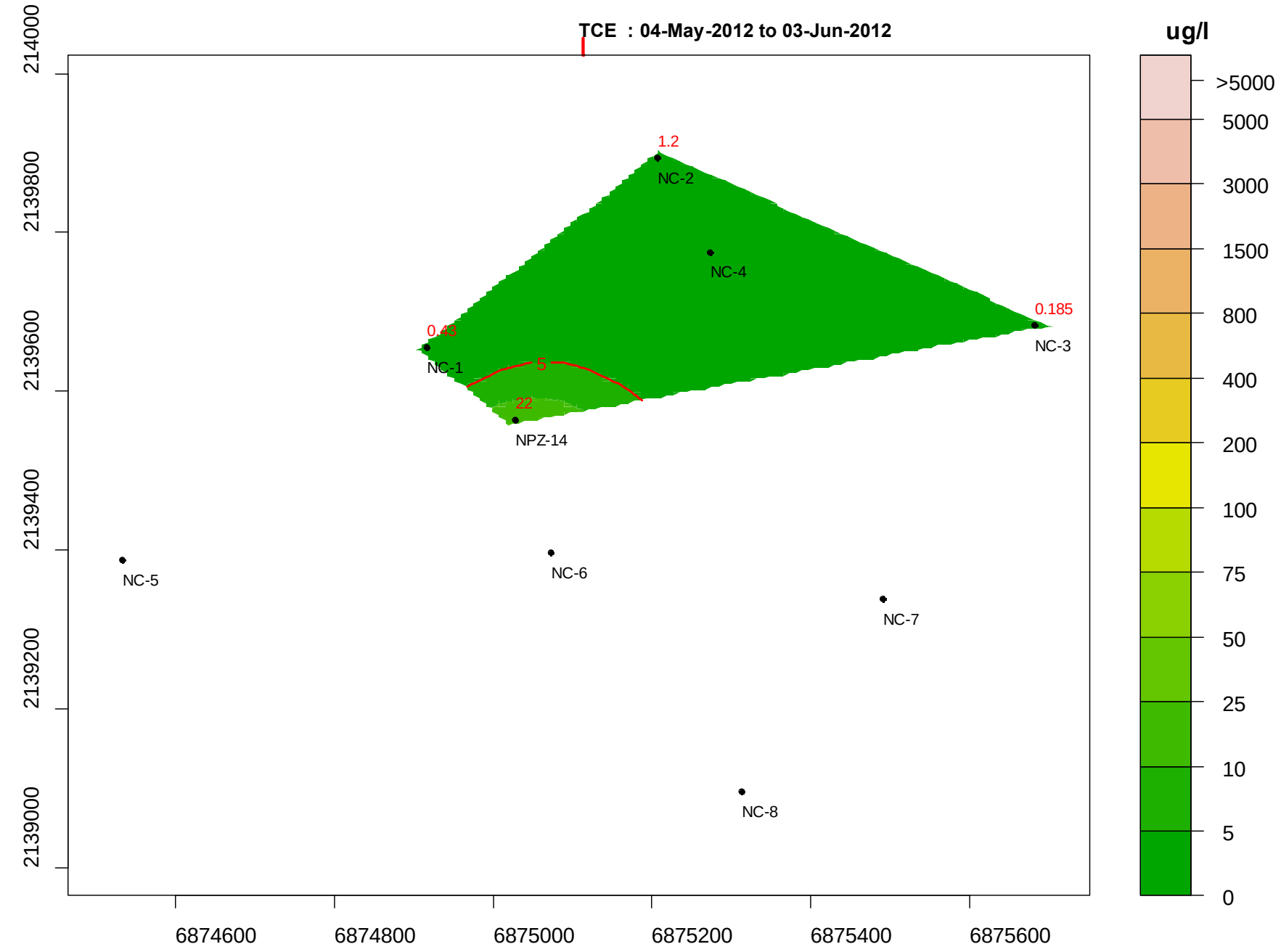


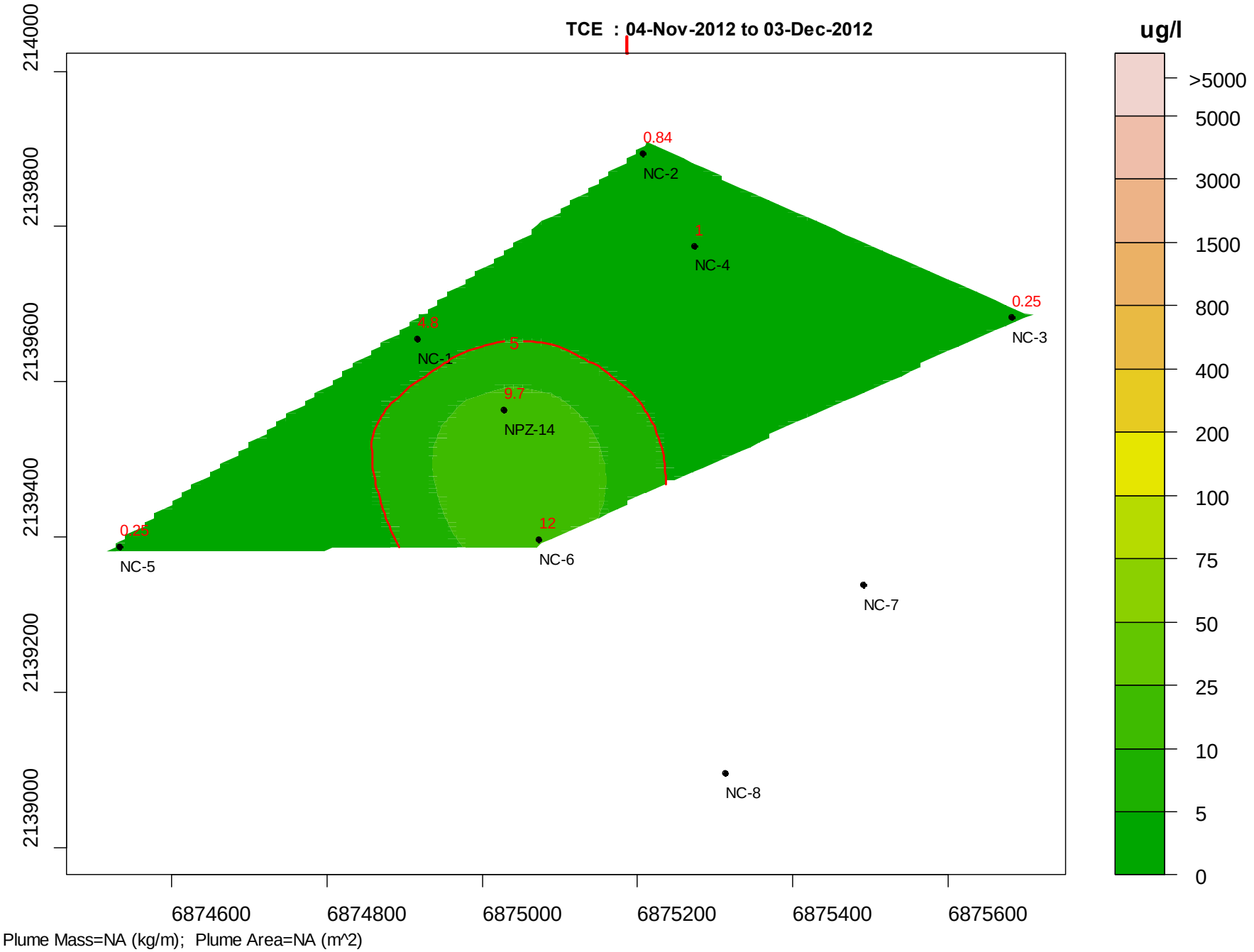
Plume Mass=NA (kg/m); Plume Area=NA (m^2)



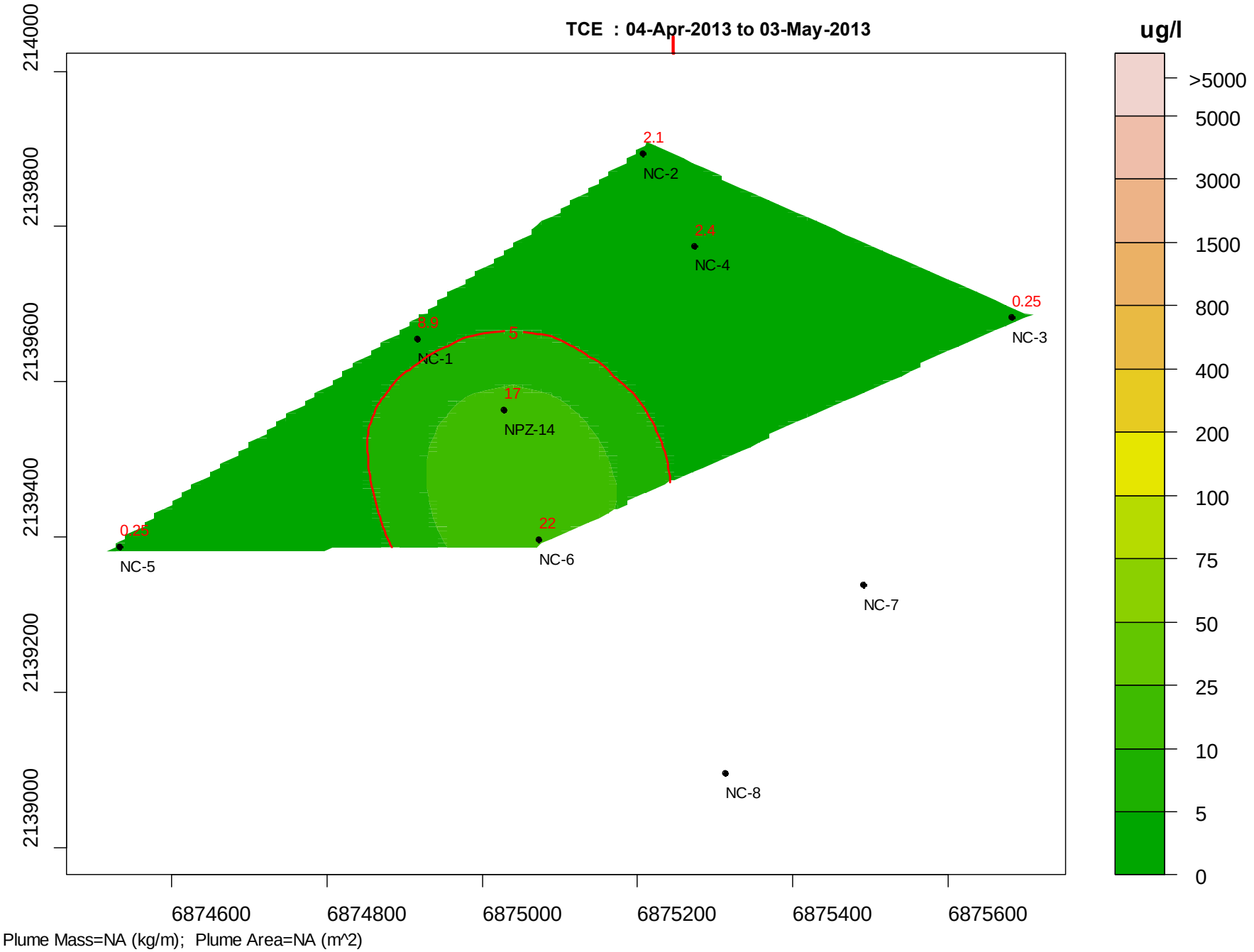
Plume Mass=NA (kg/m); Plume Area=NA (m^2)



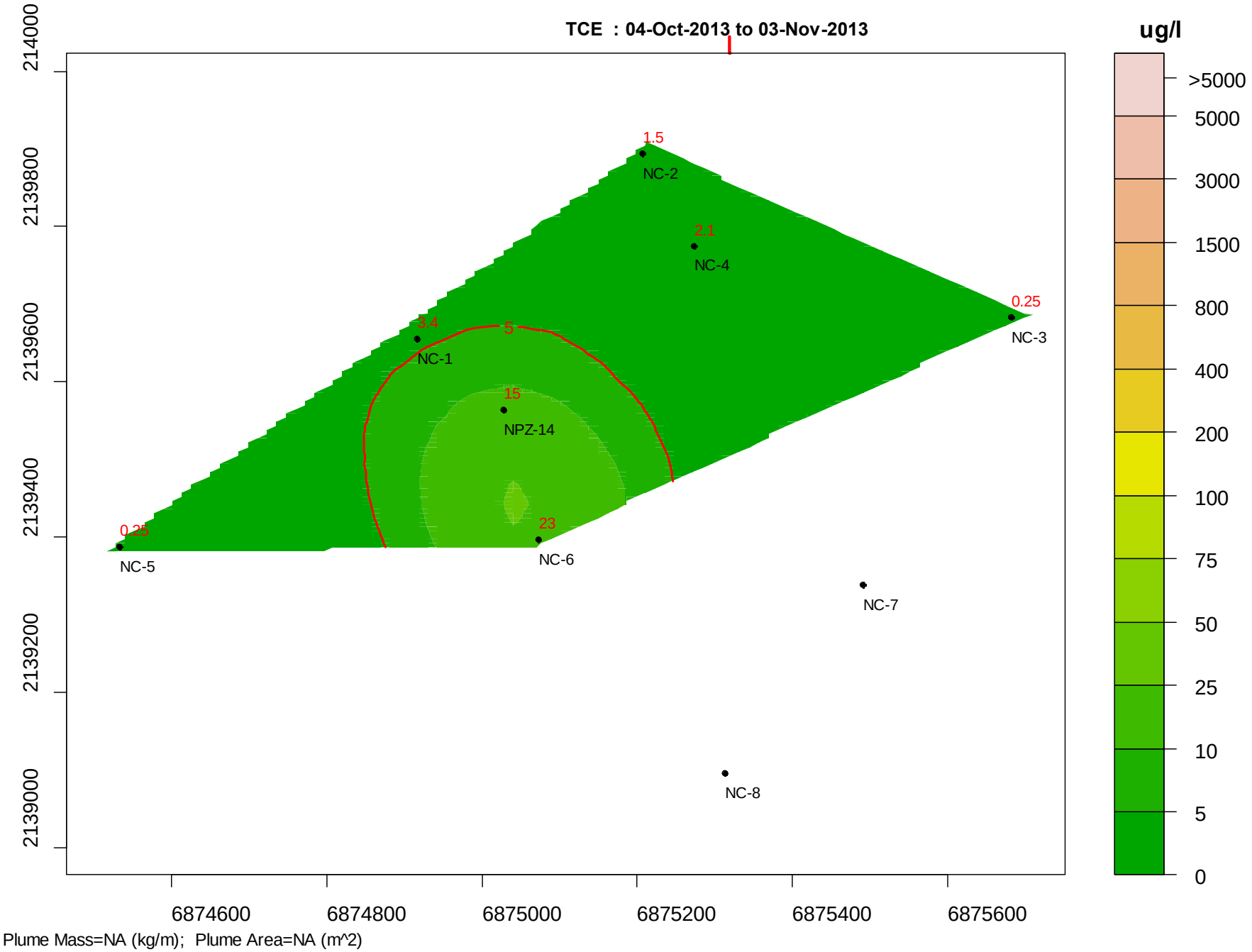
Plume Mass=NA (kg/m); Plume Area=NA (m^2)



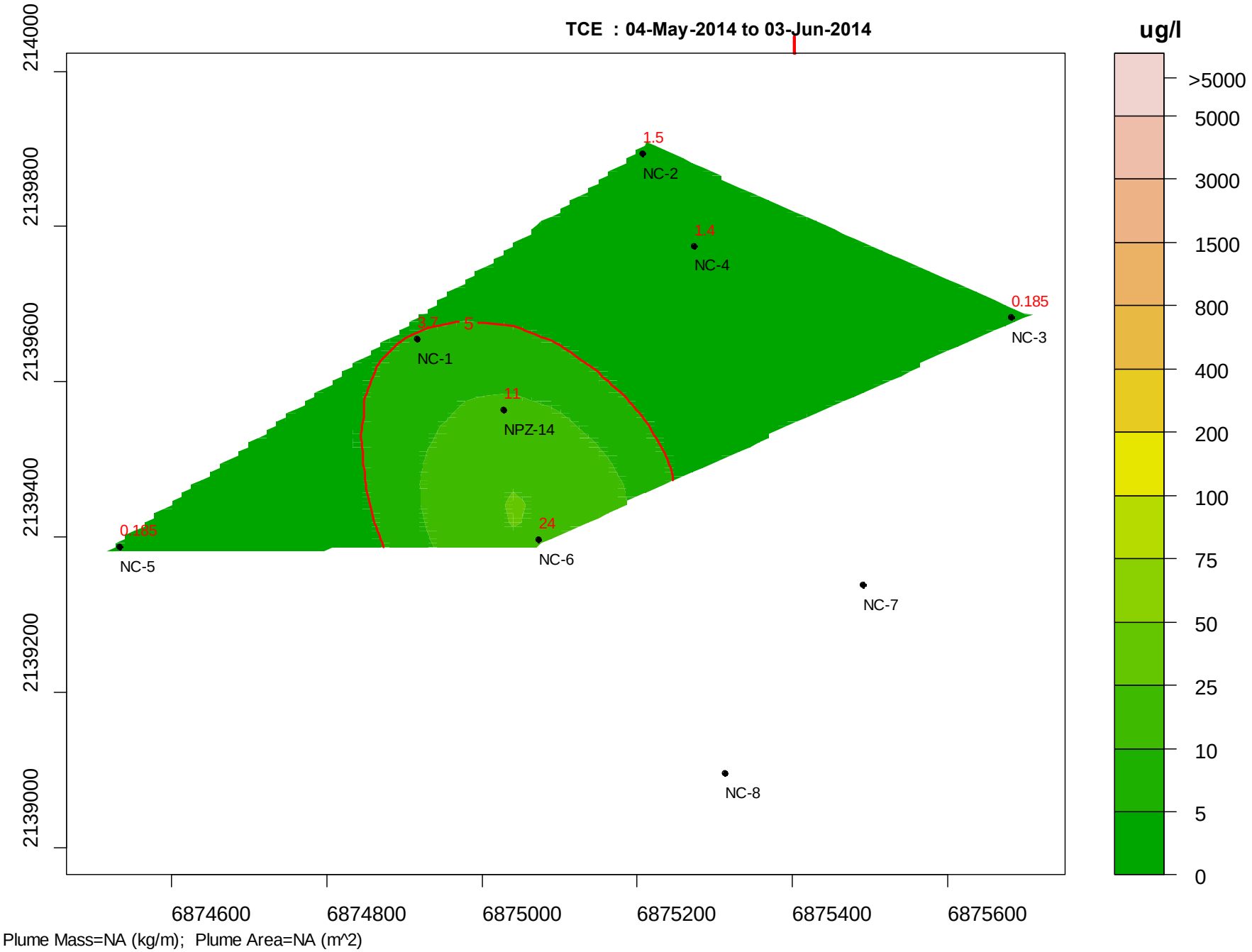
Plume Mass=NA (kg/m); Plume Area=NA (m^2)



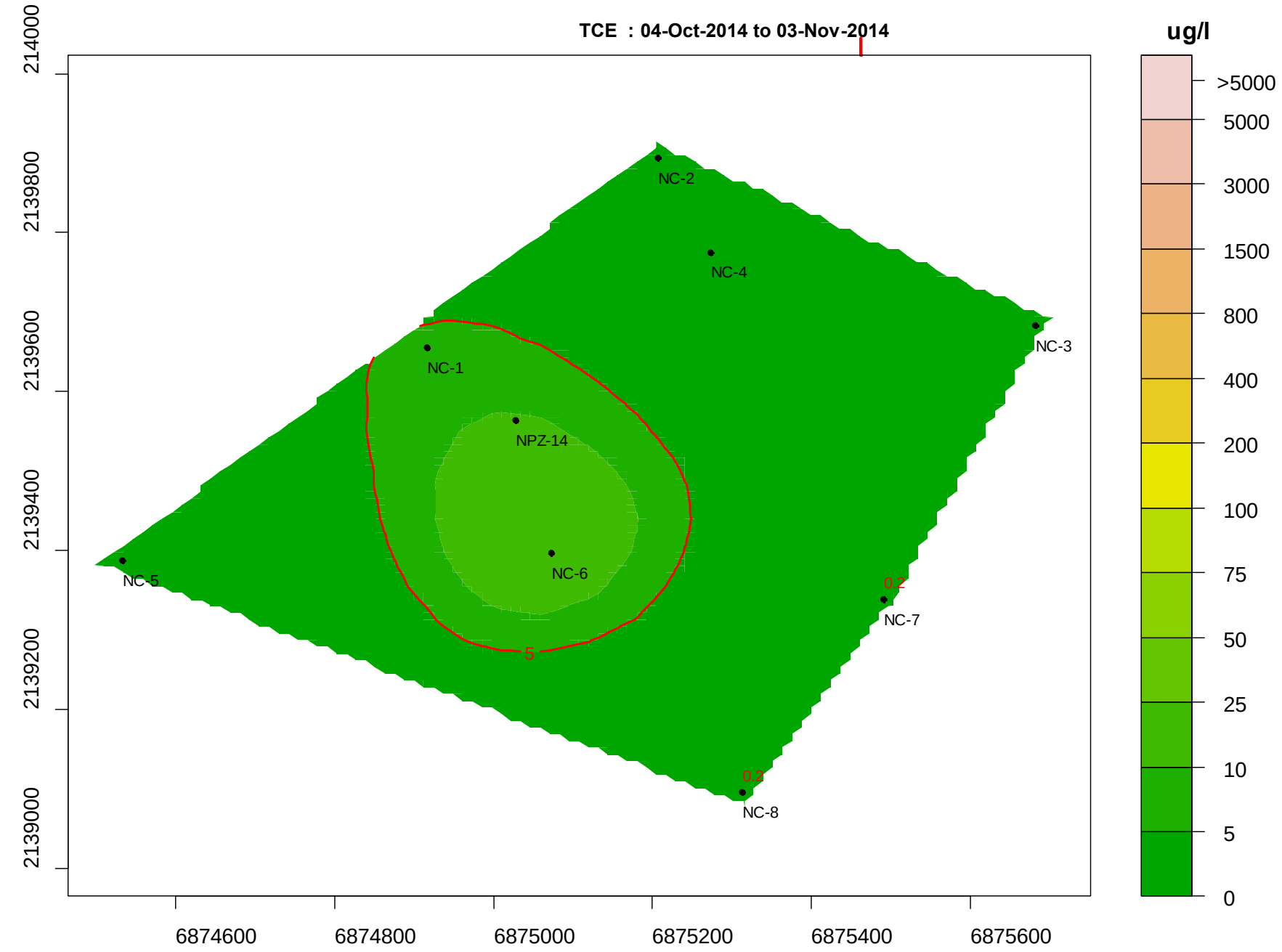
Plume Mass=NA (kg/m); Plume Area=NA (m^2)



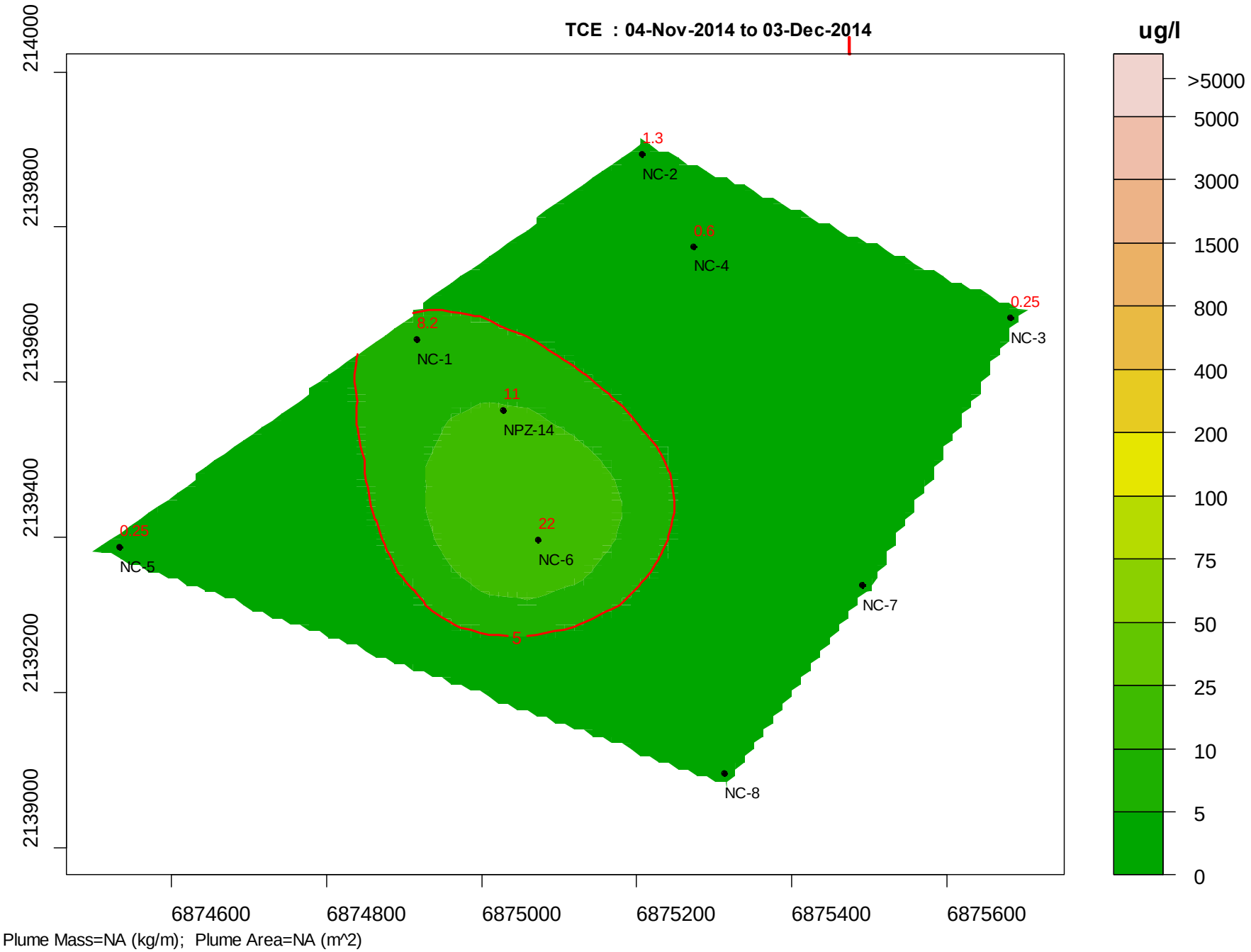
Plume Mass=NA (kg/m); Plume Area=NA (m^2)



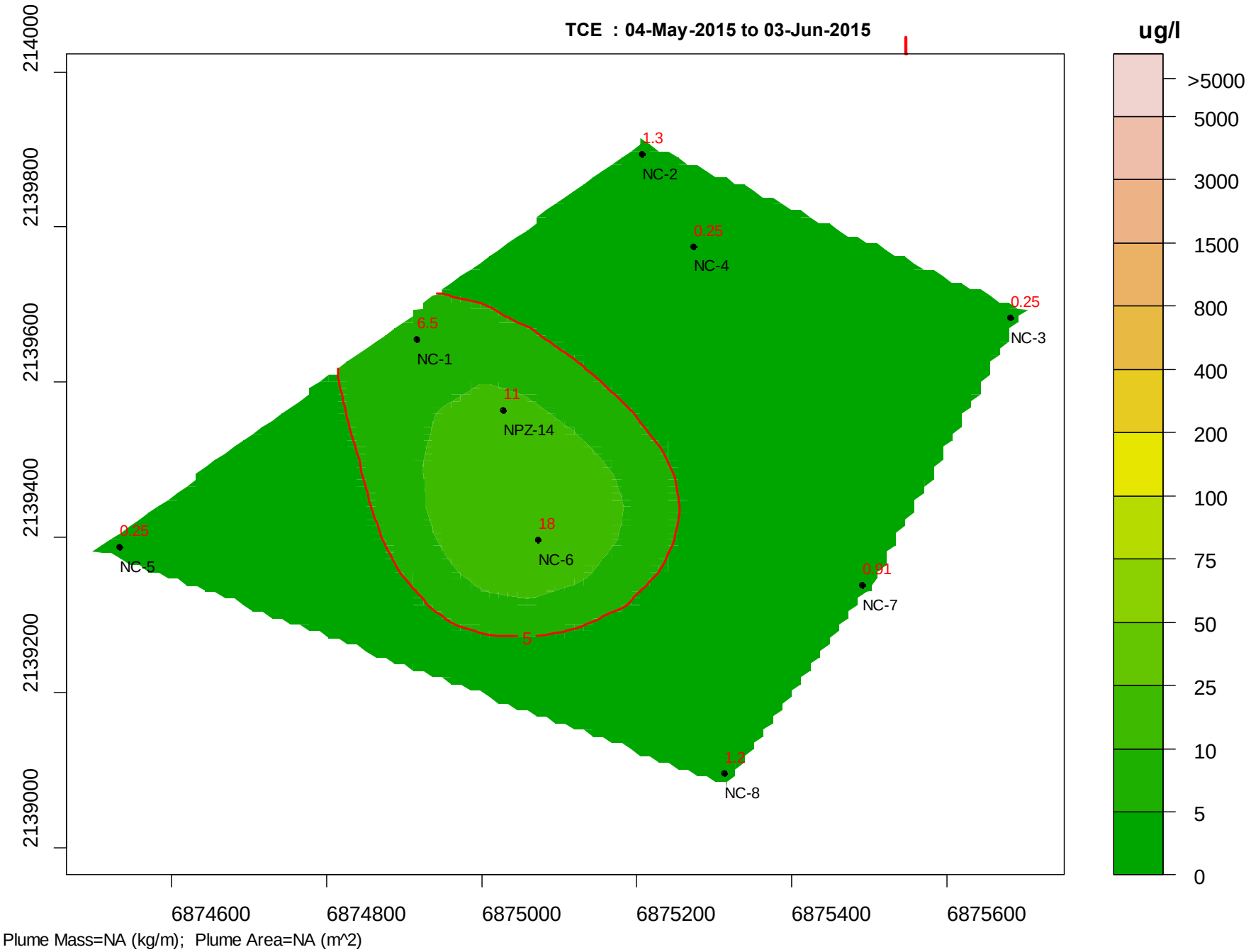
Plume Mass=NA (kg/m); Plume Area=NA (m^2)



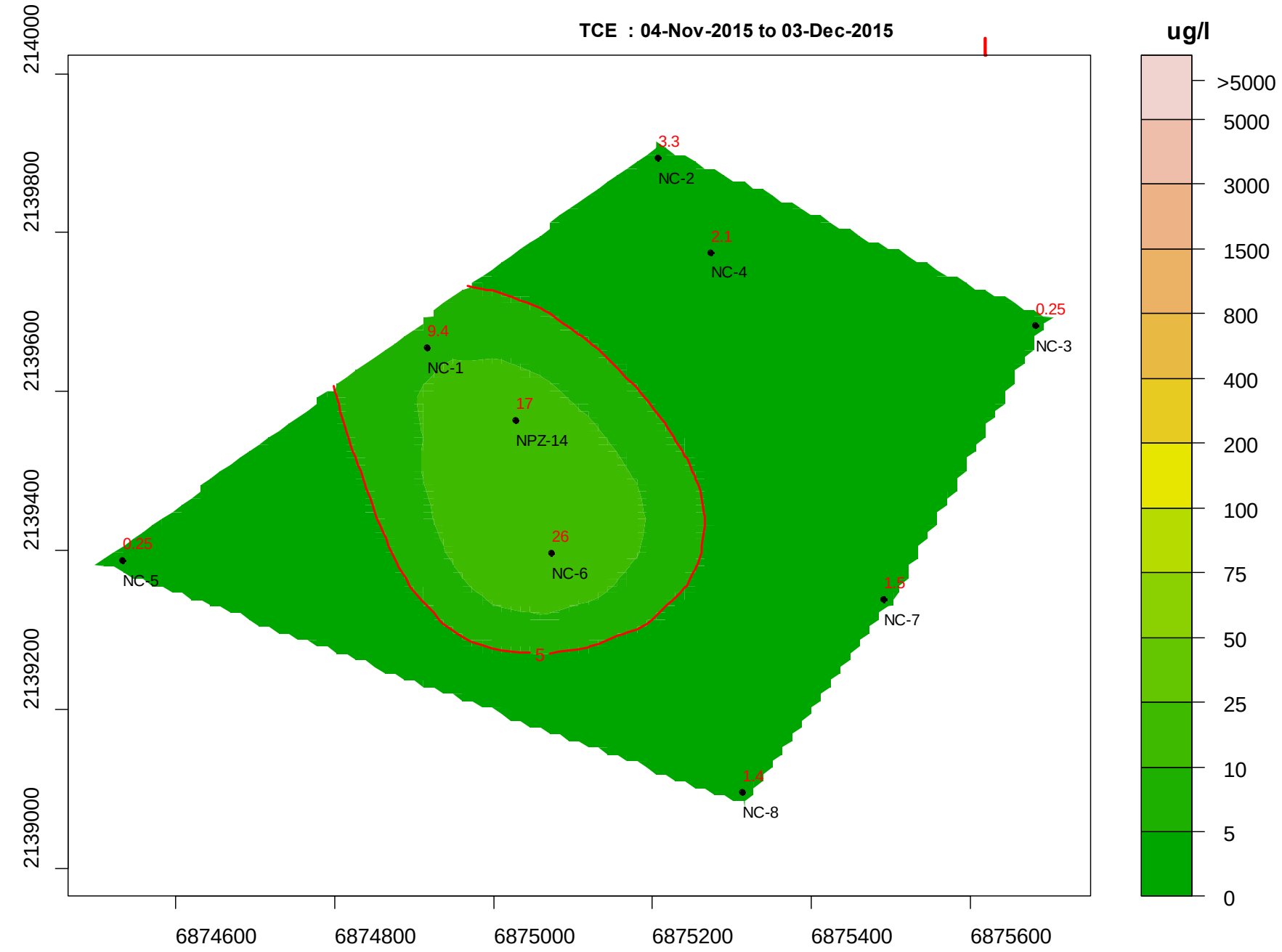
Plume Mass=NA (kg/m); Plume Area=NA (m^2)



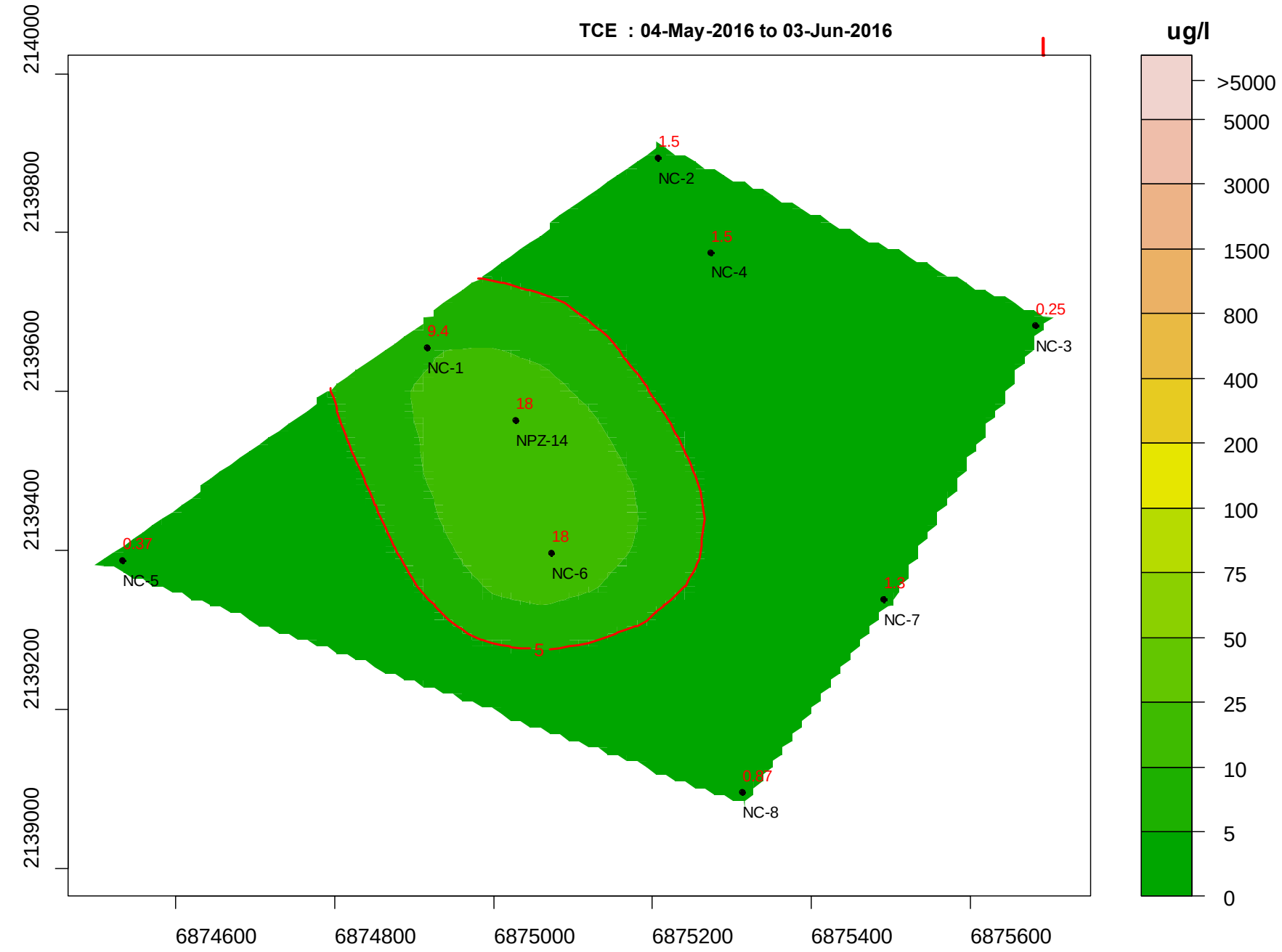
Plume Mass=NA (kg/m); Plume Area=NA (m^2)



Plume Mass=NA (kg/m); Plume Area=NA (m^2)



Plume Mass=NA (kg/m); Plume Area=NA (m^2)



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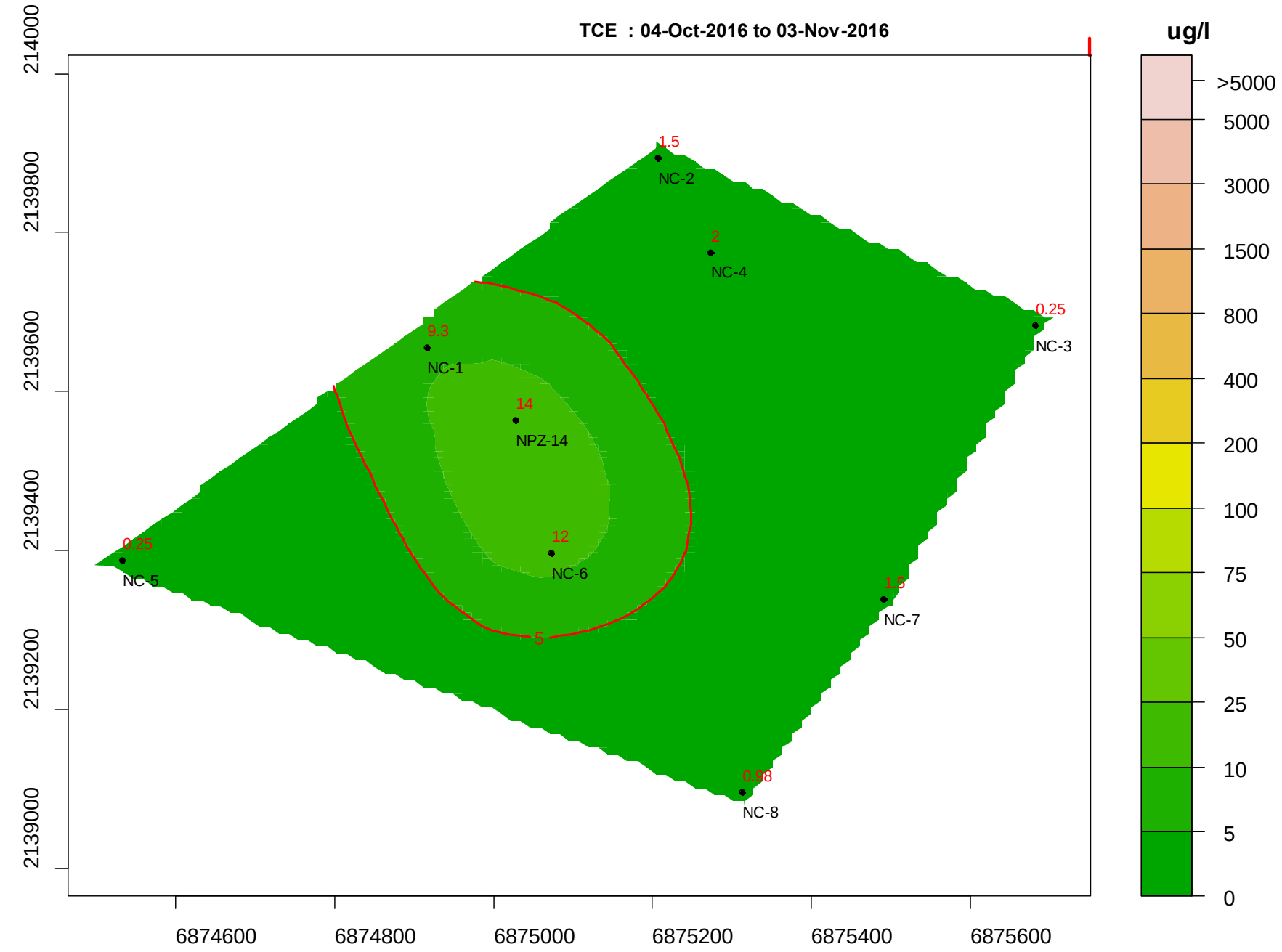

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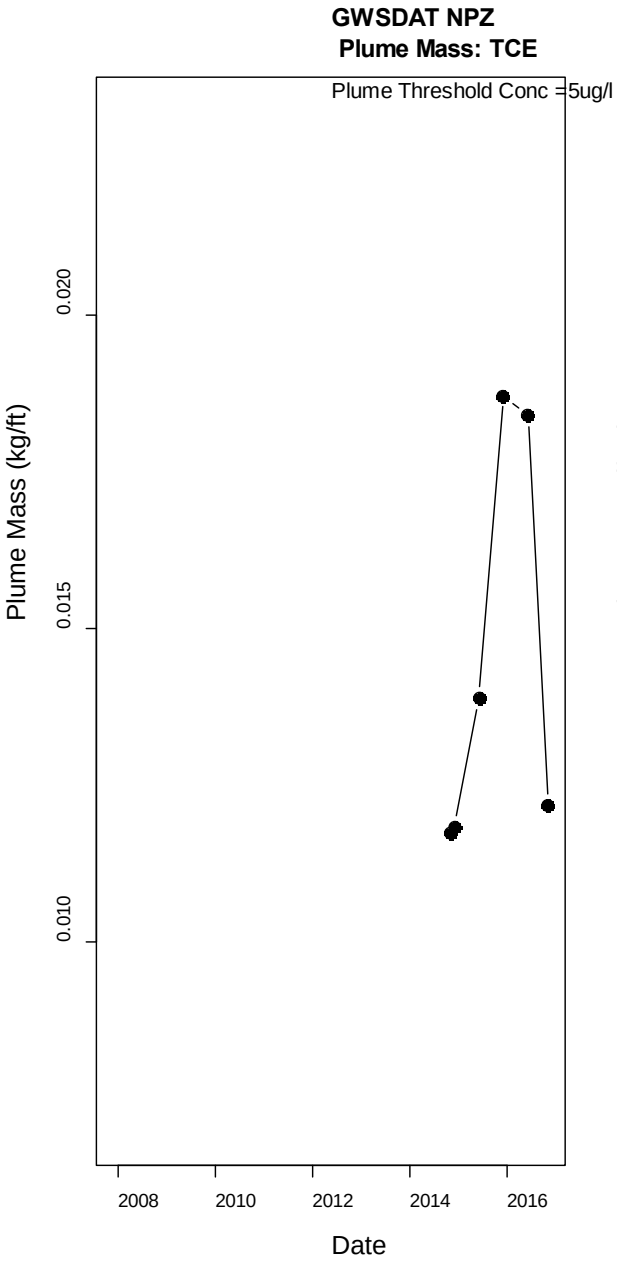
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Plume Mass: TCE
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0.015
0.020
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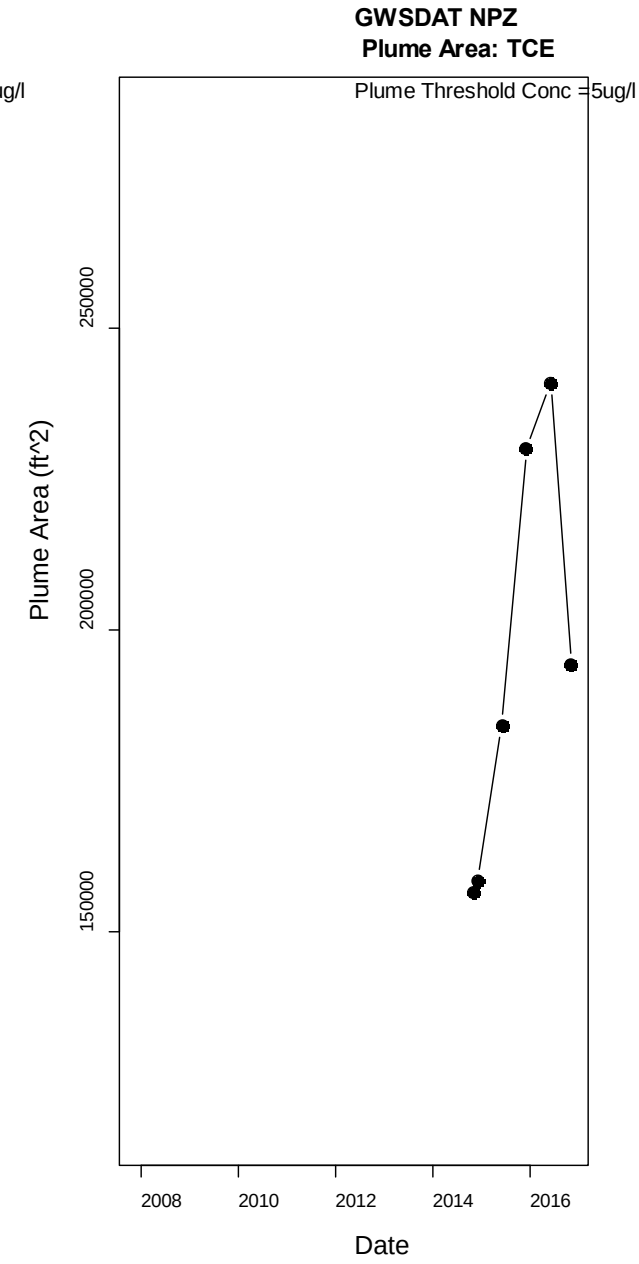
2010
2012
2014
2016
Date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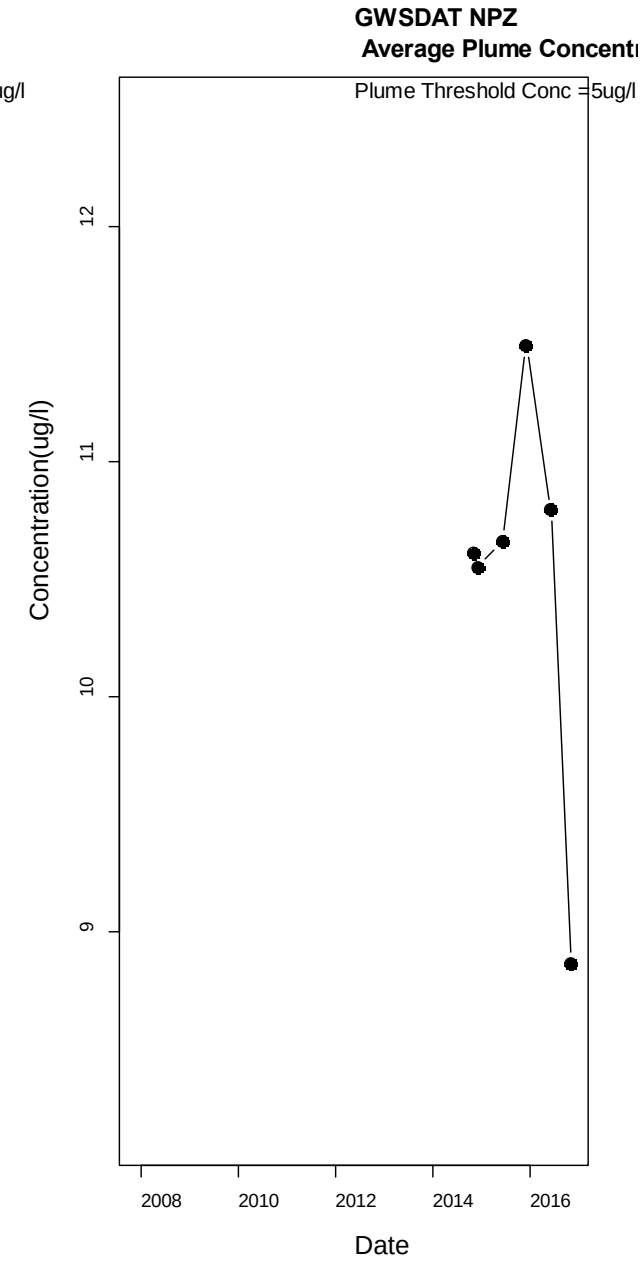
Date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Average Plume Concentr
Plume Threshold Conc =5ug/l
Concentration(ug/l)
9
10
11
12
2008
2010
2012
2014
2016
Date

MNA SITE CAOC 7 STRATUM 1

TCE

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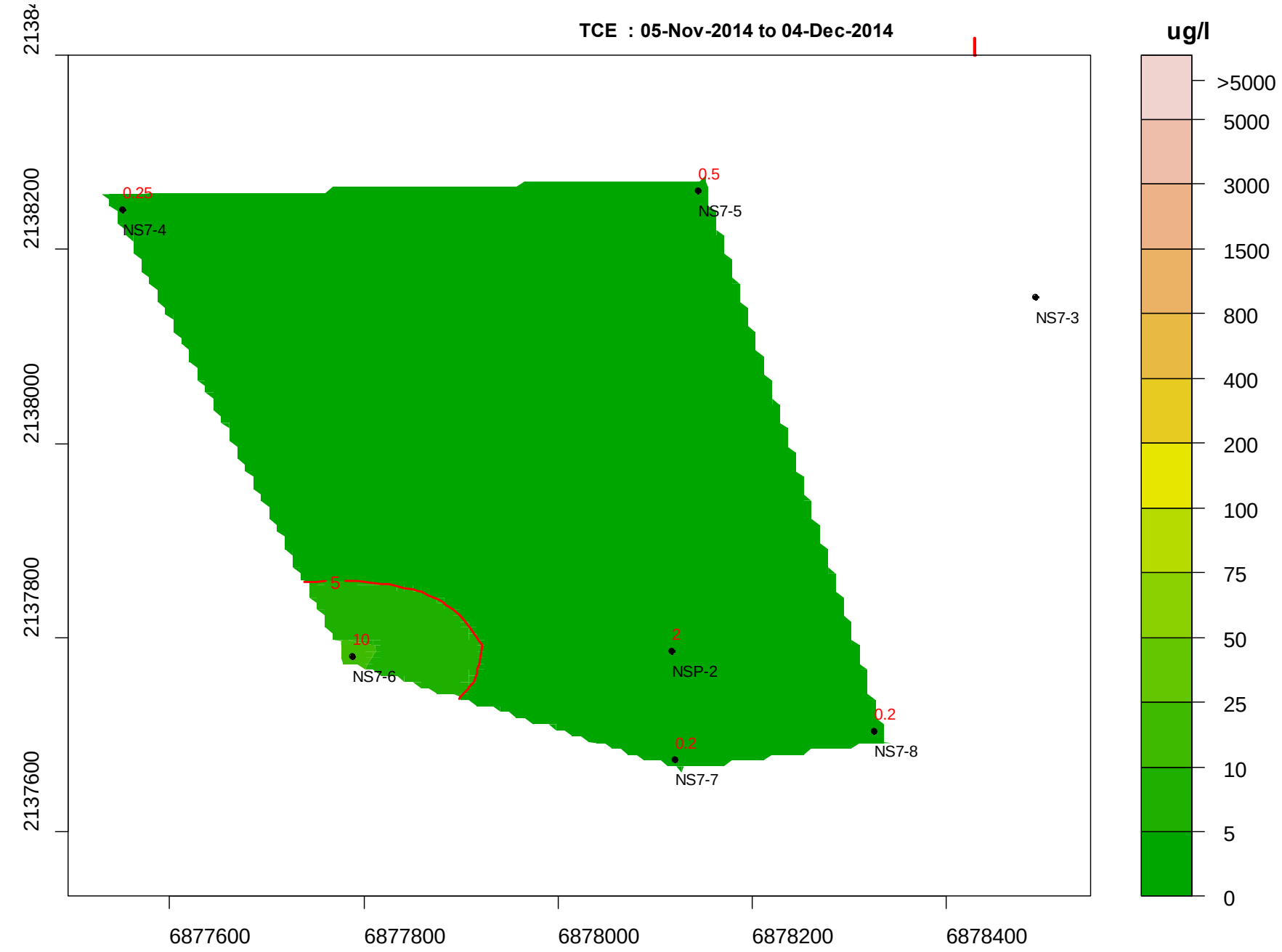

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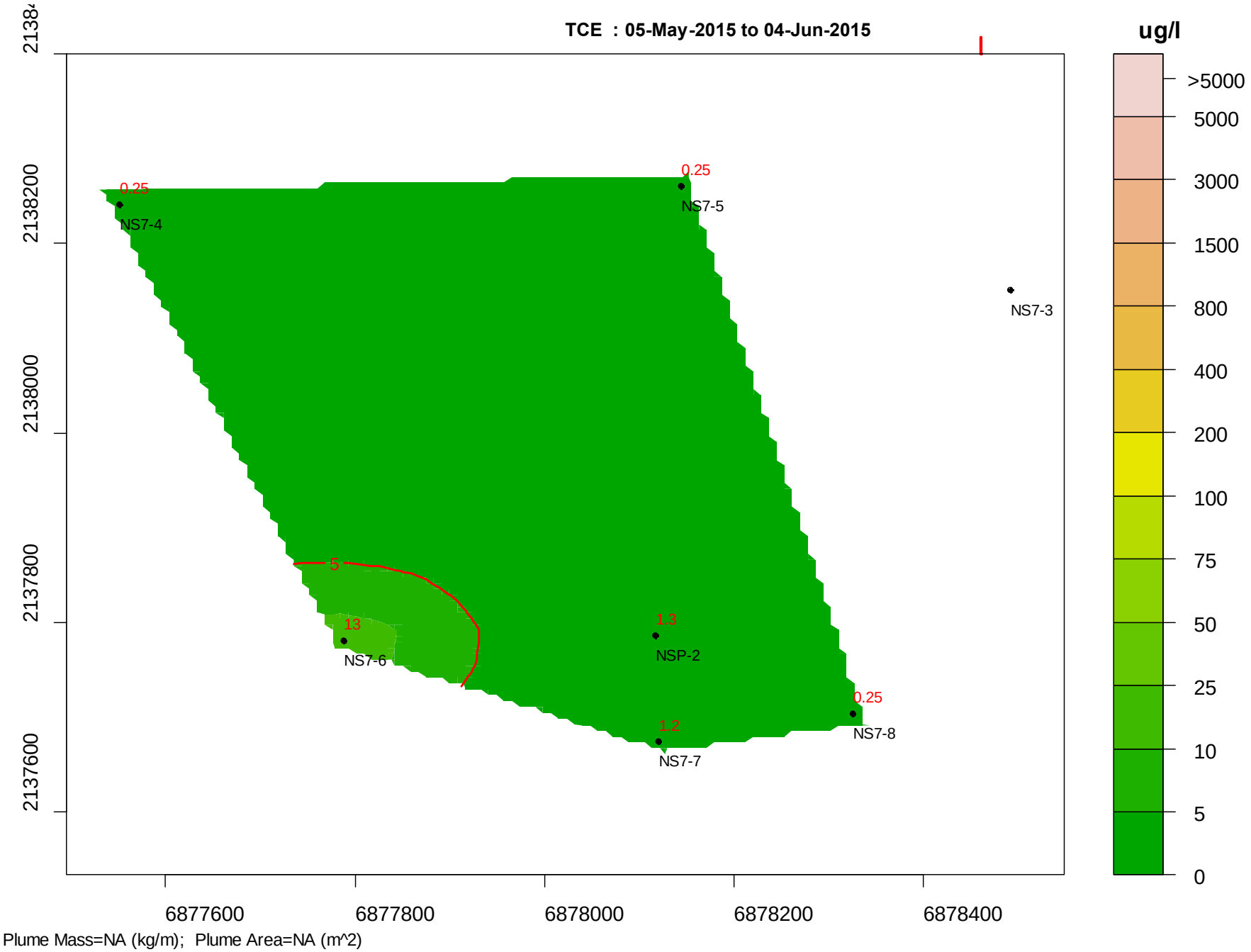

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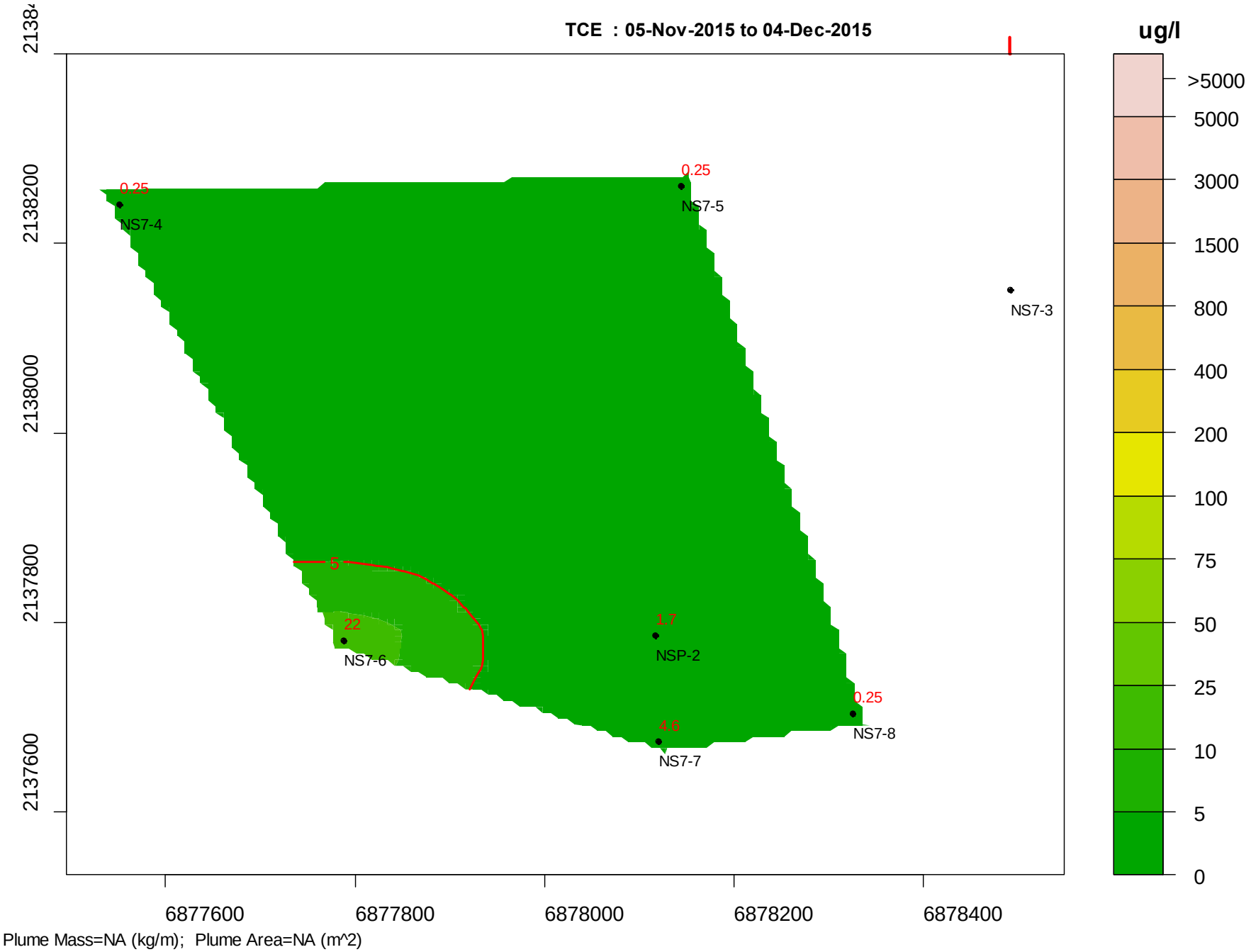

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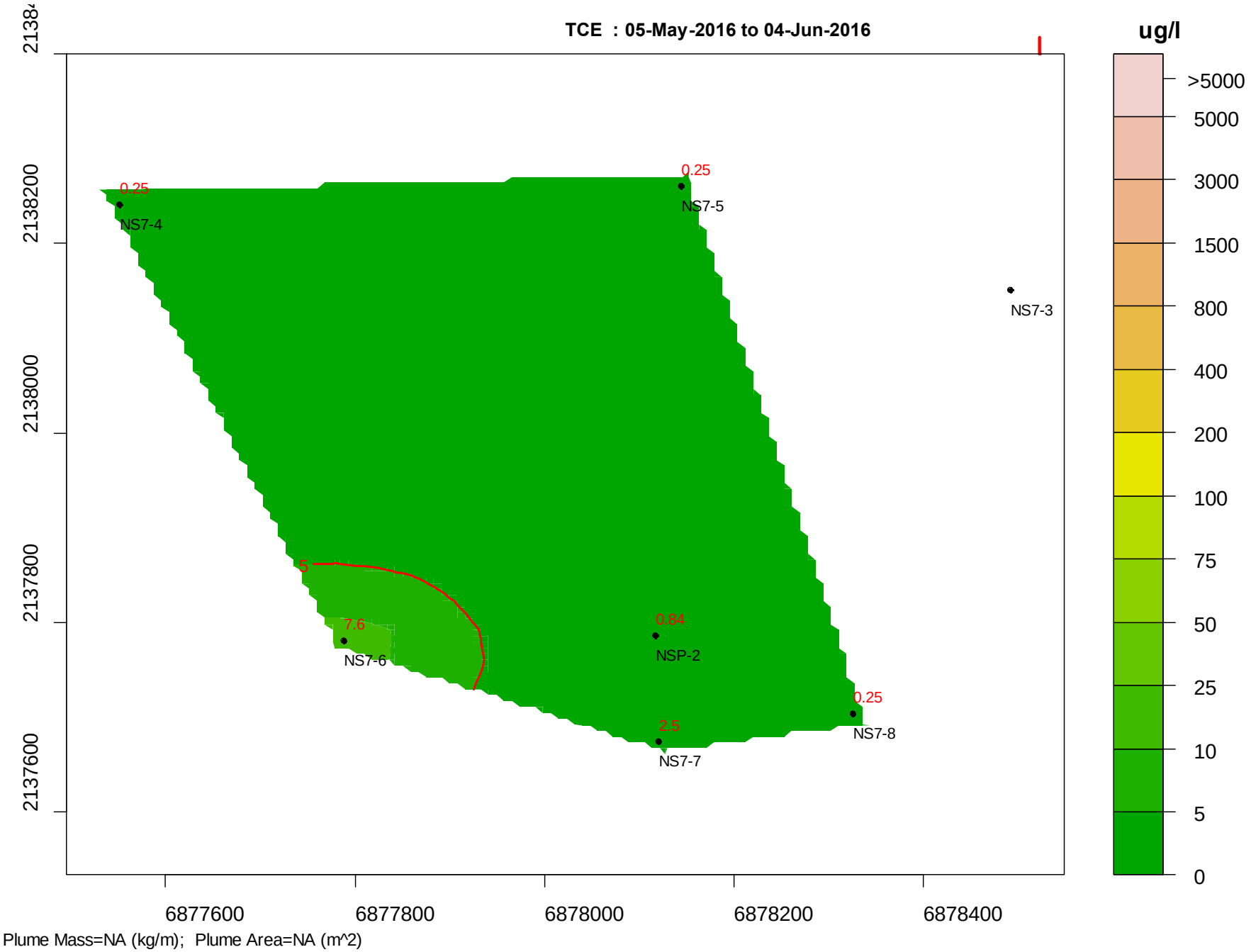

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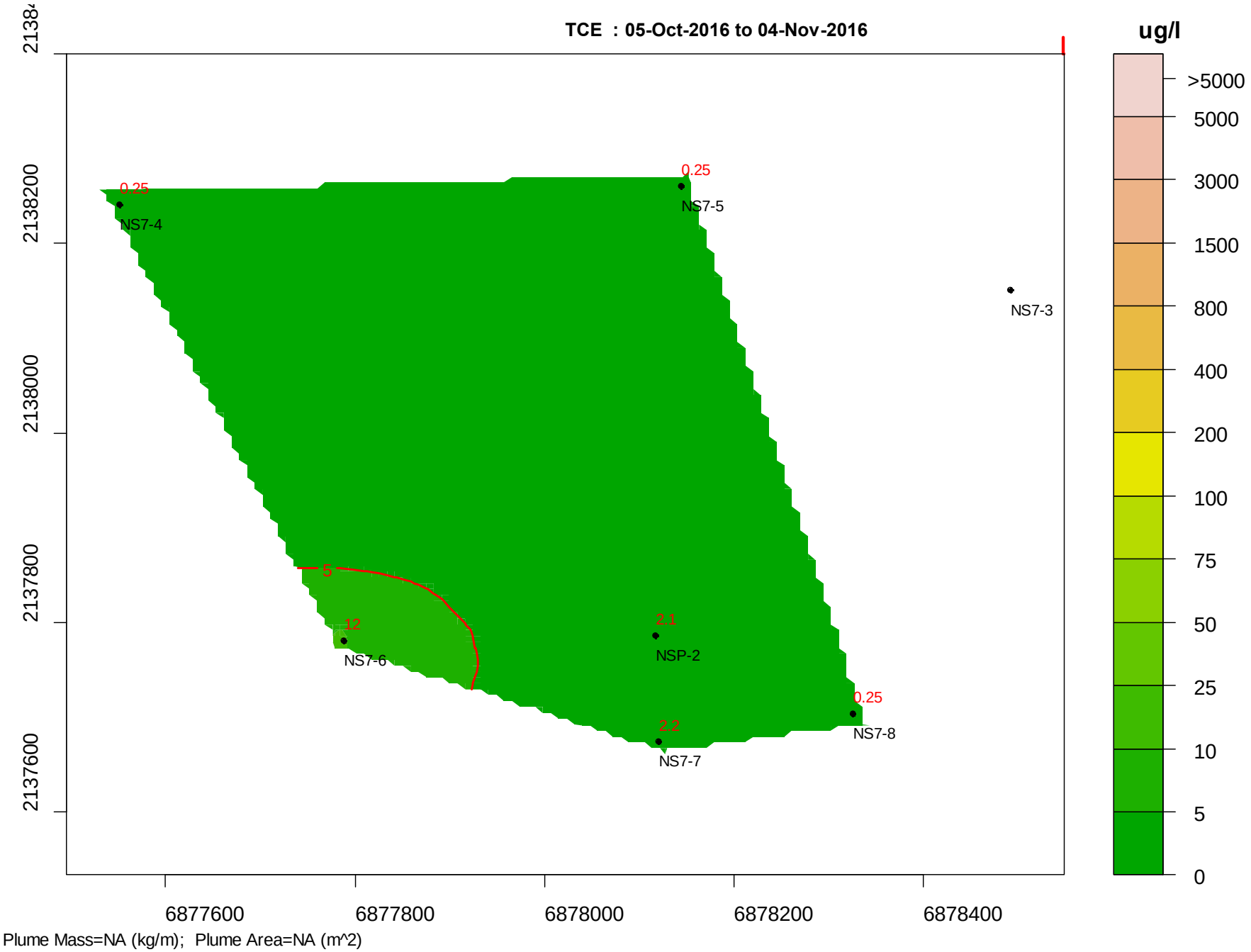

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Attachment 2

Statistical Summary

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Appendix G. Attachment 2
Statistical Evaluation of CAOC 10.38/10.39 Unit 7 Wells

Table 1. Linear Correlation and Regression Analysis of Sampling Date Perchloroethyene (PCE) and Trichloroethylene (TCE) Concentrations in COAC 10.38/10.39 Unit 7 Wells.

Well	Compound	Maximum Concentration[1]	n[2]	Critical Value	Linear Correlation Coefficient r	Significant α=0.05	Attenuation Rate Constant[3]		Direction of Change
							Lower 95% CL	Upper 95% CL	
		µg/L					per year	per year	
10_38-DS17-4	PCE	23	16	0.497	0.556	Yes	-0.029	-0.382	Increasing
10_38-DS17-5	PCE	13	16	0.497	0.501	Yes	-0.001	-0.254	Increasing
T-197-MW1	PCE	5.4	19	0.456	-0.049	No	–	–	–
10_38-DS17-4	TCE	23	16	0.497	0.190	No	–	–	–
10_38-DS17-5	TCE	26	16	0.497	0.015	No	–	–	–
T-197-MW1	TCE	9	19	0.456	-0.134	No	–	–	–
10_38-DS17-6	TCE	12	16	0.497	0.424	No	–	–	–
10_38-DS17-11	TCE	6.8	10	0.632	-0.757	Yes	0.223	0.039	Decreasing

[1]Linear correlation coefficients for sample date with the natural log of concentrations were calculated for wells in which the maximum observed concentration exceeded the Maximum Contaminant Level (MCL) for the respsective compound.
[2]n=number of sampling dates.

[3]The 95% Lower Confidence Limit (CL) and 95% Upper Confidence Limits for the attenuation rate were calculated using ordinary least squares regression analysis of the data from wells where a statistically significant (α=0.05) linear correlation was observed.

Appendix G. Attachment 2
Statistical Evaluations of CAOC 7 Stratum 1 Wells

Table 1. Linear Correlation and Regression Analysis of Sampling Date Trichloroethylene (TCE) Concentrations in COAC 7 Stratum 1 Wells.

Well	Compound	Maximum Concentration[1]	n[2]	Critical Value	Linear Correlation Coefficient r	Significant α=0.05	Attenuation Rate Constant[3]		Direction of Change
							Lower 95% CL	Upper 95% CL	
		µg/L					per year	per year	
NSP-2[4]	TCE	25	17	0.482	-0.858	Yes	0.213	0.130	Decreasing
NS7-6	TCE	22	5	0.878	-0.060	No	–	–	–

[1]Linear correlation coefficients for sample date with the natural log of concentrations were calculated for wells in which the maximum observed concentration exceeded the Maximum Contaminant Level (MCL) for the respsective compound.

[2]n=number of sampling dates.

[3]The 95% Lower Confidence Limit (CL) and 95% Upper Confidence Limits for the attenuation rate were calculated using ordinary least squares regression analysis of the data from wells where a statistically significant (α=0.05) linear correlation was observed.

[4]Statistics were calculated for well NSP-6 beginning from the sampling date of November 16, 2007 when the maximum TCE concentration of 25 µg/L was observered through the November 3, 2016 sampling date.

Appendix G. Attachment 2
Statistical Evaluation of NPZ-14 Plume Area Wells

Table 1. Linear Correlation and Regression Analysis of Sampling Date Trichloroethylene (TCE) Concentrations in NPZ-14 Wells.

Well	Compound	Maximum Concentration[1]	n[2]	Critical Value	Linear Correlation Coefficient r	Significant α=0.05	Attenuation Rate Constant[3]		Direction of Change
							Lower 95% CL	Upper 95% CL	
		µg/L					per year	per year	
NPZ-14	TCE	29	16	0.497	-0.534	Yes	0.121	0.006	Decreasing
NC-6	TCE	26	9	0.666	-0.101	No	–	–	–
NC-1	TCE	9.4	12	0.576	0.733	Yes	-0.149	-0.712	Increasing

[1]Linear correlation coefficients were calculated for wells in which the maximum observed concentration exceeded the Maximum Contaminant Level (MCL) for the respsective compound.
[2]n=number of sampling dates.

[3]The 95% Lower Confidence Limit (CL) and 95% Upper Confidence Limits for the attenuation rate were calculated using ordinary least squares regression analysis of the data from wells where a statistically significant (α=0.05) linear correlation was observed.

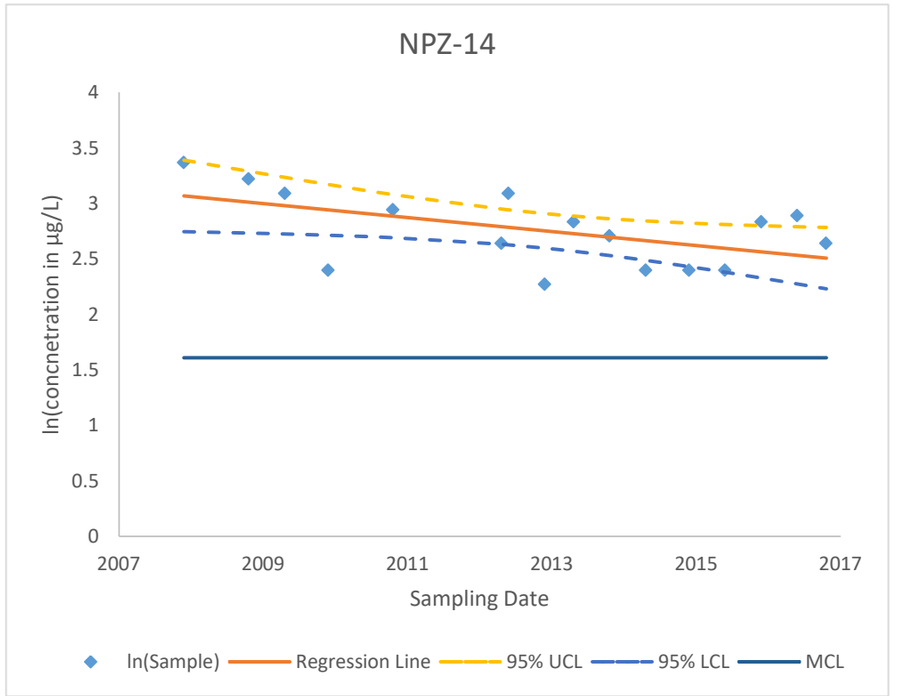
Appendix G - Attachment 2
Statistical Evaluation of
Monitoring Well NPZ-14 Long-Term Data (2007 - 2016)

	Year	ln(ug/L)
1	2007.9	3.367
2	2008.8	3.219
3	2009.3	3.091
4	2009.9	2.398
5	2010.8	2.944
6	2012.3	2.639
7	2012.4	3.091
8	2012.9	2.272
9	2013.3	2.833
10	2013.8	2.708
11	2014.3	2.398
12	2014.9	2.398
13	2015.4	2.398
14	2015.9	2.833
15	2016.4	2.89
16	2016.8	2.639

Slope, m	m	-0.063	'SLOPE(y,x)
Intercept, b	b	129.600	INTERCEPT(y,x)
Observations, n	n	16	COUNT(x)
Std error in estimate, S_{yx}	SYX	0.291	STEYX(y,x)
Average x	XAVG	2012.8	AVERAGE(x)
SSX	SSX	118.324	DEVSQ(x)
t(α,df)	t	2.145	TINV(0.05,n-2)

Regression line confidence interval

Year	Data	ln(Sample)	Regression Line	CI	95% UCL	95% LCL	MCL
2007.9	29	3.367	3.067	0.322	3.390	2.745	1.609
2008.8	25	3.219	3.011	0.278	3.289	2.732	1.609
2009.3	22	3.091	2.979	0.255	3.234	2.724	1.609
2009.9	11	2.398	2.941	0.229	3.170	2.713	1.609
2010.8	19	2.944	2.885	0.194	3.079	2.690	1.609
2012.3	14	2.639	2.790	0.159	2.949	2.631	1.609
2012.4	22	3.091	2.784	0.158	2.942	2.626	1.609
2012.9	9.7	2.272	2.752	0.156	2.908	2.596	1.609
2013.3	17	2.833	2.727	0.158	2.885	2.569	1.609
2013.8	15	2.708	2.696	0.166	2.861	2.530	1.609
2014.3	11	2.398	2.664	0.178	2.842	2.486	1.609
2014.9	11	2.398	2.626	0.196	2.823	2.430	1.609
2015.4	11	2.398	2.595	0.215	2.810	2.380	1.609
2015.9	17	2.833	2.563	0.236	2.799	2.328	1.609
2016.4	18	2.89	2.532	0.258	2.790	2.274	1.609
2016.8	14	2.639	2.506	0.276	2.783	2.230	1.609



APPENDIX H

Comments and

DON Responses to Comments

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Environmental Resources Management

2875 Michelle Drive
Suite 200
Irvine, CA 92606
(949) 623-4700
(949) 623-4711 (fax)

28 September 2016

Via Electronic Mail

Jeff Fitzsimmons, P.G.
California Regional Water Quality Control Board
Lahontan Region 6
14440 Civic Drive, Suite 200
Victorville, CA 92392

Subject: Evaporation Pond Assessment Summary Report
NRG Coolwater Generating Station
3700 Santa Fe Street, Daggett, CA 92327

Dear Mr. Fitzsimmons:

On behalf of NRG California South LP (NRG), ERM-West, Inc. (ERM) has prepared this report summarizing the results of soil sampling and analysis conducted in accordance with California Regional Water Quality Control Board, Lahontan Region (RWQCB) approved Evaporation Impoundment Characterization Workplan (Workplan), dated 31 March 2016, for the NRG Coolwater Generating Station (CGS) located at 3700 Santa Fe Street in Daggett, CA (site; Figure 1). The CGS formerly operated a coal gasification facility (CGF), which utilized evaporation impoundments for boiler blowdown and other low-volume wastes under a National Pollution Discharge Elimination System (NPDES) permit with the RWQCB. This report summarizes field and laboratory methods used to sample and analyze accumulated settled solids within the evaporation impoundments (ponds) and surficial soil surrounding the ponds within the CGS property, and provides recommendations for remedial actions, and additional assessment.

SITE DESCRIPTION

CGS consists of four inactive power generating units (Units 1-4); five evaporation impoundment ponds (Ponds 1, 2, 3, 4, and 5); a former CGF; and supporting administrative and operational/warehouse facilities and out-of-service equipment. CGS covers approximately 293 acres of land situated on one irregular shaped parcel. The evaporation impoundment is located to the east of CGS and consists of five manmade, lined ponds (Ponds 1 through 5), as shown on Figure 1. The ponds were constructed in 1973 and have been

used to dispose of cooling water blowdown and other low-volume wastes from CGS, the former CGF, and the former Solar One and Solar Two facilities (Figure 1). The ponds were operated under NPDES Waste Discharge Requirements (WDR) and NPDES Permit Board Order No. 6-98-54 (WDID No. 6B362036002).

OBJECTIVE

The objective of the soil sampling investigation was to characterize the current chemical composition of accumulated settled solids within each of the ponds and assess surficial soil outside of the ponds within the property boundary of the CGS.

PRE-FIELD ACTIVITIES

Prior to mobilization, ERM implemented its subsurface clearance protocol, which included a discussion with a knowledgeable site person regarding subsurface utilities and infrastructure; notification to Underground Services Alert/DigAlert; and preparation of a site-specific Health and Safety Plan.

SOIL INVESTIGATION ACTIVITIES

This section presents the methodology for sampling the settled solids within each of the five ponds and soil from background locations and shallow borings located on the exterior perimeter of the ponds. Sampling activities were conducted on 27 June 2016. Sampling activities were conducted in accordance with the Workplan; Mr. Jeff Fitzsimmons of the RWQCB was on site to witness sampling activities. Background and perimeter sample locations of the ponds, as shown on Figure 2, were located in consultation with the RWQCB.

Evaporation Pond Sampling

Each composite sample consisted of five discrete samples of settled solids collected from each of the five ponds (Figure 2). Discrete samples were collected at a depth of approximately 0.2 to 0.5 feet below ground surface (bgs), above the clay liner and compacted sand. The sampled material was collected from the ground surface of the ponds using both a hand auger and

trowel. Sampling equipment was decontaminated between samples. Discrete samples were collected in separate containers and submitted to a laboratory for compositing and analysis. To prepare the composite sample from each individual pond, the laboratory took equal portions (approximately 30 grams) from each sample container and mixed the samples together. Then aliquots from the composite samples were taken for individual analyses.

Perimeter Fence-Line Sampling

Soil samples were collected between the berm and fence line on the north, south, and eastern (prevailing downwind) side of the ponds. The sample locations were collected in areas where sediment accumulated downwind of Ponds 1, 2, 3, 4, and 5. Soil samples were collected using a hand auger and/or trowel. At each location, soil borings were advanced utilizing a hand auger to a depth of 3 feet bgs. Samples were collected from the surface, 6 inches bgs, 1 foot bgs, and 3 feet bgs. The surface samples, downwind of Ponds 3, 4, and 5, were collected from a "crust" that formed on top of the accumulated sediment.

Background Sampling

Three background samples were collected from 6 inches to 1 foot bgs from upwind locations. Soil samples were collected using a hand auger and/or trowel.

LABORATORY ANALYSIS

Soil samples were submitted to a Eurofins Calscience of Garden Grove, California for analysis. Soil samples were analyzed for the following constituents of concern (COCs):

- California Code of Regulations, Title 22 metals using U.S. Environmental Protection Agency (USEPA) Methods 6010B and 7471A;
- Other metals boron, calcium, lithium, magnesium, potassium, and sodium using USEPA Method 6010B;
- Ions chloride, fluoride, nitrate, and sulfate by USEPA 300.0;
- pH by USEPA by Method 9045D;
- Total dissolved solids (TDS) by USEPA Method SM 2540 C (M);

- Total petroleum hydrocarbons (TPH) as diesel and as motor oil by USEPA Method 8015B (M); and
- Radium 226 and 228 by USEPA 903.1 and USEPA 904.0, respectively. Radiological analysis was subcontracted to GEL Laboratories LLC of Charleston, South Carolina.
- Two select samples (samples P5, P5-FL-7-0 and a duplicate of P5-FL-7-0) were also analyzed for Soluble Threshold Limit Concentration (STLC) selenium using the standard 6010B Method, and sample P5-FL-7-0 and its duplicate were analyzed for Total Threshold Limit Concentration (TCLP) analysis using USEPA Method 6010B for selenium.
- In addition, the Lahontan RWQCB requested that select samples with elevated arsenic and selenium concentrations (as shown on Table 1) be analyzed for STLC by modified USEPA Method 6010B using deionized (DI) water.

A summary of the analytical results is provided on Tables 1 through 4 and a copy of the laboratory analytical reports are provided in Attachment A.

Analytical data received were assessed by ERM following the USEPA's Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, August 2014, and USEPA National Functional Guidelines for Inorganic Superfund Data Review, August 2014. All data were considered usable for its intended use with the exception of one sample (P5), which was rejected for antimony and lithium due to a low matrix spike recovery. The data validation memorandum is included as Attachment A.

MANAGEMENT OF INVESTIGATION DERIVED WASTE

Investigation-derived waste including soil cuttings and equipment decontamination water was collected into three labeled 5-gallon buckets. The three buckets were relinquished to site personnel pending characterization results.

SUMMARY OF RESULTS

This section provides a brief summary of the results obtained from the soil sampling investigation activities.

Metals

A summary of the metals analyses is provided in Table 1. Analytical results were compared to site background and to the May 2016 USEPA's Regional Screening Levels (RSL) for industrial soil. For comparative purposes, residential RSLs are also included in Table 1, as well as federal and state standards for waste characterization purposes.

Table 1 illustrates that only arsenic was reported at concentrations above the 2016 RSL for industrial soil (3 milligrams per kilogram (mg/kg)). The maximum arsenic concentration reported was 22.2 mg/kg in boring sample P3-FL-5-0. The majority of elevated arsenic levels were detected in surface to 6-inch samples in and downwind of Ponds 3, 4, and 5. The highest concentrations are generally detected in the surficial "crust" from samples collected directly downwind of Ponds 3, 4, and 5. Concentrations decreased rapidly with depth to within background levels at all locations.

Table 1 also illustrates that metals exceed background, as shown in samples B-1, B-2, and B-3. As with arsenic, the majority of elevated concentrations are from shallow soil samples and the surficial "crust" samples collected in downwind Ponds 3, 4, and 5.

All other metals were reported with concentrations below RSLs and the federal hazardous waste total threshold limit concentration (TTLC).

Samples analyzed for STLC and TCLP had the following results:

- All arsenic STLC DI water results were either nondetect or less than 0.2 milligrams per liter (mg/L), indicating an extremely low leaching potential for the arsenic.
- The selenium TCLP result was less than 1 mg/L.
- The selenium STLC result for sample P5 was less than 1 mg/L.
- The selenium STLC results for sample P5-FL-7-0 and the duplicate sample for P5-FL-7-0 were slightly greater than 1 mg/L (1.18 and 1.06

mg/L, respectively); however, the STLC DI water results for the same two samples were less than 1 mg/L (0.549 and 0,489 mg/L, respectively).

Ions, pH, and TDS

Table 2 provides a summary of ions, pH, and TDS results. Of the constituents with available RSLs, no concentrations exceeded the industrial or residential RSLs. However, several constituents exceeded site background. As with the metals results, the highest concentrations are generally detected in shallow samples downwind of Ponds 3, 4, and 5 and decrease rapidly with depth.

TPH

A summary of TPH results is provided in Table 3. This table illustrates that each of the ponds were reported with detectable TPH concentrations, but at very low concentrations. Additionally, TPH concentrations were reported in some of the fence-line samples. It is important to note that the laboratory indicated that the chromatographic pattern of petroleum hydrocarbons in the samples was inconsistent with the profile of the reference fuel standard for diesel and motor oil. The highest concentrations were detected within and adjacent to Ponds 3, 4, and 5. However, unlike the metals samples, the highest concentration was detected in sample P5-FL-8-0 located south of and cross-wind gradient of Pond 5. The sample was collected from soil that did not have visual signs of sediment accumulation emanating from Pond 5.

Radium

Table 4 provides a summary of radium analyses. The majority of samples were less than background with only six samples slightly exceeding site background.

CONCLUSIONS AND RECOMMENDATIONS

The following conclusions are based on the soil investigation activities described above:

- Arsenic concentrations detected in the ponds and fence-line samples exceed RSLs and background concentrations. However, most of the elevated concentrations are located in the surficial "crust" and decrease

rapidly with depth; and the STLC DI water results indicate a very low potential for leaching.

- The selenium concentrations detected in one surface sample collected downwind of Pond 5, slightly exceed the STLC limit; however the STLC DI water analysis from the same sample is well below the STLC.
- Most pond and fence-line samples are reported with several other metals, ions, pH, and TDS that exceed site background concentrations. The highest concentrations are generally detected in the surficial samples located downwind of Ponds 3, 4, and 5 and decrease rapidly with depth.
- The TPH results detected are generally low and based on laboratory data not related to the referenced fuel oil standard and may be the result of an organic material interference.

In summary, the results of the soil characterization show the sediment that has accumulated downwind of the ponds has concentrations of several COCs that exceed background levels; the industrial RSL for arsenic; and in one sample slightly exceeds the STLC concentration for selenium. The impacts are focused in the surface and shallow soil and decrease rapidly with depth with the majority of impacts located downwind of Ponds 3, 4, and 5.

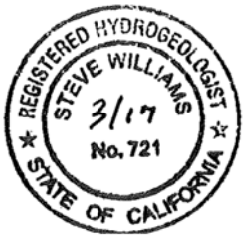
Based on the results above, the following actions are recommended:

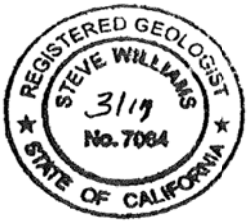
- In the area where the selenium concentration slightly exceeds the STLC, the surficial sediment in that area should be removed and sent off site for proper disposal as a non-Resource Conservation and Recovery Act (RCRA) California hazardous waste.
- In the remainder of the area downwind of the ponds and within the NRG property boundary, the visibly identifiable surface sediment that has accumulated downwind of all ponds should be removed and consolidated back into the adjacent ponds.
- Once NRG has arranged an access agreement outside the property boundary, shallow soil sampling in a grid pattern should be implemented. The sampling should only focus on COCs that significantly exceed background concentrations.
- The data collected should be utilized to prepare a risk assessment addressing potential risks to human health and the environment and an evaluation of the potential storm water impacts from COCs.

CLOSING

If there are any questions regarding the sampling methodology and results presented herein, which require further clarification the, please do not hesitate to contact me at 949-623-4674 or via email at steve.williams @erm.com

Sincerely,





Steve Williams, P.G., CHG
Partner

SW/taa-0355141

Attachments as noted.

Figures

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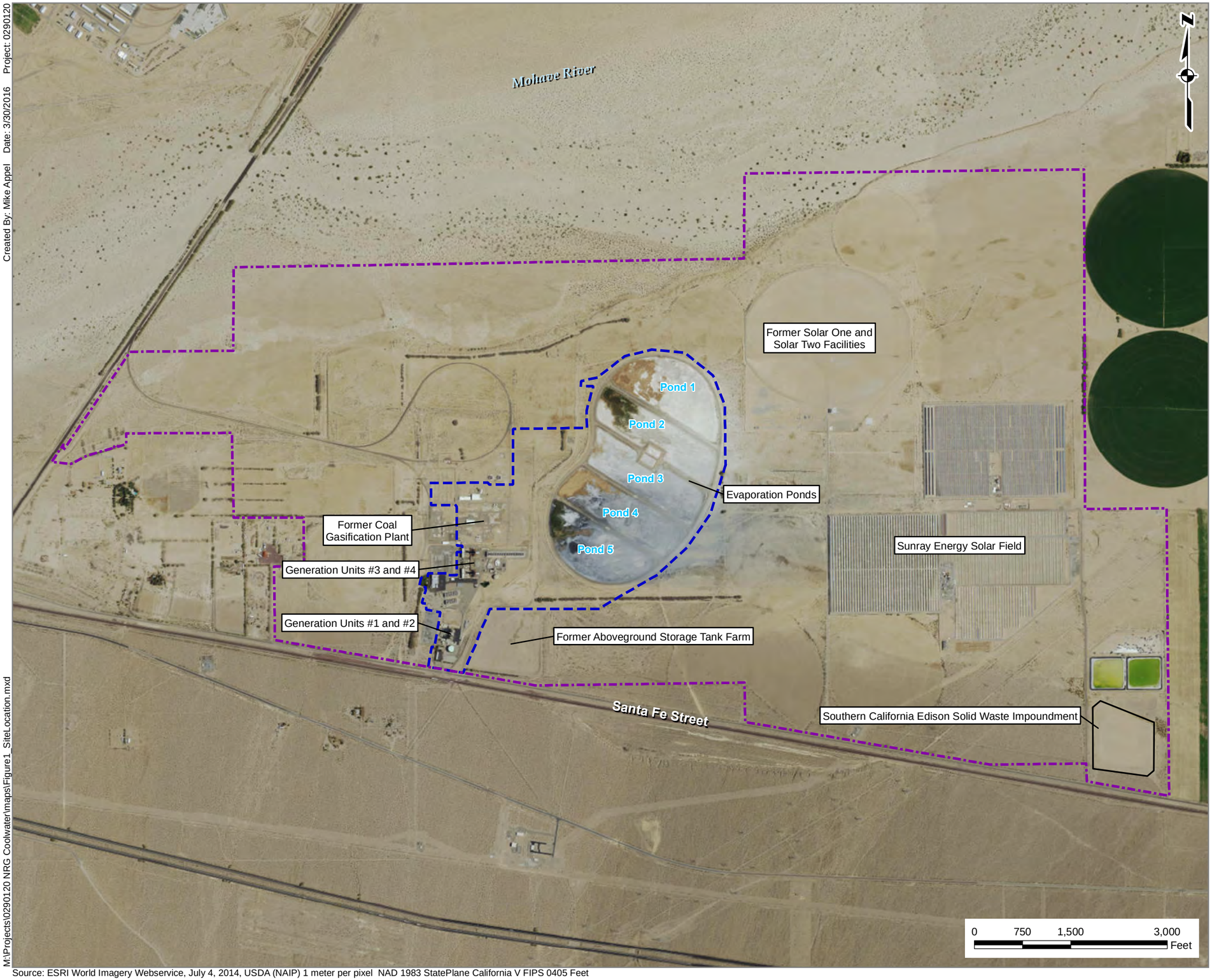
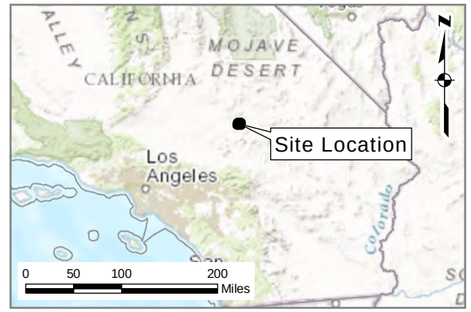




Legend

- NRG Coolwater Property Boundary
- Southern California Edison Solid Waste Impoundment
- Southern California Edison Property Boundary

Notes:
Parcel Boundary from San Bernadino County GIS.

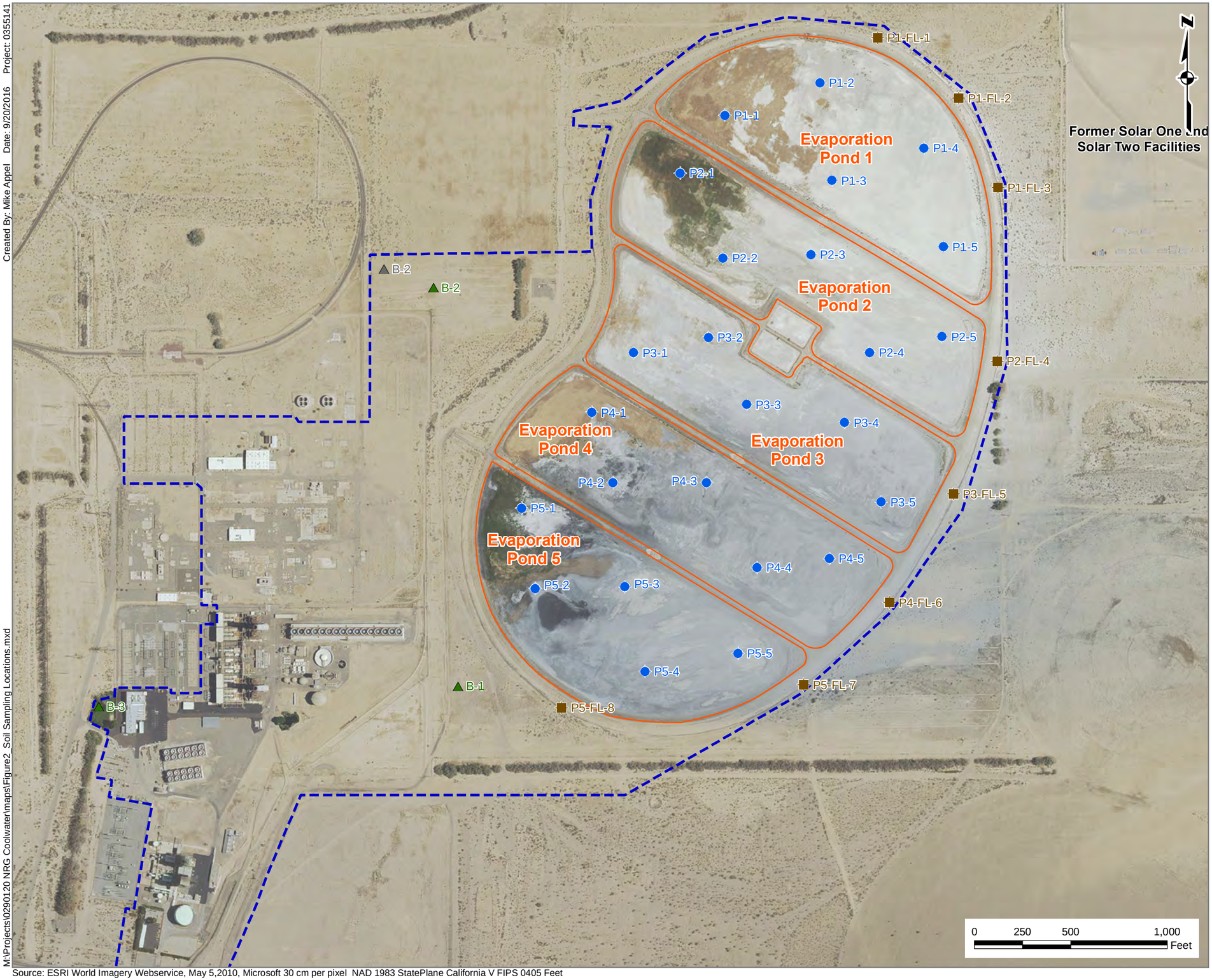
M:\Projects\0290120 NRG Coolwater\maps\Figure1_SiteLocation.mxd

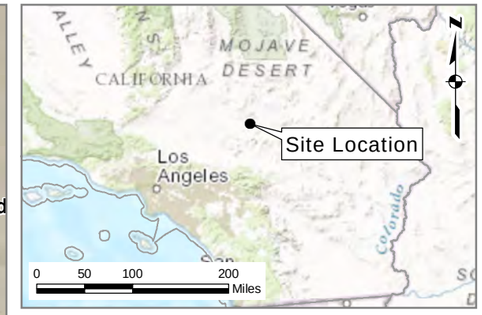
Source: ESRI World Imagery Webservice, July 4, 2014, USDA (NAIP) 1 meter per pixel NAD 1983 StatePlane California V FIPS 0405 Feet

Figure 1
Site Location
NRG Coolwater Facility
Daggett, California

Environmental Resources Management
www.erm.com

Project: 0355141
Date: 9/20/2016
Created By: Mike Appel





Legend

- Pond Surface Sample Location
- Fence Line Sample Location
- Background Sample Location
- Proposed Sample Location, Recurrence from RWQCB
- Evaporation Ponds
- Property Boundary

Notes:
Property Boundary from San Bernadino GIS.

M:\Projects\0290120 NRG Coolwater\maps\Figure2_Soil Sampling Locations.mxd

Source: ESRI World Imagery Webservice, May 5,2010, Microsoft 30 cm per pixel NAD 1983 StatePlane California V FIPS 0405 Feet

Figure 2
Soil Sampling Locations
NRG Coolwater Facility
Daggett, California

Environmental Resources Management
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Tables

Table 1 - Summary of Metals
NRG Coolwater Facility
Daggett, California

Sample ID	Sample Date	Location	USEPA 6010B (mg/kg) except as noted																								USEPA 7471A (mg/kg)
			Antimony	Arsenic	Arsenic STLC DI (mg/L)	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Lead	Lithium	Magnesium	Molybdenum	Nickel	Potassium	Selenium	Selenium STLC (mg/L)	Selenium STLC DI (mg/L)	Selenium TCLP (mg/L)	Silver	Sodium	Thallium	Vanadium	Zinc	Mercury
Risk Screening - RSL - Residential			31	0.68		15,000	160	16,000	71	--	120,000	23	3,100	400	160	--	390	1,500	--	390	--		--	390	2,300	0.78	390	23,000	11
Risk Screening - RSL - Industrial			470	3		220,000	2,300	230,000	980	--	1,800,000	350	47,000	800	2,300	--	5,800	22,000	--	5,800	--		--	5,800	35,000	12	2,000	350,000	46
Waste Screening - TTLC (mg/Kg) (b)			500	500		10,000	75	--	100	--	2,500	8,000	2,500	1,000	--	--	3,500	2,000	--	100	--		--	500	--	700	2,400	5,000	20
Waste Screening - 20* TCLP (mg/Kg)			--	100		2,000	--	--	20	--	100	--	--	100	--	--	--	--	--	20	--		--	100	--	--	--	--	4
Waste Screening - 10*STLC (mg/Kg)			150	50		1,000	8	--	10	--	50	800	250	50	--	--	3,500	200	--	10	--		--	50	--	70	240	2,500	2
TCLP (mg/L)			--	--	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		1	--	--	--	--	--	--
STLC (mg/L)			--	--	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1	--	--	--	--	--	--	--
Background B-1	06/27/16	Southwest of Ponds	<0.765	**3.04**	--	**79.8**	**0.363**	**3.36**	<0.51	**9,580**	**7.35**	**5.44**	**7.77**	**3.78**	**4.07**	**3,970**	<0.255	**5.45**	**2,070**	<0.765	--	--	--	<0.255	**144**	<0.765	**23.8**	**32**	<0.0794
Background B-2	06/27/16	West of Ponds	<0.754	**2.75**	--	**102**	**0.3**	**5.7**	<0.503	**7,660**	**6.17**	**3.84**	**7.08**	**3.95**	<2.51	**3,040**	<0.251	**5.16**	**1,980**	<0.754	--	--	--	<0.251	**138**	<0.754	**16.2**	**21.4**	<0.0877
Background B-3	06/27/16	West of Ponds	<0.758	**4.04**	--	**125**	**0.366**	**19.5**	**0.559**	**14,500**	**11.7**	**4.84**	**14.2**	**6.99**	<2.53	**4,130**	**0.465**	**8.61**	**2,090**	<0.758	--	--	--	**0.388**	**426**	<0.758	**19**	**53.1**	<0.0877
P1	06/27/16	Pond 1 Composite	<0.718	**11.5**	NA	**88**	<0.239	**69.9**	<0.478	**65,600**	**9.63**	**2.11**	**73.1**	**0.747**	<2.39	**7,080**	**0.398**	**13.2**	**999**	<0.718	NA	NA	NA	**0.406**	**2,250**	<0.718	**18.7**	**27**	<0.0806
P1-FL-1-0	06/27/16	North of Pond 1	<0.761	**2.22**	NA	**127**	<0.254	**4.19**	<0.508	**5,690**	**5.09**	**3.47**	**5.73**	**3.67**	<2.54	**2,710**	<0.254	**3.89**	**1,530**	<0.761	NA	NA	NA	<0.254	**93**	<0.761	**17.1**	**26.4**	<0.0794
P1-FL-1-0.5	06/27/16	North of Pond 1	<0.728	**3.27**	NA	**94.5**	<0.243	**2.64**	<0.485	**5,110**	**4.93**	**3.2**	**5.19**	**3.24**	<2.43	**2,380**	<0.243	**3.47**	**1,440**	<0.728	NA	NA	NA	<0.243	**91**	<0.728	**18.5**	**22.5**	**0.0846**
P1-FL-1-1	06/27/16	North of Pond 1	<0.735	**1.55**	NA	**36.9**	<0.245	**1.81**	<0.49	**3,260**	**2.79**	**1.98**	**2.68**	**1.46**	<2.84	**1,250**	<0.245	**1.77**	**816**	<0.735	NA	NA	NA	<0.245	**85**	<0.735	**13**	**11.9**	**0.0794**
P1-FL-1-3	06/27/16	North of Pond 1	<0.785	**1.08**	NA	**31.4**	<0.262	**1.54**	<0.524	**2,250**	**2.94**	**2.15**	**2.65**	**1.47**	<3.84	**1,460**	<0.262	**1.88**	**920**	<0.785	NA	NA	NA	<0.262	**78**	<0.785	**13.3**	**15**	**0.0794**
P1-FL-2-0	06/27/16	North of Pond 1	<0.725	**7.25**	NA	**95**	<0.242	**47.9**	<0.483	**37,700**	**6.25**	**3.25**	**10.7**	**2.32**	<2.42	**4,870**	<0.242	**5.53**	**1,690**	<0.725	NA	NA	NA	<0.242	**684**	<0.725	**21.7**	**26**	<0.0794
P1-FL-2-0.5	06/27/16	North of Pond 1	<0.75	**5.24**	NA	**89.7**	**0.281**	**26.5**	<0.5	**21,100**	**5.99**	**3.33**	**8.5**	**2.64**	<2.5	**3,730**	<0.25	**5.1**	**1,830**	<0.75	NA	NA	NA	<0.25	**1,060**	<0.75	**17.8**	**23.8**	<0.0794
P1-FL-2-1	06/27/16	North of Pond 1	<0.714	**4.26**	NA	**75.1**	**0.369**	**5.04**	<0.476	**7,650**	**8.73**	**4.73**	**7.47**	**3.43**	<8.07	**3,790**	<0.238	**5.77**	**2,590**	<0.714	NA	NA	NA	<0.238	**1,370**	<0.714	**23.3**	**26.7**	NA
P1-FL-2-3	06/27/16	North of Pond 1	<0.75	**2.19**	NA	**42.8**	**0.25**	**2.84**	<0.5	**5,040**	**4.68**	**2.99**	**4.23**	**1.99**	<4.79	**2,200**	<0.25	**3.27**	**1,350**	<0.75	NA	NA	NA	<0.25	**405**	<0.75	**15.7**	**17.3**	NA
P1-FL-3-0	06/27/16	East of Pond 1	<0.761	**12.5**	NA	**103**	<0.254	**148**	<0.508	**93,600**	**9.6**	**2.71**	**38.1**	**1.28**	<2.54	**8,560**	**0.304**	**10.1**	**1,610**	<0.761	NA	NA	NA	**0.534**	**1,140**	<0.761	**19.4**	**58.9**	<0.0877
P1-FL-3-0.5	06/27/16	East of Pond 1	<0.781	**4.36**	NA	**69.4**	<0.26	**31.5**	<0.521	**21,500**	**6.06**	**3.46**	**11.3**	**2.55**	<2.6	**3,480**	**0.277**	**4.79**	**1,750**	<0.781	NA	NA	NA	<0.26	**1,360**	<0.781	**20.5**	**20.6**	<0.0794
P1-FL-3-1	06/27/16	East of Pond 1	<0.769	**5.81**	NA	**68.2**	<0.287	**35**	<0.513	**26,600**	**6.9**	**3.42**	**16**	**2.52**	<2.97	**4,070**	**0.256**	**5.69**	**1,780**	<0.769	NA	NA	NA	<0.256	**1,500**	<0.769	**21.1**	**22.2**	NA
P1-FL-3-3	06/27/16	East of Pond 1	<0.781	**3.42**	NA	**53.8**	<0.322	**18.5**	<0.521	**12,500**	**7.1**	**3.71**	**8.22**	**3.01**	<4.41	**3,230**	**0.26**	**4.39**	**1,960**	<0.781	NA	NA	NA	<0.26	**1,530**	<0.781	**24.5**	**20.5**	NA
P2	06/27/16	Pond 2 Composite	<0.761	**7.07**	NA	**77.5**	<0.254	**82.7**	<0.508	**47,600**	**5.79**	**2.37**	**29.6**	**1.05**	<2.54	**4,820**	**0.711**	**6.8**	**1,340**	<0.761	NA	NA	NA	<0.254	**4,930**	<0.761	**18.5**	**21.4**	<0.0833
P2-FL-4.0	06/27/16	East of Pond 2	<0.781	**5.71**	NA	**69.3**	**0.274**	**81**	<0.521	**33,800**	**6.51**	**3.39**	**13.2**	**2.33**	<2.6	**5,020**	**0.293**	**5.37**	**1,700**	<0.781	NA	NA	NA	<0.26	**3,420**	<0.781	**18.9**	**23.2**	<0.082
P2-FL-4-0.5	06/27/16	East of Pond 2	<0.761	**3.64**	NA	**67.2**	**0.301**	**23.8**	<0.508	**16,200**	**6.33**	**3.78**	**8.43**	**2.63**	<2.54	**3,740**	<0.254	**4.63**	**1,790**	<0.761	NA	NA	NA	<0.254	**2,890**	<0.761	**20.3**	**22.4**	<0.0806
P2-FL-4-1	06/27/16	East of Pond 2	<0.761	**3.45**	NA	**83.3**	**0.337**	**8.47**	<0.508	**8,510**	**7.26**	**4.6**	**7**	**4.24**	<6.61	**3,570**	<0.254	**4.94**	**1,830**	<0.761	NA	NA	NA	<0.254	**1,720**	<0.761	**24.3**	**27.2**	NA
P2-FL-4-3	06/27/16	East of Pond 2	<0.725	**1.41**	NA	**20.3**	**0.242**	**4.53**	<0.483	**4,360**	**3.36**	**1.65**	**2.89**	**1.27**	<2.42	**1,110**	<0.242	**1.77**	**592**	<0.725	NA	NA	NA	<0.242	**348**	<0.725	**14.2**	**8.55**	NA
P3	06/27/16	Pond 3 Composite	<0.758	**14.5**	NA	**90**	<0.253	**150**	<0.505	**57,800**	**8.41**	**16**	**39.6**	**1.42**	<2.53	**7,150**	**2.06**	**10.8**	**1,570**	<0.758	NA	NA	NA	**0.276**	**7,760**	<0.758	**26.6**	**24.4**	<0.0862
P3-FL-5-0	06/27/16	East of Pond 3	<0.789	**22.2**	**0.199**	**127**	<0.263	**433**	**0.609**	**183,000**	**12.6**	**2.41**	**47.5**	**6.08**	<2.63	**10,500**	**1.94**	**11.5**	**1,410**	**5.97**	NA	NA	NA	**1.05**	**16,900**	<0.789	**17.3**	**35.4**	<0.0877
P3-FL-5-0.5	06/27/16	East of Pond 3	<0.739	**12.8**	**0.176**	**86.2**	<0.246	**207**	<0.493	**108,000**	**6.82**	**1.42**	**26.5**	**3.26**	<2.46	**5,840**	**0.895**	**6.4**	**683**	**3.34**	NA	NA	NA	**0.583**	**3,580**	<0.739	**9.59**	**21.2**	<0.0794
P3-FL-5-1	06/27/16	East of Pond 3	<0.765	**6.87**	NA	**80.6**	<0.28	**74.8**	<0.51	**26,900**	**6.52**	**3.49**	**11.3**	**3.9**	<3.72	**4,080**	**0.592**	**5.54**	**1,640**	**0.815**	NA	NA	NA	**0.255**	**4,720**	<0.765	**16.5**	**24.2**	NA
P3-FL-5-3	06/27/16	East of Pond 3	<0.714	**3.27**	NA	**57.5**	<0.283	**16.1**	<0.476	**10,800**	**6.04**	**3.95**	**6.46**	**2.94**	<6.3	**3,160**	**0.238**	**4.27**	**1,640**	**0.714**	NA	NA	NA	**0.238**	**1,220**	<0.714	**19.9**	**22.3**	NA
P4	06/27/16	Pond 4 Composite	<0.761	**11.9**	NA	**167**	**0.401**	**194**	**0.738**	**69,700**	**16.5**	**3.53**	**42.8**	**13.5**	<2.54	**6,440**	**1.18**	**11.6**	**1,330**	**4.92**	NA	NA	NA	**0.493**	**5,220**	<0.761	**24.3**	**49.2**	<0.0862
P4-FL-6-0	06/27/16	East of Pond 4	<0.714	**21.2**	**ND**	**123**	**0.247**	**407**	**0.613**	**203,000**	**13.2**	**2.45**	**41.2**	**4.69**	<2.38	**11,300**	**1.04**	**10.3**	**1,100**	**8.19**	NA	NA	NA	**0.924**	**6,360**	<0.714	**18.9**	**34**	<0.0794
P4-FL-6-0.5	06/27/16	East of Pond 4	<0.765	**11.6**	**ND**	**118**	**0.425**	**183**	**0.52**	**77,900**	**11.9**	**4.78**	**23**	**5.77**	<2.55	**7,670**	**0.479**	**8.61**	**2,120**	**3.67**	NA	NA	NA	**0.408**	**5,080**	<0.765	**26.5**	**38.3**	<0.082
P4-FL-6-1	06/27/16	East of Pond 4	<0.761	**5.15**	NA	**92**	**0.633**	**18.9**	**0.508**	**11,600**	**11.9**	**7.6**	**14.3**	**5.6**	<12.7	**6,140**	**0.254**	**8.77**	**2,800**	**0.761**	NA	NA	NA	**0.254**	**2,920**	<0.761	**29.7**	**41.4**	NA
P4-FL-6-3	06/27/16	East of Pond 4	<0.75	**4.53**	NA	**109**	**0.45**	**9.11**	**0.5**	**12,400**	**9.5**	**6.03**	**9.07**	**3.83**	<10.1	**4,480**	**0.25**	**6.28**	**1,360**	**0.75**	`	NA	NA	**0.25**	**754**	<0.75	**35.3**	**32.5**	NA
P5	06/27/16	Pond 5 Composite	<0.718	**12.1**	NA	**287**	**0.789**	**260**	**1.4**	**61,700**	**24.8**	**6.28**	**48.9**	**25.1**	<2.39	**7,660**	**2.43**	**14.4**	**2,090**	**12.3**	**0.558**	NA	NA	**0.48**	**12,200**	<0.718	**37.8**	**48.3**	**0.113**
P5-FL-7-0	06/27/16	East of Pond 5	<0.75	**21.6**	**ND**	**120**	**0.295**	**606**	**0.674**	**176,000**	**16**	**2.82**	**47.2**	**6.36**	<2.5	**16,300**	**3.27**	**11.2**	**1,030**	**21.4**	**1.18**	**0.549**	**0.466**	**1.06**	**24,200**	<0.75	**22.4**	**27.9**	<0.0806
DUP (P5-FL-7-0)	06/27/16	East of Pond 5	<0.785	**21**	**ND**	**115**	**0.267**	**747**	**0.661**	**163,000**	**15.7**	**2.71**	**52**	**6.61**	<2.62	**17,800**	**4.39**	**11.3**	**1,130**	**29.9**	**1.06**	**0.489**	**0.383**	**0.987**	**27,900**	<0.785	**22.4**	**26.3**	<0.0847
P5-FL-7-0.5	06/27/16	East of Pond 5	<0.765	**9.5**	**ND**	**80.7**	<0.255	**219**	<0.51	**64,400**	**7.47**	**2.48**	**20.5**	**3.86**	<2.55	**7,000**	**1.2**	**5.67**	**1,230**	**6.73**	NA	NA	NA	**0.41**	**9,430**	<0.765	**15.1**	**22.5**	<0.0847
P5-FL-7-1	06/27/16	East of Pond 5	<0.765	**6.19**	NA	**81.3**	<0.351	**46.4**	<0.51	**22,900**	**7.56**	**4.48**	**12.3**	**4.58**	<4.91	**4,240**	**0.628**	**6.31**	**1,780**	**1.22**	NA	NA	NA	**0.255**	**4,620**	<0.765	**19.2**	**30.3**	NA
P5-FL-7-3	06/27/16	East of Pond 5	<0.75	**2.89**	NA	**49.8**	<0.266	**9.25**	<0.5	**8,680**	**6.07**	**3.41**	**5.73**	**2.5**	<4.83	**2,480**	**0.25**	**3.59**	**1,160**	**0.75**	NA	NA	NA	**0.25**	**612**	<0.75	**24**	**19**	NA

Table 1 - Summary of Metals
NRG Coolwater Facility
Daggett, California

			USEPA 6010B (mg/kg) except as noted																								USEPA 7471A (mg/kg)
Sample ID	**Sample Date**	**Location**	**Antimony**	**Arsenic**	**Arsenic STLC DI (mg/L)**	**Barium**	**Beryllium**	**Boron**	**Cadmium**	**Calcium**	**Chromium**	**Cobalt**	**Copper**	**Lead**	**Lithium**	**Magnesium**	**Molybdenum**	**Nickel**	**Potassium**	**Selenium**	**Selenium STLC (mg/L)**	**Selenium STLC DI (mg/L)**	**Selenium TCLP (mg/L)**	**Silver**	**Sodium**	**Thallium**	**Vanadium**	**Zinc**	**Mercury**
P5-FL-8-0	06/27/16	South of Pond 5	<0.769	**5.03**	NA	**131**	**0.544**	**9.29**	<0.513	**11,500**	**10.2**	**6.72**	**11.7**	**6.24**	**2.87**	**5,580**	<0.256	**8.55**	**2,530**	<0.769	NA	NA	NA	<0.256	**191**	<0.769	**36.2**	**55.4**	<0.0877
P5-FL-8-0.5	06/27/16	South of Pond 5	<0.769	**5.81**	NA	**151**	**0.624**	**8.75**	<0.513	**14,000**	**11.8**	**8.01**	**13.3**	**6.85**	**2.64**	**6,370**	<0.256	**8.91**	**2,540**	<0.769	NA	NA	NA	<0.256	**250**	<0.769	**43.3**	**65.6**	<0.082
P5-FL-8-1	06/27/16	South of Pond 5	<0.746	**2.74**	NA	**119**	**0.74**	**10.9**	<0.498	**8,330**	**15**	**8.74**	**15.1**	**6.78**	**15.2**	**6,930**	<0.392	**9.17**	**2,570**	<0.746	NA	NA	NA	<0.249	**362**	<0.746	**51.2**	**52.3**	NA
P5-FL-8-3	06/27/16	South of Pond 5	<0.765	**1.97**	NA	**109**	**0.628**	**7.74**	<0.51	**5,620**	**13.1**	**8.74**	**11.7**	**5.81**	**12**	**5,400**	<0.569	**8.72**	**2,590**	<0.765	NA	NA	NA	<0.255	**586**	<0.765	**42.1**	**45.5**	NA
		Maximum Result:	--	22.2		287	0.789	747	1.4	203,000	24.8	16	73.1	25.1	15.2	17,800	4.39	14.4	2,800	29.9	1.18		0.466	1.06	27,900	--	51.2	65.6	0.113

Notes:
< = Not detected above laboratory detection limits.
-- = Not available
Bold = Detection
exceeds highest background level
exceeds RSL-Residential
exceeds RSL- Industrial
exceeds 20x TCLP
exceeds 10x STLC
exceeds STLC (mg/L)

Abbreviations:
Dup = Duplicate sample
mg/kg = Milligrams per kilogram
RSL = USEPA Regional Screening Level, May 2016
USEPA = U.S. Environmental Protection Agency

TTLC = Total Threshold Limit Concentration standard; CCR Title 22 (66261.24)
STLC = Soluble Threshold Limit Concentration standard; CCR Title 22 (66261.24).

Table 2 - Summary of Ions
NRG Coolwater Facility
Daggett, California

			USEPA 300.0 (mg/kg)				USEPA 9045D	SM 2540 C, Modified (mg/kg)
Sample ID	**Sample Date**	**Location**	**Chloride**	**Fluoride**	**Nitrate (as N)**	**Sulfate**	**pH**	**Solids, Total Dissolved**
		RSL - Residential	--	3,100	130,000	--	--	--
		RSL - Industrial	--	47,000	1,900,000	--	--	--
B-1	06/27/16	Southwest of Ponds	<10	<1	**2**	<10	**7.42**	**15,000**
B-2	06/27/16	West of Ponds	**23**	<1	**40**	**45**	**6.87**	**2,810**
B-3	06/27/16	West of Ponds	**69**	<1	**38**	**42**	**7.62**	**7,690**
P1	06/27/16	Pond 1 Composite	**760**	**2.2**	**11**	**8,000**	**7.88**	**27,000**
P1-FL-1-0	06/27/16	North of Pond 1	<10	<1	**2.7**	**230**	**6.34**	**4,070**
P1-FL-1-0.5	06/27/16	North of Pond 1	<10	<1	**1.2**	**77**	**6.53**	**5,350**
P1-FL-2-0	06/27/16	North of Pond 1	**86**	**1.8**	**5.1**	**4,700**	**6.36**	**22,000**
P1-FL-2-0.5	06/27/16	North of Pond 1	**450**	<1	**68**	**4,100**	**6.59**	**18,100**
P1-FL-2-1	06/27/16	North of Pond 1	**280**	<5	**50**	**410**	NA	**6,910**
P1-FL-2-3	06/27/16	North of Pond 1	**140**	<1	**27**	**510**	NA	**4,460**
P1-FL-3-0	06/27/16	East of Pond 1	**98**	**2.4**	**11**	**7,600**	**7.24**	**23,400**
P1-FL-3-0.5	06/27/16	East of Pond 1	**280**	<1	**13**	**2,200**	**7.42**	**23,600**
P1-FL-3-1	06/27/16	East of Pond 1	**170**	<5	**7**	**2,700**	NA	**24,200**
P1-FL-3-3	06/27/16	East of Pond 1	**220**	<5	**7.6**	**2,000**	NA	**16,100**
P2	06/27/16	Pond 2 Composite	**1,600**	**2.5**	**16**	**9,500**	**8.31**	**27,200**
P2-FL-4.0	06/27/16	East of Pond 2	**950**	**1.1**	**160**	**8,700**	**7.7**	**30,100**
P2-FL-4-0.5	06/27/16	East of Pond 2	**1,500**	<1	**250**	**4,100**	**7.8**	**26,100**
P2-FL-4-1	06/27/16	East of Pond 2	**630**	<5	**81**	**1,200**	NA	**10,800**
P2-FL-4-3	06/27/16	East of Pond 2	**150**	<5	**27**	**1,400**	NA	**8,010**
P3	06/27/16	Pond 3 Composite	**5,000**	**5.7**	**35**	**14,000**	**8.51**	**47,000**
P3-FL-5-0	06/27/16	East of Pond 3	**4,900**	**4.6**	**36**	**19,000**	**8.28**	**78,400**
P3-FL-5-0.5	06/27/16	East of Pond 3	**910**	**4.4**	<1	**14,000**	**7.86**	**50,900**
P3-FL-5-1	06/27/16	East of Pond 3	**1,200**	**10**	<10	**5,900**	NA	**32,400**
P3-FL-5-3	06/27/16	East of Pond 3	**360**	**5**	<5	**1,500**	NA	**12,600**
P4	06/27/16	Pond 4 Composite	<10	<1	<1	<10	**7.93**	**23,700**
P4-FL-6-0	06/27/16	East of Pond 4	**750**	**4.2**	**9.1**	**8,300**	**8.32**	**39,400**
P4-FL-6-0.5	06/27/16	East of Pond 4	**870**	**2.9**	**17**	**7,600**	**8.22**	**27,200**
P4-FL-6-1	06/27/16	East of Pond 4	**430**	**5**	**5**	**1,800**	NA	**17,700**
P4-FL-6-3	06/27/16	East of Pond 4	**350**	**5**	**10**	**790**	NA	**7,310**
P5	06/27/16	Pond 5 Composite	**31**	**1.7**	**3.1**	**32**	**7.96**	**31,400**
P5-FL-7-0	06/27/16	East of Pond 5	**14,000**	**9**	**27**	**20,000**	**8.49**	**93,000**
DUP (P5-FL-7-0)	06/27/16	East of Pond 5	**10,000**	**6.8**	**26**	**26,000**	**8.41**	**101,000**
P5-FL-7-0.5	06/27/16	East of Pond 5	**3,700**	**4.8**	**28**	**13,000**	**8.46**	**59,200**
P5-FL-7-1	06/27/16	East of Pond 5	**1,700**	**10**	**13**	**7,600**	NA	**30,800**
P5-FL-7-3	06/27/16	East of Pond 5	**110**	**5**	**23**	**890**	NA	**7,910**
P5-FL-8-0	06/27/16	South of Pond 5	<10	<1	**14**	**47**	**8.12**	**2,800**
P5-FL-8-0.5	06/27/16	South of Pond 5	<10	<1	**10**	**36**	**7.17**	**9,800**
		Maximum Result:	14,000	10	250	26,000	8.51	101,000

Notes:
< = Not detected above laboratory detection limits.
-- = Not available
Bold = Detection
exceeds greatest background

Abbreviations:
Dup = Duplicate sample
mg/kg = Milligrams per kilogram
NA = not analyzed
RSL = USEPA Regional Screening Level, May 2016
USEPA = U.S. Environmental Protection Agency

Table 3 - Summary of TPH
NRG Coolwater Facility
Daggett, California

			USEPA 8015B (mg/kg)	
Sample ID	**Sample Date**	**Location**	**TPH as Diesel**	**TPH as Motor Oil**
B-1	06/27/16	Southwest of Ponds	<5	<25
B-2	06/27/16	West of Ponds	<5	<25
B-3	06/27/16	West of Ponds	<5	<25
P1	06/27/16	Pond 1 Composite	**11**	**28**
P1-FL-1-0	06/27/16	North of Pond 1	<5	<25
P1-FL-1-0.5	06/27/16	North of Pond 1	<5	<25
P1-FL-2-0	06/27/16	North of Pond 1	<5	<25
P1-FL-2-0.5	06/27/16	North of Pond 1	<5	<25
P1-FL-3-0	06/27/16	East of Pond 1	**13**	**40**
P1-FL-3-0.5	06/27/16	East of Pond 1	<5	<25
P2	06/27/16	Pond 2 Composite	**10**	**34**
P2-FL-4.0	06/27/16	East of Pond 2	<5	<25
P2-FL-4-0.5	06/27/16	East of Pond 2	**10**	<25
P2-FL-4-1	06/27/16	East of Pond 2	<5	<25
P2-FL-4-3	06/27/16	East of Pond 2	<5	<25
P3	06/27/16	Pond 3 Composite	**27**	**71**
P3-FL-5-0	06/27/16	East of Pond 3	**10**	**29**
P3-FL-5-0.5	06/27/16	East of Pond 3	<5	<25
P4	06/27/16	Pond 4 Composite	**110**	**280**
P4-FL-6-0	06/27/16	East of Pond 4	**7.2**	**28**
P4-FL-6-0.5	06/27/16	East of Pond 4	**11**	**31**
P4-FL-6-1	06/27/16	East of Pond 4	<5	<25
P4-FL-6-3	06/27/16	East of Pond 4	<5	<25
P5	06/27/16	Pond 5 Composite	**84**	**260**
P5-FL-7-0	06/27/16	East of Pond 5	**53**	**130**
DUP (P5-FL-7-0)	06/27/16	East of Pond 5	**53**	**160**
P5-FL-7-0.5	06/27/16	East of Pond 5	**11**	**36**
P5-FL-7-1	06/27/16	East of Pond 5	<5	<25
P5-FL-7-3	06/27/16	East of Pond 5	<5	<25
P5-FL-8-0	06/27/16	South of Pond 5	**620**	**2,600**
P5-FL-8-0.5	06/27/16	South of Pond 5	**110**	**480**
P5-FL-8-1	06/27/16	South of Pond 5	**41**	**170**
P5-FL-8-3	06/27/16	South of Pond 5	<5	<25
		Maximum Result:	620	2,600

Notes:
< = Not detected above laboratory detection limits.
-- = Not available
Bold = Detection
exceeds greatest background

Abbreviations:
Dup = Duplicate sample
mg/kg = Milligrams per kilogram
TPH = Total petroleum hydrocarbons
USEPA = U.S. Environmental Protection Agency

Table 4 - Summary of Radium
NRG Coolwater Facility
Daggett, California

Sample ID	Sample Date	Location	USEPA 904.0 (pCi/g) Radium-226	USEPA 904.0 (pCi/g) Radium-228
PRG Residential Soil			**0.012**	**0.014**
PRG Composite Worker Soil			**3.1**	**7.5**
B-1	06/27/16	Southwest of Ponds	**1.23**	**3.78**
B-2	06/27/16	West of Ponds	**1.33**	**1.14**
B-3	06/27/16	West of Ponds	**1.16**	**3.11**
P1	06/27/16	Pond 1 Composite	**1.27**	**2.03**
P1-FL-1-0	06/27/16	North of Pond 1	**2.53**	**1.14**
P1-FL-1-0.5	06/27/16	North of Pond 1	**1.71**	**4.46**
P1-FL-2-0	06/27/16	North of Pond 1	**0.536**	**2.68**
P1-FL-2-0.5	06/27/16	North of Pond 1	**1.03**	**2.23**
P1-FL-3.0	06/27/16	East of Pond 1	**1.29**	**2.01**
P1-FL-3-0.5	06/27/16	East of Pond 1	**0.445**	**1.01**
P2	06/27/16	Pond 2 Composite	**2**	**3.96**
P2-FL-4-0	06/27/16	East of Pond 2	**1.17**	**2.1**
P2-FL-4-0.5	06/27/16	East of Pond 2	**0.806**	**0.998**
P3	06/27/16	Pond 3 Composite	**1.11**	**1.35**
P3-FL-5-0	06/27/16	East of Pond 3	**0.282**	**2.33**
P3-FL-5-0.5	06/27/16	East of Pond 3	**0.767**	**2.61**
P4	06/27/16	Pond 4 Composite	**0.872**	**3.16**
P4-FL-6-0	06/27/16	East of Pond 4	**0.259**	**1.71**
P4-FL-6-0.5	06/27/16	East of Pond 4	**1.47**	**1.76**
P5	06/27/16	Pond 5 Composite	**1.8**	**4.52**
P5-FL-7-0	06/27/16	East of Pond 5	**0.818**	**0.752**
DUP (P5-FL-7-0)	06/27/16	East of Pond 5	**0.563**	**0.766**
P5-FL-7-0.5	06/27/16	East of Pond 5	**0.291**	**0.959**
P5-FL-8-0	06/27/16	South of Pond 5	**1.26**	**1.97**
P5-FL-8-0.5	06/27/16	South of Pond 5	**1.72**	**1.17**
		Maximum Result:	2.53	4.52

Notes:

Bold = Detection

background

PRG - USEPA Preliminary Remediation Goal

Abbreviations:

Dup = Duplicate sample

pCi/g = pico Curie per gram

USEPA = U.S. Environmental Protection Agency

Attachment A
Laboratory Analytical Report and
Data Validation Memorandum

Memorandum

Environmental Resources Management

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To: Alfonso Nunez

From: Shanna Bauer and Sandra Mulhearn

Date: 5 August 2016

Subject: Data Review of NRG Coolwater Soil Samples Collected June 2016

Project Number: 0355141.003

Data Packages: Eurofins Calscience, Inc. Laboratory Data Package 16-06-2043 and 16-06-2043 S1

The data quality was assessed and any necessary qualifiers were applied following the *USEPA National Functional Guidelines for Superfund Organic Methods Data Review,* August 2014 and *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review,* August 2014.

HOLDING TIME AND PRESERVATION EVALUATION

The samples were prepared and analyzed within the method-prescribed time period from the date of collection with limited exceptions. pH was analyzed outside of the 24 hour hold time in five samples. In addition, several samples were removed from hold and analyzed. A number of these were past the method-prescribed holding time and most were qualified as estimated. However, nitrate samples were analyzed after greater than two times the holding time. Non-detects were rejected (R) and detected results were estimated and biased low (J-). The sample shipments were received at the laboratory within the method-prescribed preservation requirements. Hold time exceedances and associated qualifiers are presented in Table 1.

BLANK EVALUATION

The method blank sample results were nondetected for each of the target analytes. Sample data were not qualified based on the blank sample evaluation. The method blank results indicate that no contaminants were introduced to the samples during laboratory preparation or analysis.

BLANK SPIKE EVALUATION

The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) recoveries were within the laboratory's limits of acceptance. No sample data were qualified based on the blank spike evaluation. The LCS recoveries indicate acceptable laboratory accuracy and precision.

MATRIX SPIKE EVALUATION

The matrix spike (MS) and matrix spike duplicate (MSD) recoveries were within the laboratory's limits of acceptance with some exceptions. The relative percent difference (RPD) for limited analytes exceeded the control limit. No data are qualified based upon RPD exceedances alone. Qualifiers were added to the data if both the MS and MSD recoveries were outside of limits. If only one recovery was outside of limits, no qualifiers were added to the data. Associated samples were those analyzed in the same batch as the MS/MSD and in the same depth interval as the spiked sample. Two samples (P5 and P5-FL-8-3) were rejected for antimony and One sample (P5) was rejected for lithium MS/MSD recovery below 30%. Other associated samples were qualified as estimated (J/UJ) with appropriate bias flags added. The outlying MS/MSD recoveries and RPDs and associated qualifiers are listed in Table 2.

SURROGATE SPIKE EVALUATION

The surrogate recoveries were within acceptable limits. No qualifications to the data were made based on surrogate evaluation. The surrogate recoveries indicate minimal matrix interference in the samples.

FIELD DUPLICATE EVALUATION

One sample was collected and submitted in duplicate. ERM calculated the relative percent difference (RPD) between detected results. The USEPA has not established control criteria for field duplicate samples; therefore, sample data are not qualified on the basis of field duplicate imprecision. A list of the field duplicate detections and calculated RPDs is provided in Table 3.

TPH EVALUATION

The laboratory noted that the chromatograms for a number of samples analyzed for total petroleum hydrocarbons as motor oil and diesel displayed patterns that were inconsistent with the respective reference fuel standards. The results for these samples were qualified as tentatively identified and estimated (NJ), as listed in Table 4.

OVERALL ASSESSMENT

Six samples were rejected (R) to either holding time exceedences or matrix issues. All of the data except the rejected data, including qualified data, can be used for decision-making purposes; however, the limitations indicated by the applied qualifiers should be considered when using the data. The quality of the data generated during this investigation is acceptable for the preparation of technically defensible documents.

Table 1
Samples with Exceeded Holding Times
NRG Coolwater Soil Samples Collected June 2016
NRG Coolwater Facility
Daggett, California

Lab Package	Sample ID	Method	Holding Time	Time Exceeded	ERM Qualifier
16-06-2043	B-1	EPA 9045D (pH)	ASAP (24 hours)	3 hours	J
16-06-2043	B-2	EPA 9045D (pH)	ASAP (24 hours)	3 hours	J
16-06-2043	B-3	EPA 9045D (pH)	ASAP (24 hours)	3 hours	J
16-06-2043	DUP (P5-FL-7-0)	EPA 9045D (pH)	ASAP (24 hours)	3 hours	J
16-06-2043	P5-FL-8-0.5	EPA 9045D (pH)	ASAP (24 hours)	3 hours	J
16-06-2043-S1	P1-FL-2-1	EPA 300 (Fluoride, Chloride, Sulfate)	28 days	3 days	J-/UJ
16-06-2043-S1	P1-FL-2-1	EPA 300 (Nitrate)	7 days	24 days	J-
16-06-2043-S1	P1-FL-2-3	EPA 300 (Fluoride, Chloride, Sulfate)	28 days	3 days	J-/UJ
16-06-2043-S1	P1-FL-2-3	EPA 300 (Nitrate)	7 days	24 days	J-
16-06-2043-S1	P1-FL-3-1	EPA 300 (Fluoride, Chloride, Sulfate)	28 days	3 days	J-/UJ
16-06-2043-S1	P1-FL-3-1	EPA 300 (Nitrate)	7 days	24 days	J-
16-06-2043-S1	P1-FL-3-3	EPA 300 (Fluoride, Chloride, Sulfate)	28 days	3 days	J-/UJ
16-06-2043-S1	P1-FL-3-3	EPA 300 (Nitrate)	7 days	24 days	J-
16-06-2043-S1	P2-FL-4-1	EPA 300 (Fluoride, Chloride, Sulfate)	28 days	3 days	J-/UJ
16-06-2043-S1	P2-FL-4-1	EPA 300 (Nitrate)	7 days	24 days	J-
16-06-2043-S1	P2-FL-4-3	EPA 300 (Fluoride, Chloride, Sulfate)	28 days	3 days	J-/UJ
16-06-2043-S1	P2-FL-4-3	EPA 300 (Nitrate)	7 days	24 days	J-
16-06-2043-S1	P3-FL-5-1	EPA 300 (Fluoride, Chloride, Sulfate)	28 days	3 days	J-/UJ
16-06-2043-S1	P3-FL-5-1	EPA 300 (Nitrate)	7 days	24 days	R

Table 1
Samples with Exceeded Holding Times
NRG Coolwater Soil Samples Collected June 2016
NRG Coolwater Facility
Daggett, California

Lab Package	Sample ID	Method	Holding Time	Time Exceeded	ERM Qualifier
16-06-2043-S1	P3-FL-5-3	EPA 300 (Fluoride, Chloride, Sulfate)	28 days	3 days	J-/UJ
16-06-2043-S1	P3-FL-5-3	EPA 300 (Nitrate)	7 days	24 days	R
16-06-2043-S1	P4-FL-6-1	EPA 300 (Fluoride, Chloride, Sulfate)	28 days	3 days	J-/UJ
16-06-2043-S1	P4-FL-6-1	EPA 300 (Nitrate)	7 days	24 days	R
16-06-2043-S1	P4-FL-6-3	EPA 300 (Fluoride, Chloride, Sulfate)	28 days	3 days	J-/UJ
16-06-2043-S1	P4-FL-6-3	EPA 300 (Nitrate)	7 days	24 days	J-
16-06-2043-S1	P5-FL-7-1	EPA 300 (Fluoride, Chloride, Sulfate)	28 days	3 days	J-/UJ
16-06-2043-S1	P5-FL-7-1	EPA 300 (Nitrate)	7 days	24 days	J-
16-06-2043-S1	P5-FL-7-3	EPA 300 (Fluoride, Chloride, Sulfate)	28 days	3 days	J-/UJ
16-06-2043-S1	P5-FL-7-3	EPA 300 (Nitrate)	7 days	24 days	J-
16-06-2043-S1	P1-FL-2-1	Total Dissolved Solids	7 days	23 days	J
16-06-2043-S1	P1-FL-2-3	Total Dissolved Solids	7 days	23 days	J
16-06-2043-S1	P1-FL-3-1	Total Dissolved Solids	7 days	23 days	J
16-06-2043-S1	P1-FL-3-3	Total Dissolved Solids	7 days	23 days	J
16-06-2043-S1	P2-FL-4-1	Total Dissolved Solids	7 days	23 days	J
16-06-2043-S1	P2-FL-4-3	Total Dissolved Solids	7 days	23 days	J
16-06-2043-S1	P3-FL-5-1	Total Dissolved Solids	7 days	23 days	J
16-06-2043-S1	P3-FL-5-3	Total Dissolved Solids	7 days	23 days	J
16-06-2043-S1	P4-FL-6-1	Total Dissolved Solids	7 days	23 days	J
16-06-2043-S1	P4-FL-6-3	Total Dissolved Solids	7 days	23 days	J
16-06-2043-S1	P5-FL-7-1	Total Dissolved Solids	7 days	23 days	J
16-06-2043-S1	P5-FL-7-3	Total Dissolved Solids	7 days	23 days	J

Table 1
Samples with Exceeded Holding Times
NRG Coolwater Soil Samples Collected June 2016
NRG Coolwater Facility
Daggett, California

Lab Package	Sample ID	Method	Holding Time	Time Exceeded	ERM Qualifier
16-06-2043-S1	P2-FL-4-1	TPH as Motor Oil	14 days till extraction	8 days	UJ
16-06-2043-S1	P2-FL-4-3	TPH as Motor Oil	14 days till extraction	8 days	UJ
16-06-2043-S1	P4-FL-6-1	TPH as Motor Oil	14 days till extraction	8 days	UJ
16-06-2043-S1	P4-FL-6-3	TPH as Motor Oil	14 days till extraction	8 days	UJ
16-06-2043-S1	P5-FL-7-1	TPH as Motor Oil	14 days till extraction	8 days	UJ
16-06-2043-S1	P5-FL-7-3	TPH as Motor Oil	14 days till extraction	8 days	UJ
16-06-2043-S1	P5-FL-8-1	TPH as Motor Oil	14 days till extraction	8 days	J-
16-06-2043-S1	P5-FL-8-3	TPH as Motor Oil	14 days till extraction	8 days	UJ
16-06-2043-S1	P2-FL-4-1	TPH as Diesel	14 days till extraction	8 days	UJ
16-06-2043-S1	P2-FL-4-3	TPH as Diesel	14 days till extraction	8 days	UJ
16-06-2043-S1	P4-FL-6-1	TPH as Diesel	14 days till extraction	8 days	UJ
16-06-2043-S1	P4-FL-6-3	TPH as Diesel	14 days till extraction	8 days	UJ
16-06-2043-S1	P5-FL-7-1	TPH as Diesel	14 days till extraction	8 days	UJ
16-06-2043-S1	P5-FL-7-3	TPH as Diesel	14 days till extraction	8 days	UJ
16-06-2043-S1	P5-FL-8-1	TPH as Diesel	14 days till extraction	8 days	J-
16-06-2043-S1	P5-FL-8-3	TPH as Diesel	14 days till extraction	8 days	UJ

Key:
J = Estimated detected result
UJ = Nondetected, estimated report limit
R = Rejected result

Table 2
Spike Recoveries Outside of Acceptable Limits
NRG Coolwater Soil Samples Collected June 2016
NRG Coolwater Facility
Daggett, California

Lab Package	Spike Sample ID	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	ERM Qualifier
LCS/LCSD									
LCS/LCSD recoveries were within limits.									
MS/MSD									
16-06-2043	P1-FL-1-0 MS/MSD	P1-FL-1-0	Fluoride	50/49	80-120	3	20	ND	UJ
16-06-2043	P1-FL-1-0 MS/MSD	P1-FL-1-0	Chloride	66/77	80-120	16	20	ND	UJ
16-06-2043	P1-FL-1-0 MS/MSD	P1-FL-1-0	Nitrate (as N)	65/76	80-120	15	20	2.7	J-
16-06-2043	P1-FL-1-0 MS/MSD	P1-FL-1-0	Sulfate	50/60	80-120	10	20	230	J-
16-06-2043	--	P1-FL-2-0	Fluoride	50/49	80-120	3	20	1.8	J-
16-06-2043	--	P1-FL-2-0	Chloride	66/77	80-120	16	20	86	J-
16-06-2043	--	P1-FL-2-0	Nitrate (as N)	65/76	80-120	15	20	5.1	J-
16-06-2043	--	P1-FL-2-0	Sulfate	50/60	80-120	10	20	4700	J-
16-06-2043	--	P1-FL-3-0	Fluoride	50/49	80-120	3	20	2.4	J-
16-06-2043	--	P1-FL-3-0	Chloride	66/77	80-120	16	20	98	J-
16-06-2043	--	P1-FL-3-0	Nitrate (as N)	65/76	80-120	15	20	11	J-
16-06-2043	--	P1-FL-3-0	Sulfate	50/60	80-120	10	20	7600	J-
16-06-2043	--	P2-FL-4.0	Fluoride	50/49	80-120	3	20	1.1	J-
16-06-2043	--	P2-FL-4.0	Chloride	66/77	80-120	16	20	950	J-
16-06-2043	--	P2-FL-4.0	Nitrate (as N)	65/76	80-120	15	20	160	J-
16-06-2043	--	P2-FL-4.0	Sulfate	50/60	80-120	10	20	8700	J-
16-06-2043	--	P3-FL-5-0	Fluoride	50/49	80-120	3	20	4.6	J-
16-06-2043	--	P3-FL-5-0	Chloride	66/77	80-120	16	20	36	J-
16-06-2043	--	P3-FL-5-0	Nitrate (as N)	65/76	80-120	15	20	4900	J-
16-06-2043	--	P3-FL-5-0	Sulfate	50/60	80-120	10	20	19000	J-
16-06-2043	--	P4-FL-6-0	Fluoride	50/49	80-120	3	20	4.2	J-
16-06-2043	--	P4-FL-6-0	Chloride	66/77	80-120	16	20	750	J-
16-06-2043	--	P4-FL-6-0	Nitrate (as N)	65/76	80-120	15	20	9.1	J-
16-06-2043	--	P4-FL-6-0	Sulfate	50/60	80-120	10	20	8300	J-
16-06-2043	--	P5-FL-7-0	Fluoride	50/49	80-120	3	20	9	J-
16-06-2043	--	P5-FL-7-0	Chloride	66/77	80-120	16	20	27	J-
16-06-2043	--	P5-FL-7-0	Nitrate (as N)	65/76	80-120	15	20	14000	J-
16-06-2043	--	P5-FL-7-0	Sulfate	50/60	80-120	10	20	20000	J-

Table 2
Spike Recoveries Outside of Acceptable Limits
NRG Coolwater Soil Samples Collected June 2016
NRG Coolwater Facility
Daggett, California

Lab Package	Spike Sample ID	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	ERM Qualifier
16-06-2043	--	P5-FL-8-0	Fluoride	50/49	80-120	3	20	ND	UJ
16-06-2043	--	P5-FL-8-0	Chloride	66/77	80-120	16	20	ND	UJ
16-06-2043	--	P5-FL-8-0	Nitrate (as N)	65/76	80-120	15	20	14	J-
16-06-2043	--	P5-FL-8-0	Sulfate	50/60	80-120	10	20	47	J-
16-06-2043	--	DUP	Fluoride	50/49	80-120	3	20	6.6	J-
16-06-2043	--	DUP	Chloride	66/77	80-120	16	20	26	J-
16-06-2043	--	DUP	Nitrate (as N)	65/76	80-120	15	20	10000	J-
16-06-2043	--	DUP	Sulfate	50/60	80-120	10	20	26000	J-
16-06-2043	P1 MS/MSD	P1	Fluoride	24/28	80-120	12	20	2.2	J-
16-06-2043	P1 MS/MSD	P1	Chloride	52/129	80-120	32	20	760	J
16-06-2043	P1 MS/MSD	--	Nitrate (as N)	50/80	80-120	35	20	11	--
16-06-2043	P1 MS/MSD	P1	Sulfate	221/439	80-120	11	20	8000	J+
16-06-2043	--	P5	Fluoride	--	--	--	--	1.7	J-
16-06-2043	--	P5	Chloride	--	--	--	--	31	J
16-06-2043	--	P5	Sulfate	--	--	--	--	32	J+
16-06-2043	--	P4	Fluoride	--	--	--	--	ND	UJ
16-06-2043	--	P4	Chloride	--	--	--	--	ND	UJ
16-06-2043	--	P3	Fluoride	--	--	--	--	5.7	J-
16-06-2043	--	P3	Chloride	--	--	--	--	35	J
16-06-2043	--	P3	Sulfate	--	--	--	--	14000	J+
16-06-2043	--	P2	Fluoride	--	--	--	--	2.5	J-
16-06-2043	--	P2	Chloride	--	--	--	--	16	J
16-06-2043	--	P2	Sulfate	--	--	--	--	9500	J+
16-06-2043	P5 MS/MSD	P5	Antimony	19/20	50-115	7	20	ND	R
16-06-2043	P5 MS/MSD	--	Barium	4X/4X	75-125	4X	20	287	--
16-06-2043	P5 MS/MSD	P5	Thallium	59/69	75-125	15	20	ND	UJ
16-06-2043	P5 MS/MSD	P5	Lithium	5/-65	75-125	0	20	ND	R
16-06-2043	P5 MS/MSD	--	Calcium	4X/4X	75-125	4X	20	61700	--
16-06-2043	P5 MS/MSD	--	Magnesium	4X/4X	75-125	4X	20	7660	--
16-06-2043	P5 MS/MSD	--	Potassium	4X/4X	75-125	4X	20	2090	--
16-06-2043	P5 MS/MSD	--	Sodium	4X/4X	75-125	4X	20	12200	--

Table 2
Spike Recoveries Outside of Acceptable Limits
NRG Coolwater Soil Samples Collected June 2016
NRG Coolwater Facility
Daggett, California

Lab Package	Spike Sample ID	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	ERM Qualifier
16-06-2043	P5 MS/MSD	--	Boron	4X/4X	75-125	4X	20	260	--
16-06-2043	--	P4	Antimony	--	--	--	--	ND	UJ
16-06-2043	--	P4	Thallium	--	--	--	--	ND	UJ
16-06-2043	--	P4	Lithium	--	--	--	--	ND	UJ
16-06-2043	--	P3	Antimony	--	--	--	--	ND	UJ
16-06-2043	--	P3	Thallium	--	--	--	--	ND	UJ
16-06-2043	--	P3	Lithium	--	--	--	--	ND	UJ
16-06-2043	--	P2	Antimony	--	--	--	--	ND	UJ
16-06-2043	--	P2	Thallium	--	--	--	--	ND	UJ
16-06-2043	--	P2	Lithium	--	--	--	--	ND	UJ
16-06-2043	P1-FL-1-0 MS/MSD	P1-FL-1-0	Antimony	37/33	50-115	11	20	ND	UJ
16-06-2043	P1-FL-1-0 MS/MSD	--	Barium	4X/4X	75-125	4X	20	127	--
16-06-2043	P1-FL-1-0 MS/MSD	--	Zinc	129/103	75-125	12	20	26	--
16-06-2043	P1-FL-1-0 MS/MSD	--	Calcium	4X/4X	75-125	4X	20	5690	--
16-06-2043	P1-FL-1-0 MS/MSD	--	Magnesium	4X/4X	75-125	4X	20	2710	--
16-06-2043	P1-FL-1-0 MS/MSD	--	Potassium	4X/4X	75-125	4X	20	1530	--
16-06-2043	--	P1-FL-1-0	Antimony	--	--	--	--	ND	UJ
16-06-2043	--	P1-FL-2-0	Antimony	--	--	--	--	ND	UJ
16-06-2043	--	P1-FL-3-0	Antimony	--	--	--	--	ND	UJ
16-06-2043	--	P1-FL-4-0	Antimony	--	--	--	--	ND	UJ
16-06-2043	--	P1-FL-5-0	Antimony	--	--	--	--	ND	UJ
16-06-2043	--	P1-FL-6-0	Antimony	--	--	--	--	ND	UJ
16-06-2043	--	P1-FL-7-0	Antimony	--	--	--	--	ND	UJ
16-06-2043	--	P1-FL-8-0	Antimony	--	--	--	--	ND	UJ
16-06-2043-S1	Batch MS/MSD	--	Flouride	33/33	80-120	0	20	--	--
16-06-2043-S1	Batch MS/MSD	--	Nitrate (as N)	85/79	80-120	7	20	--	--
16-06-2043-S1	Batch MS/MSD	--	Sulfate	78/72	80-120	8	20	--	--
16-06-2043-S1	P5-FL-8-1 MS/MSD	--	TPH as Motor Oil	89/112	64-130	17	15	--	--
16-06-2043-S1	P5-FL-8-3 MS/MSD	P5-FL-8-3	Antimony	11/10	50-115	3	20	ND	R

Table 2
Spike Recoveries Outside of Acceptable Limits
NRG Coolwater Soil Samples Collected June 2016
NRG Coolwater Facility
Daggett, California

Lab Package	Spike Sample ID	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	ERM Qualifier
16-06-2043-S1	P5-FL-8-3 MS/MSD	--	Barium	4X/4X	75-125	4X	20	--	--
16-06-2043-S1	P5-FL-8-3 MS/MSD	--	Vanadium	67/84	75-125	7	20	--	--
16-06-2043-S1	P5-FL-8-3 MS/MSD	--	Calcium	4X/4X	75-125	4X	20	--	--
16-06-2043-S1	P5-FL-8-3 MS/MSD	--	Magnesium	4X/4X	75-125	4X	20	--	--
16-06-2043-S1	P5-FL-8-3 MS/MSD	--	Potassium	4X/4X	75-125	4X	20	--	--
16-06-2043-S1	--	P1-FL-1-1	Antimony	--	--	--	--	ND	UJ
16-06-2043-S1	--	P1-FL-1-3	Antimony	--	--	--	--	ND	UJ
16-06-2043-S1	--	P1-FL-2-1	Antimony	--	--	--	--	ND	UJ
16-06-2043-S1	--	P1-FL-2-3	Antimony	--	--	--	--	ND	UJ
16-06-2043-S1	--	P1-FL-3-1	Antimony	--	--	--	--	ND	UJ
16-06-2043-S1	--	P1-FL-3-3	Antimony	--	--	--	--	ND	UJ
16-06-2043-S1	--	P2-FL-4-1	Antimony	--	--	--	--	ND	UJ
16-06-2043-S1	--	P2-FL-4-3	Antimony	--	--	--	--	ND	UJ
16-06-2043-S1	--	P3-FL-5-1	Antimony	--	--	--	--	ND	UJ
16-06-2043-S1	--	P3-FL-5-3	Antimony	--	--	--	--	ND	UJ
16-06-2043-S1	--	P4-FL-6-1	Antimony	--	--	--	--	ND	UJ
16-06-2043-S1	--	P4-FL-6-3	Antimony	--	--	--	--	ND	UJ
16-06-2043-S1	--	P5-FL-7-1	Antimony	--	--	--	--	ND	UJ
16-06-2043-S1	--	P5-FL-7-3	Antimony	--	--	--	--	ND	UJ
16-06-2043-S1	--	P5-FL-8-1	Antimony	--	--	--	--	ND	UJ
16-06-2043-S1	Batch MS/MSD	--	Selenium	102/89	79-127	14	9	--	--

Key:
J = Estimated detected result
UJ = Nondetected, estimated report limit
J/UJ = Detected results are estimated; nondetected results are estimated at the report limit
R = Rejected result
RPD = Relative percent difference
NA = Not applicable; associated samples not qualified
ND = Not detected

Table 3
Field Duplicate Results and Calculated Relative Percent Differences
NRG Coolwater Soil Samples Collected June 2016
NRG Coolwater Facility
Daggett, California

Lab Package	Sample ID	Compound	Concentration		Report Limit	Units	RPD (%)
			Sample	Duplicate			
16-06-20443	P5-FL-7-0 / DUP	Fluoride	9	6.8	5	mg/Kg	27.8
		Chloride	14000	10000	500	mg/Kg	33.3
		Nitrate (as N)	27	26	5	mg/Kg	3.8
		Sulfate	20000	26000	500	mg/Kg	26.1
		Arsenic	21.6	21	0.75	mg/Kg	2.8
		Barium	120	115	0.5	mg/Kg	4.3
		Beryllium	0.295	0.267	0.25	mg/Kg	10.0
		Cadmium	0.674	0.661	0.5	mg/Kg	1.9
		Chromium	16	15.7	0.25	mg/Kg	1.9
		Cobalt	2.82	2.71	0.25	mg/Kg	4.0
		Copper	47.2	52	0.5	mg/Kg	9.7
		Lead	6.36	6.61	0.5	mg/Kg	3.9
		Molybdenum	3.27	4.39	0.25	mg/Kg	29.2
		Nickel	11.2	11.3	0.25	mg/Kg	0.9
		Selenium	21.4	29.9	0.75	mg/Kg	33.1
		Silver	1.06	0.987	0.25	mg/Kg	7.1
		Vanadium	22.4	22.4	0.25	mg/Kg	0.0
		Zinc	27.9	26.3	1	mg/Kg	5.9
		Calcium	176000	163000	50	mg/Kg	7.7
		Magnesium	16300	17800	5	mg/Kg	8.8
		Potassium	1030	1130	25	mg/Kg	9.3
		Sodium	24200	27900	25	mg/Kg	14.2
		Boron	606	747	1	mg/Kg	20.8
		TPH as Motor Oil	130	160	25	mg/Kg	20.7
		TPH as Diesel	53	53	5	mg/Kg	0.0
		pH	8.49	8.41	0.01	mg/Kg	0.9
		Solids, Total Dissolved	93000	101000	100	mg/Kg	8.2

Key:
mg/Kg = Milligrams per Kilogram
RPD = Relative percent difference

Table 4
Suspect TPH Results
NRG Coolwater Soil Samples Collected June 2016
NRG Coolwater Facility
Daggett, California

Lab Package	Sample ID	Compound	Reported Concentration	Units	ERM Qualifier	Notes
16-06-2043	P1-FL-3-0	TPH as Motor Oil	40	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P1-FL-3-0	TPH as Diesel	13	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P2-FL-4-0.5	TPH as Diesel	10	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P3-FL-5-0	TPH as Motor Oil	29	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P3-FL-5-0	TPH as Diesel	10	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P4-FL-6-0	TPH as Motor Oil	28	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P4-FL-6-0	TPH as Diesel	7.2	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P4-FL-6-0.5	TPH as Motor Oil	31	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P4-FL-6-0.5	TPH as Diesel	11	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P5-FL-7-0	TPH as Motor Oil	130	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P5-FL-7-0	TPH as Diesel	53	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P5-FL-7-0.5	TPH as Motor Oil	36	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P5-FL-7-0.5	TPH as Diesel	11	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.

Table 4
Suspect TPH Results
NRG Coolwater Soil Samples Collected June 2016
NRG Coolwater Facility
Daggett, California

Lab Package	Sample ID	Compound	Reported Concentration	Units	ERM Qualifier	Notes
16-06-2043	P5-FL-8-0	TPH as Motor Oil	2600	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P5-FL-8-0	TPH as Diesel	620	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P5-FL-8-0.5	TPH as Motor Oil	480	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	DUP	TPH as Motor Oil	160	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	DUP	TPH as Diesel	53	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P5	TPH as Motor Oil	260	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P5	TPH as Diesel	84	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P4	TPH as Motor Oil	280	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P4	TPH as Diesel	110	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P3	TPH as Motor Oil	71	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P3	TPH as Diesel	27	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P2	TPH as Motor Oil	34	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P2	TPH as Diesel	10	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.

Table 4
Suspect TPH Results
NRG Coolwater Soil Samples Collected June 2016
NRG Coolwater Facility
Daggett, California

Lab Package	Sample ID	Compound	Reported Concentration	Units	ERM Qualifier	Notes
16-06-2043	P1	TPH as Motor Oil	28	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043	P1	TPH as Diesel	11	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043-S1	P5-FL-8-1	TPH as Motor Oil	170	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
16-06-2043-S1	P5-FL-8-1	TPH as Diesel	41	mg/Kg	NJ	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.

Key:
mg/kg = Milligrams per kilogram
NJ = Tentatively Identified Estimated value - chromatogram did not resemble the standard hydrocarbon pattern
TPH = Total petroleum hydrocarbons

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WORK ORDER NUMBER: 16-06-2043

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: ERM-WEST

Client Project Name: NRG Coolwater

Attention: Steve Williams
2875 Michelle Dr.
Suite 200
Irvine, CA 92606-1021

Approved for release on 07/18/2016 by:
Virendra Patel
Project Manager

ResultLink

Email your PM

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Work Order Narrative

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Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 06/28/16. They were assigned to Work Order 16-06-2043.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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Sample Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	PO Number:	
		Date/Time Received:	06/28/16 18:40
		Number of Containers:	127
Attn:	Steve Williams		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
P5-1	16-06-2043-1	06/27/16 07:25	2	Solid
P5-2	16-06-2043-2	06/27/16 07:30	2	Solid
P5-3	16-06-2043-3	06/27/16 07:35	2	Solid
P5-4	16-06-2043-4	06/27/16 07:40	2	Solid
P5-5	16-06-2043-5	06/27/16 07:45	2	Solid
P4-1	16-06-2043-6	06/27/16 08:15	2	Solid
P4-2	16-06-2043-7	06/27/16 08:20	2	Solid
P4-3	16-06-2043-8	06/27/16 08:25	2	Solid
P4-4	16-06-2043-9	06/27/16 08:30	2	Solid
P4-5	16-06-2043-10	06/27/16 08:35	2	Solid
P3-1	16-06-2043-11	06/27/16 08:20	2	Solid
P3-2	16-06-2043-12	06/27/16 08:25	2	Solid
P3-3	16-06-2043-13	06/27/16 08:40	2	Solid
P3-4	16-06-2043-14	06/27/16 08:30	2	Solid
P3-5	16-06-2043-15	06/27/16 08:35	2	Solid
P2-1	16-06-2043-16	06/27/16 09:05	2	Solid
P2-2	16-06-2043-17	06/27/16 09:10	2	Solid
P2-3	16-06-2043-18	06/27/16 09:15	2	Solid
P2-4	16-06-2043-19	06/27/16 09:20	2	Solid
P2-5	16-06-2043-20	06/27/16 09:25	2	Solid
P1-1	16-06-2043-21	06/27/16 09:00	2	Solid
P1-2	16-06-2043-22	06/27/16 09:05	2	Solid
P1-3	16-06-2043-23	06/27/16 09:10	2	Solid
P1-4	16-06-2043-24	06/27/16 09:15	2	Solid
P1-5	16-06-2043-25	06/27/16 09:20	2	Solid
P1-FL-1-0	16-06-2043-26	06/27/16 14:40	2	Solid
P1-FL-1-0.5	16-06-2043-27	06/27/16 14:45	2	Solid
P1-FL-1-1	16-06-2043-28	06/27/16 14:50	2	Solid
P1-FL-1-3	16-06-2043-29	06/27/16 14:55	2	Solid
P1-FL-2-0	16-06-2043-30	06/27/16 14:15	2	Solid
P1-FL-2-0.5	16-06-2043-31	06/27/16 14:20	2	Solid
P1-FL-2-1	16-06-2043-32	06/27/16 14:25	2	Solid
P1-FL-2-3	16-06-2043-33	06/27/16 14:30	2	Solid
P1-FL-3-0	16-06-2043-34	06/27/16 13:45	2	Solid
P1-FL-3-0.5	16-06-2043-35	06/27/16 13:50	2	Solid
P1-FL-3-1	16-06-2043-36	06/27/16 13:55	2	Solid
P1-FL-3-3	16-06-2043-37	06/27/16 14:00	2	Solid
P2-FL-4.0	16-06-2043-38	06/27/16 13:20	2	Solid
P2-FL-4-0.5	16-06-2043-39	06/27/16 13:25	2	Solid
P2-FL-4-1	16-06-2043-40	06/27/16 13:30	2	Solid
P2-FL-4-3	16-06-2043-41	06/27/16 13:35	2	Solid
P3-FL-5-0	16-06-2043-42	06/27/16 11:30	2	Solid

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Sample Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	PO Number:	
		Date/Time Received:	06/28/16 18:40
		Number of Containers:	127
Attn:	Steve Williams		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
P3-FL-5-0.5	16-06-2043-43	06/27/16 11:35	2	Solid
P3-FL-5-1	16-06-2043-44	06/27/16 11:40	2	Solid
P3-FL-5-3	16-06-2043-45	06/27/16 11:45	2	Solid
P4-FL-6-0	16-06-2043-46	06/27/16 11:00	2	Solid
P4-FL-6-0.5	16-06-2043-47	06/27/16 11:05	2	Solid
P4-FL-6-1	16-06-2043-48	06/27/16 11:10	2	Solid
P4-FL-6-3	16-06-2043-49	06/27/16 11:15	2	Solid
P5-FL-7-0	16-06-2043-50	06/27/16 10:45	2	Solid
P5-FL-7-0.5	16-06-2043-51	06/27/16 10:50	2	Solid
P5-FL-7-1	16-06-2043-52	06/27/16 10:55	2	Solid
P5-FL-7-3	16-06-2043-53	06/27/16 11:00	2	Solid
P5-FL-8-0	16-06-2043-54	06/27/16 10:00	2	Solid
P5-FL-8-0.5	16-06-2043-55	06/27/16 10:05	2	Solid
P5-FL-8-1	16-06-2043-56	06/27/16 10:10	2	Solid
P5-FL-8-3	16-06-2043-57	06/27/16 10:15	2	Solid
B-1	16-06-2043-58	06/27/16 15:25	2	Solid
B-2	16-06-2043-59	06/27/16 15:15	2	Solid
DUP	16-06-2043-60	06/27/16 00:00	2	Solid
B-3	16-06-2043-61	06/27/16 15:30	2	Solid
P5	16-06-2043-62	06/27/16 00:00	1	Solid
P4	16-06-2043-63	06/27/16 00:00	1	Solid
P3	16-06-2043-64	06/27/16 00:00	1	Solid
P2	16-06-2043-65	06/27/16 00:00	1	Solid
P1	16-06-2043-66	06/27/16 00:00	1	Solid

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P1-FL-1-0 (16-06-2043-26)						
Nitrate (as N)	2.7		1.0	mg/kg	EPA 300.0	N/A
Sulfate	230		10	mg/kg	EPA 300.0	N/A
Arsenic	2.22		0.761	mg/kg	EPA 6010B	EPA 3050B
Barium	127		0.508	mg/kg	EPA 6010B	EPA 3050B
Chromium	5.09		0.254	mg/kg	EPA 6010B	EPA 3050B
Cobalt	3.47		0.254	mg/kg	EPA 6010B	EPA 3050B
Copper	5.73		0.508	mg/kg	EPA 6010B	EPA 3050B
Lead	3.67		0.508	mg/kg	EPA 6010B	EPA 3050B
Nickel	3.89		0.254	mg/kg	EPA 6010B	EPA 3050B
Vanadium	17.1		0.254	mg/kg	EPA 6010B	EPA 3050B
Zinc	26.4		1.02	mg/kg	EPA 6010B	EPA 3050B
Calcium	5690		5.08	mg/kg	EPA 6010B	EPA 3050B
Magnesium	2710		5.08	mg/kg	EPA 6010B	EPA 3050B
Potassium	1530		25.4	mg/kg	EPA 6010B	EPA 3050B
Sodium	92.8		25.4	mg/kg	EPA 6010B	EPA 3050B
Boron	4.19		1.02	mg/kg	EPA 6010B	EPA 3050B
pH	6.34		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	4070		10.0	mg/kg	SM 2540 C (M)	N/A
P1-FL-1-0.5 (16-06-2043-27)						
Nitrate (as N)	1.2		1.0	mg/kg	EPA 300.0	N/A
Sulfate	77		10	mg/kg	EPA 300.0	N/A
Arsenic	3.27		0.728	mg/kg	EPA 6010B	EPA 3050B
Barium	94.5		0.485	mg/kg	EPA 6010B	EPA 3050B
Chromium	4.93		0.243	mg/kg	EPA 6010B	EPA 3050B
Cobalt	3.20		0.243	mg/kg	EPA 6010B	EPA 3050B
Copper	5.19		0.485	mg/kg	EPA 6010B	EPA 3050B
Lead	3.24		0.485	mg/kg	EPA 6010B	EPA 3050B
Nickel	3.47		0.243	mg/kg	EPA 6010B	EPA 3050B
Vanadium	18.5		0.243	mg/kg	EPA 6010B	EPA 3050B
Zinc	22.5		0.971	mg/kg	EPA 6010B	EPA 3050B
Calcium	5110		4.85	mg/kg	EPA 6010B	EPA 3050B
Magnesium	2380		4.85	mg/kg	EPA 6010B	EPA 3050B
Potassium	1440		24.3	mg/kg	EPA 6010B	EPA 3050B
Sodium	90.7		24.3	mg/kg	EPA 6010B	EPA 3050B
Boron	2.64		0.971	mg/kg	EPA 6010B	EPA 3050B
Mercury	0.0846		0.0794	mg/kg	EPA 7471A	EPA 7471A Total
pH	6.53		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	5350		10.0	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P1-FL-2-0 (16-06-2043-30)						
Fluoride	1.8		1.0	mg/kg	EPA 300.0	N/A
Chloride	86		10	mg/kg	EPA 300.0	N/A
Nitrate (as N)	5.1		1.0	mg/kg	EPA 300.0	N/A
Sulfate	4700		100	mg/kg	EPA 300.0	N/A
Arsenic	7.25		0.725	mg/kg	EPA 6010B	EPA 3050B
Barium	95.0		0.483	mg/kg	EPA 6010B	EPA 3050B
Chromium	6.25		0.242	mg/kg	EPA 6010B	EPA 3050B
Cobalt	3.25		0.242	mg/kg	EPA 6010B	EPA 3050B
Copper	10.7		0.483	mg/kg	EPA 6010B	EPA 3050B
Lead	2.32		0.483	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.53		0.242	mg/kg	EPA 6010B	EPA 3050B
Vanadium	21.7		0.242	mg/kg	EPA 6010B	EPA 3050B
Zinc	26.0		0.966	mg/kg	EPA 6010B	EPA 3050B
Calcium	37700		4.83	mg/kg	EPA 6010B	EPA 3050B
Magnesium	4870		4.83	mg/kg	EPA 6010B	EPA 3050B
Potassium	1690		24.2	mg/kg	EPA 6010B	EPA 3050B
Sodium	684		24.2	mg/kg	EPA 6010B	EPA 3050B
Boron	47.9		0.966	mg/kg	EPA 6010B	EPA 3050B
pH	6.36		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	22000		100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P1-FL-2-0.5 (16-06-2043-31)						
Chloride	450		10	mg/kg	EPA 300.0	N/A
Nitrate (as N)	68		1.0	mg/kg	EPA 300.0	N/A
Sulfate	4100		50	mg/kg	EPA 300.0	N/A
Arsenic	5.24		0.750	mg/kg	EPA 6010B	EPA 3050B
Barium	89.7		0.500	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.281		0.250	mg/kg	EPA 6010B	EPA 3050B
Chromium	5.99		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	3.33		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	8.50		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	2.64		0.500	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.10		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	17.8		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	23.8		1.00	mg/kg	EPA 6010B	EPA 3050B
Calcium	21100		5.00	mg/kg	EPA 6010B	EPA 3050B
Magnesium	3730		5.00	mg/kg	EPA 6010B	EPA 3050B
Potassium	1830		25.0	mg/kg	EPA 6010B	EPA 3050B
Sodium	1060		25.0	mg/kg	EPA 6010B	EPA 3050B
Boron	26.5		1.00	mg/kg	EPA 6010B	EPA 3050B
pH	6.59		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	18100		100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		Page 4 of 24

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P1-FL-3-0 (16-06-2043-34)						
Fluoride	2.4		1.0	mg/kg	EPA 300.0	N/A
Chloride	98		10	mg/kg	EPA 300.0	N/A
Nitrate (as N)	11		1.0	mg/kg	EPA 300.0	N/A
Sulfate	7600		100	mg/kg	EPA 300.0	N/A
Arsenic	12.5		0.761	mg/kg	EPA 6010B	EPA 3050B
Barium	103		0.508	mg/kg	EPA 6010B	EPA 3050B
Chromium	9.60		0.254	mg/kg	EPA 6010B	EPA 3050B
Cobalt	2.71		0.254	mg/kg	EPA 6010B	EPA 3050B
Copper	38.1		0.508	mg/kg	EPA 6010B	EPA 3050B
Lead	1.28		0.508	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	0.304		0.254	mg/kg	EPA 6010B	EPA 3050B
Nickel	10.1		0.254	mg/kg	EPA 6010B	EPA 3050B
Silver	0.534		0.254	mg/kg	EPA 6010B	EPA 3050B
Vanadium	19.4		0.254	mg/kg	EPA 6010B	EPA 3050B
Zinc	58.9		1.02	mg/kg	EPA 6010B	EPA 3050B
Calcium	93600		50.8	mg/kg	EPA 6010B	EPA 3050B
Magnesium	8560		5.08	mg/kg	EPA 6010B	EPA 3050B
Potassium	1610		25.4	mg/kg	EPA 6010B	EPA 3050B
Sodium	1140		25.4	mg/kg	EPA 6010B	EPA 3050B
Boron	148		1.02	mg/kg	EPA 6010B	EPA 3050B
TPH as Motor Oil	40	HD	25	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	13	HD	5.0	mg/kg	EPA 8015B (M)	EPA 3550B
pH	7.24		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	23400		100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		Page 5 of 24

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P1-FL-3-0.5 (16-06-2043-35)						
Chloride	280		10	mg/kg	EPA 300.0	N/A
Nitrate (as N)	13		1.0	mg/kg	EPA 300.0	N/A
Sulfate	2200		50	mg/kg	EPA 300.0	N/A
Arsenic	4.36		0.781	mg/kg	EPA 6010B	EPA 3050B
Barium	69.4		0.521	mg/kg	EPA 6010B	EPA 3050B
Chromium	6.06		0.260	mg/kg	EPA 6010B	EPA 3050B
Cobalt	3.46		0.260	mg/kg	EPA 6010B	EPA 3050B
Copper	11.3		0.521	mg/kg	EPA 6010B	EPA 3050B
Lead	2.55		0.521	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	0.277		0.260	mg/kg	EPA 6010B	EPA 3050B
Nickel	4.79		0.260	mg/kg	EPA 6010B	EPA 3050B
Vanadium	20.5		0.260	mg/kg	EPA 6010B	EPA 3050B
Zinc	20.6		1.04	mg/kg	EPA 6010B	EPA 3050B
Calcium	21500		5.21	mg/kg	EPA 6010B	EPA 3050B
Magnesium	3480		5.21	mg/kg	EPA 6010B	EPA 3050B
Potassium	1750		26.0	mg/kg	EPA 6010B	EPA 3050B
Sodium	1360		26.0	mg/kg	EPA 6010B	EPA 3050B
Boron	31.5		1.04	mg/kg	EPA 6010B	EPA 3050B
pH	7.42		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	23600		100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P2-FL-4.0 (16-06-2043-38)						
Fluoride	1.1		1.0	mg/kg	EPA 300.0	N/A
Chloride	950		200	mg/kg	EPA 300.0	N/A
Nitrate (as N)	160		20	mg/kg	EPA 300.0	N/A
Sulfate	8700		200	mg/kg	EPA 300.0	N/A
Arsenic	5.71		0.781	mg/kg	EPA 6010B	EPA 3050B
Barium	69.3		0.521	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.274		0.260	mg/kg	EPA 6010B	EPA 3050B
Chromium	6.51		0.260	mg/kg	EPA 6010B	EPA 3050B
Cobalt	3.39		0.260	mg/kg	EPA 6010B	EPA 3050B
Copper	13.2		0.521	mg/kg	EPA 6010B	EPA 3050B
Lead	2.33		0.521	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	0.293		0.260	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.37		0.260	mg/kg	EPA 6010B	EPA 3050B
Vanadium	18.9		0.260	mg/kg	EPA 6010B	EPA 3050B
Zinc	23.2		1.04	mg/kg	EPA 6010B	EPA 3050B
Calcium	33800		5.21	mg/kg	EPA 6010B	EPA 3050B
Magnesium	5020		5.21	mg/kg	EPA 6010B	EPA 3050B
Potassium	1700		26.0	mg/kg	EPA 6010B	EPA 3050B
Sodium	3420		26.0	mg/kg	EPA 6010B	EPA 3050B
Boron	81.0		1.04	mg/kg	EPA 6010B	EPA 3050B
pH	7.49		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	30100		100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P2-FL-4-0.5 (16-06-2043-39)						
Chloride	1500		100	mg/kg	EPA 300.0	N/A
Nitrate (as N)	250		10	mg/kg	EPA 300.0	N/A
Sulfate	4100		100	mg/kg	EPA 300.0	N/A
Arsenic	3.64		0.761	mg/kg	EPA 6010B	EPA 3050B
Barium	67.2		0.508	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.301		0.254	mg/kg	EPA 6010B	EPA 3050B
Chromium	6.33		0.254	mg/kg	EPA 6010B	EPA 3050B
Cobalt	3.78		0.254	mg/kg	EPA 6010B	EPA 3050B
Copper	8.43		0.508	mg/kg	EPA 6010B	EPA 3050B
Lead	2.63		0.508	mg/kg	EPA 6010B	EPA 3050B
Nickel	4.63		0.254	mg/kg	EPA 6010B	EPA 3050B
Vanadium	20.3		0.254	mg/kg	EPA 6010B	EPA 3050B
Zinc	22.4		1.02	mg/kg	EPA 6010B	EPA 3050B
Calcium	16200		5.08	mg/kg	EPA 6010B	EPA 3050B
Magnesium	3740		5.08	mg/kg	EPA 6010B	EPA 3050B
Potassium	1790		25.4	mg/kg	EPA 6010B	EPA 3050B
Sodium	2890		25.4	mg/kg	EPA 6010B	EPA 3050B
Boron	23.8		1.02	mg/kg	EPA 6010B	EPA 3050B
TPH as Diesel	10	HD	5.0	mg/kg	EPA 8015B (M)	EPA 3550B
pH	7.80		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	26100		100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		Page 8 of 24

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P3-FL-5-0 (16-06-2043-42)						
Fluoride	4.6		2.0	mg/kg	EPA 300.0	N/A
Chloride	4900		400	mg/kg	EPA 300.0	N/A
Nitrate (as N)	36		2.0	mg/kg	EPA 300.0	N/A
Sulfate	19000		400	mg/kg	EPA 300.0	N/A
Arsenic	22.2		0.789	mg/kg	EPA 6010B	EPA 3050B
Barium	127		0.526	mg/kg	EPA 6010B	EPA 3050B
Cadmium	0.609		0.526	mg/kg	EPA 6010B	EPA 3050B
Chromium	12.6		0.263	mg/kg	EPA 6010B	EPA 3050B
Cobalt	2.41		0.263	mg/kg	EPA 6010B	EPA 3050B
Copper	47.5		0.526	mg/kg	EPA 6010B	EPA 3050B
Lead	6.08		0.526	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	1.94		0.263	mg/kg	EPA 6010B	EPA 3050B
Nickel	11.5		0.263	mg/kg	EPA 6010B	EPA 3050B
Selenium	5.97		0.789	mg/kg	EPA 6010B	EPA 3050B
Silver	1.05		0.263	mg/kg	EPA 6010B	EPA 3050B
Vanadium	17.3		0.263	mg/kg	EPA 6010B	EPA 3050B
Zinc	35.4		1.05	mg/kg	EPA 6010B	EPA 3050B
Calcium	183000		52.6	mg/kg	EPA 6010B	EPA 3050B
Magnesium	10500		5.26	mg/kg	EPA 6010B	EPA 3050B
Potassium	1410		26.3	mg/kg	EPA 6010B	EPA 3050B
Sodium	16900		26.3	mg/kg	EPA 6010B	EPA 3050B
Boron	433		1.05	mg/kg	EPA 6010B	EPA 3050B
TPH as Motor Oil	29	HD	25	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	10	HD	5.0	mg/kg	EPA 8015B (M)	EPA 3550B
pH	8.28		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	78400		100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P3-FL-5-0.5 (16-06-2043-43)						
Fluoride	4.4		1.0	mg/kg	EPA 300.0	N/A
Chloride	910		10	mg/kg	EPA 300.0	N/A
Sulfate	14000		200	mg/kg	EPA 300.0	N/A
Arsenic	12.8		0.739	mg/kg	EPA 6010B	EPA 3050B
Barium	86.2		0.493	mg/kg	EPA 6010B	EPA 3050B
Chromium	6.82		0.246	mg/kg	EPA 6010B	EPA 3050B
Cobalt	1.42		0.246	mg/kg	EPA 6010B	EPA 3050B
Copper	26.5		0.493	mg/kg	EPA 6010B	EPA 3050B
Lead	3.26		0.493	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	0.895		0.246	mg/kg	EPA 6010B	EPA 3050B
Nickel	6.40		0.246	mg/kg	EPA 6010B	EPA 3050B
Selenium	3.34		0.739	mg/kg	EPA 6010B	EPA 3050B
Silver	0.583		0.246	mg/kg	EPA 6010B	EPA 3050B
Vanadium	9.59		0.246	mg/kg	EPA 6010B	EPA 3050B
Zinc	21.2		0.985	mg/kg	EPA 6010B	EPA 3050B
Calcium	108000		49.3	mg/kg	EPA 6010B	EPA 3050B
Magnesium	5840		4.93	mg/kg	EPA 6010B	EPA 3050B
Potassium	683		24.6	mg/kg	EPA 6010B	EPA 3050B
Sodium	3580		24.6	mg/kg	EPA 6010B	EPA 3050B
Boron	207		0.985	mg/kg	EPA 6010B	EPA 3050B
pH	7.86		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	50900		100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		Page 10 of 24

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Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P4-FL-6-0 (16-06-2043-46)						
Fluoride	4.2		1.0	mg/kg	EPA 300.0	N/A
Chloride	750		10	mg/kg	EPA 300.0	N/A
Nitrate (as N)	9.1		1.0	mg/kg	EPA 300.0	N/A
Sulfate	8300		200	mg/kg	EPA 300.0	N/A
Arsenic	21.2		0.714	mg/kg	EPA 6010B	EPA 3050B
Barium	123		0.476	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.247		0.238	mg/kg	EPA 6010B	EPA 3050B
Cadmium	0.613		0.476	mg/kg	EPA 6010B	EPA 3050B
Chromium	13.2		0.238	mg/kg	EPA 6010B	EPA 3050B
Cobalt	2.45		0.238	mg/kg	EPA 6010B	EPA 3050B
Copper	41.2		0.476	mg/kg	EPA 6010B	EPA 3050B
Lead	4.69		0.476	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	1.04		0.238	mg/kg	EPA 6010B	EPA 3050B
Nickel	10.3		0.238	mg/kg	EPA 6010B	EPA 3050B
Selenium	8.19		0.714	mg/kg	EPA 6010B	EPA 3050B
Silver	0.924		0.238	mg/kg	EPA 6010B	EPA 3050B
Vanadium	18.9		0.238	mg/kg	EPA 6010B	EPA 3050B
Zinc	34.0		0.952	mg/kg	EPA 6010B	EPA 3050B
Calcium	203000		47.6	mg/kg	EPA 6010B	EPA 3050B
Magnesium	11300		4.76	mg/kg	EPA 6010B	EPA 3050B
Potassium	1100		23.8	mg/kg	EPA 6010B	EPA 3050B
Sodium	6360		23.8	mg/kg	EPA 6010B	EPA 3050B
Boron	407		0.952	mg/kg	EPA 6010B	EPA 3050B
TPH as Motor Oil	28	HD	25	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	7.2	HD	5.0	mg/kg	EPA 8015B (M)	EPA 3550B
pH	8.32		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	39400		100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

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Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P4-FL-6-0.5 (16-06-2043-47)						
Fluoride	2.9		1.0	mg/kg	EPA 300.0	N/A
Chloride	870		100	mg/kg	EPA 300.0	N/A
Nitrate (as N)	17		1.0	mg/kg	EPA 300.0	N/A
Sulfate	7600		100	mg/kg	EPA 300.0	N/A
Arsenic	11.6		0.765	mg/kg	EPA 6010B	EPA 3050B
Barium	118		0.510	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.425		0.255	mg/kg	EPA 6010B	EPA 3050B
Cadmium	0.520		0.510	mg/kg	EPA 6010B	EPA 3050B
Chromium	11.9		0.255	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.78		0.255	mg/kg	EPA 6010B	EPA 3050B
Copper	23.0		0.510	mg/kg	EPA 6010B	EPA 3050B
Lead	5.77		0.510	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	0.479		0.255	mg/kg	EPA 6010B	EPA 3050B
Nickel	8.61		0.255	mg/kg	EPA 6010B	EPA 3050B
Selenium	3.67		0.765	mg/kg	EPA 6010B	EPA 3050B
Silver	0.408		0.255	mg/kg	EPA 6010B	EPA 3050B
Vanadium	26.5		0.255	mg/kg	EPA 6010B	EPA 3050B
Zinc	38.3		1.02	mg/kg	EPA 6010B	EPA 3050B
Calcium	77900		51.0	mg/kg	EPA 6010B	EPA 3050B
Magnesium	7670		5.10	mg/kg	EPA 6010B	EPA 3050B
Potassium	2120		25.5	mg/kg	EPA 6010B	EPA 3050B
Sodium	5080		25.5	mg/kg	EPA 6010B	EPA 3050B
Boron	183		1.02	mg/kg	EPA 6010B	EPA 3050B
TPH as Motor Oil	31	HD	25	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	11	HD	5.0	mg/kg	EPA 8015B (M)	EPA 3550B
pH	8.22		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	27200		100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

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Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P5-FL-7-0 (16-06-2043-50)						
Fluoride	9.0		5.0	mg/kg	EPA 300.0	N/A
Chloride	14000		500	mg/kg	EPA 300.0	N/A
Nitrate (as N)	27		5.0	mg/kg	EPA 300.0	N/A
Sulfate	20000		500	mg/kg	EPA 300.0	N/A
Arsenic	21.6		0.750	mg/kg	EPA 6010B	EPA 3050B
Barium	120		0.500	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.295		0.250	mg/kg	EPA 6010B	EPA 3050B
Cadmium	0.674		0.500	mg/kg	EPA 6010B	EPA 3050B
Chromium	16.0		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	2.82		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	47.2		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	6.36		0.500	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	3.27		0.250	mg/kg	EPA 6010B	EPA 3050B
Nickel	11.2		0.250	mg/kg	EPA 6010B	EPA 3050B
Selenium	21.4		0.750	mg/kg	EPA 6010B	EPA 3050B
Silver	1.06		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	22.4		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	27.9		1.00	mg/kg	EPA 6010B	EPA 3050B
Calcium	176000		50.0	mg/kg	EPA 6010B	EPA 3050B
Magnesium	16300		5.00	mg/kg	EPA 6010B	EPA 3050B
Potassium	1030		25.0	mg/kg	EPA 6010B	EPA 3050B
Sodium	24200		25.0	mg/kg	EPA 6010B	EPA 3050B
Boron	606		1.00	mg/kg	EPA 6010B	EPA 3050B
TPH as Motor Oil	130	HD	25	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	53	HD	5.0	mg/kg	EPA 8015B (M)	EPA 3550B
pH	8.49		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	93000		100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

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Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P5-FL-7-0.5 (16-06-2043-51)						
Fluoride	4.8		2.0	mg/kg	EPA 300.0	N/A
Chloride	3700		200	mg/kg	EPA 300.0	N/A
Nitrate (as N)	28		2.0	mg/kg	EPA 300.0	N/A
Sulfate	13000		200	mg/kg	EPA 300.0	N/A
Arsenic	9.50		0.765	mg/kg	EPA 6010B	EPA 3050B
Barium	80.7		0.510	mg/kg	EPA 6010B	EPA 3050B
Chromium	7.47		0.255	mg/kg	EPA 6010B	EPA 3050B
Cobalt	2.48		0.255	mg/kg	EPA 6010B	EPA 3050B
Copper	20.5		0.510	mg/kg	EPA 6010B	EPA 3050B
Lead	3.86		0.510	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	1.20		0.255	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.67		0.255	mg/kg	EPA 6010B	EPA 3050B
Selenium	6.73		0.765	mg/kg	EPA 6010B	EPA 3050B
Silver	0.410		0.255	mg/kg	EPA 6010B	EPA 3050B
Vanadium	15.1		0.255	mg/kg	EPA 6010B	EPA 3050B
Zinc	22.5		1.02	mg/kg	EPA 6010B	EPA 3050B
Calcium	64400		51.0	mg/kg	EPA 6010B	EPA 3050B
Magnesium	7000		5.10	mg/kg	EPA 6010B	EPA 3050B
Potassium	1230		25.5	mg/kg	EPA 6010B	EPA 3050B
Sodium	9430		25.5	mg/kg	EPA 6010B	EPA 3050B
Boron	219		1.02	mg/kg	EPA 6010B	EPA 3050B
TPH as Motor Oil	36	HD	25	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	11	HD	5.0	mg/kg	EPA 8015B (M)	EPA 3550B
pH	8.46		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	59200		100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

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Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P5-FL-8-0 (16-06-2043-54)						
Nitrate (as N)	14		1.0	mg/kg	EPA 300.0	N/A
Sulfate	47		10	mg/kg	EPA 300.0	N/A
Arsenic	5.03		0.769	mg/kg	EPA 6010B	EPA 3050B
Barium	131		0.513	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.544		0.256	mg/kg	EPA 6010B	EPA 3050B
Chromium	10.2		0.256	mg/kg	EPA 6010B	EPA 3050B
Cobalt	6.72		0.256	mg/kg	EPA 6010B	EPA 3050B
Copper	11.7		0.513	mg/kg	EPA 6010B	EPA 3050B
Lead	6.24		0.513	mg/kg	EPA 6010B	EPA 3050B
Nickel	8.55		0.256	mg/kg	EPA 6010B	EPA 3050B
Vanadium	36.2		0.256	mg/kg	EPA 6010B	EPA 3050B
Zinc	55.4		1.03	mg/kg	EPA 6010B	EPA 3050B
Lithium	2.87		2.56	mg/kg	EPA 6010B	EPA 3050B
Calcium	11500		5.13	mg/kg	EPA 6010B	EPA 3050B
Magnesium	5580		5.13	mg/kg	EPA 6010B	EPA 3050B
Potassium	2530		25.6	mg/kg	EPA 6010B	EPA 3050B
Sodium	191		25.6	mg/kg	EPA 6010B	EPA 3050B
Boron	9.29		1.03	mg/kg	EPA 6010B	EPA 3050B
TPH as Motor Oil	2600	HD	620	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	620	HD	120	mg/kg	EPA 8015B (M)	EPA 3550B
pH	8.12		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	2800		10.0	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
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Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P5-FL-8-0.5 (16-06-2043-55)						
Nitrate (as N)	10		1.0	mg/kg	EPA 300.0	N/A
Sulfate	36		10	mg/kg	EPA 300.0	N/A
Arsenic	5.81		0.769	mg/kg	EPA 6010B	EPA 3050B
Barium	151		0.513	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.624		0.256	mg/kg	EPA 6010B	EPA 3050B
Chromium	11.8		0.256	mg/kg	EPA 6010B	EPA 3050B
Cobalt	8.01		0.256	mg/kg	EPA 6010B	EPA 3050B
Copper	13.3		0.513	mg/kg	EPA 6010B	EPA 3050B
Lead	6.85		0.513	mg/kg	EPA 6010B	EPA 3050B
Nickel	8.91		0.256	mg/kg	EPA 6010B	EPA 3050B
Vanadium	43.3		0.256	mg/kg	EPA 6010B	EPA 3050B
Zinc	65.6		1.03	mg/kg	EPA 6010B	EPA 3050B
Lithium	2.64		2.56	mg/kg	EPA 6010B	EPA 3050B
Calcium	14000		5.13	mg/kg	EPA 6010B	EPA 3050B
Magnesium	6370		5.13	mg/kg	EPA 6010B	EPA 3050B
Potassium	2540		25.6	mg/kg	EPA 6010B	EPA 3050B
Sodium	250		25.6	mg/kg	EPA 6010B	EPA 3050B
Boron	8.75		1.03	mg/kg	EPA 6010B	EPA 3050B
TPH as Motor Oil	480	HD	120	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	110		25	mg/kg	EPA 8015B (M)	EPA 3550B
pH	7.17	BU	0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	9800		10.0	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

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Analyte	Result	Qualifiers	RL	Units	Method	Extraction
B-1 (16-06-2043-58)						
Nitrate (as N)	2.0		1.0	mg/kg	EPA 300.0	N/A
Arsenic	3.04		0.765	mg/kg	EPA 6010B	EPA 3050B
Barium	79.8		0.510	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.363		0.255	mg/kg	EPA 6010B	EPA 3050B
Chromium	7.35		0.255	mg/kg	EPA 6010B	EPA 3050B
Cobalt	5.44		0.255	mg/kg	EPA 6010B	EPA 3050B
Copper	7.77		0.510	mg/kg	EPA 6010B	EPA 3050B
Lead	3.78		0.510	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.45		0.255	mg/kg	EPA 6010B	EPA 3050B
Vanadium	23.8		0.255	mg/kg	EPA 6010B	EPA 3050B
Zinc	32.0		1.02	mg/kg	EPA 6010B	EPA 3050B
Lithium	4.07		2.55	mg/kg	EPA 6010B	EPA 3050B
Calcium	9580		5.10	mg/kg	EPA 6010B	EPA 3050B
Magnesium	3970		5.10	mg/kg	EPA 6010B	EPA 3050B
Potassium	2070		25.5	mg/kg	EPA 6010B	EPA 3050B
Sodium	144		25.5	mg/kg	EPA 6010B	EPA 3050B
Boron	3.36		1.02	mg/kg	EPA 6010B	EPA 3050B
pH	7.42	BU	0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	15000		100	mg/kg	SM 2540 C (M)	N/A

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Analyte	Result	Qualifiers	RL	Units	Method	Extraction
B-2 (16-06-2043-59)						
Chloride	23		10	mg/kg	EPA 300.0	N/A
Nitrate (as N)	40		1.0	mg/kg	EPA 300.0	N/A
Sulfate	45		10	mg/kg	EPA 300.0	N/A
Arsenic	2.75		0.754	mg/kg	EPA 6010B	EPA 3050B
Barium	102		0.503	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.300		0.251	mg/kg	EPA 6010B	EPA 3050B
Chromium	6.17		0.251	mg/kg	EPA 6010B	EPA 3050B
Cobalt	3.84		0.251	mg/kg	EPA 6010B	EPA 3050B
Copper	7.08		0.503	mg/kg	EPA 6010B	EPA 3050B
Lead	3.95		0.503	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.16		0.251	mg/kg	EPA 6010B	EPA 3050B
Vanadium	16.2		0.251	mg/kg	EPA 6010B	EPA 3050B
Zinc	21.4		1.01	mg/kg	EPA 6010B	EPA 3050B
Calcium	7660		5.03	mg/kg	EPA 6010B	EPA 3050B
Magnesium	3040		5.03	mg/kg	EPA 6010B	EPA 3050B
Potassium	1980		25.1	mg/kg	EPA 6010B	EPA 3050B
Sodium	138		25.1	mg/kg	EPA 6010B	EPA 3050B
Boron	5.70		1.01	mg/kg	EPA 6010B	EPA 3050B
pH	6.87	BU	0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	2810		10.0	mg/kg	SM 2540 C (M)	N/A

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Analyte	Result	Qualifiers	RL	Units	Method	Extraction
DUP (16-06-2043-60)						
Fluoride	6.8		5.0	mg/kg	EPA 300.0	N/A
Chloride	10000		500	mg/kg	EPA 300.0	N/A
Nitrate (as N)	26		5.0	mg/kg	EPA 300.0	N/A
Sulfate	26000		500	mg/kg	EPA 300.0	N/A
Arsenic	21.0		0.785	mg/kg	EPA 6010B	EPA 3050B
Barium	115		0.524	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.267		0.262	mg/kg	EPA 6010B	EPA 3050B
Cadmium	0.661		0.524	mg/kg	EPA 6010B	EPA 3050B
Chromium	15.7		0.262	mg/kg	EPA 6010B	EPA 3050B
Cobalt	2.71		0.262	mg/kg	EPA 6010B	EPA 3050B
Copper	52.0		0.524	mg/kg	EPA 6010B	EPA 3050B
Lead	6.61		0.524	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	4.39		0.262	mg/kg	EPA 6010B	EPA 3050B
Nickel	11.3		0.262	mg/kg	EPA 6010B	EPA 3050B
Selenium	29.9		0.785	mg/kg	EPA 6010B	EPA 3050B
Silver	0.987		0.262	mg/kg	EPA 6010B	EPA 3050B
Vanadium	22.4		0.262	mg/kg	EPA 6010B	EPA 3050B
Zinc	26.3		1.05	mg/kg	EPA 6010B	EPA 3050B
Calcium	163000		52.4	mg/kg	EPA 6010B	EPA 3050B
Magnesium	17800		5.24	mg/kg	EPA 6010B	EPA 3050B
Potassium	1130		26.2	mg/kg	EPA 6010B	EPA 3050B
Sodium	27900		26.2	mg/kg	EPA 6010B	EPA 3050B
Boron	747		1.05	mg/kg	EPA 6010B	EPA 3050B
TPH as Motor Oil	160	HD	50	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	53	HD	10	mg/kg	EPA 8015B (M)	EPA 3550B
pH	8.41	BU	0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	101000		1000	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
B-3 (16-06-2043-61)						
Chloride	69		10	mg/kg	EPA 300.0	N/A
Nitrate (as N)	38		1.0	mg/kg	EPA 300.0	N/A
Sulfate	42		10	mg/kg	EPA 300.0	N/A
Arsenic	4.04		0.758	mg/kg	EPA 6010B	EPA 3050B
Barium	125		0.505	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.366		0.253	mg/kg	EPA 6010B	EPA 3050B
Cadmium	0.559		0.505	mg/kg	EPA 6010B	EPA 3050B
Chromium	11.7		0.253	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.84		0.253	mg/kg	EPA 6010B	EPA 3050B
Copper	14.2		0.505	mg/kg	EPA 6010B	EPA 3050B
Lead	6.99		0.505	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	0.465		0.253	mg/kg	EPA 6010B	EPA 3050B
Nickel	8.61		0.253	mg/kg	EPA 6010B	EPA 3050B
Silver	0.388		0.253	mg/kg	EPA 6010B	EPA 3050B
Vanadium	19.0		0.253	mg/kg	EPA 6010B	EPA 3050B
Zinc	53.1		1.01	mg/kg	EPA 6010B	EPA 3050B
Calcium	14500		5.05	mg/kg	EPA 6010B	EPA 3050B
Magnesium	4130		5.05	mg/kg	EPA 6010B	EPA 3050B
Potassium	2090		25.3	mg/kg	EPA 6010B	EPA 3050B
Sodium	426		25.3	mg/kg	EPA 6010B	EPA 3050B
Boron	19.5		1.01	mg/kg	EPA 6010B	EPA 3050B
pH	7.62	BU	0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	7690		10.0	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		Page 20 of 24

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P5 (16-06-2043-62)						
Fluoride	1.7		1.0	mg/kg	EPA 300.0	N/A
Chloride	31		10	mg/kg	EPA 300.0	N/A
Nitrate (as N)	3.1		1.0	mg/kg	EPA 300.0	N/A
Sulfate	32		10	mg/kg	EPA 300.0	N/A
Arsenic	12.1		0.718	mg/kg	EPA 6010B	EPA 3050B
Barium	287		0.478	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.789		0.239	mg/kg	EPA 6010B	EPA 3050B
Cadmium	1.40		0.478	mg/kg	EPA 6010B	EPA 3050B
Chromium	24.8		0.239	mg/kg	EPA 6010B	EPA 3050B
Cobalt	6.28		0.239	mg/kg	EPA 6010B	EPA 3050B
Copper	48.9		0.478	mg/kg	EPA 6010B	EPA 3050B
Lead	25.1		0.478	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	2.43		0.239	mg/kg	EPA 6010B	EPA 3050B
Nickel	14.4		0.239	mg/kg	EPA 6010B	EPA 3050B
Selenium	12.3		0.718	mg/kg	EPA 6010B	EPA 3050B
Silver	0.480		0.239	mg/kg	EPA 6010B	EPA 3050B
Vanadium	37.8		0.239	mg/kg	EPA 6010B	EPA 3050B
Zinc	48.3		0.957	mg/kg	EPA 6010B	EPA 3050B
Calcium	61700		47.8	mg/kg	EPA 6010B	EPA 3050B
Magnesium	7660		4.78	mg/kg	EPA 6010B	EPA 3050B
Potassium	2090		23.9	mg/kg	EPA 6010B	EPA 3050B
Sodium	12200		23.9	mg/kg	EPA 6010B	EPA 3050B
Boron	260		0.957	mg/kg	EPA 6010B	EPA 3050B
Mercury	0.113		0.0847	mg/kg	EPA 7471A	EPA 7471A Total
TPH as Motor Oil	260	HD	50	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	84	HD	9.9	mg/kg	EPA 8015B (M)	EPA 3550B
pH	7.96		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	31400		100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P4 (16-06-2043-63)						
Arsenic	11.9		0.761	mg/kg	EPA 6010B	EPA 3050B
Barium	167		0.508	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.401		0.254	mg/kg	EPA 6010B	EPA 3050B
Cadmium	0.738		0.508	mg/kg	EPA 6010B	EPA 3050B
Chromium	16.5		0.254	mg/kg	EPA 6010B	EPA 3050B
Cobalt	3.53		0.254	mg/kg	EPA 6010B	EPA 3050B
Copper	42.8		0.508	mg/kg	EPA 6010B	EPA 3050B
Lead	13.5		0.508	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	1.18		0.254	mg/kg	EPA 6010B	EPA 3050B
Nickel	11.6		0.254	mg/kg	EPA 6010B	EPA 3050B
Selenium	4.92		0.761	mg/kg	EPA 6010B	EPA 3050B
Silver	0.493		0.254	mg/kg	EPA 6010B	EPA 3050B
Vanadium	24.3		0.254	mg/kg	EPA 6010B	EPA 3050B
Zinc	49.2		1.02	mg/kg	EPA 6010B	EPA 3050B
Calcium	69700		50.8	mg/kg	EPA 6010B	EPA 3050B
Magnesium	6440		5.08	mg/kg	EPA 6010B	EPA 3050B
Potassium	1330		25.4	mg/kg	EPA 6010B	EPA 3050B
Sodium	5220		25.4	mg/kg	EPA 6010B	EPA 3050B
Boron	194		1.02	mg/kg	EPA 6010B	EPA 3050B
TPH as Motor Oil	280	HD	25	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	110	HD	5.0	mg/kg	EPA 8015B (M)	EPA 3550B
pH	7.93		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	23700		100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		Page 22 of 24

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P3 (16-06-2043-64)						
Fluoride	5.7		2.0	mg/kg	EPA 300.0	N/A
Chloride	5000		200	mg/kg	EPA 300.0	N/A
Nitrate (as N)	35		2.0	mg/kg	EPA 300.0	N/A
Sulfate	14000		200	mg/kg	EPA 300.0	N/A
Arsenic	14.5		0.758	mg/kg	EPA 6010B	EPA 3050B
Barium	90.0		0.505	mg/kg	EPA 6010B	EPA 3050B
Chromium	8.41		0.253	mg/kg	EPA 6010B	EPA 3050B
Cobalt	16.0		0.253	mg/kg	EPA 6010B	EPA 3050B
Copper	39.6		0.505	mg/kg	EPA 6010B	EPA 3050B
Lead	1.42		0.505	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	2.06		0.253	mg/kg	EPA 6010B	EPA 3050B
Nickel	10.8		0.253	mg/kg	EPA 6010B	EPA 3050B
Silver	0.276		0.253	mg/kg	EPA 6010B	EPA 3050B
Vanadium	26.6		0.253	mg/kg	EPA 6010B	EPA 3050B
Zinc	24.4		1.01	mg/kg	EPA 6010B	EPA 3050B
Calcium	57800		50.5	mg/kg	EPA 6010B	EPA 3050B
Magnesium	7150		5.05	mg/kg	EPA 6010B	EPA 3050B
Potassium	1570		25.3	mg/kg	EPA 6010B	EPA 3050B
Sodium	7760		25.3	mg/kg	EPA 6010B	EPA 3050B
Boron	150		1.01	mg/kg	EPA 6010B	EPA 3050B
TPH as Motor Oil	71	HD	25	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	27	HD	5.0	mg/kg	EPA 8015B (M)	EPA 3550B
pH	8.51		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	47000		100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P2 (16-06-2043-65)						
Fluoride	2.5		1.0	mg/kg	EPA 300.0	N/A
Chloride	1600		200	mg/kg	EPA 300.0	N/A
Nitrate (as N)	16		1.0	mg/kg	EPA 300.0	N/A
Sulfate	9500		200	mg/kg	EPA 300.0	N/A
Arsenic	7.07		0.761	mg/kg	EPA 6010B	EPA 3050B
Barium	77.5		0.508	mg/kg	EPA 6010B	EPA 3050B
Chromium	5.79		0.254	mg/kg	EPA 6010B	EPA 3050B
Cobalt	2.37		0.254	mg/kg	EPA 6010B	EPA 3050B
Copper	29.6		0.508	mg/kg	EPA 6010B	EPA 3050B
Lead	1.05		0.508	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	0.711		0.254	mg/kg	EPA 6010B	EPA 3050B
Nickel	6.80		0.254	mg/kg	EPA 6010B	EPA 3050B
Vanadium	18.5		0.254	mg/kg	EPA 6010B	EPA 3050B
Zinc	21.4		1.02	mg/kg	EPA 6010B	EPA 3050B
Calcium	47600		50.8	mg/kg	EPA 6010B	EPA 3050B
Magnesium	4820		5.08	mg/kg	EPA 6010B	EPA 3050B
Potassium	1340		25.4	mg/kg	EPA 6010B	EPA 3050B
Sodium	4930		25.4	mg/kg	EPA 6010B	EPA 3050B
Boron	82.7		1.02	mg/kg	EPA 6010B	EPA 3050B
TPH as Motor Oil	34	HD	25	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	10	HD	5.0	mg/kg	EPA 8015B (M)	EPA 3550B
pH	8.31		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	27200		100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		Page 24 of 24

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P1 (16-06-2043-66)						
Fluoride	2.2		1.0	mg/kg	EPA 300.0	N/A
Chloride	760		200	mg/kg	EPA 300.0	N/A
Nitrate (as N)	11		1.0	mg/kg	EPA 300.0	N/A
Sulfate	8000		200	mg/kg	EPA 300.0	N/A
Arsenic	11.5		0.718	mg/kg	EPA 6010B	EPA 3050B
Barium	88.0		0.478	mg/kg	EPA 6010B	EPA 3050B
Chromium	9.63		0.239	mg/kg	EPA 6010B	EPA 3050B
Cobalt	2.11		0.239	mg/kg	EPA 6010B	EPA 3050B
Copper	73.1		0.478	mg/kg	EPA 6010B	EPA 3050B
Lead	0.747		0.478	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	0.398		0.239	mg/kg	EPA 6010B	EPA 3050B
Nickel	13.2		0.239	mg/kg	EPA 6010B	EPA 3050B
Silver	0.406		0.239	mg/kg	EPA 6010B	EPA 3050B
Vanadium	18.7		0.239	mg/kg	EPA 6010B	EPA 3050B
Zinc	27.0		0.957	mg/kg	EPA 6010B	EPA 3050B
Calcium	65600		47.8	mg/kg	EPA 6010B	EPA 3050B
Magnesium	7080		4.78	mg/kg	EPA 6010B	EPA 3050B
Potassium	999		23.9	mg/kg	EPA 6010B	EPA 3050B
Sodium	2250		23.9	mg/kg	EPA 6010B	EPA 3050B
Boron	69.9		0.957	mg/kg	EPA 6010B	EPA 3050B
TPH as Motor Oil	28	HD	25	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	11	HD	5.0	mg/kg	EPA 8015B (M)	EPA 3550B
pH	7.88		0.01	pH units	EPA 9045D	N/A
Solids, Total Dissolved	25000		100	mg/kg	SM 2540 C (M)	N/A

Subcontracted analyses, if any, are not included in this summary.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: EPA 300.0
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-0	**16-06-2043-26-A**	**06/27/16 14:40**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 14:59**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	1.0	1.00	
Chloride	ND	10	1.00	
Nitrate (as N)	2.7	1.0	1.00	
Sulfate	230	10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-0.5	**16-06-2043-27-A**	**06/27/16 14:45**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 15:18**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	1.0	1.00	
Chloride	ND	10	1.00	
Nitrate (as N)	1.2	1.0	1.00	
Sulfate	77	10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-0	**16-06-2043-30-A**	**06/27/16 14:15**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 15:36**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	1.8	1.0	1.00	
Chloride	86	10	1.00	
Nitrate (as N)	5.1	1.0	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-0	**16-06-2043-30-A**	**06/27/16 14:15**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 00:12**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Sulfate	4700	100	10.0	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-0.5	**16-06-2043-31-A**	**06/27/16 14:20**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 15:55**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	1.0	1.00	
Chloride	450	10	1.00	
Nitrate (as N)	68	1.0	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-0.5	**16-06-2043-31-A**	**06/27/16 14:20**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 00:31**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Sulfate	4100	50	5.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: EPA 300.0
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-0	**16-06-2043-34-A**	**06/27/16 13:45**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 16:14**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	2.4	1.0	1.00	
Chloride	98	10	1.00	
Nitrate (as N)	11	1.0	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-0	**16-06-2043-34-A**	**06/27/16 13:45**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 00:50**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Sulfate	7600	100	10.0	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-0.5	**16-06-2043-35-A**	**06/27/16 13:50**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 16:33**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	1.0	1.00	
Chloride	280	10	1.00	
Nitrate (as N)	13	1.0	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-0.5	**16-06-2043-35-A**	**06/27/16 13:50**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 01:09**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Sulfate	2200	50	5.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4.0	**16-06-2043-38-A**	**06/27/16 13:20**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 16:52**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	1.1	1.0	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4.0	**16-06-2043-38-A**	**06/27/16 13:20**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 01:28**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Chloride	950	200	20.0	
Nitrate (as N)	160	20	20.0	
Sulfate	8700	200	20.0	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: EPA 300.0
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-0.5	**16-06-2043-39-A**	**06/27/16 13:25**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 17:11**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	1.0	1.00	

P2-FL-4-0.5	**16-06-2043-39-A**	**06/27/16 13:25**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 01:47**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Chloride	1500	100	10.0	
Nitrate (as N)	250	10	10.0	
Sulfate	4100	100	10.0	

P3-FL-5-0	**16-06-2043-42-A**	**06/27/16 11:30**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 17:30**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	4.6	2.0	2.00	
Nitrate (as N)	36	2.0	2.00	

P3-FL-5-0	**16-06-2043-42-A**	**06/27/16 11:30**	**Solid**	**IC 10**	**07/01/16**	**07/06/16 22:00**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Chloride	4900	400	40.0	
Sulfate	19000	400	40.0	

P3-FL-5-0.5	**16-06-2043-43-A**	**06/27/16 11:35**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 17:49**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	4.4	1.0	1.00	
Chloride	910	10	1.00	
Nitrate (as N)	ND	1.0	1.00	

P3-FL-5-0.5	**16-06-2043-43-A**	**06/27/16 11:35**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 02:25**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Sulfate	14000	200	20.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: EPA 300.0
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0	**16-06-2043-46-A**	**06/27/16 11:00**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 19:01**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	4.2	1.0	1.00	
Chloride	750	10	1.00	
Nitrate (as N)	9.1	1.0	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0	**16-06-2043-46-A**	**06/27/16 11:00**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 02:44**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Sulfate	8300	200	20.0	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0.5	**16-06-2043-47-A**	**06/27/16 11:05**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 19:20**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	2.9	1.0	1.00	
Nitrate (as N)	17	1.0	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0.5	**16-06-2043-47-A**	**06/27/16 11:05**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 03:03**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Chloride	870	100	10.0	
Sulfate	7600	100	10.0	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 19:39**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	9.0	5.0	5.00	
Nitrate (as N)	27	5.0	5.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 04:18**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Chloride	14000	500	50.0	
Sulfate	20000	500	50.0	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: EPA 300.0
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0.5	**16-06-2043-51-A**	**06/27/16 10:50**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 19:58**	**160701L01P**

Comment(s): - The reporting limit is elevated resulting from matrix interference.

Parameter	Result	RL	DF	Qualifiers
Fluoride	4.8	2.0	2.00	
Nitrate (as N)	28	2.0	2.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0.5	**16-06-2043-51-A**	**06/27/16 10:50**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 04:37**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Chloride	3700	200	20.0	
Sulfate	13000	200	20.0	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-0	**16-06-2043-54-A**	**06/27/16 10:00**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 20:17**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	1.0	1.00	
Chloride	ND	10	1.00	
Nitrate (as N)	14	1.0	1.00	
Sulfate	47	10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-0.5	**16-06-2043-55-A**	**06/27/16 10:05**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 20:37**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	1.0	1.00	
Chloride	ND	10	1.00	
Nitrate (as N)	10	1.0	1.00	
Sulfate	36	10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-1	**16-06-2043-58-A**	**06/27/16 15:25**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 20:55**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	1.0	1.00	
Chloride	ND	10	1.00	
Nitrate (as N)	2.0	1.0	1.00	
Sulfate	ND	10	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: EPA 300.0
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-2	**16-06-2043-59-A**	**06/27/16 15:15**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 21:14**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	1.0	1.00	
Chloride	23	10	1.00	
Nitrate (as N)	40	1.0	1.00	
Sulfate	45	10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 21:33**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	6.8	5.0	5.00	
Nitrate (as N)	26	5.0	5.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 04:56**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Chloride	10000	500	50.0	
Sulfate	26000	500	50.0	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-3	**16-06-2043-61-A**	**06/27/16 15:30**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 21:52**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	1.0	1.00	
Chloride	69	10	1.00	
Nitrate (as N)	38	1.0	1.00	
Sulfate	42	10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5	**16-06-2043-62-A**	**06/27/16 00:00**	**Solid**	**IC 10**	**07/01/16**	**07/02/16 00:24**	**160701L02P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	1.7	1.0	1.00	
Chloride	31	10	1.00	
Nitrate (as N)	3.1	1.0	1.00	
Sulfate	32	10	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: EPA 300.0
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4	**16-06-2043-63-A**	**06/27/16 00:00**	**Solid**	**IC 10**	**07/01/16**	**07/02/16 00:43**	**160701L02P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	1.0	1.00	
Chloride	ND	10	1.00	
Nitrate (as N)	ND	1.0	1.00	
Sulfate	ND	10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3	**16-06-2043-64-A**	**06/27/16 00:00**	**Solid**	**IC 10**	**07/01/16**	**07/02/16 01:01**	**160701L02P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	5.7	2.0	2.00	
Nitrate (as N)	35	2.0	2.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3	**16-06-2043-64-A**	**06/27/16 00:00**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 05:15**	**160701L02P**

Parameter	Result	RL	DF	Qualifiers
Chloride	5000	200	20.0	
Sulfate	14000	200	20.0	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2	**16-06-2043-65-A**	**06/27/16 00:00**	**Solid**	**IC 10**	**07/01/16**	**07/02/16 01:20**	**160701L02P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	2.5	1.0	1.00	
Nitrate (as N)	16	1.0	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2	**16-06-2043-65-A**	**06/27/16 00:00**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 05:34**	**160701L02P**

Parameter	Result	RL	DF	Qualifiers
Chloride	1600	200	20.0	
Sulfate	9500	200	20.0	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1	**16-06-2043-66-A**	**06/27/16 00:00**	**Solid**	**IC 10**	**07/01/16**	**07/02/16 01:39**	**160701L02P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	2.2	1.0	1.00	
Nitrate (as N)	11	1.0	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: EPA 300.0
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1	**16-06-2043-66-A**	**06/27/16 00:00**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 05:53**	**160701L02P**

Parameter	Result	RL	DF	Qualifiers
Chloride	760	200	20.0	
Sulfate	8000	200	20.0	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-922-739**	**N/A**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 14:19**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	1.0	1.00	
Chloride	ND	10	1.00	
Nitrate (as N)	ND	1.0	1.00	
Sulfate	ND	10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-922-740**	**N/A**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 23:46**	**160701L02P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	1.0	1.00	
Chloride	ND	10	1.00	
Nitrate (as N)	ND	1.0	1.00	
Sulfate	ND	10	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: EPA 9045D
Units: pH units

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-0	**16-06-2043-26-A**	**06/27/16 14:40**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	6.34	0.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-0.5	**16-06-2043-27-A**	**06/27/16 14:45**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	6.53	0.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-0	**16-06-2043-30-A**	**06/27/16 14:15**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	6.36	0.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-0.5	**16-06-2043-31-A**	**06/27/16 14:20**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	6.59	0.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-0	**16-06-2043-34-A**	**06/27/16 13:45**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	7.24	0.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-0.5	**16-06-2043-35-A**	**06/27/16 13:50**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	7.42	0.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4.0	**16-06-2043-38-A**	**06/27/16 13:20**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	7.49	0.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-0.5	**16-06-2043-39-A**	**06/27/16 13:25**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	7.80	0.01	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: EPA 9045D
Units: pH units

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-0	**16-06-2043-42-A**	**06/27/16 11:30**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	8.28	0.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-0.5	**16-06-2043-43-A**	**06/27/16 11:35**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	7.86	0.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0	**16-06-2043-46-A**	**06/27/16 11:00**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	8.32	0.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0.5	**16-06-2043-47-A**	**06/27/16 11:05**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	8.22	0.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	8.49	0.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0.5	**16-06-2043-51-A**	**06/27/16 10:50**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	8.46	0.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-0	**16-06-2043-54-A**	**06/27/16 10:00**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	8.12	0.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-0.5	**16-06-2043-55-A**	**06/27/16 10:05**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 21:30**	**G0629PHD6**

Parameter	Result	RL	DF	Qualifiers
pH	7.17	0.01	1.00	BU

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: EPA 9045D
Units: pH units

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-1	**16-06-2043-58-A**	**06/27/16 15:25**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 21:30**	**G0629PHD6**

Parameter	Result	RL	DF	Qualifiers
pH	7.42	0.01	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-2	**16-06-2043-59-A**	**06/27/16 15:15**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 21:30**	**G0629PHD6**

Parameter	Result	RL	DF	Qualifiers
pH	6.87	0.01	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 21:30**	**G0629PHD6**

Parameter	Result	RL	DF	Qualifiers
pH	8.41	0.01	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-3	**16-06-2043-61-A**	**06/27/16 15:30**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 21:30**	**G0629PHD6**

Parameter	Result	RL	DF	Qualifiers
pH	7.62	0.01	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5	**16-06-2043-62-A**	**06/27/16 00:00**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	7.96	0.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4	**16-06-2043-63-A**	**06/27/16 00:00**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	7.93	0.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3	**16-06-2043-64-A**	**06/27/16 00:00**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	8.51	0.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2	**16-06-2043-65-A**	**06/27/16 00:00**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	8.31	0.01	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	EPA 9045D
		Units:	pH units
Project: NRG Coolwater			Page 4 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1	**16-06-2043-66-A**	**06/27/16 00:00**	**Solid**	**PH 4**	**06/29/16**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Result	RL	DF	Qualifiers
pH	7.88	0.01	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: SM 2540 C (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-0	**16-06-2043-26-A**	**06/27/16 14:40**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	4070	10.0	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-0.5	**16-06-2043-27-A**	**06/27/16 14:45**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	5350	10.0	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-0	**16-06-2043-30-A**	**06/27/16 14:15**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	22000	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-0.5	**16-06-2043-31-A**	**06/27/16 14:20**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	18100	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-0	**16-06-2043-34-A**	**06/27/16 13:45**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	23400	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-0.5	**16-06-2043-35-A**	**06/27/16 13:50**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	23600	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4.0	**16-06-2043-38-A**	**06/27/16 13:20**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	30100	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-0.5	**16-06-2043-39-A**	**06/27/16 13:25**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	26100	100	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: SM 2540 C (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-0	**16-06-2043-42-A**	**06/27/16 11:30**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	78400	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-0.5	**16-06-2043-43-A**	**06/27/16 11:35**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	50900	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0	**16-06-2043-46-A**	**06/27/16 11:00**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	39400	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0.5	**16-06-2043-47-A**	**06/27/16 11:05**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	27200	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	93000	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0.5	**16-06-2043-51-A**	**06/27/16 10:50**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	59200	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-0	**16-06-2043-54-A**	**06/27/16 10:00**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	2800	10.0	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-0.5	**16-06-2043-55-A**	**06/27/16 10:05**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	9800	10.0	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: SM 2540 C (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-1	**16-06-2043-58-A**	**06/27/16 15:25**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	15000	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-2	**16-06-2043-59-A**	**06/27/16 15:15**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	2810	10.0	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	101000	1000	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-3	**16-06-2043-61-A**	**06/27/16 15:30**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	7690	10.0	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5	**16-06-2043-62-A**	**06/27/16 00:00**	**Solid**	**N/A**	**07/06/16**	**07/06/16 19:00**	**G0706TDSB3**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	31400	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4	**16-06-2043-63-A**	**06/27/16 00:00**	**Solid**	**N/A**	**07/06/16**	**07/06/16 19:00**	**G0706TDSB3**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	23700	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3	**16-06-2043-64-A**	**06/27/16 00:00**	**Solid**	**N/A**	**07/06/16**	**07/06/16 19:00**	**G0706TDSB3**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	47000	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2	**16-06-2043-65-A**	**06/27/16 00:00**	**Solid**	**N/A**	**07/06/16**	**07/06/16 19:00**	**G0706TDSB3**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	27200	100	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: SM 2540 C (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1	**16-06-2043-66-A**	**06/27/16 00:00**	**Solid**	**N/A**	**07/06/16**	**07/06/16 19:00**	**G0706TDSB3**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	25000	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-182-418**	**N/A**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	ND	1.0	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-182-419**	**N/A**	**Solid**	**N/A**	**07/06/16**	**07/06/16 19:00**	**G0706TDSB3**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	ND	1.0	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: NRG Coolwater			Page 1 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-0	**16-06-2043-26-A**	**06/27/16 14:40**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 22:15**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	77	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-0.5	**16-06-2043-27-A**	**06/27/16 14:45**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 22:33**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	61	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-0	**16-06-2043-30-A**	**06/27/16 14:15**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 20:34**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	114	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-0.5	**16-06-2043-31-A**	**06/27/16 14:20**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 20:52**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	113	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-0	**16-06-2043-34-A**	**06/27/16 13:45**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 21:09**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	40	25	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	111	61-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-0.5	**16-06-2043-35-A**	**06/27/16 13:50**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 21:26**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	113	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4.0	**16-06-2043-38-A**	**06/27/16 13:20**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 00:00**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	87	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-0.5	**16-06-2043-39-A**	**06/27/16 13:25**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 21:43**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	113	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-0	**16-06-2043-42-A**	**06/27/16 11:30**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 00:52**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	29	25	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	76	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-0.5	**16-06-2043-43-A**	**06/27/16 11:35**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 00:35**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	88	61-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: NRG Coolwater			Page 3 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0	**16-06-2043-46-A**	**06/27/16 11:00**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 04:04**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	28	25	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	70	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0.5	**16-06-2043-47-A**	**06/27/16 11:05**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 22:01**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	31	25	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	108	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 22:18**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	130	25	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	97	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0.5	**16-06-2043-51-A**	**06/27/16 10:50**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 22:36**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	36	25	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	88	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-0	**16-06-2043-54-A**	**06/27/16 10:00**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 05:13**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	2600	620	25.0	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	116	61-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-0.5	**16-06-2043-55-A**	**06/27/16 10:05**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 05:31**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	480	120	5.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	91	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-1	**16-06-2043-58-A**	**06/27/16 15:25**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 02:54**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	106	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-2	**16-06-2043-59-A**	**06/27/16 15:15**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 03:12**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	75	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 03:29**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	160	50	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	118	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-3	**16-06-2043-61-A**	**06/27/16 15:30**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 03:47**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	90	61-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5	**16-06-2043-62-A**	**06/27/16 00:00**	**Solid**	**GC 46**	**07/01/16**	**07/05/16 16:39**	**160701B04**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	260	50	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	125	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4	**16-06-2043-63-A**	**06/27/16 00:00**	**Solid**	**GC 46**	**07/01/16**	**07/05/16 16:56**	**160701B04**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	280	25	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	118	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3	**16-06-2043-64-A**	**06/27/16 00:00**	**Solid**	**GC 46**	**07/01/16**	**07/05/16 17:14**	**160701B04**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	71	25	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	108	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2	**16-06-2043-65-A**	**06/27/16 00:00**	**Solid**	**GC 46**	**07/01/16**	**07/05/16 17:31**	**160701B04**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	34	25	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	106	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1	**16-06-2043-66-A**	**06/27/16 00:00**	**Solid**	**GC 46**	**07/01/16**	**07/05/16 17:48**	**160701B04**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	28	25	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	99	61-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-420-1864**	**N/A**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 17:32**	**160701B04**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	68	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-420-1868**	**N/A**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 20:13**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	90	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-0	**16-06-2043-26-A**	**06/27/16 14:40**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 22:15**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	77	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-0.5	**16-06-2043-27-A**	**06/27/16 14:45**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 22:33**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	61	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-0	**16-06-2043-30-A**	**06/27/16 14:15**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 20:34**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	114	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-0.5	**16-06-2043-31-A**	**06/27/16 14:20**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 20:52**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	113	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-0	**16-06-2043-34-A**	**06/27/16 13:45**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 21:09**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	13	5.0	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	111	61-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-0.5	**16-06-2043-35-A**	**06/27/16 13:50**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 21:26**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	113	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4.0	**16-06-2043-38-A**	**06/27/16 13:20**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 00:00**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	87	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-0.5	**16-06-2043-39-A**	**06/27/16 13:25**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 21:43**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	10	5.0	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	113	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-0	**16-06-2043-42-A**	**06/27/16 11:30**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 00:52**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	10	5.0	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	76	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-0.5	**16-06-2043-43-A**	**06/27/16 11:35**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 00:35**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	88	61-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0	**16-06-2043-46-A**	**06/27/16 11:00**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 04:04**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	7.2	5.0	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	70	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0.5	**16-06-2043-47-A**	**06/27/16 11:05**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 22:01**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	11	5.0	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	108	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 22:18**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	53	5.0	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	97	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0.5	**16-06-2043-51-A**	**06/27/16 10:50**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 22:36**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	11	5.0	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	88	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-0	**16-06-2043-54-A**	**06/27/16 10:00**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 05:13**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	620	120	25.0	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	116	61-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-0.5	**16-06-2043-55-A**	**06/27/16 10:05**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 05:31**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	110	25	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	91	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-1	**16-06-2043-58-A**	**06/27/16 15:25**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 02:54**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	106	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-2	**16-06-2043-59-A**	**06/27/16 15:15**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 03:12**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	75	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 03:29**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	53	10	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	118	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-3	**16-06-2043-61-A**	**06/27/16 15:30**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 03:47**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	90	61-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5	**16-06-2043-62-A**	**06/27/16 00:00**	**Solid**	**GC 46**	**07/01/16**	**07/05/16 16:39**	**160701B03**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	84	9.9	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	125	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4	**16-06-2043-63-A**	**06/27/16 00:00**	**Solid**	**GC 46**	**07/01/16**	**07/05/16 16:56**	**160701B03**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	110	5.0	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	118	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3	**16-06-2043-64-A**	**06/27/16 00:00**	**Solid**	**GC 46**	**07/01/16**	**07/05/16 17:14**	**160701B03**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	27	5.0	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	108	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2	**16-06-2043-65-A**	**06/27/16 00:00**	**Solid**	**GC 46**	**07/01/16**	**07/05/16 17:31**	**160701B03**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	10	5.0	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	106	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1	**16-06-2043-66-A**	**06/27/16 00:00**	**Solid**	**GC 46**	**07/01/16**	**07/05/16 17:48**	**160701B03**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	11	5.0	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	99	61-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-422-2525**	**N/A**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 17:32**	**160701B03**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	68	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-422-2527**	**N/A**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 20:13**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	90	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: NRG Coolwater			Page 1 of 27

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-0	**16-06-2043-26-A**	**06/27/16 14:40**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:17**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.761	1.02	
Arsenic	2.22	0.761	1.02	
Barium	127	0.508	1.02	
Beryllium	ND	0.254	1.02	
Cadmium	ND	0.508	1.02	
Chromium	5.09	0.254	1.02	
Cobalt	3.47	0.254	1.02	
Copper	5.73	0.508	1.02	
Lead	3.67	0.508	1.02	
Molybdenum	ND	0.254	1.02	
Nickel	3.89	0.254	1.02	
Selenium	ND	0.761	1.02	
Silver	ND	0.254	1.02	
Thallium	ND	0.761	1.02	
Vanadium	17.1	0.254	1.02	
Zinc	26.4	1.02	1.02	
Lithium	ND	2.54	1.02	
Calcium	5690	5.08	1.02	
Magnesium	2710	5.08	1.02	
Potassium	1530	25.4	1.02	
Sodium	92.8	25.4	1.02	
Boron	4.19	1.02	1.02	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: NRG Coolwater			Page 2 of 27

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-0.5	**16-06-2043-27-A**	**06/27/16 14:45**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:18**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.728	0.971	
Arsenic	3.27	0.728	0.971	
Barium	94.5	0.485	0.971	
Beryllium	ND	0.243	0.971	
Cadmium	ND	0.485	0.971	
Chromium	4.93	0.243	0.971	
Cobalt	3.20	0.243	0.971	
Copper	5.19	0.485	0.971	
Lead	3.24	0.485	0.971	
Molybdenum	ND	0.243	0.971	
Nickel	3.47	0.243	0.971	
Selenium	ND	0.728	0.971	
Silver	ND	0.243	0.971	
Thallium	ND	0.728	0.971	
Vanadium	18.5	0.243	0.971	
Zinc	22.5	0.971	0.971	
Lithium	ND	2.43	0.971	
Calcium	5110	4.85	0.971	
Magnesium	2380	4.85	0.971	
Potassium	1440	24.3	0.971	
Sodium	90.7	24.3	0.971	
Boron	2.64	0.971	0.971	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-0	**16-06-2043-30-A**	**06/27/16 14:15**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:24**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.725	0.966	
Arsenic	7.25	0.725	0.966	
Barium	95.0	0.483	0.966	
Beryllium	ND	0.242	0.966	
Cadmium	ND	0.483	0.966	
Chromium	6.25	0.242	0.966	
Cobalt	3.25	0.242	0.966	
Copper	10.7	0.483	0.966	
Lead	2.32	0.483	0.966	
Molybdenum	ND	0.242	0.966	
Nickel	5.53	0.242	0.966	
Selenium	ND	0.725	0.966	
Silver	ND	0.242	0.966	
Thallium	ND	0.725	0.966	
Vanadium	21.7	0.242	0.966	
Zinc	26.0	0.966	0.966	
Lithium	ND	2.42	0.966	
Calcium	37700	4.83	0.966	
Magnesium	4870	4.83	0.966	
Potassium	1690	24.2	0.966	
Sodium	684	24.2	0.966	
Boron	47.9	0.966	0.966	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-0.5	**16-06-2043-31-A**	**06/27/16 14:20**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:25**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.750	1.00	
Arsenic	5.24	0.750	1.00	
Barium	89.7	0.500	1.00	
Beryllium	0.281	0.250	1.00	
Cadmium	ND	0.500	1.00	
Chromium	5.99	0.250	1.00	
Cobalt	3.33	0.250	1.00	
Copper	8.50	0.500	1.00	
Lead	2.64	0.500	1.00	
Molybdenum	ND	0.250	1.00	
Nickel	5.10	0.250	1.00	
Selenium	ND	0.750	1.00	
Silver	ND	0.250	1.00	
Thallium	ND	0.750	1.00	
Vanadium	17.8	0.250	1.00	
Zinc	23.8	1.00	1.00	
Lithium	ND	2.50	1.00	
Calcium	21100	5.00	1.00	
Magnesium	3730	5.00	1.00	
Potassium	1830	25.0	1.00	
Sodium	1060	25.0	1.00	
Boron	26.5	1.00	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-0	**16-06-2043-34-A**	**06/27/16 13:45**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:27**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.761	1.02	
Arsenic	12.5	0.761	1.02	
Barium	103	0.508	1.02	
Beryllium	ND	0.254	1.02	
Cadmium	ND	0.508	1.02	
Chromium	9.60	0.254	1.02	
Cobalt	2.71	0.254	1.02	
Copper	38.1	0.508	1.02	
Lead	1.28	0.508	1.02	
Molybdenum	0.304	0.254	1.02	
Nickel	10.1	0.254	1.02	
Selenium	ND	0.761	1.02	
Silver	0.534	0.254	1.02	
Thallium	ND	0.761	1.02	
Vanadium	19.4	0.254	1.02	
Zinc	58.9	1.02	1.02	
Lithium	ND	2.54	1.02	
Magnesium	8560	5.08	1.02	
Potassium	1610	25.4	1.02	
Sodium	1140	25.4	1.02	
Boron	148	1.02	1.02	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-0	**16-06-2043-34-A**	**06/27/16 13:45**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 22:02**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Calcium	93600	50.8	10.2	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-0.5	**16-06-2043-35-A**	**06/27/16 13:50**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:28**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.781	1.04	
Arsenic	4.36	0.781	1.04	
Barium	69.4	0.521	1.04	
Beryllium	ND	0.260	1.04	
Cadmium	ND	0.521	1.04	
Chromium	6.06	0.260	1.04	
Cobalt	3.46	0.260	1.04	
Copper	11.3	0.521	1.04	
Lead	2.55	0.521	1.04	
Molybdenum	0.277	0.260	1.04	
Nickel	4.79	0.260	1.04	
Selenium	ND	0.781	1.04	
Silver	ND	0.260	1.04	
Thallium	ND	0.781	1.04	
Vanadium	20.5	0.260	1.04	
Zinc	20.6	1.04	1.04	
Lithium	ND	2.60	1.04	
Calcium	21500	5.21	1.04	
Magnesium	3480	5.21	1.04	
Potassium	1750	26.0	1.04	
Sodium	1360	26.0	1.04	
Boron	31.5	1.04	1.04	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4.0	**16-06-2043-38-A**	**06/27/16 13:20**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:29**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.781	1.04	
Arsenic	5.71	0.781	1.04	
Barium	69.3	0.521	1.04	
Beryllium	0.274	0.260	1.04	
Cadmium	ND	0.521	1.04	
Chromium	6.51	0.260	1.04	
Cobalt	3.39	0.260	1.04	
Copper	13.2	0.521	1.04	
Lead	2.33	0.521	1.04	
Molybdenum	0.293	0.260	1.04	
Nickel	5.37	0.260	1.04	
Selenium	ND	0.781	1.04	
Silver	ND	0.260	1.04	
Thallium	ND	0.781	1.04	
Vanadium	18.9	0.260	1.04	
Zinc	23.2	1.04	1.04	
Lithium	ND	2.60	1.04	
Calcium	33800	5.21	1.04	
Magnesium	5020	5.21	1.04	
Potassium	1700	26.0	1.04	
Sodium	3420	26.0	1.04	
Boron	81.0	1.04	1.04	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: NRG Coolwater			Page 8 of 27

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-0.5	**16-06-2043-39-A**	**06/27/16 13:25**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:30**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.761	1.02	
Arsenic	3.64	0.761	1.02	
Barium	67.2	0.508	1.02	
Beryllium	0.301	0.254	1.02	
Cadmium	ND	0.508	1.02	
Chromium	6.33	0.254	1.02	
Cobalt	3.78	0.254	1.02	
Copper	8.43	0.508	1.02	
Lead	2.63	0.508	1.02	
Molybdenum	ND	0.254	1.02	
Nickel	4.63	0.254	1.02	
Selenium	ND	0.761	1.02	
Silver	ND	0.254	1.02	
Thallium	ND	0.761	1.02	
Vanadium	20.3	0.254	1.02	
Zinc	22.4	1.02	1.02	
Lithium	ND	2.54	1.02	
Calcium	16200	5.08	1.02	
Magnesium	3740	5.08	1.02	
Potassium	1790	25.4	1.02	
Sodium	2890	25.4	1.02	
Boron	23.8	1.02	1.02	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-0	**16-06-2043-42-A**	**06/27/16 11:30**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:31**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.789	1.05	
Arsenic	22.2	0.789	1.05	
Barium	127	0.526	1.05	
Beryllium	ND	0.263	1.05	
Cadmium	0.609	0.526	1.05	
Chromium	12.6	0.263	1.05	
Cobalt	2.41	0.263	1.05	
Copper	47.5	0.526	1.05	
Lead	6.08	0.526	1.05	
Molybdenum	1.94	0.263	1.05	
Nickel	11.5	0.263	1.05	
Selenium	5.97	0.789	1.05	
Silver	1.05	0.263	1.05	
Thallium	ND	0.789	1.05	
Vanadium	17.3	0.263	1.05	
Zinc	35.4	1.05	1.05	
Lithium	ND	2.63	1.05	
Magnesium	10500	5.26	1.05	
Potassium	1410	26.3	1.05	
Sodium	16900	26.3	1.05	
Boron	433	1.05	1.05	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-0	**16-06-2043-42-A**	**06/27/16 11:30**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 22:04**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Calcium	183000	52.6	10.5	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-0.5	**16-06-2043-43-A**	**06/27/16 11:35**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:33**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.739	0.985	
Arsenic	12.8	0.739	0.985	
Barium	86.2	0.493	0.985	
Beryllium	ND	0.246	0.985	
Cadmium	ND	0.493	0.985	
Chromium	6.82	0.246	0.985	
Cobalt	1.42	0.246	0.985	
Copper	26.5	0.493	0.985	
Lead	3.26	0.493	0.985	
Molybdenum	0.895	0.246	0.985	
Nickel	6.40	0.246	0.985	
Selenium	3.34	0.739	0.985	
Silver	0.583	0.246	0.985	
Thallium	ND	0.739	0.985	
Vanadium	9.59	0.246	0.985	
Zinc	21.2	0.985	0.985	
Lithium	ND	2.46	0.985	
Magnesium	5840	4.93	0.985	
Potassium	683	24.6	0.985	
Sodium	3580	24.6	0.985	
Boron	207	0.985	0.985	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-0.5	**16-06-2043-43-A**	**06/27/16 11:35**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 22:05**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Calcium	108000	49.3	9.85	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: NRG Coolwater			Page 11 of 27

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0	**16-06-2043-46-A**	**06/27/16 11:00**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:34**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.714	0.952	
Arsenic	21.2	0.714	0.952	
Barium	123	0.476	0.952	
Beryllium	0.247	0.238	0.952	
Cadmium	0.613	0.476	0.952	
Chromium	13.2	0.238	0.952	
Cobalt	2.45	0.238	0.952	
Copper	41.2	0.476	0.952	
Lead	4.69	0.476	0.952	
Molybdenum	1.04	0.238	0.952	
Nickel	10.3	0.238	0.952	
Selenium	8.19	0.714	0.952	
Silver	0.924	0.238	0.952	
Thallium	ND	0.714	0.952	
Vanadium	18.9	0.238	0.952	
Zinc	34.0	0.952	0.952	
Lithium	ND	2.38	0.952	
Magnesium	11300	4.76	0.952	
Potassium	1100	23.8	0.952	
Sodium	6360	23.8	0.952	
Boron	407	0.952	0.952	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0	**16-06-2043-46-A**	**06/27/16 11:00**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 22:06**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Calcium	203000	47.6	9.52	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0.5	**16-06-2043-47-A**	**06/27/16 11:05**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:35**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.765	1.02	
Arsenic	11.6	0.765	1.02	
Barium	118	0.510	1.02	
Beryllium	0.425	0.255	1.02	
Cadmium	0.520	0.510	1.02	
Chromium	11.9	0.255	1.02	
Cobalt	4.78	0.255	1.02	
Copper	23.0	0.510	1.02	
Lead	5.77	0.510	1.02	
Molybdenum	0.479	0.255	1.02	
Nickel	8.61	0.255	1.02	
Selenium	3.67	0.765	1.02	
Silver	0.408	0.255	1.02	
Thallium	ND	0.765	1.02	
Vanadium	26.5	0.255	1.02	
Zinc	38.3	1.02	1.02	
Lithium	ND	2.55	1.02	
Magnesium	7670	5.10	1.02	
Potassium	2120	25.5	1.02	
Sodium	5080	25.5	1.02	
Boron	183	1.02	1.02	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0.5	**16-06-2043-47-A**	**06/27/16 11:05**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 22:07**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Calcium	77900	51.0	10.2	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:40**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.750	1.00	
Arsenic	21.6	0.750	1.00	
Barium	120	0.500	1.00	
Beryllium	0.295	0.250	1.00	
Cadmium	0.674	0.500	1.00	
Chromium	16.0	0.250	1.00	
Cobalt	2.82	0.250	1.00	
Copper	47.2	0.500	1.00	
Lead	6.36	0.500	1.00	
Molybdenum	3.27	0.250	1.00	
Nickel	11.2	0.250	1.00	
Selenium	21.4	0.750	1.00	
Silver	1.06	0.250	1.00	
Thallium	ND	0.750	1.00	
Vanadium	22.4	0.250	1.00	
Zinc	27.9	1.00	1.00	
Lithium	ND	2.50	1.00	
Magnesium	16300	5.00	1.00	
Potassium	1030	25.0	1.00	
Sodium	24200	25.0	1.00	
Boron	606	1.00	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 22:08**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Calcium	176000	50.0	10.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: NRG Coolwater			Page 14 of 27

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0.5	**16-06-2043-51-A**	**06/27/16 10:50**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:41**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.765	1.02	
Arsenic	9.50	0.765	1.02	
Barium	80.7	0.510	1.02	
Beryllium	ND	0.255	1.02	
Cadmium	ND	0.510	1.02	
Chromium	7.47	0.255	1.02	
Cobalt	2.48	0.255	1.02	
Copper	20.5	0.510	1.02	
Lead	3.86	0.510	1.02	
Molybdenum	1.20	0.255	1.02	
Nickel	5.67	0.255	1.02	
Selenium	6.73	0.765	1.02	
Silver	0.410	0.255	1.02	
Thallium	ND	0.765	1.02	
Vanadium	15.1	0.255	1.02	
Zinc	22.5	1.02	1.02	
Lithium	ND	2.55	1.02	
Magnesium	7000	5.10	1.02	
Potassium	1230	25.5	1.02	
Sodium	9430	25.5	1.02	
Boron	219	1.02	1.02	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0.5	**16-06-2043-51-A**	**06/27/16 10:50**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 22:09**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Calcium	64400	51.0	10.2	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-0	**16-06-2043-54-A**	**06/27/16 10:00**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:43**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.769	1.03	
Arsenic	5.03	0.769	1.03	
Barium	131	0.513	1.03	
Beryllium	0.544	0.256	1.03	
Cadmium	ND	0.513	1.03	
Chromium	10.2	0.256	1.03	
Cobalt	6.72	0.256	1.03	
Copper	11.7	0.513	1.03	
Lead	6.24	0.513	1.03	
Molybdenum	ND	0.256	1.03	
Nickel	8.55	0.256	1.03	
Selenium	ND	0.769	1.03	
Silver	ND	0.256	1.03	
Thallium	ND	0.769	1.03	
Vanadium	36.2	0.256	1.03	
Zinc	55.4	1.03	1.03	
Lithium	2.87	2.56	1.03	
Calcium	11500	5.13	1.03	
Magnesium	5580	5.13	1.03	
Potassium	2530	25.6	1.03	
Sodium	191	25.6	1.03	
Boron	9.29	1.03	1.03	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: NRG Coolwater			Page 16 of 27

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-0.5	**16-06-2043-55-A**	**06/27/16 10:05**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:44**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.769	1.03	
Arsenic	5.81	0.769	1.03	
Barium	151	0.513	1.03	
Beryllium	0.624	0.256	1.03	
Cadmium	ND	0.513	1.03	
Chromium	11.8	0.256	1.03	
Cobalt	8.01	0.256	1.03	
Copper	13.3	0.513	1.03	
Lead	6.85	0.513	1.03	
Molybdenum	ND	0.256	1.03	
Nickel	8.91	0.256	1.03	
Selenium	ND	0.769	1.03	
Silver	ND	0.256	1.03	
Thallium	ND	0.769	1.03	
Vanadium	43.3	0.256	1.03	
Zinc	65.6	1.03	1.03	
Lithium	2.64	2.56	1.03	
Calcium	14000	5.13	1.03	
Magnesium	6370	5.13	1.03	
Potassium	2540	25.6	1.03	
Sodium	250	25.6	1.03	
Boron	8.75	1.03	1.03	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-1	**16-06-2043-58-A**	**06/27/16 15:25**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:45**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.765	1.02	
Arsenic	3.04	0.765	1.02	
Barium	79.8	0.510	1.02	
Beryllium	0.363	0.255	1.02	
Cadmium	ND	0.510	1.02	
Chromium	7.35	0.255	1.02	
Cobalt	5.44	0.255	1.02	
Copper	7.77	0.510	1.02	
Lead	3.78	0.510	1.02	
Molybdenum	ND	0.255	1.02	
Nickel	5.45	0.255	1.02	
Selenium	ND	0.765	1.02	
Silver	ND	0.255	1.02	
Thallium	ND	0.765	1.02	
Vanadium	23.8	0.255	1.02	
Zinc	32.0	1.02	1.02	
Lithium	4.07	2.55	1.02	
Calcium	9580	5.10	1.02	
Magnesium	3970	5.10	1.02	
Potassium	2070	25.5	1.02	
Sodium	144	25.5	1.02	
Boron	3.36	1.02	1.02	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-2	**16-06-2043-59-A**	**06/27/16 15:15**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:46**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.754	1.01	
Arsenic	2.75	0.754	1.01	
Barium	102	0.503	1.01	
Beryllium	0.300	0.251	1.01	
Cadmium	ND	0.503	1.01	
Chromium	6.17	0.251	1.01	
Cobalt	3.84	0.251	1.01	
Copper	7.08	0.503	1.01	
Lead	3.95	0.503	1.01	
Molybdenum	ND	0.251	1.01	
Nickel	5.16	0.251	1.01	
Selenium	ND	0.754	1.01	
Silver	ND	0.251	1.01	
Thallium	ND	0.754	1.01	
Vanadium	16.2	0.251	1.01	
Zinc	21.4	1.01	1.01	
Lithium	ND	2.51	1.01	
Calcium	7660	5.03	1.01	
Magnesium	3040	5.03	1.01	
Potassium	1980	25.1	1.01	
Sodium	138	25.1	1.01	
Boron	5.70	1.01	1.01	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:47**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.785	1.05	
Arsenic	21.0	0.785	1.05	
Barium	115	0.524	1.05	
Beryllium	0.267	0.262	1.05	
Cadmium	0.661	0.524	1.05	
Chromium	15.7	0.262	1.05	
Cobalt	2.71	0.262	1.05	
Copper	52.0	0.524	1.05	
Lead	6.61	0.524	1.05	
Molybdenum	4.39	0.262	1.05	
Nickel	11.3	0.262	1.05	
Selenium	29.9	0.785	1.05	
Silver	0.987	0.262	1.05	
Thallium	ND	0.785	1.05	
Vanadium	22.4	0.262	1.05	
Zinc	26.3	1.05	1.05	
Lithium	ND	2.62	1.05	
Magnesium	17800	5.24	1.05	
Potassium	1130	26.2	1.05	
Sodium	27900	26.2	1.05	
Boron	747	1.05	1.05	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 22:10**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Calcium	163000	52.4	10.5	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: NRG Coolwater			Page 20 of 27

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-3	**16-06-2043-61-A**	**06/27/16 15:30**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:48**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.758	1.01	
Arsenic	4.04	0.758	1.01	
Barium	125	0.505	1.01	
Beryllium	0.366	0.253	1.01	
Cadmium	0.559	0.505	1.01	
Chromium	11.7	0.253	1.01	
Cobalt	4.84	0.253	1.01	
Copper	14.2	0.505	1.01	
Lead	6.99	0.505	1.01	
Molybdenum	0.465	0.253	1.01	
Nickel	8.61	0.253	1.01	
Selenium	ND	0.758	1.01	
Silver	0.388	0.253	1.01	
Thallium	ND	0.758	1.01	
Vanadium	19.0	0.253	1.01	
Zinc	53.1	1.01	1.01	
Lithium	ND	2.53	1.01	
Calcium	14500	5.05	1.01	
Magnesium	4130	5.05	1.01	
Potassium	2090	25.3	1.01	
Sodium	426	25.3	1.01	
Boron	19.5	1.01	1.01	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5	**16-06-2043-62-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:49**	**160630L01A**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.718	0.957	
Arsenic	12.1	0.718	0.957	
Barium	287	0.478	0.957	
Beryllium	0.789	0.239	0.957	
Cadmium	1.40	0.478	0.957	
Chromium	24.8	0.239	0.957	
Cobalt	6.28	0.239	0.957	
Copper	48.9	0.478	0.957	
Lead	25.1	0.478	0.957	
Molybdenum	2.43	0.239	0.957	
Nickel	14.4	0.239	0.957	
Selenium	12.3	0.718	0.957	
Silver	0.480	0.239	0.957	
Thallium	ND	0.718	0.957	
Vanadium	37.8	0.239	0.957	
Zinc	48.3	0.957	0.957	
Lithium	ND	2.39	0.957	
Calcium	61700	47.8	9.57	
Magnesium	7660	4.78	0.957	
Potassium	2090	23.9	0.957	
Sodium	12200	23.9	0.957	
Boron	260	0.957	0.957	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: NRG Coolwater			Page 22 of 27

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4	**16-06-2043-63-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:51**	**160630L01A**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.761	1.02	
Arsenic	11.9	0.761	1.02	
Barium	167	0.508	1.02	
Beryllium	0.401	0.254	1.02	
Cadmium	0.738	0.508	1.02	
Chromium	16.5	0.254	1.02	
Cobalt	3.53	0.254	1.02	
Copper	42.8	0.508	1.02	
Lead	13.5	0.508	1.02	
Molybdenum	1.18	0.254	1.02	
Nickel	11.6	0.254	1.02	
Selenium	4.92	0.761	1.02	
Silver	0.493	0.254	1.02	
Thallium	ND	0.761	1.02	
Vanadium	24.3	0.254	1.02	
Zinc	49.2	1.02	1.02	
Lithium	ND	2.54	1.02	
Magnesium	6440	5.08	1.02	
Potassium	1330	25.4	1.02	
Sodium	5220	25.4	1.02	
Boron	194	1.02	1.02	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4	**16-06-2043-63-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**06/30/16**	**07/09/16 10:55**	**160630L01A**

Parameter	Result	RL	DF	Qualifiers
Calcium	69700	50.8	10.2	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3	**16-06-2043-64-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:56**	**160630L01A**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.758	1.01	
Arsenic	14.5	0.758	1.01	
Barium	90.0	0.505	1.01	
Beryllium	ND	0.253	1.01	
Cadmium	ND	0.505	1.01	
Chromium	8.41	0.253	1.01	
Cobalt	16.0	0.253	1.01	
Copper	39.6	0.505	1.01	
Lead	1.42	0.505	1.01	
Molybdenum	2.06	0.253	1.01	
Nickel	10.8	0.253	1.01	
Selenium	ND	0.758	1.01	
Silver	0.276	0.253	1.01	
Thallium	ND	0.758	1.01	
Vanadium	26.6	0.253	1.01	
Zinc	24.4	1.01	1.01	
Lithium	ND	2.53	1.01	
Magnesium	7150	5.05	1.01	
Potassium	1570	25.3	1.01	
Sodium	7760	25.3	1.01	
Boron	150	1.01	1.01	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3	**16-06-2043-64-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**06/30/16**	**07/09/16 10:56**	**160630L01A**

Parameter	Result	RL	DF	Qualifiers
Calcium	57800	50.5	10.1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: NRG Coolwater			Page 24 of 27

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2	**16-06-2043-65-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:57**	**160630L01A**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.761	1.02	
Arsenic	7.07	0.761	1.02	
Barium	77.5	0.508	1.02	
Beryllium	ND	0.254	1.02	
Cadmium	ND	0.508	1.02	
Chromium	5.79	0.254	1.02	
Cobalt	2.37	0.254	1.02	
Copper	29.6	0.508	1.02	
Lead	1.05	0.508	1.02	
Molybdenum	0.711	0.254	1.02	
Nickel	6.80	0.254	1.02	
Selenium	ND	0.761	1.02	
Silver	ND	0.254	1.02	
Thallium	ND	0.761	1.02	
Vanadium	18.5	0.254	1.02	
Zinc	21.4	1.02	1.02	
Lithium	ND	2.54	1.02	
Magnesium	4820	5.08	1.02	
Potassium	1340	25.4	1.02	
Sodium	4930	25.4	1.02	
Boron	82.7	1.02	1.02	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2	**16-06-2043-65-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**06/30/16**	**07/09/16 10:57**	**160630L01A**

Parameter	Result	RL	DF	Qualifiers
Calcium	47600	50.8	10.2	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1	**16-06-2043-66-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:58**	**160630L01A**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.718	0.957	
Arsenic	11.5	0.718	0.957	
Barium	88.0	0.478	0.957	
Beryllium	ND	0.239	0.957	
Cadmium	ND	0.478	0.957	
Chromium	9.63	0.239	0.957	
Cobalt	2.11	0.239	0.957	
Copper	73.1	0.478	0.957	
Lead	0.747	0.478	0.957	
Molybdenum	0.398	0.239	0.957	
Nickel	13.2	0.239	0.957	
Selenium	ND	0.718	0.957	
Silver	0.406	0.239	0.957	
Thallium	ND	0.718	0.957	
Vanadium	18.7	0.239	0.957	
Zinc	27.0	0.957	0.957	
Lithium	ND	2.39	0.957	
Magnesium	7080	4.78	0.957	
Potassium	999	23.9	0.957	
Sodium	2250	23.9	0.957	
Boron	69.9	0.957	0.957	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1	**16-06-2043-66-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**06/30/16**	**07/09/16 10:58**	**160630L01A**

Parameter	Result	RL	DF	Qualifiers
Calcium	65600	47.8	9.57	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-22900**	**N/A**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:10**	**160630L01A**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.789	1.05	
Arsenic	ND	0.789	1.05	
Barium	ND	0.526	1.05	
Beryllium	ND	0.263	1.05	
Cadmium	ND	0.526	1.05	
Chromium	ND	0.263	1.05	
Cobalt	ND	0.263	1.05	
Copper	ND	0.526	1.05	
Lead	ND	0.526	1.05	
Molybdenum	ND	0.263	1.05	
Nickel	ND	0.263	1.05	
Selenium	ND	0.789	1.05	
Silver	ND	0.263	1.05	
Thallium	ND	0.789	1.05	
Vanadium	ND	0.263	1.05	
Zinc	ND	1.05	1.05	
Lithium	ND	2.63	1.05	
Calcium	ND	5.26	1.05	
Magnesium	ND	5.26	1.05	
Potassium	ND	26.3	1.05	
Sodium	ND	26.3	1.05	
Boron	ND	1.05	1.05	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-22899**	**N/A**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:08**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.773	1.03	
Arsenic	ND	0.773	1.03	
Barium	ND	0.515	1.03	
Beryllium	ND	0.258	1.03	
Cadmium	ND	0.515	1.03	
Chromium	ND	0.258	1.03	
Cobalt	ND	0.258	1.03	
Copper	ND	0.515	1.03	
Lead	ND	0.515	1.03	
Molybdenum	ND	0.258	1.03	
Nickel	ND	0.258	1.03	
Selenium	ND	0.773	1.03	
Silver	ND	0.258	1.03	
Thallium	ND	0.773	1.03	
Vanadium	ND	0.258	1.03	
Zinc	ND	1.03	1.03	
Lithium	ND	2.58	1.03	
Calcium	ND	5.15	1.03	
Magnesium	ND	5.15	1.03	
Potassium	ND	25.8	1.03	
Sodium	ND	25.8	1.03	
Boron	ND	1.03	1.03	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 7471A Total
Method: EPA 7471A
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-0	**16-06-2043-26-A**	**06/27/16 14:40**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:30**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0794	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-0.5	**16-06-2043-27-A**	**06/27/16 14:45**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:37**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	0.0846	0.0794	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-0	**16-06-2043-30-A**	**06/27/16 14:15**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:39**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0794	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-0.5	**16-06-2043-31-A**	**06/27/16 14:20**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:41**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0794	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-0	**16-06-2043-34-A**	**06/27/16 13:45**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:44**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0877	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-0.5	**16-06-2043-35-A**	**06/27/16 13:50**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:46**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0794	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4.0	**16-06-2043-38-A**	**06/27/16 13:20**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:53**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0820	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-0.5	**16-06-2043-39-A**	**06/27/16 13:25**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:55**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0806	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 7471A Total
Method: EPA 7471A
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-0	**16-06-2043-42-A**	**06/27/16 11:30**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:57**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0877	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-0.5	**16-06-2043-43-A**	**06/27/16 11:35**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:59**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0794	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0	**16-06-2043-46-A**	**06/27/16 11:00**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 14:02**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0794	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0.5	**16-06-2043-47-A**	**06/27/16 11:05**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 14:04**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0820	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 14:06**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0806	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0.5	**16-06-2043-51-A**	**06/27/16 10:50**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 14:09**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0847	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-0	**16-06-2043-54-A**	**06/27/16 10:00**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 14:11**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0877	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-0.5	**16-06-2043-55-A**	**06/27/16 10:05**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 14:13**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0820	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 7471A Total
Method: EPA 7471A
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-1	**16-06-2043-58-A**	**06/27/16 15:25**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 14:20**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0794	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-2	**16-06-2043-59-A**	**06/27/16 15:15**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 14:22**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0877	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 14:24**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0847	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-3	**16-06-2043-61-A**	**06/27/16 15:30**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 14:26**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0877	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5	**16-06-2043-62-A**	**06/27/16 00:00**	**Solid**	**Mercury 04**	**07/06/16**	**07/07/16 14:29**	**160706L03**

Parameter	Result	RL	DF	Qualifiers
Mercury	0.113	0.0847	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4	**16-06-2043-63-A**	**06/27/16 00:00**	**Solid**	**Mercury 04**	**07/06/16**	**07/07/16 14:31**	**160706L03**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0862	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3	**16-06-2043-64-A**	**06/27/16 00:00**	**Solid**	**Mercury 04**	**07/06/16**	**07/07/16 14:33**	**160706L03**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0862	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2	**16-06-2043-65-A**	**06/27/16 00:00**	**Solid**	**Mercury 04**	**07/06/16**	**07/07/16 14:35**	**160706L03**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0833	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 7471A Total
Method: EPA 7471A
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1	**16-06-2043-66-A**	**06/27/16 00:00**	**Solid**	**Mercury 04**	**07/06/16**	**07/07/16 14:37**	**160706L03**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0806	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-16-272-2286**	**N/A**	**Solid**	**Mercury 04**	**07/06/16**	**07/06/16 21:20**	**160706L03**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0833	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-16-272-2290**	**N/A**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:26**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0833	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	EPA 300.0
Project: NRG Coolwater			Page 1 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P1-FL-1-0	**Sample**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 14:59**	**160701S01P**
P1-FL-1-0	**Matrix Spike**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 22:11**	**160701S01P**
P1-FL-1-0	**Matrix Spike Duplicate**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 22:30**	**160701S01P**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Fluoride	ND	25.00	12.60	50	12.28	49	80-120	3	0-20	3
Chloride	ND	500.0	328.8	66	386.6	77	80-120	16	0-20	3
Nitrate (as N)	2.720	50.00	35.07	65	40.81	76	80-120	15	0-20	3
Sulfate	225.3	500.0	475.6	50	526.7	60	80-120	10	0-20	3

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	EPA 300.0
Project: NRG Coolwater			Page 2 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P1	**Sample**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 05:53**	**160701S02P**
P1	**Matrix Spike**	**Solid**	**IC 10**	**07/01/16**	**07/02/16 02:17**	**160701S02P**
P1	**Matrix Spike Duplicate**	**Solid**	**IC 10**	**07/01/16**	**07/02/16 02:36**	**160701S02P**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Fluoride	2.210	25.00	8.260	24	9.280	28	80-120	12	0-20	3
Chloride	757.4	500.0	1017	52	1405	129	80-120	32	0-20	3,4
Nitrate (as N)	10.68	50.00	35.86	50	50.87	80	80-120	35	0-20	3,4
Sulfate	8020	500.0	9125	221	10210	439	80-120	11	0-20	3

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 3 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-06-2086-4	**Sample**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 20:26**	**160701S04**
16-06-2086-4	**Matrix Spike**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 19:00**	**160701S04**
16-06-2086-4	**Matrix Spike Duplicate**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 19:17**	**160701S04**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Motor Oil	ND	400.0	337.2	84	346.1	87	64-130	3	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

eurofins | Calscience

Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 4 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P2-FL-4.0	**Sample**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 00:00**	**160701S09**
P2-FL-4.0	**Matrix Spike**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 21:40**	**160701S09**
P2-FL-4.0	**Matrix Spike Duplicate**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 21:58**	**160701S09**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Motor Oil	ND	400.0	394.5	99	405.9	101	64-130	3	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 5 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-06-2086-4	**Sample**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 20:26**	**160701S03**
16-06-2086-4	**Matrix Spike**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 18:25**	**160701S03**
16-06-2086-4	**Matrix Spike Duplicate**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 18:43**	**160701S03**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	ND	400.0	305.9	76	356.0	89	64-130	15	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 6 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P2-FL-4.0	**Sample**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 00:00**	**160701S08**
P2-FL-4.0	**Matrix Spike**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 21:05**	**160701S08**
P2-FL-4.0	**Matrix Spike Duplicate**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 21:23**	**160701S08**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	ND	400.0	288.5	72	298.8	75	64-130	4	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: NRG Coolwater			Page 7 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P5	**Sample**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:49**	**160630S01**
P5	**Matrix Spike**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:15**	**160630S01**
P5	**Matrix Spike Duplicate**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:16**	**160630S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	25.00	4.645	19	4.974	20	50-115	7	0-20	3
Arsenic	12.11	25.00	38.15	104	40.37	113	75-125	6	0-20	
Barium	287.4	25.00	302.3	4X	297.4	4X	75-125	4X	0-20	Q
Beryllium	0.7891	25.00	27.83	108	27.82	108	75-125	0	0-20	
Cadmium	1.399	25.00	26.33	100	26.03	99	75-125	1	0-20	
Chromium	24.81	25.00	51.08	105	50.09	101	75-125	2	0-20	
Cobalt	6.283	25.00	32.24	104	31.72	102	75-125	2	0-20	
Copper	48.95	25.00	73.66	99	72.99	96	75-125	1	0-20	
Lead	25.08	25.00	49.53	98	48.89	95	75-125	1	0-20	
Molybdenum	2.427	25.00	28.06	103	28.74	105	75-125	2	0-20	
Nickel	14.43	25.00	39.64	101	38.90	98	75-125	2	0-20	
Selenium	12.32	25.00	37.68	101	39.96	111	75-125	6	0-20	
Silver	0.4798	12.50	13.89	107	14.22	110	75-125	2	0-20	
Thallium	ND	25.00	14.84	59	17.26	69	75-125	15	0-20	3
Vanadium	37.80	25.00	65.32	110	62.93	101	75-125	4	0-20	
Zinc	48.29	25.00	72.70	98	69.35	84	75-125	5	0-20	
Lithium	ND	25.00	1.237	5	-16.15	-65	75-125	0	0-20	3
Calcium	61740	25.00	33540	4X	53460	4X	75-125	4X	0-20	Q
Magnesium	7660	25.00	6169	4X	6042	4X	75-125	4X	0-20	Q
Potassium	2091	250.0	2521	4X	2415	4X	75-125	4X	0-20	Q
Sodium	12210	250.0	12740	4X	12290	4X	75-125	4X	0-20	Q
Boron	260.3	25.00	254.6	4X	260.4	4X	75-125	4X	0-20	Q

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: NRG Coolwater			Page 8 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P1-FL-1-0	**Sample**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:17**	**160630S06**
P1-FL-1-0	**Matrix Spike**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:13**	**160630S06**
P1-FL-1-0	**Matrix Spike Duplicate**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:14**	**160630S06**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	25.00	9.176	37	8.237	33	50-115	11	0-20	3
Arsenic	2.221	25.00	28.26	104	25.86	95	75-125	9	0-20	
Barium	127.1	25.00	160.1	4X	129.5	4X	75-125	4X	0-20	Q
Beryllium	ND	25.00	25.83	103	23.99	96	75-125	7	0-20	
Cadmium	ND	25.00	24.97	100	23.78	95	75-125	5	0-20	
Chromium	5.089	25.00	32.02	108	29.80	99	75-125	7	0-20	
Cobalt	3.472	25.00	29.37	104	26.89	94	75-125	9	0-20	
Copper	5.734	25.00	33.28	110	30.80	100	75-125	8	0-20	
Lead	3.675	25.00	29.58	104	26.98	93	75-125	9	0-20	
Molybdenum	ND	25.00	24.40	98	22.60	90	75-125	8	0-20	
Nickel	3.895	25.00	30.01	104	27.43	94	75-125	9	0-20	
Selenium	ND	25.00	23.80	95	22.69	91	75-125	5	0-20	
Silver	ND	12.50	12.63	101	12.00	96	75-125	5	0-20	
Thallium	ND	25.00	24.09	96	22.99	92	75-125	5	0-20	
Vanadium	17.11	25.00	46.56	118	41.25	97	75-125	12	0-20	
Zinc	26.44	25.00	58.76	129	52.13	103	75-125	12	0-20	3
Lithium	ND	25.00	23.03	92	21.57	86	75-125	7	0-20	
Calcium	5694	25.00	6416	4X	5499	4X	75-125	4X	0-20	Q
Magnesium	2713	25.00	3229	4X	2695	4X	75-125	4X	0-20	Q
Potassium	1533	250.0	2071	4X	1761	4X	75-125	4X	0-20	Q
Sodium	92.84	250.0	376.6	114	336.0	97	75-125	11	0-20	
Boron	4.189	25.00	27.76	94	26.05	87	75-125	6	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: NRG Coolwater			Page 9 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-07-0013-1	**Sample**	**Sediment**	**Mercury 04**	**07/06/16**	**07/06/16 21:25**	**160706S03**
16-07-0013-1	**Matrix Spike**	**Sediment**	**Mercury 04**	**07/06/16**	**07/06/16 21:27**	**160706S03**
16-07-0013-1	**Matrix Spike Duplicate**	**Sediment**	**Mercury 04**	**07/06/16**	**07/06/16 21:29**	**160706S03**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	0.1457	0.8350	0.9119	92	0.8694	87	76-136	5	0-16	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: NRG Coolwater			Page 10 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P1-FL-1-0	**Sample**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:30**	**160707S01**
P1-FL-1-0	**Matrix Spike**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:33**	**160707S01**
P1-FL-1-0	**Matrix Spike Duplicate**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:35**	**160707S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	ND	0.8350	0.9802	117	0.8883	106	71-137	10	0-14	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

ERM-WEST	Date Received: 06/28/16
2875 Michelle Dr., Suite 200	Work Order: 16-06-2043
Irvine, CA 92606-1021	Preparation: N/A
	Method: EPA 9045D
Project: NRG Coolwater	Page 1 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
P2-FL-4.0	**Sample**	**Solid**	**PH 4**	**06/29/16 00:00**	**06/29/16 16:19**	**G0629PHD5**
P2-FL-4.0	**Sample Duplicate**	**Solid**	**PH 4**	**06/29/16 00:00**	**06/29/16 16:19**	**G0629PHD5**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
pH	7.490	7.700	3	0-25	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	EPA 9045D
Project: NRG Coolwater			Page 2 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
P5-FL-8-0.5	**Sample**	**Solid**	**PH 4**	**06/29/16 00:00**	**06/29/16 21:30**	**G0629PHD6**
P5-FL-8-0.5	**Sample Duplicate**	**Solid**	**PH 4**	**06/29/16 00:00**	**06/29/16 21:30**	**G0629PHD6**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
pH	7.170	6.670	7	0-25	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	SM 2540 C (M)
Project: NRG Coolwater			Page 3 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
P3-FL-5-0	**Sample**	**Solid**	**N/A**	**07/06/16 00:00**	**07/06/16 17:00**	**G0706TDSD1**
P3-FL-5-0	**Sample Duplicate**	**Solid**	**N/A**	**07/06/16 00:00**	**07/06/16 17:00**	**G0706TDSD1**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Solids, Total Dissolved	78390	71390	9	0-10	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	SM 2540 C (M)
Project: NRG Coolwater			Page 4 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
P1	**Sample**	**Solid**	**N/A**	**07/06/16 00:00**	**07/06/16 19:00**	**G0706TDSD3**
P1	**Sample Duplicate**	**Solid**	**N/A**	**07/06/16 00:00**	**07/06/16 19:00**	**G0706TDSD3**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Solids, Total Dissolved	24970	27000	8	0-10	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	EPA 300.0
Project: NRG Coolwater			Page 1 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-922-739	**LCS**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 14:38**	**160701L01P**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Fluoride	25.00	24.32	97	90-110	
Chloride	500.0	493.3	99	90-110	
Nitrate (as N)	50.00	49.11	98	90-110	
Sulfate	500.0	488.9	98	90-110	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	EPA 300.0
Project: NRG Coolwater			Page 2 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-922-740	**LCS**	**Solid**	**IC 10**	**07/01/16**	**07/02/16 00:05**	**160701L02P**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Fluoride	25.00	25.44	102	90-110	
Chloride	500.0	496.3	99	90-110	
Nitrate (as N)	50.00	49.56	99	90-110	
Sulfate	500.0	490.8	98	90-110	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 3 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-420-1864	**LCS**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 18:07**	**160701B04**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Motor Oil	400.0	357.1	89	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 4 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-420-1868	**LCS**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 20:48**	**160701B09**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Motor Oil	400.0	409.5	102	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 5 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-422-2525	**LCS**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 17:50**	**160701B03**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	379.6	95	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 6 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-422-2527	**LCS**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 20:30**	**160701B08**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	306.6	77	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: NRG Coolwater			Page 7 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
097-01-002-22900	**LCS**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:11**	**160630L01A**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Antimony	25.00	24.38	98	80-120	73-127	
Arsenic	25.00	24.23	97	80-120	73-127	
Barium	25.00	26.15	105	80-120	73-127	
Beryllium	25.00	23.59	94	80-120	73-127	
Cadmium	25.00	25.37	101	80-120	73-127	
Chromium	25.00	25.96	104	80-120	73-127	
Cobalt	25.00	27.10	108	80-120	73-127	
Copper	25.00	25.62	102	80-120	73-127	
Lead	25.00	25.34	101	80-120	73-127	
Molybdenum	25.00	24.89	100	80-120	73-127	
Nickel	25.00	26.95	108	80-120	73-127	
Selenium	25.00	22.96	92	80-120	73-127	
Silver	12.50	12.51	100	80-120	73-127	
Thallium	25.00	25.09	100	80-120	73-127	
Vanadium	25.00	24.68	99	80-120	73-127	
Zinc	25.00	25.72	103	80-120	73-127	
Lithium	25.00	24.24	97	80-120	73-127	
Calcium	25.00	27.03	108	80-120	73-127	
Magnesium	25.00	26.62	106	80-120	73-127	
Potassium	250.0	247.9	99	80-120	73-127	
Sodium	250.0	245.9	98	80-120	73-127	
Boron	25.00	20.22	81	80-120	73-127	

Total number of LCS compounds: 22
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: NRG Coolwater			Page 8 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
097-01-002-22899	**LCS**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:09**	**160630L06**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Antimony	25.00	23.62	94	80-120	73-127	
Arsenic	25.00	23.33	93	80-120	73-127	
Barium	25.00	25.39	102	80-120	73-127	
Beryllium	25.00	22.78	91	80-120	73-127	
Cadmium	25.00	24.43	98	80-120	73-127	
Chromium	25.00	25.04	100	80-120	73-127	
Cobalt	25.00	26.00	104	80-120	73-127	
Copper	25.00	24.67	99	80-120	73-127	
Lead	25.00	24.54	98	80-120	73-127	
Molybdenum	25.00	24.04	96	80-120	73-127	
Nickel	25.00	26.18	105	80-120	73-127	
Selenium	25.00	22.33	89	80-120	73-127	
Silver	12.50	12.16	97	80-120	73-127	
Thallium	25.00	24.22	97	80-120	73-127	
Vanadium	25.00	23.86	95	80-120	73-127	
Zinc	25.00	24.98	100	80-120	73-127	
Lithium	25.00	23.29	93	80-120	73-127	
Calcium	25.00	28.11	112	80-120	73-127	
Magnesium	25.00	26.79	107	80-120	73-127	
Potassium	250.0	238.9	96	80-120	73-127	
Sodium	250.0	245.0	98	80-120	73-127	
Boron	25.00	19.91	80	80-120	73-127	

Total number of LCS compounds: 22
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: NRG Coolwater			Page 9 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-16-272-2286	**LCS**	**Solid**	**Mercury 04**	**07/06/16**	**07/06/16 21:23**	**160706L03**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Mercury	0.8350	0.7331	88	85-121	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: NRG Coolwater			Page 10 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-16-272-2290	**LCS**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:28**	**160707L01**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Mercury	0.8350	0.8897	107	85-121	

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RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 16-06-2043 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA 300.0	N/A	969	IC 10	1
EPA 6010B	EPA 3050B	935	ICP 7300	1
EPA 7471A	EPA 7471A Total	868	Mercury 04	1
EPA 8015B (M)	EPA 3550B	682	GC 49	1
EPA 8015B (M)	EPA 3550B	972	GC 46	1
EPA 9045D	N/A	650	PH 4	1
SM 2540 C (M)	N/A	1009	N/A	1

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Glossary of Terms and Qualifiers

Work Order: 16-06-2043 Page 1 of 1

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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Virendra Patel

From: Alfonso Nunez <Alfonso.Nunez@erm.com>
Sent: Wednesday, June 29, 2016 12:28 PM
To: Steve Williams; Virendra Patel; Steve Ossim
Subject: RE: NRG Coolwater -- 16-06-2043 <response requested>

Sorry Virendra,
The change in labs, led to some mis-steps.

SAMPLE ANALYIS

The proposed sample analysis is based on the constituents of concern listed in the WDR; the requirements listed in Hazardous and Solid Waste Management System Disposal of Coal Combustion Residuals from Electric Utilities (U.S. Environmental Protection Agency [USEPA], 2014); and total petroleum hydrocarbons based on operation equipment. The list of analysis and analytical methods are summarized below.

- California Title 22 metals, boron, calcium, lithium, magnesium, potassium, and sodium by USEPA Methods 6010 and 7471;
- Chloride, fluoride, nitrate, and sulfate by USEPA 300.0;
- pH by 9045;
- Total dissolved solids by USEPA Method 106.1;
- Total petroleum hydrocarbons as diesel and as motor oil by USEPA Method 8015b; and
- Radium 226 and 228 by USEPA 903.1 and USEPA 904.0

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From: Steve Williams
Sent: Wednesday, June 29, 2016 11:17 AM
To: Virendra Patel; Steve Ossim; Alfonso Nunez
Subject: RE: NRG Coolwater -- 16-06-2043 <response requested>

Alf, please QC and verify chain with the work plan.

Steve Williams PG, CHG
Partner

ERM
2875 Michelle Dr. Suite 200
Irvine, California 92606
Cell: 949-294-0835
Office Direct: 949-623-4674
Office main: 949-623-4700

Steve.williams@erm.com
Visit us at www.erm.com

From: Virendra Patel [mailto:VirendraPatel@eurofinsUS.com]
Sent: Wednesday, June 29, 2016 11:16 AM
To: Steve Ossim; Alfonso Nunez
Cc: Steve Williams
Subject: RE: NRG Coolwater -- 16-06-2043 <response requested>

The COCs didn't the following:

T22 is to include – Calcium, Lithium, Magnesium, Potassium, Sodium?
TPH is to report TPH diesel and Motor Oil?

Please advise. Thanks!

Best Regards,

Virendra Patel
Project Manager

Eurofins Calscience, Inc.
7440 Lincoln Way
Garden Grove, CA 92841
USA
P: +1 714 895 5494
F: +1 714 894 7501

Email: virendrapatel@eurofinsUS.com
Website: www.eurofinsUS.com/Calscience

From: Steve Ossim [mailto:Steve.Ossim@erm.com]
Sent: Wednesday, June 29, 2016 10:25 AM
To: Alfonso Nunez; Virendra Patel
Cc: Steve Williams
Subject: RE: NRG Coolwater -- 16-06-2043 <response requested>

For the first 4 items, the correct sample times are those written on the labels. P2-2 is 9:10am, P2-3 is 9:15am, P2-4 is 9:20am, P2-5 is 9:25am.

For the last item the chain should read P1-FL-2-1. Label is correct.

From: Alfonso Nunez
Sent: Wednesday, June 29, 2016 10:14 AM
To: Steve Ossim
Cc: Steve Williams
Subject: FW: NRG Coolwater -- 16-06-2043 <response requested>
Importance: High

Steve o
Can you help?
Lets chat

Return to Contents

From: Virendra Patel [mailto:VirendraPatel@eurofinsUS.com]
Sent: Wednesday, June 29, 2016 10:03 AM
To: Alfonso Nunez; Steve Williams
Cc: Erick Ovalle
Subject: NRG Coolwater -- 16-06-2043 <response requested>
Importance: High

Alfonso/Steve,

Good Morning. For the subject project COCs, please provide clarification on the following items:

Sample #17 – P2-2, COC has collection time of 09:15am – sample label has 09:10am – **What is correct collection time?**
Sample #18 – P2-3, COC has collection time of 09:20am – sample label has 09:15am – **What is correct collection time?**
Sample #19 – P2-4, COC has collection time of 09:25am – sample label has 09:20am – **What is correct collection time?**
Sample #20 – P2-5, COC has collection time of 09:30am – sample label has 09:25am – **What is correct collection time?**
Sample #32 – COC has sample ID of P1-FL-1 – sample label has ID of P1-FL-2-1? **What is correct sample ID?**

Best Regards,

Virendra Patel
Project Manager

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Email: virendrapatel@eurofinsUS.com
Website: www.eurofinsUS.com/Calscience

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: **16-06-2043**

DATE: 06/27/16

PAGE: 1 OF 8

LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☒ COELT EDF GLOBAL ID: GB362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals o 6010/747X o 6020/747X	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +	Notes
1	P5-1	6/27/2016	7:25	soil	1-8oz/1-4oz	X			x	x	x	x	x	x	Composite P5-1 to P5-5 into "P5"
2	P5-2	6/27/2016	7:30	soil	1-8oz/1-4oz										
3	P5-3	6/27/2016	7:35	soil	1-8oz/1-4oz										
4	P5-4	6/27/2016	7:40	soil	1-8oz/1-4oz										
5	P5-5	6/27/2016	7:45	soil	1-8oz/1-4oz										
6	P4-1	6/27/2016	8:15	soil	1-8oz/1-4oz				x	x	x	x	x	x	Composite P4-1 to P4-5 into "P4"
7	P4-2	6/27/2016	8:20	soil	1-8oz/1-4oz										
8	P4-3	6/27/2016	8:25	soil	1-8oz/1-4oz										
9	P4-4	6/27/2016	8:30	soil	1-8oz/1-4oz										
10	P4-5	6/27/2016	8:35	soil	1-8oz/1-4oz										

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature) Rudy V	Received by: (Signature/Affiliation) ECI	Date: 062816	Time: 1840.
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WO # / LAB USE ONLY: 06-2043

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LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☒ COELT EDF GLOBAL ID: GB362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals o 6010/747X o 6020/747X	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +				Notes
11	P3-1	6/27/2016	8:20	soil	1-8oz/1-4oz	X												
12	P3-2	6/27/2016	8:25	soil	1-8oz/1-4oz													
13	P3-3	6/27/2016	8:40	soil	1-8oz/1-4oz				x	x	x	x	x	x				Composite P3-1 to P3-5 into "P3"
14	P3-4	6/27/2016	8:30	soil	1-8oz/1-4oz													
15	P3-5	6/27/2016	8:35	soil	1-8oz/1-4oz													
16	P2-1	6/27/2016	9:05	soil	1-8oz/1-4oz													
17	P2-2	6/27/2016	9:15	soil	1-8oz/1-4oz													
18	P2-3	6/27/2016	9:20	soil	1-8oz/1-4oz				x	x	x	x	x	x				Composite P2-1 to P2-5 into "P2"
19	P2-4	6/27/2016	9:25	soil	1-8oz/1-4oz													
20	P2-5	6/27/2016	9:30	soil	1-8oz/1-4oz													

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Rudy M	ECI	062816	1840
		Date:	Time:

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2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☒ COELT EDF GLOBAL ID: 6B362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

REQUESTED ANALYSES

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21	P1-1	6/27/2016	9:00	soil	1-8oz/1-4oz				x	x	x	x	x	x	Composite P1-1 to P1-5 into "P1"
22	P1-2	6/27/2016	9:05	soil	1-8oz/1-4oz										
23	P1-3	6/27/2016	9:10	soil	1-8oz/1-4oz										
24	P1-4	6/27/2016	9:15	soil	1-8oz/1-4oz										
25	P1-5	6/27/2016	9:20	soil	1-8oz/1-4oz										

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for Steve Oss.	ECI	6/28/16	1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
	ECI	062816	1840
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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26	P1-FL-1-0	6/27/2016	14:40	soil	1-8oz/1-4oz				x	x	x	x	x	x	
27	P1-FL-1-0.5	6/27/2016	14:45	soil	1-8oz/1-4oz				x	x	x	x	x	x	
28	P1-FL-1-1	6/27/2016	14:50	soil	1-8oz/1-4oz										Hold
29	P1-FL-1-3	6/27/2016	14:55	soil	1-8oz/1-4oz										Hold
30	P1-FL-2-0	6/27/2016	14:15	soil	1-8oz/1-4oz				x	x	x	x	x	x	
31	P1-FL-2-0.5	6/27/2016	14:20	soil	1-8oz/1-4oz				x	x	x	x	x	x	
32	P1-FL-1	6/27/2016	14:25	soil	1-8oz/1-4oz										Hold
33	P1-FL-2-3	6/27/2016	14:30	soil	1-8oz/1-4oz										Hold
34															

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2875 Michelle Drive, Suite 200

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TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☒ COELT EDF GLOBAL ID: GB 362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

REQUESTED ANALYSES

Please check box or fill in blank as needed.

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34	P1-FL-3-0	6/27/2016	13:45	soil	1-8oz/1-4oz				x	x	x	x	x	x	
35	P1-FL-3-0.5	6/27/2016	13:50	soil	1-8oz/1-4oz				x	x	x	x	x	x	
36	P1-FL-3-1	6/27/2016	13:55	soil	1-8oz/1-4oz										Hold
37	P1-FL-3-3	6/27/2016	14:00	soil	1-8oz/1-4oz										Hold
38	P2-FL-4-0	6/27/2016	13:20	soil	1-8oz/1-4oz				x	x	x	x	x	x	
39	P2-FL-4-0.5	6/27/2016	13:25	soil	1-8oz/1-4oz				x	x	x	x	x	x	
40	P2-FL-4-1	6/27/2016	13:30	soil	1-8oz/1-4oz										Hold
41	P2-FL-4-3	6/27/2016	13:35	soil	1-8oz/1-4oz										Hold

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) GCI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 06 28 16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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PAGE: 6 OF 8

LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

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☒ COELT EDF GLOBAL ID: 68362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

REQUESTED ANALYSES

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43	P3-FL-5-0	6/27/2016	11:30	soil	1-8oz/1-4oz				x	x	x	x	x	x												
43	P3-FL-5-0.5	6/27/2016	11:35	soil	1-8oz/1-4oz				x	x	x	x	x	x												
44	P3-FL-5-1	6/27/2016	11:40	soil	1-8oz/1-4oz										Hold											
45	P3-FL-5-3	6/27/2016	11:45	soil	1-8oz/1-4oz										Hold											
46	P4-FL-6-0	6/27/2016	11:00	soil	1-8oz/1-4oz				x	x	x	x	x	x												
47	P4-FL-6-0.5	6/27/2016	11:05	soil	1-8oz/1-4oz				x	x	x	x	x	x												
48	P4-FL-6-1	6/27/2016	11:10	soil	1-8oz/1-4oz										Hold											
49	P4-FL-6-3	6/27/2016	11:15	soil	1-8oz/1-4oz										Hold											

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
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Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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WO #: / LAB USE ONLY: 06-2043

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PAGE: 7 OF 8

LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

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P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

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REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals o 6010/747X o 6020/747X	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +	
50	P5-FL-7-0	6/27/2016	10:45	soil	1-8oz/1-4oz				x	x	x	x	x	x	
51	P5-FL-7-0.5	6/27/2016	10:50	soil	1-8oz/1-4oz				x	x	x	x	x	x	
52	P5-FL-7-1	6/27/2016	10:55	soil	1-8oz/1-4oz										Hold
53	P5-FL-7-3	6/27/2016	11:00	soil	1-8oz/1-4oz										Hold
54	P5-FL-8-0	6/27/2016	10:00	soil	1-8oz/1-4oz				x	x	x	x	x	x	
55	P5-FL-8-0.5	6/27/2016	10:05	soil	1-8oz/1-4oz				x	x	x	x	x	x	
56	P5-FL-8-1	6/27/2016	10:10	soil	1-8oz/1-4oz										Hold
57	P5-FL-8-3	6/27/2016	10:15	soil	1-8oz/1-4oz										Hold

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) ECL	Date: 6/28/16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECL	Date: 062816	Time: 1840
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

06/02/14 Revision

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7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494
For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: 06-2043

DATE: 06/27/16

PAGE: 8 OF 8

LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☐ [X] COELT EDF GLOBAL ID: GB362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals - 6010/747A o 6020/747A	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +
58	B-1	6/27/2016	15:25	soil	1-8oz/1-4oz				x	x	x	x	x	x
59	B-2	6/27/2016	15:15	soil	1-8oz/1-4oz				x	x	x	x	x	x
60	DUP	6/27/2016	--	soil	1-8oz/1-4oz				x	x	x	x	x	x
61	B-3	6/27/2016	15:30	soil	1-8oz/1-4oz				x	x	x	x	x	x

Relinquished by: (Signature) Dmc for Steve Ossim	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 062816	Time: 1840
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

06/02/14 Revision

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WORK ORDER NUMBER: 16-06- 2056 (43) 6/28/16

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 2

CLIENT: ERM

DATE: 06 / 28 / 2016

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2A (CF: 0.0°C); Temperature (w/o CF): 2.5 °C (w/ CF): 2.5 °C; ☐ Blank ☑ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 676

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 676

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 1053

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☐	☑	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

Solid: ☑ 4ozCGJ ☑ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (_____) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1053

Reviewed by: 689

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WORK ORDER NUMBER: 16-06- 2043

SAMPLE RECEIPT CHECKLIST

COOLER 2 OF 2

CLIENT: ERM

DATE: 06 / 28 / 2016

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2A (CF: 0.0°C); Temperature (w/o CF): 2.4 °C (w/ CF): 2.4 °C; ☐ Blank ☑ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 676

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 676

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 1053

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

Solid: ☑ 4ozCGJ ☑ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (_____) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1053

Reviewed by: 657

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WORK ORDER NUMBER: 16-06- 2043

SAMPLE ANOMALY REPORT

DATE: 06 / 28 / 2016

SAMPLES, CONTAINERS, AND LABELS:

- ☐ Sample(s) NOT RECEIVED but listed on COC
- ☐ Sample(s) received but NOT LISTED on COC
- ☐ Holding time expired (list client or ECI sample ID and analysis)
- ☐ Insufficient sample amount for requested analysis (list analysis)
- ☐ Improper container(s) used (list analysis)
- ☐ Improper preservative used (list analysis)
- ☐ No preservative noted on COC or label (list analysis and notify lab)
- ☐ Sample container(s) not labeled
- ☐ Client sample label(s) illegible (list container type and analysis)
- ☑ Client sample label(s) do not match COC (comment)
  - ☐ Project information
  - ☑ Client sample ID
  - ☑ Sampling date and/or time
  - ☐ Number of container(s)
  - ☐ Requested analysis
- ☐ Sample container(s) compromised (comment)
  - ☐ Broken
  - ☐ Water present in sample container
- ☐ Air sample container(s) compromised (comment)
  - ☐ Flat
  - ☐ Very low in volume
  - ☐ Leaking (not transferred; duplicate bag submitted)
  - ☐ Leaking (transferred into ECI Tedlar™ bags*)
  - ☐ Leaking (transferred into client's Tedlar™ bags*)

* Transferred at client's request.

Comments

(-16) Received 1 of 2 containers (4 oz CGJ) labeled as P1-2 (Date/Time matched)

(-22) Received 1 of 2 containers (4 oz CGJ) labeled as ~~P1-2~~ P2-1 (Date/Time matched)

6/28/16

(-32) Labeled as P1-FL-2-1 (Date/Time matched)

Collection time per label
(-17) 9:10 (-18) 9:15
(-19) 9:20 (-20) 9:25

MISCELLANEOUS: (Describe)

Comments

HEADSPACE:

(Containers with bubble > 6 mm or ¼ inch for volatile organic or dissolved gas analysis)

ECI Sample ID	ECI Container ID	Total Number**	ECI Sample ID	ECI Container ID	Total Number**

(Containers with bubble for other analysis)

ECI Sample ID	ECI Container ID	Total Number**	Requested Analysis

Comments: _____

Reported by: 1053

Reviewed by: 659

** Record the total number of containers (i.e., vials or bottles) for the affected sample.

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Subcontractor Analysis Report

Work Order: 16-06-2043 Page 1 of 1

One or more samples in this work order have tests that were subcontracted. The subcontract report(s) follows.

For subcontracted tests, please reference the laboratory information noted below.

1. GEL Laboratories, LLC - Charleston,SC NELAP 01151CA
   Radiochemistry

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GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

July 14, 2016

Mr. Virendra R. Patel
Calscience Environmental Laboratories, Inc.
7440 Lincoln Way
Garden Grove, California 92841-1427

Re: Radiochemistry Analyses
Work Order: 400455

Dear Mr. Patel:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 30, 2016. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4289.

Sincerely,

Hope Taylor for
Julie Robinson
Project Manager

Purchase Order: PO
Chain of Custody: 16-06-2043
Enclosures

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problem solved

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

CALS003 Eurofins Calscience, Inc.

Client SDG: 400455 GEL Work Order: 400455

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Julie Robinson.

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Reviewed by _____

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P5
Sample ID: 400455001
Matrix: Soil
Collect Date: 27-JUN-16 07:25
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228		4.52	+/-1.54	1.80	3.00	pCi/g			AXM6	07/11/16	1501	1579093	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		1.80	+/-0.492	0.454	1.00	pCi/g			LXP1	07/11/16	0820	1579030	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			90.1	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID:	P4	Project:	CALS00116
Sample ID:	400455002	Client ID:	CALS003
Matrix:	Soil		
Collect Date:	27-JUN-16 08:35		
Receive Date:	30-JUN-16		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228		3.16	+/-1.35	1.79	3.00	pCi/g			AXM6	07/11/16	1501	1579093	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		0.872	+/-0.383	0.413	1.00	pCi/g			LXP1	07/11/16	0820	1579030	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			101	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P3
Sample ID: 400455003
Matrix: Soil
Collect Date: 27-JUN-16 08:35
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228	U	1.35	+/-1.18	1.91	3.00	pCi/g			AXM6	07/11/16	1501	1579093	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		1.11	+/-0.366	0.325	1.00	pCi/g			LXP1	07/11/16	0820	1579030	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			103	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Certificate of Analysis

Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P2
Sample ID: 400455004
Matrix: Soil
Collect Date: 27-JUN-16 09:25
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228		3.96	+/-2.00	2.96	3.00	pCi/g			AXM6	07/12/16	1439	1579093	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		2.00	+/-0.467	0.212	1.00	pCi/g			LXP1	07/11/16	0820	1579030	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			83.1	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Certificate of Analysis

Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P1
Sample ID: 400455005
Matrix: Soil
Collect Date: 27-JUN-16 09:20
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228		2.03	+/-1.26	1.89	3.00	pCi/g			AXM6	07/11/16	1504	1579093	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		1.27	+/-0.420	0.436	1.00	pCi/g			LXP1	07/11/16	0820	1579030	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			103	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P1-FL-1-0
Sample ID: 400455006
Matrix: Soil
Collect Date: 27-JUN-16 14:40
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228	U	1.14	+/-1.25	2.09	3.00	pCi/g			AXM6	07/11/16	1504	1579093	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		2.53	+/-0.611	0.517	1.00	pCi/g			LXP1	07/11/16	0820	1579030	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			104	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P1-FL-1-0.5
Sample ID: 400455007
Matrix: Soil
Collect Date: 27-JUN-16 14:45
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228		4.46	+/-1.66	2.24	3.00	pCi/g			AXM6	07/11/16	1504	1579093	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		1.71	+/-0.448	0.334	1.00	pCi/g			LXP1	07/11/16	0850	1579030	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			99.1	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P1-FL-2-0
Sample ID: 400455010
Matrix: Soil
Collect Date: 27-JUN-16 14:15
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228		2.68	+/-1.42	2.06	3.00	pCi/g			AXM6	07/11/16	1504	1579093	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		0.536	+/-0.348	0.483	1.00	pCi/g			LXP1	07/11/16	0850	1579030	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			96.1	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P1-FL-2-0.5
Sample ID: 400455011
Matrix: Soil
Collect Date: 27-JUN-16 14:20
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228		2.23	+/-1.21	1.72	3.00	pCi/g			AXM6	07/11/16	1504	1579093	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		1.03	+/-0.414	0.478	1.00	pCi/g			LXP1	07/11/16	0850	1579030	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			95.2	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P1-FL-3.0
Sample ID: 400455014
Matrix: Soil
Collect Date: 27-JUN-16 13:45
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228	U	2.01	+/-1.35	2.10	3.00	pCi/g			AXM6	07/11/16	1504	1579093	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		1.29	+/-0.482	0.536	1.00	pCi/g			LXP1	07/11/16	0850	1579030	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			98.8	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P1-FL-3-0.5
Sample ID: 400455015
Matrix: Soil
Collect Date: 27-JUN-16 13:50
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228	U	1.01	+/-1.11	1.85	3.00	pCi/g			AXM6	07/12/16	1439	1579093	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		0.445	+/-0.265	0.356	1.00	pCi/g			LXP1	07/11/16	0850	1579030	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			78.7	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID:	P2-FL-4-0	Project:	CALS00116
Sample ID:	400455018	Client ID:	CALS003
Matrix:	Soil		
Collect Date:	27-JUN-16 13:20		
Receive Date:	30-JUN-16		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228	U	1.28	+/-1.18	1.90	3.00	pCi/g			AXM6	07/11/16	1625	1579093	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		1.17	+/-0.369	0.372	1.00	pCi/g			LXP1	07/13/16	0815	1579031	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			99.6	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

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Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P2-FL-4-0.5
Sample ID: 400455019
Matrix: Soil
Collect Date: 27-JUN-16 13:25
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228	U	0.998	+/-1.25	2.13	3.00	pCi/g			AXM6	07/11/16	1505	1579093	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		0.806	+/-0.349	0.400	1.00	pCi/g			LXP1	07/13/16	0815	1579031	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			101	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P3-FL-5-0
Sample ID: 400455022
Matrix: Soil
Collect Date: 27-JUN-16 11:30
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228		2.33	+/-1.42	2.13	3.00	pCi/g			AXM6	07/11/16	1505	1579093	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226	U	0.282	+/-0.213	0.312	1.00	pCi/g			LXP1	07/13/16	0815	1579031	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			95.9	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P3-FL-5-0.5
Sample ID: 400455023
Matrix: Soil
Collect Date: 27-JUN-16 11:35
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228		2.61	+/-1.16	1.49	3.00	pCi/g			AXM6	07/11/16	1505	1579093	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		0.767	+/-0.365	0.459	1.00	pCi/g			LXP1	07/13/16	0815	1579031	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			100	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P4-FL-6-0
Sample ID: 400455026
Matrix: Soil
Collect Date: 27-JUN-16 11:00
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228	U	1.71	+/-1.47	2.38	3.00	pCi/g			AXM6	07/12/16	1105	1579094	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226	U	0.259	+/-0.210	0.322	1.00	pCi/g			LXP1	07/13/16	0815	1579031	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			99.6	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P4-FL-6-0.5
Sample ID: 400455027
Matrix: Soil
Collect Date: 27-JUN-16 11:05
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228	U	1.76	+/-1.80	2.99	3.00	pCi/g			AXM6	07/12/16	1105	1579094	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		1.47	+/-0.428	0.411	1.00	pCi/g			LXP1	07/13/16	0815	1579031	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			90.3	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P5-FL-7-0
Sample ID: 400455030
Matrix: Soil
Collect Date: 27-JUN-16 10:45
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228	U	0.752	+/-1.00	1.72	3.00	pCi/g			AXM6	07/12/16	1105	1579094	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		0.818	+/-0.314	0.336	1.00	pCi/g			LXP1	07/13/16	0850	1579031	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			96.8	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID:	P5-FL-7-0.5	Project:	CALS00116
Sample ID:	400455031	Client ID:	CALS003
Matrix:	Soil		
Collect Date:	27-JUN-16 10:50		
Receive Date:	30-JUN-16		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228	U	0.959	+/-1.68	2.90	3.00	pCi/g			AXM6	07/12/16	1105	1579094	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226	U	0.291	+/-0.219	0.322	1.00	pCi/g			LXP1	07/13/16	0850	1579031	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			90.4	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P5-FL-8-0
Sample ID: 400455034
Matrix: Soil
Collect Date: 27-JUN-16 10:00
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228		1.97	+/-1.23	1.77	3.00	pCi/g			AXM6	07/13/16	1228	1579094	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		1.26	+/-0.385	0.356	1.00	pCi/g			LXP1	07/13/16	0850	1579031	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0929	1578723

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			77.2	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: P5-FL-8-0.5
Sample ID: 400455035
Matrix: Soil
Collect Date: 27-JUN-16 10:05
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228	U	1.17	+/-1.17	1.93	3.00	pCi/g			AXM6	07/12/16	1105	1579094	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		1.72	+/-0.444	0.365	1.00	pCi/g			LXP1	07/13/16	0850	1579031	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0933	1578724

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			93.5	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Certificate of Analysis

Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: B-1
Sample ID: 400455038
Matrix: Soil
Collect Date: 27-JUN-16 15:25
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228		3.78	+/-1.73	2.40	3.00	pCi/g			AXM6	07/12/16	1105	1579094	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		1.23	+/-0.398	0.407	1.00	pCi/g			LXP1	07/13/16	0850	1579031	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0933	1578724

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			81.4	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Certificate of Analysis

Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: B-2
Sample ID: 400455039
Matrix: Soil
Collect Date: 27-JUN-16 15:15
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228	U	1.14	+/-1.48	2.52	3.00	pCi/g			AXM6	07/13/16	1228	1579094	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		1.33	+/-0.430	0.440	1.00	pCi/g			LXP1	07/13/16	0850	1579031	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0933	1578724

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			63.5	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Certificate of Analysis

Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: DUP
Sample ID: 400455040
Matrix: Soil
Collect Date: 27-JUN-16 15:15
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228	U	0.766	+/-1.28	2.25	3.00	pCi/g			AXM6	07/12/16	1109	1579094	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		0.563	+/-0.275	0.350	1.00	pCi/g			LXP1	07/13/16	0925	1579031	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0933	1578724

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			87	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Certificate of Analysis

Report Date: July 14, 2016

Company : Calscience Environmental Laboratories, Inc.
Address : 7440 Lincoln Way

Garden Grove, California 92841--1427
Contact: Mr. Virendra R. Patel
Project: Radiochemistry Analyses

Client Sample ID: B-3
Sample ID: 400455041
Matrix: Soil
Collect Date: 27-JUN-16 15:30
Receive Date: 30-JUN-16
Collector: Client

Project: CALS00116
Client ID: CALS003

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
Gas Flow Radium 228 "Dry Weight Corrected"													
Radium-228		3.11	+/-1.56	2.25	3.00	pCi/g			AXM6	07/12/16	1109	1579094	1
Rad Radium-226													
Lucas Cell, Ra226, solid "Dry Weight Corrected"													
Radium-226		1.16	+/-0.425	0.468	1.00	pCi/g			LXP1	07/13/16	0925	1579031	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	NXP2	07/01/16	0933	1578724

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			97.3	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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GEL LABORATORIES LLC
2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: July 14, 2016

Calscience Environmental Laboratories, Inc.
7440 Lincoln Way
Garden Grove, California

Contact: **Mr. Virendra R. Patel**

Workorder: **400455**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch 1579093											
QC1203578690 400455018 DUP											
Radium-228	U	1.28	U	2.10	pCi/g	N/A		N/A	AXM6	07/11/16	16:25
	Uncertainty	+/-1.18		+/-1.66							
QC1203578691 LCS											
Radium-228	65.9			68.2	pCi/g		103	(75%-125%)		07/11/16	15:04
	Uncertainty			+/-4.70							
QC1203578689 MB											
Radium-228			U	2.35	pCi/g					07/11/16	16:25
	Uncertainty			+/-1.54							
Batch 1579094											
QC1203578693 400455038 DUP											
Radium-228		3.78		2.77	pCi/g	31		(0% - 100%)	AXM6	07/12/16	11:10
	Uncertainty	+/-1.73		+/-1.33							
QC1203578694 LCS											
Radium-228	66.6			69.2	pCi/g		104	(75%-125%)		07/12/16	11:10
	Uncertainty			+/-4.96							
QC1203578692 MB											
Radium-228			U	0.840	pCi/g					07/12/16	11:10
	Uncertainty			+/-1.36							
Rad Ra-226											
Batch 1579030											
QC1203578579 400455001 DUP											
Radium-226		1.80		1.38	pCi/g	26.6		(0% - 100%)	LXP1	07/11/16	09:30
	Uncertainty	+/-0.492		+/-0.423							
QC1203578581 LCS											
Radium-226	20.2			18.1	pCi/g		89.2	(75%-125%)		07/11/16	10:00
	Uncertainty			+/-1.42							
QC1203578578 MB											
Radium-226			U	0.433	pCi/g					07/11/16	09:30
	Uncertainty			+/-0.351							
QC1203578580 400455001 MS											
Radium-226	20.2	1.80		26.2	pCi/g		121	(75%-125%)		07/11/16	09:30
	Uncertainty	+/-0.492		+/-1.83							
Batch 1579031											
QC1203578583 400455018 DUP											
Radium-226		1.17		0.757	pCi/g	43.2		(0% - 100%)	LXP1	07/13/16	09:25
	Uncertainty	+/-0.369		+/-0.296							
QC1203578585 LCS											
Radium-226	18.9			21.5	pCi/g		114	(75%-125%)		07/13/16	09:25
	Uncertainty			+/-1.45							
QC1203578582 MB											
Radium-226			U	0.281	pCi/g					07/13/16	09:25
	Uncertainty			+/-0.261							

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QC Summary

Workorder: **400455**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Ra-226											
Batch 1579031											
QC1203578584 400455018 MS											
Radium-226	19.8	1.17		19.2	pCi/g		91	(75%-125%)	LXP1	07/13/16	09:25
	Uncertainty	+/-0.369		+/-1.27							

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

**	Analyte is a Tracer compound
<	Result is less than value reported
>	Result is greater than value reported
BD	Results are either below the MDC or tracer recovery is low
FA	Failed analysis.
H	Analytical holding time was exceeded
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

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GEL LABORATORIES LLC
2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: **400455**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

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There are no "Data Exception Reports" associated with this analytical report.

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Ship to: Julie Robinson (843.769.7376 ext 4289)
GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407

400455

CHAIN OF CUSTODY RECORD

DATE:

PAGE: 1 OF 7

LABORATORY CLIENT: **Eurofins Calscience, Inc.**	CLIENT PROJECT NAME / NUMBER: **16-06-2043**
ADDRESS: **7440 Lincoln Way**	P.O. NO.:
CITY: **Garden Grove, CA 92841-1427**	PROJECT CONTACT: **Virendra Patel**
TEL: **714-895-5494** E-mail: VirendraPatel@eurofinsUS.com	SAMPLER(S): (SIGNATURE) COELT LOG CODE ☐☐☐☐
	LAB USE ONLY / WO#
	COOLER RECEIPT Temp = ____ °C

TURNAROUND TIME
☐ SAME DAY ☐ 24 HR ☐ 48HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ LOCUS EIM53 EDD ☒ COELT EDF ☒ 6B362036002

SPECIAL INSTRUCTIONS
Log code: ERMC

GEL Quote: GELP16-0739

REQUESTED ANALYSIS

LAB USE ONLY	SAMPLE ID	CEL Sample #	SAMPLING DATE	SAMPLING TIME	MAT-RIX	NO. OF CONT.	Radium 226 - EPA 903.1	Radium 228 - EPA 904.0	
	P5-1		06/27/16	07:25	S	1	X	X	Composite P5-1 to P5-5 into "P5"
	P5-2		06/27/16	07:30	S	1			
	P5-3		06/27/16	07:35	S	1			
	P5-4		06/27/16	07:40	S	1			
	P5-5		06/27/16	07:45	S	1			
	P4-1		06/27/16	08:15	S	1	X	X	Composite P4-1 to P4-5 into "P4"
	P4-2		06/27/16	08:20	S	1			
	P4-3		06/27/16	08:25	S	1			
	P4-4		06/27/16	08:30	S	1			
	P4-5		06/27/16	08:35	S	1			

Relinquished by: (Signature) (Eurofins Calscience)	Received by: (Signature) FedEx AB# 776641860935	Date: 6/29/2016	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date: 6/30/16	Time: 9:15
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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Ship to: Julie Robinson (843.769.7376 ext 4289)
GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407

CHAIN OF CUSTODY RECORD

DATE:
PAGE: 2 OF 7

LABORATORY CLIENT: **Eurofins Calscience, Inc.**
ADDRESS: **7440 Lincoln Way**
CITY: **Garden Grove, CA 92841-1427**
TEL: **714-895-5494** E-mail: VirendraPatel@eurofinsUS.com

CLIENT PROJECT NAME / NUMBER: **16-06-2043**
PROJECT CONTACT: **Virendra Patel**
SAMPLER(S): (SIGNATURE)
COELT LOG CODE
P.O. NO.:
LAB USE ONLY / WO#:
COOLER RECEIPT Temp = °C

TURNAROUND TIME
☐ SAME DAY ☐ 24 HR ☐ 48HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ LOCUS EIM53 EDD ☒ COELT EDF ☒ 6B362036002

SPECIAL INSTRUCTIONS
Log code: ERMC

GEL Quote: GELP16-0739

REQUESTED ANALYSIS

LAB USE ONLY	SAMPLE ID	CEL Sample #	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Radium 226 - EPA 903.1	Radium 228 - EPA 904.0	
	P3-1		06/27/16	08:20	S	1	X	X	Composite P3-1 to P3-5 into "P3"
	P3-2		06/27/16	08:25	S	1			
	P3-3		06/27/16	08:40	S	1			
	P3-4		06/27/16	08:30	S	1			
	P3-5		06/27/16	08:35	S	1			
	P2-1		06/27/16	09:05	S	1	X	X	Composite P2-1 to P2-5 into "P2"
	P2-2		06/27/16	09:10	S	1			
	P2-3		06/27/16	09:15	S	1			
	P2-4		06/27/16	09:20	S	1			
	P2-5		06/27/16	09:25	S	1			

Relinquished by: (Signature) (Eurofins Calscience)	Received by: (Signature) FedEx AB# 776641860935	Date: 6/29/2016	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date: 6/30/16	Time: 0915
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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Ship to: Julie Robinson (843.769.7376 ext 4289)
GEL Laboratories, LLC
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CHAIN OF CUSTODY RECORD

DATE:
PAGE: 3 OF 7

LABORATORY CLIENT: **Eurofins Calscience, Inc.**
ADDRESS: **7440 Lincoln Way**
CITY: **Garden Grove, CA 92841-1427**
TEL: **714-895-5494** E-mail: VirendraPatel@eurofinsUS.com

CLIENT PROJECT NAME / NUMBER: **16-06-2043**
PROJECT CONTACT: **Virendra Patel**
SAMPLER(S): (SIGNATURE)
P.O. NO.:
LAB USE ONLY / WO#
COELT LOG CODE
COOLER RECEIPT Temp = ____ °C

TURNAROUND TIME
☐ SAME DAY ☐ 24 HR ☐ 48HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ LOCUS EIM53 EDD ☒ COELT EDF ☒ 6B362036002

SPECIAL INSTRUCTIONS
Log code: ERMC

GEL Quote: GELP16-0739

REQUESTED ANALYSIS

LAB USE ONLY	SAMPLE ID	CEL Sample #	SAMPLING DATE	SAMPLING TIME	MAT-RIX	NO. OF CONT.	Radium 226 - EPA 903.1	Radium 228 - EPA 904.0	
	P1-1		06/27/16	09:00	S	1	X	X	Composite P1-1 to P1-5 into "P1"
	P1-2		06/27/16	09:05	S	1			
	P1-3		06/27/16	09:10	S	1			
	P1-4		06/27/16	09:15	S	1			
	P1-5		06/27/16	09:20	S	1			
	P1-FL-1-0		06/27/16	14:40	S	1	X	X	
	P1-FL-1-0.5		06/27/16	14:45	S	1	X	X	
	P1-FL-1-1		06/27/16	14:50	S	1			Hold
	P1-FL-1-3		06/27/16	14:55	S	1			Hold
	P1-FL-2-0		06/27/16	14:15	S	1	X	X	

Relinquished by: (Signature) (Eurofins Calscience)	Received by: (Signature) FedEx AB# 776641860935	Date: 6/29/2016	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date: 6/30/16	Time: 0915
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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Ship to: Julie Robinson (843.769.7376 ext 4289)
GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407

CHAIN OF CUSTODY RECORD

DATE:
PAGE: 4 OF 7

LABORATORY CLIENT: **Eurofins Calscience, Inc.**
ADDRESS: **7440 Lincoln Way**
CITY: **Garden Grove, CA 92841-1427**
TEL: **714-895-5494** E-mail: VirendraPatel@eurofinsUS.com

CLIENT PROJECT NAME / NUMBER: **16-06-2043**
PROJECT CONTACT: **Virendra Patel**
SAMPLER(S): (SIGNATURE)
COELT LOG CODE
P.O. NO.:
LAB USE ONLY / WO#
COOLER RECEIPT Temp = _____ °C

TURNAROUND TIME
☐ SAME DAY ☐ 24 HR ☐ 48HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ LOCUS EIM53 EDD ☒ COELT EDF ☒ 6B362036002

SPECIAL INSTRUCTIONS
Log code: ERMC

GEL Quote: GELP16-0739

REQUESTED ANALYSIS

LAB USE ONLY	SAMPLE ID	CEL Sample #	SAMPLING DATE	SAMPLING TIME	MAT-RIX	NO. OF CONT.	Radium 226 - EPA 903.1	Radium 228 - EPA 904.0									
	P1-FL-2-0.5		06/27/16	14:20	S	1	X	X									
	P1-FL-2-1		06/27/16	14:25	S	1											Hold
	P1-FL-2-3		06/27/16	14:30	S	1											Hold
	P1-FL-3-0		06/27/16	13:45	S	1	X	X									
	P1-FL-3-0.5		06/27/16	13:50	S	1	X	X									
	P1-FL-3-1		06/27/16	13:55	S	1											Hold
	P1-FL-3-3		06/27/16	14:00	S	1											Hold
	P2-FL-4-0		06/27/16	13:20	S	1	X	X									
	P2-FL-4-0.5		06/27/16	13:25	S	1	X	X									
	P2-FL-4-1		06/27/16	13:30	S	1											Hold

Relinquished by: (Signature) (Eurofins Calscience)	Received by: (Signature) FedEx AB# 776641860935	Date: 6/29/2016	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date: 6/30/16	Time: 0915
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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Ship to: Julie Robinson (843.769.7376 ext 4289)
GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407

CHAIN OF CUSTODY RECORD

DATE:
PAGE: 5 OF 7

LABORATORY CLIENT: **Eurofins Calscience, Inc.**
ADDRESS: **7440 Lincoln Way**
CITY: **Garden Grove, CA 92841-1427**
TEL: **714-895-5494** E-mail: VirendraPatel@eurofinsUS.com

CLIENT PROJECT NAME / NUMBER: **16-06-2043**
PROJECT CONTACT: **Virendra Patel**
SAMPLER(S): (SIGNATURE)
COELT LOG CODE
P.O. NO.:
LAB USE ONLY / WO#
COOLER RECEIPT Temp.= °C

TURNAROUND TIME
☐ SAME DAY ☐ 24 HR ☐ 48HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ LOCUS EIM53 EDD ☒ COELT EDF ☒ 6B362036002

SPECIAL INSTRUCTIONS
Log code: ERMC

GEL Quote: GELP16-0739

REQUESTED ANALYSIS

LAB USE ONLY	SAMPLE ID	CEL Sample #	SAMPLING DATE	SAMPLING TIME	MAT-RIX	NO. OF CONT.	Radium 226 - EPA 903.1	Radium 228 - EPA 904.0										
	P2-FL-4-3		06/27/16	13:35	S	1												Hold
	P3-FL-5-0		06/27/16	11:30	S	1	X	X										
	P3-FL-5-0.5		06/27/16	11:35	S	1	X	X										
	P3-FL-5-1		06/27/16	11:40	S	1												Hold
	P3-FL-5-3		06/27/16	11:45	S	1												Hold
	P4-FL-6-0		06/27/16	11:00	S	1	X	X										
	P4-FL-6-0.5		06/27/16	11:05	S	1	X	X										
	P4-FL-6-1		06/27/16	11:10	S	1												Hold
	P4-FL-6-3		06/27/16	11:15	S	1												Hold
	P5-FL-7-0		06/27/16	10:45	S	1	X	X										

Relinquished by: (Signature) (Eurofins Calscience)	Received by: (Signature) FedEx AB# 776641860935	Date: 6/29/2016	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date: 6/30/16	Time: 0915
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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Charleston, SC 29407

CHAIN OF CUSTODY RECORD

DATE:
PAGE: 6 OF 7

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ADDRESS: **7440 Lincoln Way**
CITY: **Garden Grove, CA 92841-1427**
TEL: **714-895-5494** E-mail: VirendraPatel@eurofinsUS.com

CLIENT PROJECT NAME / NUMBER: **16-06-2043**
PROJECT CONTACT: **Virendra Patel**
SAMPLER(S): (SIGNATURE)
COELT LOG CODE
P.O. NO.:
LAB USE ONLY / WO#
COOLER RECEIPT Temp = °C

TURNAROUND TIME
☐ SAME DAY ☐ 24 HR ☐ 48HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ LOCUS EIM53 EDD ☒ COELT EDF ☒ 6B362036002

SPECIAL INSTRUCTIONS
Log code: ERMC

GEL Quote: GELP16-0739

REQUESTED ANALYSIS

LAB USE ONLY	SAMPLE ID	CEL Sample #	SAMPLING DATE	SAMPLING TIME	MAT-RIX	NO. OF CONT.	Radium 226 - EPA 903.1	Radium 228 - EPA 904.0										
	P5-FL-7-0.5		06/27/16	10:50	S	1	X	X										
	P5-FL-7-1		06/27/16	10:55	S	1												Hold
	P5-FL-7-3		06/27/16	11:00	S	1												Hold
	P5-FL-8-0		06/27/16	10:00	S	1	X	X										
	P5-FL-8-0.5		06/27/16	10:05	S	1	X	X										
	P5-FL-8-1		06/27/16	10:10	S	1												Hold
	P5-FL-8-3		06/27/16	10:15	S	1												Hold
	B-1		06/27/16	15:25	S	1	X	X										
	B-2		06/27/16	15:15	S	1	X	X										
	DUP		06/27/16	--	S	1	X	X										

Relinquished by: (Signature) (Eurofins Calscience)	Received by: (Signature) FedEx AB# 776641860935	Date: 6/29/2016	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date: 6/30/16	Time: 0915
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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Ship to: Julie Robinson (843.769.7376 ext 4289)
GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407

CHAIN OF CUSTODY RECORD

DATE:

PAGE: 7 OF 7

LABORATORY CLIENT: **Eurofins Calscience, Inc.**	CLIENT PROJECT NAME / NUMBER: **16-06-2043**
ADDRESS: **7440 Lincoln Way**	P.O. NO.:
CITY: **Garden Grove, CA 92841-1427**	PROJECT CONTACT: **Virendra Patel**
TEL: **714-895-5494** E-mail: VirendraPatel@eurofinsUS.com	SAMPLER(S): (SIGNATURE)
	LAB USE ONLY / WO#
	COELT LOG CODE
	COOLER RECEIPT Temp = °C

TURNAROUND TIME

☐ SAME DAY ☐ 24 HR ☐ 48HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ LOCUS EIM53 EDD ☒ COELT EDF ☒ 6B362036002

SPECIAL INSTRUCTIONS

Log code: ERMC

GEL Quote: GELP16-0739

REQUESTED ANALYSIS

LAB USE ONLY	SAMPLE ID	CEL Sample #	SAMPLING DATE	SAMPLING TIME	MAT-RIX	NO. OF CONT.	Radium 226 - EPA 903.1	Radium 228 - EPA 904.0
	B-3		06/27/16	15:30	S	1	X	X

Relinquished by: (Signature) (Eurofins Calscience)	Received by: (Signature) FedEx AB# 776641860935	Date: 6/29/2016	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date: 6/30/16	Time: 0915
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client:			**SDG/AR/COC/Work Order:**	400455
Received By:	Sara Gribble		**Date Received:**	6/30/16

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 cpm
Classified Radioactive II or III by RSO?		✓	If yes, Were swipes taken of sample containers < action levels?
COC/Samples marked containing PCBs?		✓	
Package, COC, and/or Samples marked as beryllium or asbestos containing?		✓	If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: .
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: (Ice bags) Blue ice Dry ice None Other (describe) *all temperatures are recorded in Celsius 2°C
2a	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: Secondary Temperature Device Serial # (If Applicable): ES102009184
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?			✓	Circle Applicable: Seals broken (Damaged container) Leaking container Other (describe) P1-FL-1-0.5 received broken
5	Samples requiring chemical preservation at proper pH?		✓		Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	Do Low Level Perchlorate samples have headspace as required?		✓		Sample ID's and containers affected:
7	VOA vials contain acid preservation?		✓		(If unknown, select No)
8	VOA vials free of headspace (defined as < 6mm bubble)?		✓		Sample ID's and containers affected:
9	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
10	Samples received within holding time?	✓			ID's and tests affected:
11	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
12	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
13	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
14	Are sample containers identifiable as GEL provided?			✓	
15	COC form is properly signed in relinquished/received sections?	✓			
16	Carrier and tracking number.				Circle Applicable: (FedEx Air) FedEx Ground UPS Field Services Courier Other 7766 4186 0935

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials SL Date 6/30/16 Page 1 of 1

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List of current GEL Certifications as of 14 July 2016

State	Certification
Alaska	UST−0110
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
Delaware	SC00012
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA160006
Maryland	270
Massachusetts	M−SC012
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122016−1
New Hampshire NELAP	205415
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	9904
Pennsylvania NELAP	68−00485
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−16−11
Utah NELAP	SC000122016−20
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404

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Supplemental Report 1

Additional requested analyses are reported as a stand-alone report.

WORK ORDER NUMBER: 16-06-2043

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: ERM-WEST

Client Project Name: NRG Coolwater

Attention: Steve Williams
2875 Michelle Dr.
Suite 200
Irvine, CA 92606-1021

Approved for release on 08/01/2016 by:
Virendra Patel
Project Manager

ResultLink

Email your PM

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

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Work Order Number: 16-06-2043

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Work Order Narrative

Work Order: 16-06-2043 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 06/28/16. They were assigned to Work Order 16-06-2043.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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Sample Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	PO Number:	355141.02
		Date/Time Received:	06/28/16 18:40
		Number of Containers:	127
Attn:	Steve Williams		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
P1-FL-1-1	16-06-2043-28	06/27/16 14:50	2	Solid
P1-FL-1-3	16-06-2043-29	06/27/16 14:55	2	Solid
P1-FL-2-1	16-06-2043-32	06/27/16 14:25	2	Solid
P1-FL-2-3	16-06-2043-33	06/27/16 14:30	2	Solid
P1-FL-3-1	16-06-2043-36	06/27/16 13:55	2	Solid
P1-FL-3-3	16-06-2043-37	06/27/16 14:00	2	Solid
P2-FL-4-1	16-06-2043-40	06/27/16 13:30	2	Solid
P2-FL-4-3	16-06-2043-41	06/27/16 13:35	2	Solid
P3-FL-5-1	16-06-2043-44	06/27/16 11:40	2	Solid
P3-FL-5-3	16-06-2043-45	06/27/16 11:45	2	Solid
P4-FL-6-1	16-06-2043-48	06/27/16 11:10	2	Solid
P4-FL-6-3	16-06-2043-49	06/27/16 11:15	2	Solid
P5-FL-7-0	16-06-2043-50	06/27/16 10:45	2	Solid
P5-FL-7-1	16-06-2043-52	06/27/16 10:55	2	Solid
P5-FL-7-3	16-06-2043-53	06/27/16 11:00	2	Solid
P5-FL-8-1	16-06-2043-56	06/27/16 10:10	2	Solid
P5-FL-8-3	16-06-2043-57	06/27/16 10:15	2	Solid
DUP	16-06-2043-60	06/27/16 00:00	2	Solid
P5	16-06-2043-62	06/27/16 00:00	1	Solid

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P1-FL-1-1 (16-06-2043-28)						
Arsenic	1.55		0.735	mg/kg	EPA 6010B	EPA 3050B
Barium	36.9		0.490	mg/kg	EPA 6010B	EPA 3050B
Chromium	2.79		0.245	mg/kg	EPA 6010B	EPA 3050B
Cobalt	1.98		0.245	mg/kg	EPA 6010B	EPA 3050B
Copper	2.68		0.490	mg/kg	EPA 6010B	EPA 3050B
Lead	1.46		0.490	mg/kg	EPA 6010B	EPA 3050B
Nickel	1.77		0.245	mg/kg	EPA 6010B	EPA 3050B
Vanadium	13.0		0.245	mg/kg	EPA 6010B	EPA 3050B
Zinc	11.9		0.980	mg/kg	EPA 6010B	EPA 3050B
Lithium	2.84		2.45	mg/kg	EPA 6010B	EPA 3050B
Calcium	3260		4.90	mg/kg	EPA 6010B	EPA 3050B
Magnesium	1250		4.90	mg/kg	EPA 6010B	EPA 3050B
Potassium	816		24.5	mg/kg	EPA 6010B	EPA 3050B
Sodium	84.5		24.5	mg/kg	EPA 6010B	EPA 3050B
Boron	1.81		0.980	mg/kg	EPA 6010B	EPA 3050B
P1-FL-1-3 (16-06-2043-29)						
Arsenic	1.08		0.785	mg/kg	EPA 6010B	EPA 3050B
Barium	31.4		0.524	mg/kg	EPA 6010B	EPA 3050B
Chromium	2.94		0.262	mg/kg	EPA 6010B	EPA 3050B
Cobalt	2.15		0.262	mg/kg	EPA 6010B	EPA 3050B
Copper	2.65		0.524	mg/kg	EPA 6010B	EPA 3050B
Lead	1.47		0.524	mg/kg	EPA 6010B	EPA 3050B
Nickel	1.88		0.262	mg/kg	EPA 6010B	EPA 3050B
Vanadium	13.3		0.262	mg/kg	EPA 6010B	EPA 3050B
Zinc	15.0		1.05	mg/kg	EPA 6010B	EPA 3050B
Lithium	3.84		2.62	mg/kg	EPA 6010B	EPA 3050B
Calcium	2250		5.24	mg/kg	EPA 6010B	EPA 3050B
Magnesium	1460		5.24	mg/kg	EPA 6010B	EPA 3050B
Potassium	920		26.2	mg/kg	EPA 6010B	EPA 3050B
Sodium	78.0		26.2	mg/kg	EPA 6010B	EPA 3050B
Boron	1.54		1.05	mg/kg	EPA 6010B	EPA 3050B

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* MDL is shown

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P1-FL-2-1 (16-06-2043-32)						
Chloride	280	BU	50	mg/kg	EPA 300.0	N/A
Nitrate (as N)	50	BU	5.0	mg/kg	EPA 300.0	N/A
Sulfate	410	BU	50	mg/kg	EPA 300.0	N/A
Arsenic	4.26		0.714	mg/kg	EPA 6010B	EPA 3050B
Barium	75.1		0.476	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.369		0.238	mg/kg	EPA 6010B	EPA 3050B
Chromium	8.73		0.238	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.73		0.238	mg/kg	EPA 6010B	EPA 3050B
Copper	7.47		0.476	mg/kg	EPA 6010B	EPA 3050B
Lead	3.43		0.476	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.77		0.238	mg/kg	EPA 6010B	EPA 3050B
Vanadium	23.3		0.238	mg/kg	EPA 6010B	EPA 3050B
Zinc	26.7		0.952	mg/kg	EPA 6010B	EPA 3050B
Lithium	8.07		2.38	mg/kg	EPA 6010B	EPA 3050B
Calcium	7650		4.76	mg/kg	EPA 6010B	EPA 3050B
Magnesium	3790		4.76	mg/kg	EPA 6010B	EPA 3050B
Potassium	2590		23.8	mg/kg	EPA 6010B	EPA 3050B
Sodium	1370		23.8	mg/kg	EPA 6010B	EPA 3050B
Boron	5.04		0.952	mg/kg	EPA 6010B	EPA 3050B
Solids, Total Dissolved	6910	BU	10.0	mg/kg	SM 2540 C (M)	N/A

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* MDL is shown

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P1-FL-2-3 (16-06-2043-33)						
Chloride	140	BU	10	mg/kg	EPA 300.0	N/A
Nitrate (as N)	27	BU	1.0	mg/kg	EPA 300.0	N/A
Sulfate	510	BU	10	mg/kg	EPA 300.0	N/A
Arsenic	2.19		0.750	mg/kg	EPA 6010B	EPA 3050B
Barium	42.8		0.500	mg/kg	EPA 6010B	EPA 3050B
Chromium	4.68		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	2.99		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	4.23		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	1.99		0.500	mg/kg	EPA 6010B	EPA 3050B
Nickel	3.27		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	15.7		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	17.3		1.00	mg/kg	EPA 6010B	EPA 3050B
Lithium	4.79		2.50	mg/kg	EPA 6010B	EPA 3050B
Calcium	5040		5.00	mg/kg	EPA 6010B	EPA 3050B
Magnesium	2200		5.00	mg/kg	EPA 6010B	EPA 3050B
Potassium	1350		25.0	mg/kg	EPA 6010B	EPA 3050B
Sodium	405		25.0	mg/kg	EPA 6010B	EPA 3050B
Boron	2.84		1.00	mg/kg	EPA 6010B	EPA 3050B
Solids, Total Dissolved	4460	BU	10.0	mg/kg	SM 2540 C (M)	N/A

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* MDL is shown

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P1-FL-3-1 (16-06-2043-36)						
Chloride	170	BU	50	mg/kg	EPA 300.0	N/A
Nitrate (as N)	7.0	BU	5.0	mg/kg	EPA 300.0	N/A
Sulfate	2700	BU	50	mg/kg	EPA 300.0	N/A
Arsenic	5.81		0.769	mg/kg	EPA 6010B	EPA 3050B
Barium	68.2		0.513	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.287		0.256	mg/kg	EPA 6010B	EPA 3050B
Chromium	6.90		0.256	mg/kg	EPA 6010B	EPA 3050B
Cobalt	3.42		0.256	mg/kg	EPA 6010B	EPA 3050B
Copper	16.0		0.513	mg/kg	EPA 6010B	EPA 3050B
Lead	2.52		0.513	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.69		0.256	mg/kg	EPA 6010B	EPA 3050B
Vanadium	21.1		0.256	mg/kg	EPA 6010B	EPA 3050B
Zinc	22.2		1.03	mg/kg	EPA 6010B	EPA 3050B
Lithium	2.97		2.56	mg/kg	EPA 6010B	EPA 3050B
Calcium	26600		5.13	mg/kg	EPA 6010B	EPA 3050B
Magnesium	4070		5.13	mg/kg	EPA 6010B	EPA 3050B
Potassium	1780		25.6	mg/kg	EPA 6010B	EPA 3050B
Sodium	1500		25.6	mg/kg	EPA 6010B	EPA 3050B
Boron	35.0		1.03	mg/kg	EPA 6010B	EPA 3050B
Solids, Total Dissolved	24200	BU	100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P1-FL-3-3 (16-06-2043-37)						
Chloride	220	BU	50	mg/kg	EPA 300.0	N/A
Nitrate (as N)	7.6	BU	5.0	mg/kg	EPA 300.0	N/A
Sulfate	2000	BU	50	mg/kg	EPA 300.0	N/A
Arsenic	3.42		0.781	mg/kg	EPA 6010B	EPA 3050B
Barium	53.8		0.521	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.322		0.260	mg/kg	EPA 6010B	EPA 3050B
Chromium	7.10		0.260	mg/kg	EPA 6010B	EPA 3050B
Cobalt	3.71		0.260	mg/kg	EPA 6010B	EPA 3050B
Copper	8.22		0.521	mg/kg	EPA 6010B	EPA 3050B
Lead	3.01		0.521	mg/kg	EPA 6010B	EPA 3050B
Nickel	4.39		0.260	mg/kg	EPA 6010B	EPA 3050B
Vanadium	24.5		0.260	mg/kg	EPA 6010B	EPA 3050B
Zinc	20.5		1.04	mg/kg	EPA 6010B	EPA 3050B
Lithium	4.41		2.60	mg/kg	EPA 6010B	EPA 3050B
Calcium	12500		5.21	mg/kg	EPA 6010B	EPA 3050B
Magnesium	3230		5.21	mg/kg	EPA 6010B	EPA 3050B
Potassium	1960		26.0	mg/kg	EPA 6010B	EPA 3050B
Sodium	1530		26.0	mg/kg	EPA 6010B	EPA 3050B
Boron	18.5		1.04	mg/kg	EPA 6010B	EPA 3050B
Solids, Total Dissolved	16100	BU	100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P2-FL-4-1 (16-06-2043-40)						
Chloride	630	BU	50	mg/kg	EPA 300.0	N/A
Nitrate (as N)	81	BU	5.0	mg/kg	EPA 300.0	N/A
Sulfate	1200	BU	50	mg/kg	EPA 300.0	N/A
Arsenic	3.45		0.761	mg/kg	EPA 6010B	EPA 3050B
Barium	83.3		0.508	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.337		0.254	mg/kg	EPA 6010B	EPA 3050B
Chromium	7.26		0.254	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.60		0.254	mg/kg	EPA 6010B	EPA 3050B
Copper	7.00		0.508	mg/kg	EPA 6010B	EPA 3050B
Lead	4.24		0.508	mg/kg	EPA 6010B	EPA 3050B
Nickel	4.94		0.254	mg/kg	EPA 6010B	EPA 3050B
Vanadium	24.3		0.254	mg/kg	EPA 6010B	EPA 3050B
Zinc	27.2		1.02	mg/kg	EPA 6010B	EPA 3050B
Lithium	6.61		2.54	mg/kg	EPA 6010B	EPA 3050B
Calcium	8510		5.08	mg/kg	EPA 6010B	EPA 3050B
Magnesium	3570		5.08	mg/kg	EPA 6010B	EPA 3050B
Potassium	1830		25.4	mg/kg	EPA 6010B	EPA 3050B
Sodium	1720		25.4	mg/kg	EPA 6010B	EPA 3050B
Boron	8.47		1.02	mg/kg	EPA 6010B	EPA 3050B
Solids, Total Dissolved	10800	BU	100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

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Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P2-FL-4-3 (16-06-2043-41)						
Chloride	150	BU	50	mg/kg	EPA 300.0	N/A
Nitrate (as N)	27	BU	5.0	mg/kg	EPA 300.0	N/A
Sulfate	1400	BU	50	mg/kg	EPA 300.0	N/A
Arsenic	1.41		0.725	mg/kg	EPA 6010B	EPA 3050B
Barium	20.3		0.483	mg/kg	EPA 6010B	EPA 3050B
Chromium	3.36		0.242	mg/kg	EPA 6010B	EPA 3050B
Cobalt	1.65		0.242	mg/kg	EPA 6010B	EPA 3050B
Copper	2.89		0.483	mg/kg	EPA 6010B	EPA 3050B
Lead	1.27		0.483	mg/kg	EPA 6010B	EPA 3050B
Nickel	1.77		0.242	mg/kg	EPA 6010B	EPA 3050B
Vanadium	14.2		0.242	mg/kg	EPA 6010B	EPA 3050B
Zinc	8.55		0.966	mg/kg	EPA 6010B	EPA 3050B
Calcium	4360		4.83	mg/kg	EPA 6010B	EPA 3050B
Magnesium	1110		4.83	mg/kg	EPA 6010B	EPA 3050B
Potassium	592		24.2	mg/kg	EPA 6010B	EPA 3050B
Sodium	348		24.2	mg/kg	EPA 6010B	EPA 3050B
Boron	4.53		0.966	mg/kg	EPA 6010B	EPA 3050B
Solids, Total Dissolved	8010	BU	10.0	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P3-FL-5-1 (16-06-2043-44)						
Chloride	1200	BU	100	mg/kg	EPA 300.0	N/A
Sulfate	5900	BU	100	mg/kg	EPA 300.0	N/A
Arsenic	6.87		0.765	mg/kg	EPA 6010B	EPA 3050B
Barium	80.6		0.510	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.280		0.255	mg/kg	EPA 6010B	EPA 3050B
Chromium	6.52		0.255	mg/kg	EPA 6010B	EPA 3050B
Cobalt	3.49		0.255	mg/kg	EPA 6010B	EPA 3050B
Copper	11.3		0.510	mg/kg	EPA 6010B	EPA 3050B
Lead	3.90		0.510	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	0.592		0.255	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.54		0.255	mg/kg	EPA 6010B	EPA 3050B
Selenium	0.815		0.765	mg/kg	EPA 6010B	EPA 3050B
Vanadium	16.5		0.255	mg/kg	EPA 6010B	EPA 3050B
Zinc	24.2		1.02	mg/kg	EPA 6010B	EPA 3050B
Lithium	3.72		2.55	mg/kg	EPA 6010B	EPA 3050B
Calcium	26900		5.10	mg/kg	EPA 6010B	EPA 3050B
Magnesium	4080		5.10	mg/kg	EPA 6010B	EPA 3050B
Potassium	1640		25.5	mg/kg	EPA 6010B	EPA 3050B
Sodium	4720		25.5	mg/kg	EPA 6010B	EPA 3050B
Boron	74.8		1.02	mg/kg	EPA 6010B	EPA 3050B
Solids, Total Dissolved	32400	BU	100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

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	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

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Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P3-FL-5-3 (16-06-2043-45)						
Chloride	360	BU	50	mg/kg	EPA 300.0	N/A
Sulfate	1500	BU	50	mg/kg	EPA 300.0	N/A
Arsenic	3.27		0.714	mg/kg	EPA 6010B	EPA 3050B
Barium	57.5		0.476	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.283		0.238	mg/kg	EPA 6010B	EPA 3050B
Chromium	6.04		0.238	mg/kg	EPA 6010B	EPA 3050B
Cobalt	3.95		0.238	mg/kg	EPA 6010B	EPA 3050B
Copper	6.46		0.476	mg/kg	EPA 6010B	EPA 3050B
Lead	2.94		0.476	mg/kg	EPA 6010B	EPA 3050B
Nickel	4.27		0.238	mg/kg	EPA 6010B	EPA 3050B
Vanadium	19.9		0.238	mg/kg	EPA 6010B	EPA 3050B
Zinc	22.3		0.952	mg/kg	EPA 6010B	EPA 3050B
Lithium	6.30		2.38	mg/kg	EPA 6010B	EPA 3050B
Calcium	10800		4.76	mg/kg	EPA 6010B	EPA 3050B
Magnesium	3160		4.76	mg/kg	EPA 6010B	EPA 3050B
Potassium	1640		23.8	mg/kg	EPA 6010B	EPA 3050B
Sodium	1220		23.8	mg/kg	EPA 6010B	EPA 3050B
Boron	16.1		0.952	mg/kg	EPA 6010B	EPA 3050B
Solids, Total Dissolved	12600	BU	100	mg/kg	SM 2540 C (M)	N/A

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	Irvine, CA 92606-1021	Received:	06/28/16
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Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P4-FL-6-1 (16-06-2043-48)						
Chloride	430	BU	50	mg/kg	EPA 300.0	N/A
Sulfate	1800	BU	50	mg/kg	EPA 300.0	N/A
Arsenic	5.15		0.761	mg/kg	EPA 6010B	EPA 3050B
Barium	92.0		0.508	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.633		0.254	mg/kg	EPA 6010B	EPA 3050B
Chromium	11.9		0.254	mg/kg	EPA 6010B	EPA 3050B
Cobalt	7.60		0.254	mg/kg	EPA 6010B	EPA 3050B
Copper	14.3		0.508	mg/kg	EPA 6010B	EPA 3050B
Lead	5.60		0.508	mg/kg	EPA 6010B	EPA 3050B
Nickel	8.77		0.254	mg/kg	EPA 6010B	EPA 3050B
Vanadium	29.7		0.254	mg/kg	EPA 6010B	EPA 3050B
Zinc	41.4		1.02	mg/kg	EPA 6010B	EPA 3050B
Lithium	12.7		2.54	mg/kg	EPA 6010B	EPA 3050B
Calcium	11600		5.08	mg/kg	EPA 6010B	EPA 3050B
Magnesium	6140		5.08	mg/kg	EPA 6010B	EPA 3050B
Potassium	2800		25.4	mg/kg	EPA 6010B	EPA 3050B
Sodium	2920		25.4	mg/kg	EPA 6010B	EPA 3050B
Boron	18.9		1.02	mg/kg	EPA 6010B	EPA 3050B
Solids, Total Dissolved	17700	BU	100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

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Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P4-FL-6-3 (16-06-2043-49)						
Chloride	350	BU	50	mg/kg	EPA 300.0	N/A
Nitrate (as N)	10	BU	5.0	mg/kg	EPA 300.0	N/A
Sulfate	790	BU	50	mg/kg	EPA 300.0	N/A
Arsenic	4.53		0.750	mg/kg	EPA 6010B	EPA 3050B
Barium	109		0.500	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.450		0.250	mg/kg	EPA 6010B	EPA 3050B
Chromium	9.50		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	6.03		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	9.07		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	3.83		0.500	mg/kg	EPA 6010B	EPA 3050B
Nickel	6.28		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	35.3		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	32.5		1.00	mg/kg	EPA 6010B	EPA 3050B
Lithium	10.1		2.50	mg/kg	EPA 6010B	EPA 3050B
Calcium	12400		5.00	mg/kg	EPA 6010B	EPA 3050B
Magnesium	4480		5.00	mg/kg	EPA 6010B	EPA 3050B
Potassium	1360		25.0	mg/kg	EPA 6010B	EPA 3050B
Sodium	754		25.0	mg/kg	EPA 6010B	EPA 3050B
Boron	9.11		1.00	mg/kg	EPA 6010B	EPA 3050B
Solids, Total Dissolved	7310	BU	10.0	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
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Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P5-FL-7-0 (16-06-2043-50)						
Arsenic	21.6		0.750	mg/kg	EPA 6010B	EPA 3050B
Barium	120		0.500	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.295		0.250	mg/kg	EPA 6010B	EPA 3050B
Cadmium	0.674		0.500	mg/kg	EPA 6010B	EPA 3050B
Chromium	16.0		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	2.82		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	47.2		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	6.36		0.500	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	3.27		0.250	mg/kg	EPA 6010B	EPA 3050B
Nickel	11.2		0.250	mg/kg	EPA 6010B	EPA 3050B
Selenium	21.4		0.750	mg/kg	EPA 6010B	EPA 3050B
Silver	1.06		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	22.4		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	27.9		1.00	mg/kg	EPA 6010B	EPA 3050B
Calcium	176000		50.0	mg/kg	EPA 6010B	EPA 3050B
Magnesium	16300		5.00	mg/kg	EPA 6010B	EPA 3050B
Potassium	1030		25.0	mg/kg	EPA 6010B	EPA 3050B
Sodium	24200		25.0	mg/kg	EPA 6010B	EPA 3050B
Boron	606		1.00	mg/kg	EPA 6010B	EPA 3050B
Selenium	0.466		0.150	mg/L	EPA 6010B	EPA 1311
Selenium	1.18		0.150	mg/L	EPA 6010B	T22.11.5. AII
TPH as Motor Oil	130	HD	25	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	53	HD	5.0	mg/kg	EPA 8015B (M)	EPA 3550B
Solids, Total Dissolved	93000		100	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

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Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P5-FL-7-1 (16-06-2043-52)						
Chloride	1700	BU	100	mg/kg	EPA 300.0	N/A
Nitrate (as N)	13	BU	10	mg/kg	EPA 300.0	N/A
Sulfate	7600	BU	100	mg/kg	EPA 300.0	N/A
Arsenic	6.19		0.765	mg/kg	EPA 6010B	EPA 3050B
Barium	81.3		0.510	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.351		0.255	mg/kg	EPA 6010B	EPA 3050B
Chromium	7.56		0.255	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.48		0.255	mg/kg	EPA 6010B	EPA 3050B
Copper	12.3		0.510	mg/kg	EPA 6010B	EPA 3050B
Lead	4.58		0.510	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	0.628		0.255	mg/kg	EPA 6010B	EPA 3050B
Nickel	6.31		0.255	mg/kg	EPA 6010B	EPA 3050B
Selenium	1.22		0.765	mg/kg	EPA 6010B	EPA 3050B
Vanadium	19.2		0.255	mg/kg	EPA 6010B	EPA 3050B
Zinc	30.3		1.02	mg/kg	EPA 6010B	EPA 3050B
Lithium	4.91		2.55	mg/kg	EPA 6010B	EPA 3050B
Calcium	22900		5.10	mg/kg	EPA 6010B	EPA 3050B
Magnesium	4240		5.10	mg/kg	EPA 6010B	EPA 3050B
Potassium	1780		25.5	mg/kg	EPA 6010B	EPA 3050B
Sodium	4620		25.5	mg/kg	EPA 6010B	EPA 3050B
Boron	46.4		1.02	mg/kg	EPA 6010B	EPA 3050B
Solids, Total Dissolved	30800	BU	100	mg/kg	SM 2540 C (M)	N/A

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Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P5-FL-7-3 (16-06-2043-53)						
Chloride	110	BU	50	mg/kg	EPA 300.0	N/A
Nitrate (as N)	23	BU	5.0	mg/kg	EPA 300.0	N/A
Sulfate	890	BU	50	mg/kg	EPA 300.0	N/A
Arsenic	2.89		0.750	mg/kg	EPA 6010B	EPA 3050B
Barium	49.8		0.500	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.266		0.250	mg/kg	EPA 6010B	EPA 3050B
Chromium	6.07		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	3.41		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	5.73		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	2.50		0.500	mg/kg	EPA 6010B	EPA 3050B
Nickel	3.59		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	24.0		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	19.0		1.00	mg/kg	EPA 6010B	EPA 3050B
Lithium	4.83		2.50	mg/kg	EPA 6010B	EPA 3050B
Calcium	8680		5.00	mg/kg	EPA 6010B	EPA 3050B
Magnesium	2480		5.00	mg/kg	EPA 6010B	EPA 3050B
Potassium	1160		25.0	mg/kg	EPA 6010B	EPA 3050B
Sodium	612		25.0	mg/kg	EPA 6010B	EPA 3050B
Boron	9.25		1.00	mg/kg	EPA 6010B	EPA 3050B
Solids, Total Dissolved	7910	BU	10.0	mg/kg	SM 2540 C (M)	N/A

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Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P5-FL-8-1 (16-06-2043-56)						
Arsenic	2.74		0.746	mg/kg	EPA 6010B	EPA 3050B
Barium	119		0.498	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.740		0.249	mg/kg	EPA 6010B	EPA 3050B
Chromium	15.0		0.249	mg/kg	EPA 6010B	EPA 3050B
Cobalt	8.74		0.249	mg/kg	EPA 6010B	EPA 3050B
Copper	15.1		0.498	mg/kg	EPA 6010B	EPA 3050B
Lead	6.78		0.498	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	0.392		0.249	mg/kg	EPA 6010B	EPA 3050B
Nickel	9.17		0.249	mg/kg	EPA 6010B	EPA 3050B
Vanadium	51.2		0.249	mg/kg	EPA 6010B	EPA 3050B
Zinc	52.3		0.995	mg/kg	EPA 6010B	EPA 3050B
Lithium	15.2		2.49	mg/kg	EPA 6010B	EPA 3050B
Calcium	8330		4.98	mg/kg	EPA 6010B	EPA 3050B
Magnesium	6930		4.98	mg/kg	EPA 6010B	EPA 3050B
Potassium	2570		24.9	mg/kg	EPA 6010B	EPA 3050B
Sodium	362		24.9	mg/kg	EPA 6010B	EPA 3050B
Boron	10.9		0.995	mg/kg	EPA 6010B	EPA 3050B
TPH as Motor Oil	170	HD,ET	25	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	41	HD,ET	5.0	mg/kg	EPA 8015B (M)	EPA 3550B
P5-FL-8-3 (16-06-2043-57)						
Arsenic	1.97		0.765	mg/kg	EPA 6010B	EPA 3050B
Barium	109		0.510	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.628		0.255	mg/kg	EPA 6010B	EPA 3050B
Chromium	13.1		0.255	mg/kg	EPA 6010B	EPA 3050B
Cobalt	8.74		0.255	mg/kg	EPA 6010B	EPA 3050B
Copper	11.7		0.510	mg/kg	EPA 6010B	EPA 3050B
Lead	5.81		0.510	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	0.569		0.255	mg/kg	EPA 6010B	EPA 3050B
Nickel	8.72		0.255	mg/kg	EPA 6010B	EPA 3050B
Vanadium	42.1		0.255	mg/kg	EPA 6010B	EPA 3050B
Zinc	45.5		1.02	mg/kg	EPA 6010B	EPA 3050B
Lithium	12.0		2.55	mg/kg	EPA 6010B	EPA 3050B
Calcium	5620		5.10	mg/kg	EPA 6010B	EPA 3050B
Magnesium	5400		5.10	mg/kg	EPA 6010B	EPA 3050B
Potassium	2590		25.5	mg/kg	EPA 6010B	EPA 3050B
Sodium	586		25.5	mg/kg	EPA 6010B	EPA 3050B
Boron	7.74		1.02	mg/kg	EPA 6010B	EPA 3050B

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		Page 16 of 17

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
DUP (16-06-2043-60)						
Fluoride	6.8		5.0	mg/kg	EPA 300.0	N/A
Chloride	10000		500	mg/kg	EPA 300.0	N/A
Nitrate (as N)	26		5.0	mg/kg	EPA 300.0	N/A
Sulfate	26000		500	mg/kg	EPA 300.0	N/A
Arsenic	21.0		0.785	mg/kg	EPA 6010B	EPA 3050B
Barium	115		0.524	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.267		0.262	mg/kg	EPA 6010B	EPA 3050B
Cadmium	0.661		0.524	mg/kg	EPA 6010B	EPA 3050B
Chromium	15.7		0.262	mg/kg	EPA 6010B	EPA 3050B
Cobalt	2.71		0.262	mg/kg	EPA 6010B	EPA 3050B
Copper	52.0		0.524	mg/kg	EPA 6010B	EPA 3050B
Lead	6.61		0.524	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	4.39		0.262	mg/kg	EPA 6010B	EPA 3050B
Nickel	11.3		0.262	mg/kg	EPA 6010B	EPA 3050B
Selenium	29.9		0.785	mg/kg	EPA 6010B	EPA 3050B
Silver	0.987		0.262	mg/kg	EPA 6010B	EPA 3050B
Vanadium	22.4		0.262	mg/kg	EPA 6010B	EPA 3050B
Zinc	26.3		1.05	mg/kg	EPA 6010B	EPA 3050B
Calcium	163000		52.4	mg/kg	EPA 6010B	EPA 3050B
Magnesium	17800		5.24	mg/kg	EPA 6010B	EPA 3050B
Potassium	1130		26.2	mg/kg	EPA 6010B	EPA 3050B
Sodium	27900		26.2	mg/kg	EPA 6010B	EPA 3050B
Boron	747		1.05	mg/kg	EPA 6010B	EPA 3050B
Selenium	0.383		0.150	mg/L	EPA 6010B	EPA 1311
Selenium	1.06		0.150	mg/L	EPA 6010B	T22.11.5. AII
TPH as Motor Oil	160	HD	50	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	53	HD	10	mg/kg	EPA 8015B (M)	EPA 3550B
Solids, Total Dissolved	101000		1000	mg/kg	SM 2540 C (M)	N/A

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		Page 17 of 17

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P5 (16-06-2043-62)						
Fluoride	1.7		1.0	mg/kg	EPA 300.0	N/A
Chloride	31		10	mg/kg	EPA 300.0	N/A
Nitrate (as N)	3.1		1.0	mg/kg	EPA 300.0	N/A
Sulfate	32		10	mg/kg	EPA 300.0	N/A
Arsenic	12.1		0.718	mg/kg	EPA 6010B	EPA 3050B
Barium	287		0.478	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.789		0.239	mg/kg	EPA 6010B	EPA 3050B
Cadmium	1.40		0.478	mg/kg	EPA 6010B	EPA 3050B
Chromium	24.8		0.239	mg/kg	EPA 6010B	EPA 3050B
Cobalt	6.28		0.239	mg/kg	EPA 6010B	EPA 3050B
Copper	48.9		0.478	mg/kg	EPA 6010B	EPA 3050B
Lead	25.1		0.478	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	2.43		0.239	mg/kg	EPA 6010B	EPA 3050B
Nickel	14.4		0.239	mg/kg	EPA 6010B	EPA 3050B
Selenium	12.3		0.718	mg/kg	EPA 6010B	EPA 3050B
Silver	0.480		0.239	mg/kg	EPA 6010B	EPA 3050B
Vanadium	37.8		0.239	mg/kg	EPA 6010B	EPA 3050B
Zinc	48.3		0.957	mg/kg	EPA 6010B	EPA 3050B
Calcium	61700		47.8	mg/kg	EPA 6010B	EPA 3050B
Magnesium	7660		4.78	mg/kg	EPA 6010B	EPA 3050B
Potassium	2090		23.9	mg/kg	EPA 6010B	EPA 3050B
Sodium	12200		23.9	mg/kg	EPA 6010B	EPA 3050B
Boron	260		0.957	mg/kg	EPA 6010B	EPA 3050B
Selenium	0.558		0.150	mg/L	EPA 6010B	T22.11.5. AII
Mercury	0.113		0.0847	mg/kg	EPA 7471A	EPA 7471A Total
TPH as Motor Oil	260	HD	50	mg/kg	EPA 8015B (M)	EPA 3550B
TPH as Diesel	84	HD	9.9	mg/kg	EPA 8015B (M)	EPA 3550B
Solids, Total Dissolved	31400		100	mg/kg	SM 2540 C (M)	N/A

Subcontracted analyses, if any, are not included in this summary.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: EPA 300.0
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-1	**16-06-2043-32-A**	**06/27/16 14:25**	**Solid**	**IC 10**	**07/26/16**	**07/27/16 02:27**	**160726L01P**

Comment(s): - The reporting limit is elevated resulting from matrix interference.
- Sample was not received within recommended holding time.

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	5.0	5.00	BU
Chloride	280	50	5.00	BU
Nitrate (as N)	50	5.0	5.00	BU
Sulfate	410	50	5.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-3	**16-06-2043-33-A**	**06/27/16 14:30**	**Solid**	**IC 10**	**07/26/16**	**07/27/16 02:46**	**160726L01P**

Comment(s): - Sample was not received within recommended holding time.

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	1.0	1.00	BU
Chloride	140	10	1.00	BU
Nitrate (as N)	27	1.0	1.00	BU
Sulfate	510	10	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-1	**16-06-2043-36-A**	**06/27/16 13:55**	**Solid**	**IC 10**	**07/26/16**	**07/27/16 03:05**	**160726L01P**

Comment(s): - The reporting limit is elevated resulting from matrix interference.
- Sample was not received within recommended holding time.

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	5.0	5.00	BU
Chloride	170	50	5.00	BU
Nitrate (as N)	7.0	5.0	5.00	BU
Sulfate	2700	50	5.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-3	**16-06-2043-37-A**	**06/27/16 14:00**	**Solid**	**IC 10**	**07/26/16**	**07/27/16 03:24**	**160726L01P**

Comment(s): - The reporting limit is elevated resulting from matrix interference.
- Sample was not received within recommended holding time.

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	5.0	5.00	BU
Chloride	220	50	5.00	BU
Nitrate (as N)	7.6	5.0	5.00	BU
Sulfate	2000	50	5.00	BU

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	EPA 300.0
		Units:	mg/kg
Project: NRG Coolwater			Page 2 of 5

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-1	**16-06-2043-40-A**	**06/27/16 13:30**	**Solid**	**IC 10**	**07/26/16**	**07/27/16 03:43**	**160726L01P**

Comment(s): - The reporting limit is elevated resulting from matrix interference.
- Sample was not received within recommended holding time.

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	5.0	5.00	BU
Chloride	630	50	5.00	BU
Nitrate (as N)	81	5.0	5.00	BU
Sulfate	1200	50	5.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-3	**16-06-2043-41-A**	**06/27/16 13:35**	**Solid**	**IC 10**	**07/26/16**	**07/27/16 04:02**	**160726L01P**

Comment(s): - The reporting limit is elevated resulting from matrix interference.
- Sample was not received within recommended holding time.

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	5.0	5.00	BU
Chloride	150	50	5.00	BU
Nitrate (as N)	27	5.0	5.00	BU
Sulfate	1400	50	5.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-1	**16-06-2043-44-A**	**06/27/16 11:40**	**Solid**	**IC 10**	**07/26/16**	**07/27/16 04:21**	**160726L01P**

Comment(s): - The reporting limit is elevated resulting from matrix interference.
- Sample was not received within recommended holding time.

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	10	10.0	BU
Chloride	1200	100	10.0	BU
Nitrate (as N)	ND	10	10.0	BU
Sulfate	5900	100	10.0	BU

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: EPA 300.0
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-3	**16-06-2043-45-A**	**06/27/16 11:45**	**Solid**	**IC 10**	**07/26/16**	**07/27/16 04:40**	**160726L01P**

Comment(s): - The reporting limit is elevated resulting from matrix interference.
- Sample was not received within recommended holding time.

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	5.0	5.00	BU
Chloride	360	50	5.00	BU
Nitrate (as N)	ND	5.0	5.00	BU
Sulfate	1500	50	5.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-1	**16-06-2043-48-A**	**06/27/16 11:10**	**Solid**	**IC 10**	**07/26/16**	**07/27/16 04:59**	**160726L01P**

Comment(s): - The reporting limit is elevated resulting from matrix interference.
- Sample was not received within recommended holding time.

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	5.0	5.00	BU
Chloride	430	50	5.00	BU
Nitrate (as N)	ND	5.0	5.00	BU
Sulfate	1800	50	5.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-3	**16-06-2043-49-A**	**06/27/16 11:15**	**Solid**	**IC 10**	**07/26/16**	**07/27/16 06:37**	**160726L01P**

Comment(s): - The reporting limit is elevated resulting from matrix interference.
- Sample was not received within recommended holding time.

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	5.0	5.00	BU
Chloride	350	50	5.00	BU
Nitrate (as N)	10	5.0	5.00	BU
Sulfate	790	50	5.00	BU

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: EPA 300.0
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-1	**16-06-2043-52-A**	**06/27/16 10:55**	**Solid**	**IC 10**	**07/26/16**	**07/27/16 06:56**	**160726L01P**

Comment(s): - The reporting limit is elevated resulting from matrix interference.
- Sample was not received within recommended holding time.

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	10	10.0	BU
Chloride	1700	100	10.0	BU
Nitrate (as N)	13	10	10.0	BU
Sulfate	7600	100	10.0	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-3	**16-06-2043-53-A**	**06/27/16 11:00**	**Solid**	**IC 10**	**07/26/16**	**07/27/16 07:15**	**160726L01P**

Comment(s): - The reporting limit is elevated resulting from matrix interference.
- Sample was not received within recommended holding time.

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	5.0	5.00	BU
Chloride	110	50	5.00	BU
Nitrate (as N)	23	5.0	5.00	BU
Sulfate	890	50	5.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 21:33**	**160701L01P**

Comment(s): - Sample was not received within recommended holding time.

Parameter	Result	RL	DF	Qualifiers
Fluoride	6.8	5.0	5.00	
Nitrate (as N)	26	5.0	5.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 04:56**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Chloride	10000	500	50.0	
Sulfate	26000	500	50.0	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: EPA 300.0
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5	**16-06-2043-62-A**	**06/27/16 00:00**	**Solid**	**IC 10**	**07/01/16**	**07/02/16 00:24**	**160701L02P**

Comment(s): - Sample was not received within recommended holding time.

Parameter	Result	RL	DF	Qualifiers
Fluoride	1.7	1.0	1.00	
Chloride	31	10	1.00	
Nitrate (as N)	3.1	1.0	1.00	
Sulfate	32	10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-922-739**	**N/A**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 14:19**	**160701L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	1.0	1.00	
Chloride	ND	10	1.00	
Nitrate (as N)	ND	1.0	1.00	
Sulfate	ND	10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-922-740**	**N/A**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 23:46**	**160701L02P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	1.0	1.00	
Chloride	ND	10	1.00	
Nitrate (as N)	ND	1.0	1.00	
Sulfate	ND	10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-922-746**	**N/A**	**Solid**	**IC 10**	**07/26/16**	**07/27/16 12:42**	**160726L01P**

Parameter	Result	RL	DF	Qualifiers
Fluoride	ND	1.0	1.00	
Chloride	ND	10	1.00	
Nitrate (as N)	ND	1.0	1.00	
Sulfate	ND	10	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: SM 2540 C (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-1	**16-06-2043-32-A**	**06/27/16 14:25**	**Solid**	**N/A**	**07/26/16**	**07/26/16 22:00**	**G0726TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	6910	10.0	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-3	**16-06-2043-33-A**	**06/27/16 14:30**	**Solid**	**N/A**	**07/26/16**	**07/26/16 22:00**	**G0726TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	4460	10.0	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-1	**16-06-2043-36-A**	**06/27/16 13:55**	**Solid**	**N/A**	**07/26/16**	**07/26/16 22:00**	**G0726TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	24200	100	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-3	**16-06-2043-37-A**	**06/27/16 14:00**	**Solid**	**N/A**	**07/26/16**	**07/26/16 22:00**	**G0726TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	16100	100	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-1	**16-06-2043-40-A**	**06/27/16 13:30**	**Solid**	**N/A**	**07/26/16**	**07/26/16 22:00**	**G0726TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	10800	100	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-3	**16-06-2043-41-A**	**06/27/16 13:35**	**Solid**	**N/A**	**07/26/16**	**07/26/16 22:00**	**G0726TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	8010	10.0	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-1	**16-06-2043-44-A**	**06/27/16 11:40**	**Solid**	**N/A**	**07/26/16**	**07/26/16 22:00**	**G0726TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	32400	100	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-3	**16-06-2043-45-A**	**06/27/16 11:45**	**Solid**	**N/A**	**07/26/16**	**07/26/16 22:00**	**G0726TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	12600	100	1.00	BU

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: N/A
Method: SM 2540 C (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-1	**16-06-2043-48-A**	**06/27/16 11:10**	**Solid**	**N/A**	**07/26/16**	**07/26/16 22:00**	**G0726TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	17700	100	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-3	**16-06-2043-49-A**	**06/27/16 11:15**	**Solid**	**N/A**	**07/26/16**	**07/26/16 22:00**	**G0726TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	7310	10.0	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	93000	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-1	**16-06-2043-52-A**	**06/27/16 10:55**	**Solid**	**N/A**	**07/26/16**	**07/26/16 22:00**	**G0726TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	30800	100	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-3	**16-06-2043-53-A**	**06/27/16 11:00**	**Solid**	**N/A**	**07/26/16**	**07/26/16 22:00**	**G0726TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	7910	10.0	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	101000	1000	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5	**16-06-2043-62-A**	**06/27/16 00:00**	**Solid**	**N/A**	**07/06/16**	**07/06/16 19:00**	**G0706TDSB3**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	31400	100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-182-418**	**N/A**	**Solid**	**N/A**	**07/06/16**	**07/06/16 17:00**	**G0706TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	ND	1.0	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	SM 2540 C (M)
		Units:	mg/kg
Project: NRG Coolwater			Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-182-419**	**N/A**	**Solid**	**N/A**	**07/06/16**	**07/06/16 19:00**	**G0706TDSB3**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	ND	1.0	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-182-423**	**N/A**	**Solid**	**N/A**	**07/26/16**	**07/26/16 22:00**	**G0726TDSB1**

Parameter	Result	RL	DF	Qualifiers
Solids, Total Dissolved	ND	1.0	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-1	**16-06-2043-40-A**	**06/27/16 13:30**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 08:55**	**160726B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	ET

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	62	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-3	**16-06-2043-41-A**	**06/27/16 13:35**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 09:12**	**160726B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	ET

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	70	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-1	**16-06-2043-48-A**	**06/27/16 11:10**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 09:29**	**160726B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	ET

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	64	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-3	**16-06-2043-49-A**	**06/27/16 11:15**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 16:14**	**160726B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	ET

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	103	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 22:18**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	130	25	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	97	61-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-1	**16-06-2043-52-A**	**06/27/16 10:55**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 16:31**	**160726B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	ET

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	98	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-3	**16-06-2043-53-A**	**06/27/16 11:00**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 16:48**	**160726B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	ET

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	98	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-1	**16-06-2043-56-A**	**06/27/16 10:10**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 10:54**	**160726B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	170	25	1.00	HD,ET

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	64	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-3	**16-06-2043-57-A**	**06/27/16 10:15**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 10:37**	**160726B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	ET

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	68	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 03:29**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	160	50	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	118	61-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5	**16-06-2043-62-A**	**06/27/16 00:00**	**Solid**	**GC 46**	**07/01/16**	**07/05/16 16:39**	**160701B04**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	260	50	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	125	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-420-1864**	**N/A**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 17:32**	**160701B04**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	68	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-420-1868**	**N/A**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 20:13**	**160701B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	90	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-420-1913**	**N/A**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 06:56**	**160726B09**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	70	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-1	**16-06-2043-40-A**	**06/27/16 13:30**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 08:55**	**160726B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	ET

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	62	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-3	**16-06-2043-41-A**	**06/27/16 13:35**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 09:12**	**160726B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	ET

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	70	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-1	**16-06-2043-48-A**	**06/27/16 11:10**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 09:29**	**160726B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	ET

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	64	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-3	**16-06-2043-49-A**	**06/27/16 11:15**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 16:14**	**160726B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	ET

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	103	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**GC 49**	**07/01/16**	**07/06/16 22:18**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	53	5.0	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	97	61-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-1	**16-06-2043-52-A**	**06/27/16 10:55**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 16:31**	**160726B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	ET

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	98	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-3	**16-06-2043-53-A**	**06/27/16 11:00**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 16:48**	**160726B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	ET

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	98	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-1	**16-06-2043-56-A**	**06/27/16 10:10**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 10:54**	**160726B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	41	5.0	1.00	HD,ET

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	64	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-3	**16-06-2043-57-A**	**06/27/16 10:15**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 10:37**	**160726B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	ET

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	68	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 03:29**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	53	10	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	118	61-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5	**16-06-2043-62-A**	**06/27/16 00:00**	**Solid**	**GC 46**	**07/01/16**	**07/05/16 16:39**	**160701B03**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	84	9.9	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	125	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-422-2525**	**N/A**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 17:32**	**160701B03**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	68	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-422-2527**	**N/A**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 20:13**	**160701B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	90	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-422-2573**	**N/A**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 06:56**	**160726B08**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	70	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-1	**16-06-2043-28-A**	**06/27/16 14:50**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:25**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.735	0.980	
Arsenic	1.55	0.735	0.980	
Barium	36.9	0.490	0.980	
Beryllium	ND	0.245	0.980	
Cadmium	ND	0.490	0.980	
Chromium	2.79	0.245	0.980	
Cobalt	1.98	0.245	0.980	
Copper	2.68	0.490	0.980	
Lead	1.46	0.490	0.980	
Molybdenum	ND	0.245	0.980	
Nickel	1.77	0.245	0.980	
Selenium	ND	0.735	0.980	
Silver	ND	0.245	0.980	
Thallium	ND	0.735	0.980	
Vanadium	13.0	0.245	0.980	
Zinc	11.9	0.980	0.980	
Lithium	2.84	2.45	0.980	
Calcium	3260	4.90	0.980	
Magnesium	1250	4.90	0.980	
Potassium	816	24.5	0.980	
Sodium	84.5	24.5	0.980	
Boron	1.81	0.980	0.980	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-3	**16-06-2043-29-A**	**06/27/16 14:55**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:27**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.785	1.05	
Arsenic	1.08	0.785	1.05	
Barium	31.4	0.524	1.05	
Beryllium	ND	0.262	1.05	
Cadmium	ND	0.524	1.05	
Chromium	2.94	0.262	1.05	
Cobalt	2.15	0.262	1.05	
Copper	2.65	0.524	1.05	
Lead	1.47	0.524	1.05	
Molybdenum	ND	0.262	1.05	
Nickel	1.88	0.262	1.05	
Selenium	ND	0.785	1.05	
Silver	ND	0.262	1.05	
Thallium	ND	0.785	1.05	
Vanadium	13.3	0.262	1.05	
Zinc	15.0	1.05	1.05	
Lithium	3.84	2.62	1.05	
Calcium	2250	5.24	1.05	
Magnesium	1460	5.24	1.05	
Potassium	920	26.2	1.05	
Sodium	78.0	26.2	1.05	
Boron	1.54	1.05	1.05	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-1	**16-06-2043-32-A**	**06/27/16 14:25**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:28**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.714	0.952	
Arsenic	4.26	0.714	0.952	
Barium	75.1	0.476	0.952	
Beryllium	0.369	0.238	0.952	
Cadmium	ND	0.476	0.952	
Chromium	8.73	0.238	0.952	
Cobalt	4.73	0.238	0.952	
Copper	7.47	0.476	0.952	
Lead	3.43	0.476	0.952	
Molybdenum	ND	0.238	0.952	
Nickel	5.77	0.238	0.952	
Selenium	ND	0.714	0.952	
Silver	ND	0.238	0.952	
Thallium	ND	0.714	0.952	
Vanadium	23.3	0.238	0.952	
Zinc	26.7	0.952	0.952	
Lithium	8.07	2.38	0.952	
Calcium	7650	4.76	0.952	
Magnesium	3790	4.76	0.952	
Potassium	2590	23.8	0.952	
Sodium	1370	23.8	0.952	
Boron	5.04	0.952	0.952	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-2-3	**16-06-2043-33-A**	**06/27/16 14:30**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:29**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.750	1.00	
Arsenic	2.19	0.750	1.00	
Barium	42.8	0.500	1.00	
Beryllium	ND	0.250	1.00	
Cadmium	ND	0.500	1.00	
Chromium	4.68	0.250	1.00	
Cobalt	2.99	0.250	1.00	
Copper	4.23	0.500	1.00	
Lead	1.99	0.500	1.00	
Molybdenum	ND	0.250	1.00	
Nickel	3.27	0.250	1.00	
Selenium	ND	0.750	1.00	
Silver	ND	0.250	1.00	
Thallium	ND	0.750	1.00	
Vanadium	15.7	0.250	1.00	
Zinc	17.3	1.00	1.00	
Lithium	4.79	2.50	1.00	
Calcium	5040	5.00	1.00	
Magnesium	2200	5.00	1.00	
Potassium	1350	25.0	1.00	
Sodium	405	25.0	1.00	
Boron	2.84	1.00	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-1	**16-06-2043-36-A**	**06/27/16 13:55**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:34**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.769	1.03	
Arsenic	5.81	0.769	1.03	
Barium	68.2	0.513	1.03	
Beryllium	0.287	0.256	1.03	
Cadmium	ND	0.513	1.03	
Chromium	6.90	0.256	1.03	
Cobalt	3.42	0.256	1.03	
Copper	16.0	0.513	1.03	
Lead	2.52	0.513	1.03	
Molybdenum	ND	0.256	1.03	
Nickel	5.69	0.256	1.03	
Selenium	ND	0.769	1.03	
Silver	ND	0.256	1.03	
Thallium	ND	0.769	1.03	
Vanadium	21.1	0.256	1.03	
Zinc	22.2	1.03	1.03	
Lithium	2.97	2.56	1.03	
Calcium	26600	5.13	1.03	
Magnesium	4070	5.13	1.03	
Potassium	1780	25.6	1.03	
Sodium	1500	25.6	1.03	
Boron	35.0	1.03	1.03	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-3-3	**16-06-2043-37-A**	**06/27/16 14:00**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:35**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.781	1.04	
Arsenic	3.42	0.781	1.04	
Barium	53.8	0.521	1.04	
Beryllium	0.322	0.260	1.04	
Cadmium	ND	0.521	1.04	
Chromium	7.10	0.260	1.04	
Cobalt	3.71	0.260	1.04	
Copper	8.22	0.521	1.04	
Lead	3.01	0.521	1.04	
Molybdenum	ND	0.260	1.04	
Nickel	4.39	0.260	1.04	
Selenium	ND	0.781	1.04	
Silver	ND	0.260	1.04	
Thallium	ND	0.781	1.04	
Vanadium	24.5	0.260	1.04	
Zinc	20.5	1.04	1.04	
Lithium	4.41	2.60	1.04	
Calcium	12500	5.21	1.04	
Magnesium	3230	5.21	1.04	
Potassium	1960	26.0	1.04	
Sodium	1530	26.0	1.04	
Boron	18.5	1.04	1.04	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-1	**16-06-2043-40-A**	**06/27/16 13:30**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:36**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.761	1.02	
Arsenic	3.45	0.761	1.02	
Barium	83.3	0.508	1.02	
Beryllium	0.337	0.254	1.02	
Cadmium	ND	0.508	1.02	
Chromium	7.26	0.254	1.02	
Cobalt	4.60	0.254	1.02	
Copper	7.00	0.508	1.02	
Lead	4.24	0.508	1.02	
Molybdenum	ND	0.254	1.02	
Nickel	4.94	0.254	1.02	
Selenium	ND	0.761	1.02	
Silver	ND	0.254	1.02	
Thallium	ND	0.761	1.02	
Vanadium	24.3	0.254	1.02	
Zinc	27.2	1.02	1.02	
Lithium	6.61	2.54	1.02	
Calcium	8510	5.08	1.02	
Magnesium	3570	5.08	1.02	
Potassium	1830	25.4	1.02	
Sodium	1720	25.4	1.02	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-1	**16-06-2043-40-A**	**06/27/16 13:30**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 13:57**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Boron	8.47	1.02	1.02	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-3	**16-06-2043-41-A**	**06/27/16 13:35**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:37**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.725	0.966	
Arsenic	1.41	0.725	0.966	
Barium	20.3	0.483	0.966	
Beryllium	ND	0.242	0.966	
Cadmium	ND	0.483	0.966	
Chromium	3.36	0.242	0.966	
Cobalt	1.65	0.242	0.966	
Copper	2.89	0.483	0.966	
Lead	1.27	0.483	0.966	
Molybdenum	ND	0.242	0.966	
Nickel	1.77	0.242	0.966	
Selenium	ND	0.725	0.966	
Silver	ND	0.242	0.966	
Thallium	ND	0.725	0.966	
Vanadium	14.2	0.242	0.966	
Zinc	8.55	0.966	0.966	
Lithium	ND	2.42	0.966	
Calcium	4360	4.83	0.966	
Magnesium	1110	4.83	0.966	
Potassium	592	24.2	0.966	
Sodium	348	24.2	0.966	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P2-FL-4-3	**16-06-2043-41-A**	**06/27/16 13:35**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 13:58**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Boron	4.53	0.966	0.966	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-1	**16-06-2043-44-A**	**06/27/16 11:40**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:39**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.765	1.02	
Arsenic	6.87	0.765	1.02	
Barium	80.6	0.510	1.02	
Beryllium	0.280	0.255	1.02	
Cadmium	ND	0.510	1.02	
Chromium	6.52	0.255	1.02	
Cobalt	3.49	0.255	1.02	
Copper	11.3	0.510	1.02	
Lead	3.90	0.510	1.02	
Molybdenum	0.592	0.255	1.02	
Nickel	5.54	0.255	1.02	
Selenium	0.815	0.765	1.02	
Silver	ND	0.255	1.02	
Thallium	ND	0.765	1.02	
Vanadium	16.5	0.255	1.02	
Zinc	24.2	1.02	1.02	
Lithium	3.72	2.55	1.02	
Calcium	26900	5.10	1.02	
Magnesium	4080	5.10	1.02	
Potassium	1640	25.5	1.02	
Sodium	4720	25.5	1.02	
Boron	74.8	1.02	1.02	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-3	**16-06-2043-45-A**	**06/27/16 11:45**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:40**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.714	0.952	
Arsenic	3.27	0.714	0.952	
Barium	57.5	0.476	0.952	
Beryllium	0.283	0.238	0.952	
Cadmium	ND	0.476	0.952	
Chromium	6.04	0.238	0.952	
Cobalt	3.95	0.238	0.952	
Copper	6.46	0.476	0.952	
Lead	2.94	0.476	0.952	
Molybdenum	ND	0.238	0.952	
Nickel	4.27	0.238	0.952	
Selenium	ND	0.714	0.952	
Silver	ND	0.238	0.952	
Thallium	ND	0.714	0.952	
Vanadium	19.9	0.238	0.952	
Zinc	22.3	0.952	0.952	
Lithium	6.30	2.38	0.952	
Calcium	10800	4.76	0.952	
Magnesium	3160	4.76	0.952	
Potassium	1640	23.8	0.952	
Sodium	1220	23.8	0.952	
Boron	16.1	0.952	0.952	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-1	**16-06-2043-48-A**	**06/27/16 11:10**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:41**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.761	1.02	
Arsenic	5.15	0.761	1.02	
Barium	92.0	0.508	1.02	
Beryllium	0.633	0.254	1.02	
Cadmium	ND	0.508	1.02	
Chromium	11.9	0.254	1.02	
Cobalt	7.60	0.254	1.02	
Copper	14.3	0.508	1.02	
Lead	5.60	0.508	1.02	
Molybdenum	ND	0.254	1.02	
Nickel	8.77	0.254	1.02	
Selenium	ND	0.761	1.02	
Silver	ND	0.254	1.02	
Thallium	ND	0.761	1.02	
Vanadium	29.7	0.254	1.02	
Zinc	41.4	1.02	1.02	
Lithium	12.7	2.54	1.02	
Calcium	11600	5.08	1.02	
Magnesium	6140	5.08	1.02	
Potassium	2800	25.4	1.02	
Sodium	2920	25.4	1.02	
Boron	18.9	1.02	1.02	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-3	**16-06-2043-49-A**	**06/27/16 11:15**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:42**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.750	1.00	
Arsenic	4.53	0.750	1.00	
Barium	109	0.500	1.00	
Beryllium	0.450	0.250	1.00	
Cadmium	ND	0.500	1.00	
Chromium	9.50	0.250	1.00	
Cobalt	6.03	0.250	1.00	
Copper	9.07	0.500	1.00	
Lead	3.83	0.500	1.00	
Molybdenum	ND	0.250	1.00	
Nickel	6.28	0.250	1.00	
Selenium	ND	0.750	1.00	
Silver	ND	0.250	1.00	
Thallium	ND	0.750	1.00	
Vanadium	35.3	0.250	1.00	
Zinc	32.5	1.00	1.00	
Lithium	10.1	2.50	1.00	
Calcium	12400	5.00	1.00	
Magnesium	4480	5.00	1.00	
Potassium	1360	25.0	1.00	
Sodium	754	25.0	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-3	**16-06-2043-49-A**	**06/27/16 11:15**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 14:00**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Boron	9.11	1.00	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: NRG Coolwater			Page 13 of 22

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:40**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.750	1.00	
Arsenic	21.6	0.750	1.00	
Barium	120	0.500	1.00	
Beryllium	0.295	0.250	1.00	
Cadmium	0.674	0.500	1.00	
Chromium	16.0	0.250	1.00	
Cobalt	2.82	0.250	1.00	
Copper	47.2	0.500	1.00	
Lead	6.36	0.500	1.00	
Molybdenum	3.27	0.250	1.00	
Nickel	11.2	0.250	1.00	
Selenium	21.4	0.750	1.00	
Silver	1.06	0.250	1.00	
Thallium	ND	0.750	1.00	
Vanadium	22.4	0.250	1.00	
Zinc	27.9	1.00	1.00	
Lithium	ND	2.50	1.00	
Magnesium	16300	5.00	1.00	
Potassium	1030	25.0	1.00	
Sodium	24200	25.0	1.00	
Boron	606	1.00	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 22:08**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Calcium	176000	50.0	10.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-1	**16-06-2043-52-A**	**06/27/16 10:55**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 18:27**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.765	1.02	
Arsenic	6.19	0.765	1.02	
Barium	81.3	0.510	1.02	
Beryllium	0.351	0.255	1.02	
Cadmium	ND	0.510	1.02	
Chromium	7.56	0.255	1.02	
Cobalt	4.48	0.255	1.02	
Copper	12.3	0.510	1.02	
Lead	4.58	0.510	1.02	
Molybdenum	0.628	0.255	1.02	
Nickel	6.31	0.255	1.02	
Selenium	1.22	0.765	1.02	
Silver	ND	0.255	1.02	
Thallium	ND	0.765	1.02	
Vanadium	19.2	0.255	1.02	
Zinc	30.3	1.02	1.02	
Lithium	4.91	2.55	1.02	
Calcium	22900	5.10	1.02	
Magnesium	4240	5.10	1.02	
Potassium	1780	25.5	1.02	
Sodium	4620	25.5	1.02	
Boron	46.4	1.02	1.02	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: NRG Coolwater			Page 15 of 22

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-3	**16-06-2043-53-A**	**06/27/16 11:00**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:45**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.750	1.00	
Arsenic	2.89	0.750	1.00	
Barium	49.8	0.500	1.00	
Beryllium	0.266	0.250	1.00	
Cadmium	ND	0.500	1.00	
Chromium	6.07	0.250	1.00	
Cobalt	3.41	0.250	1.00	
Copper	5.73	0.500	1.00	
Lead	2.50	0.500	1.00	
Molybdenum	ND	0.250	1.00	
Nickel	3.59	0.250	1.00	
Selenium	ND	0.750	1.00	
Silver	ND	0.250	1.00	
Thallium	ND	0.750	1.00	
Vanadium	24.0	0.250	1.00	
Zinc	19.0	1.00	1.00	
Lithium	4.83	2.50	1.00	
Calcium	8680	5.00	1.00	
Magnesium	2480	5.00	1.00	
Potassium	1160	25.0	1.00	
Sodium	612	25.0	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-3	**16-06-2043-53-A**	**06/27/16 11:00**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 14:01**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Boron	9.25	1.00	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-1	**16-06-2043-56-A**	**06/27/16 10:10**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:49**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.746	0.995	
Arsenic	2.74	0.746	0.995	
Barium	119	0.498	0.995	
Beryllium	0.740	0.249	0.995	
Cadmium	ND	0.498	0.995	
Chromium	15.0	0.249	0.995	
Cobalt	8.74	0.249	0.995	
Copper	15.1	0.498	0.995	
Lead	6.78	0.498	0.995	
Molybdenum	0.392	0.249	0.995	
Nickel	9.17	0.249	0.995	
Selenium	ND	0.746	0.995	
Silver	ND	0.249	0.995	
Thallium	ND	0.746	0.995	
Vanadium	51.2	0.249	0.995	
Zinc	52.3	0.995	0.995	
Lithium	15.2	2.49	0.995	
Calcium	8330	4.98	0.995	
Magnesium	6930	4.98	0.995	
Potassium	2570	24.9	0.995	
Sodium	362	24.9	0.995	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-1	**16-06-2043-56-A**	**06/27/16 10:10**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 14:02**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Boron	10.9	0.995	0.995	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-8-3	**16-06-2043-57-A**	**06/27/16 10:15**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:51**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.765	1.02	
Arsenic	1.97	0.765	1.02	
Barium	109	0.510	1.02	
Beryllium	0.628	0.255	1.02	
Cadmium	ND	0.510	1.02	
Chromium	13.1	0.255	1.02	
Cobalt	8.74	0.255	1.02	
Copper	11.7	0.510	1.02	
Lead	5.81	0.510	1.02	
Molybdenum	0.569	0.255	1.02	
Nickel	8.72	0.255	1.02	
Selenium	ND	0.765	1.02	
Silver	ND	0.255	1.02	
Thallium	ND	0.765	1.02	
Vanadium	42.1	0.255	1.02	
Zinc	45.5	1.02	1.02	
Lithium	12.0	2.55	1.02	
Calcium	5620	5.10	1.02	
Magnesium	5400	5.10	1.02	
Potassium	2590	25.5	1.02	
Sodium	586	25.5	1.02	
Boron	7.74	1.02	1.02	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: NRG Coolwater			Page 18 of 22

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:47**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.785	1.05	
Arsenic	21.0	0.785	1.05	
Barium	115	0.524	1.05	
Beryllium	0.267	0.262	1.05	
Cadmium	0.661	0.524	1.05	
Chromium	15.7	0.262	1.05	
Cobalt	2.71	0.262	1.05	
Copper	52.0	0.524	1.05	
Lead	6.61	0.524	1.05	
Molybdenum	4.39	0.262	1.05	
Nickel	11.3	0.262	1.05	
Selenium	29.9	0.785	1.05	
Silver	0.987	0.262	1.05	
Thallium	ND	0.785	1.05	
Vanadium	22.4	0.262	1.05	
Zinc	26.3	1.05	1.05	
Lithium	ND	2.62	1.05	
Magnesium	17800	5.24	1.05	
Potassium	1130	26.2	1.05	
Sodium	27900	26.2	1.05	
Boron	747	1.05	1.05	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 22:10**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Calcium	163000	52.4	10.5	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5	**16-06-2043-62-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:49**	**160630L01A**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.718	0.957	
Arsenic	12.1	0.718	0.957	
Barium	287	0.478	0.957	
Beryllium	0.789	0.239	0.957	
Cadmium	1.40	0.478	0.957	
Chromium	24.8	0.239	0.957	
Cobalt	6.28	0.239	0.957	
Copper	48.9	0.478	0.957	
Lead	25.1	0.478	0.957	
Molybdenum	2.43	0.239	0.957	
Nickel	14.4	0.239	0.957	
Selenium	12.3	0.718	0.957	
Silver	0.480	0.239	0.957	
Thallium	ND	0.718	0.957	
Vanadium	37.8	0.239	0.957	
Zinc	48.3	0.957	0.957	
Lithium	ND	2.39	0.957	
Calcium	61700	47.8	9.57	
Magnesium	7660	4.78	0.957	
Potassium	2090	23.9	0.957	
Sodium	12200	23.9	0.957	
Boron	260	0.957	0.957	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-22900**	**N/A**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:10**	**160630L01A**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.789	1.05	
Arsenic	ND	0.789	1.05	
Barium	ND	0.526	1.05	
Beryllium	ND	0.263	1.05	
Cadmium	ND	0.526	1.05	
Chromium	ND	0.263	1.05	
Cobalt	ND	0.263	1.05	
Copper	ND	0.526	1.05	
Lead	ND	0.526	1.05	
Molybdenum	ND	0.263	1.05	
Nickel	ND	0.263	1.05	
Selenium	ND	0.789	1.05	
Silver	ND	0.263	1.05	
Thallium	ND	0.789	1.05	
Vanadium	ND	0.263	1.05	
Zinc	ND	1.05	1.05	
Lithium	ND	2.63	1.05	
Calcium	ND	5.26	1.05	
Magnesium	ND	5.26	1.05	
Potassium	ND	26.3	1.05	
Sodium	ND	26.3	1.05	
Boron	ND	1.05	1.05	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-22899**	**N/A**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:08**	**160630L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.773	1.03	
Arsenic	ND	0.773	1.03	
Barium	ND	0.515	1.03	
Beryllium	ND	0.258	1.03	
Cadmium	ND	0.515	1.03	
Chromium	ND	0.258	1.03	
Cobalt	ND	0.258	1.03	
Copper	ND	0.515	1.03	
Lead	ND	0.515	1.03	
Molybdenum	ND	0.258	1.03	
Nickel	ND	0.258	1.03	
Selenium	ND	0.773	1.03	
Silver	ND	0.258	1.03	
Thallium	ND	0.773	1.03	
Vanadium	ND	0.258	1.03	
Zinc	ND	1.03	1.03	
Lithium	ND	2.58	1.03	
Calcium	ND	5.15	1.03	
Magnesium	ND	5.15	1.03	
Potassium	ND	25.8	1.03	
Sodium	ND	25.8	1.03	
Boron	ND	1.03	1.03	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: NRG Coolwater

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-23013**	**N/A**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:21**	**160727L06**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.721	0.962	
Arsenic	ND	0.721	0.962	
Barium	ND	0.481	0.962	
Beryllium	ND	0.240	0.962	
Cadmium	ND	0.481	0.962	
Chromium	ND	0.240	0.962	
Cobalt	ND	0.240	0.962	
Copper	ND	0.481	0.962	
Lead	ND	0.481	0.962	
Molybdenum	ND	0.240	0.962	
Nickel	ND	0.240	0.962	
Selenium	ND	0.721	0.962	
Silver	ND	0.240	0.962	
Thallium	ND	0.721	0.962	
Vanadium	ND	0.240	0.962	
Zinc	ND	0.962	0.962	
Lithium	ND	2.40	0.962	
Calcium	ND	4.81	0.962	
Magnesium	ND	4.81	0.962	
Potassium	ND	24.0	0.962	
Sodium	ND	24.0	0.962	
Boron	ND	0.962	0.962	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: T22.11.5. AII
Method: EPA 6010B
Units: mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**ICP 7300**	**07/25/16**	**07/27/16 15:53**	**160727LA1**

Parameter	Result	RL	DF	Qualifiers
Selenium	1.18	0.150	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**07/25/16**	**07/27/16 15:54**	**160727LA1**

Parameter	Result	RL	DF	Qualifiers
Selenium	1.06	0.150	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5	**16-06-2043-62-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**07/25/16**	**07/27/16 15:55**	**160727LA1**

Parameter	Result	RL	DF	Qualifiers
Selenium	0.558	0.150	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-05-006-8548**	**N/A**	**Aqueous**	**ICP 7300**	**07/25/16**	**07/27/16 15:37**	**160727LA1**

Parameter	Result	RL	DF	Qualifiers
Selenium	ND	0.150	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 1311
Method: EPA 6010B
Units: mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**ICP 7300**	**07/25/16**	**07/27/16 10:20**	**160726LA1**

Parameter	Result	RL	DF	Qualifiers
Selenium	0.466	0.150	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**07/25/16**	**07/27/16 10:21**	**160726LA1**

Parameter	Result	RL	DF	Qualifiers
Selenium	0.383	0.150	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-021-2045**	**N/A**	**Aqueous**	**ICP 7300**	**07/25/16**	**07/27/16 10:07**	**160726LA1**

Parameter	Result	RL	DF	Qualifiers
Selenium	ND	0.150	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: EPA 7471A Total
Method: EPA 7471A
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-1	**16-06-2043-28-A**	**06/27/16 14:50**	**Solid**	**Mercury 05**	**07/25/16**	**07/29/16 18:29**	**160725L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0794	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P1-FL-1-3	**16-06-2043-29-A**	**06/27/16 14:55**	**Solid**	**Mercury 05**	**07/25/16**	**07/29/16 18:31**	**160725L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0794	1.00	BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 14:06**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0806	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 14:24**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0847	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5	**16-06-2043-62-A**	**06/27/16 00:00**	**Solid**	**Mercury 04**	**07/06/16**	**07/07/16 14:29**	**160706L03**

Parameter	Result	RL	DF	Qualifiers
Mercury	0.113	0.0847	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-16-272-2286**	**N/A**	**Solid**	**Mercury 04**	**07/06/16**	**07/06/16 21:20**	**160706L03**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0833	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-16-272-2290**	**N/A**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:26**	**160707L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0833	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-16-272-2344**	**N/A**	**Solid**	**Mercury 05**	**07/25/16**	**07/25/16 12:55**	**160725L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0833	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	EPA 300.0
Project: NRG Coolwater			Page 1 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P1-FL-1-0	**Sample**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 14:59**	**160701S01P**
P1-FL-1-0	**Matrix Spike**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 22:11**	**160701S01P**
P1-FL-1-0	**Matrix Spike Duplicate**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 22:30**	**160701S01P**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Fluoride	ND	25.00	12.60	50	12.28	49	80-120	3	0-20	3
Chloride	ND	500.0	328.8	66	386.6	77	80-120	16	0-20	3
Nitrate (as N)	2.720	50.00	35.07	65	40.81	76	80-120	15	0-20	3
Sulfate	225.3	500.0	475.6	50	526.7	60	80-120	10	0-20	3

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	EPA 300.0
Project: NRG Coolwater			Page 2 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P1	**Sample**	**Solid**	**IC 10**	**07/01/16**	**07/03/16 05:53**	**160701S02P**
P1	**Matrix Spike**	**Solid**	**IC 10**	**07/01/16**	**07/02/16 02:17**	**160701S02P**
P1	**Matrix Spike Duplicate**	**Solid**	**IC 10**	**07/01/16**	**07/02/16 02:36**	**160701S02P**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Fluoride	2.210	25.00	8.260	24	9.280	28	80-120	12	0-20	3
Chloride	757.4	500.0	1017	52	1405	129	80-120	32	0-20	3,4
Nitrate (as N)	10.68	50.00	35.86	50	50.87	80	80-120	35	0-20	3,4
Sulfate	8020	500.0	9125	221	10210	439	80-120	11	0-20	3

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	EPA 300.0
Project: NRG Coolwater			Page 3 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-07-1692-1	**Sample**	**Solid**	**IC 10**	**07/26/16**	**07/27/16 02:09**	**160726S01P**
16-07-1692-1	**Matrix Spike**	**Solid**	**IC 10**	**07/26/16**	**07/27/16 05:18**	**160726S01P**
16-07-1692-1	**Matrix Spike Duplicate**	**Solid**	**IC 10**	**07/26/16**	**07/27/16 05:37**	**160726S01P**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Fluoride	ND	25.00	8.270	33	8.310	33	80-120	0	0-20	3
Chloride	ND	500.0	429.9	86	405.0	81	80-120	6	0-20	
Nitrate (as N)	ND	50.00	42.33	85	39.45	79	80-120	7	0-20	3
Sulfate	ND	500.0	388.2	78	359.4	72	80-120	8	0-20	3

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 4 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-06-2086-4	**Sample**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 20:26**	**160701S04**
16-06-2086-4	**Matrix Spike**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 19:00**	**160701S04**
16-06-2086-4	**Matrix Spike Duplicate**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 19:17**	**160701S04**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Motor Oil	ND	400.0	337.2	84	346.1	87	64-130	3	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 5 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P5-FL-8-1	**Sample**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 10:54**	**160726S09**
P5-FL-8-1	**Matrix Spike**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 08:20**	**160726S09**
P5-FL-8-1	**Matrix Spike Duplicate**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 08:38**	**160726S09**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Motor Oil	165.6	400.0	519.7	89	615.6	112	64-130	17	0-15	4

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 6 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P2-FL-4.0	**Sample**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 00:00**	**160701S09**
P2-FL-4.0	**Matrix Spike**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 21:40**	**160701S09**
P2-FL-4.0	**Matrix Spike Duplicate**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 21:58**	**160701S09**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Motor Oil	ND	400.0	394.5	99	405.9	101	64-130	3	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 7 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-06-2086-4	**Sample**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 20:26**	**160701S03**
16-06-2086-4	**Matrix Spike**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 18:25**	**160701S03**
16-06-2086-4	**Matrix Spike Duplicate**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 18:43**	**160701S03**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	ND	400.0	305.9	76	356.0	89	64-130	15	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 8 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P5-FL-8-1	**Sample**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 10:54**	**160726S08**
P5-FL-8-1	**Matrix Spike**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 07:47**	**160726S08**
P5-FL-8-1	**Matrix Spike Duplicate**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 08:03**	**160726S08**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	41.01	400.0	374.7	83	409.8	92	64-130	9	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 9 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P2-FL-4.0	**Sample**	**Solid**	**GC 49**	**07/01/16**	**07/02/16 00:00**	**160701S08**
P2-FL-4.0	**Matrix Spike**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 21:05**	**160701S08**
P2-FL-4.0	**Matrix Spike Duplicate**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 21:23**	**160701S08**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	ND	400.0	288.5	72	298.8	75	64-130	4	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: NRG Coolwater			Page 10 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P5	**Sample**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:49**	**160630S01**
P5	**Matrix Spike**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:15**	**160630S01**
P5	**Matrix Spike Duplicate**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:16**	**160630S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	25.00	4.645	19	4.974	20	50-115	7	0-20	3
Arsenic	12.11	25.00	38.15	104	40.37	113	75-125	6	0-20	
Barium	287.4	25.00	302.3	4X	297.4	4X	75-125	4X	0-20	Q
Beryllium	0.7891	25.00	27.83	108	27.82	108	75-125	0	0-20	
Cadmium	1.399	25.00	26.33	100	26.03	99	75-125	1	0-20	
Chromium	24.81	25.00	51.08	105	50.09	101	75-125	2	0-20	
Cobalt	6.283	25.00	32.24	104	31.72	102	75-125	2	0-20	
Copper	48.95	25.00	73.66	99	72.99	96	75-125	1	0-20	
Lead	25.08	25.00	49.53	98	48.89	95	75-125	1	0-20	
Molybdenum	2.427	25.00	28.06	103	28.74	105	75-125	2	0-20	
Nickel	14.43	25.00	39.64	101	38.90	98	75-125	2	0-20	
Selenium	12.32	25.00	37.68	101	39.96	111	75-125	6	0-20	
Silver	0.4798	12.50	13.89	107	14.22	110	75-125	2	0-20	
Thallium	ND	25.00	14.84	59	17.26	69	75-125	15	0-20	3
Vanadium	37.80	25.00	65.32	110	62.93	101	75-125	4	0-20	
Zinc	48.29	25.00	72.70	98	69.35	84	75-125	5	0-20	
Lithium	ND	25.00	1.237	5	-16.15	-65	75-125	0	0-20	3
Calcium	61740	25.00	33540	4X	53460	4X	75-125	4X	0-20	Q
Magnesium	7660	25.00	6169	4X	6042	4X	75-125	4X	0-20	Q
Potassium	2091	250.0	2521	4X	2415	4X	75-125	4X	0-20	Q
Sodium	12210	250.0	12740	4X	12290	4X	75-125	4X	0-20	Q
Boron	260.3	25.00	254.6	4X	260.4	4X	75-125	4X	0-20	Q

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: NRG Coolwater			Page 11 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P1-FL-1-0	**Sample**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:17**	**160630S06**
P1-FL-1-0	**Matrix Spike**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:13**	**160630S06**
P1-FL-1-0	**Matrix Spike Duplicate**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:14**	**160630S06**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	25.00	9.176	37	8.237	33	50-115	11	0-20	3
Arsenic	2.221	25.00	28.26	104	25.86	95	75-125	9	0-20	
Barium	127.1	25.00	160.1	4X	129.5	4X	75-125	4X	0-20	Q
Beryllium	ND	25.00	25.83	103	23.99	96	75-125	7	0-20	
Cadmium	ND	25.00	24.97	100	23.78	95	75-125	5	0-20	
Chromium	5.089	25.00	32.02	108	29.80	99	75-125	7	0-20	
Cobalt	3.472	25.00	29.37	104	26.89	94	75-125	9	0-20	
Copper	5.734	25.00	33.28	110	30.80	100	75-125	8	0-20	
Lead	3.675	25.00	29.58	104	26.98	93	75-125	9	0-20	
Molybdenum	ND	25.00	24.40	98	22.60	90	75-125	8	0-20	
Nickel	3.895	25.00	30.01	104	27.43	94	75-125	9	0-20	
Selenium	ND	25.00	23.80	95	22.69	91	75-125	5	0-20	
Silver	ND	12.50	12.63	101	12.00	96	75-125	5	0-20	
Thallium	ND	25.00	24.09	96	22.99	92	75-125	5	0-20	
Vanadium	17.11	25.00	46.56	118	41.25	97	75-125	12	0-20	
Zinc	26.44	25.00	58.76	129	52.13	103	75-125	12	0-20	3
Lithium	ND	25.00	23.03	92	21.57	86	75-125	7	0-20	
Calcium	5694	25.00	6416	4X	5499	4X	75-125	4X	0-20	Q
Magnesium	2713	25.00	3229	4X	2695	4X	75-125	4X	0-20	Q
Potassium	1533	250.0	2071	4X	1761	4X	75-125	4X	0-20	Q
Sodium	92.84	250.0	376.6	114	336.0	97	75-125	11	0-20	
Boron	4.189	25.00	27.76	94	26.05	87	75-125	6	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: NRG Coolwater			Page 12 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P5-FL-8-3	**Sample**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:51**	**160727S06**
P5-FL-8-3	**Matrix Spike**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:23**	**160727S06**
P5-FL-8-3	**Matrix Spike Duplicate**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:24**	**160727S06**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	25.00	2.636	11	2.561	10	50-115	3	0-20	3
Arsenic	1.968	25.00	25.13	93	26.70	99	75-125	6	0-20	
Barium	109.1	25.00	112.3	4X	120.9	4X	75-125	4X	0-20	Q
Beryllium	0.6282	25.00	25.98	101	27.86	109	75-125	7	0-20	
Cadmium	ND	25.00	24.88	100	26.67	107	75-125	7	0-20	
Chromium	13.13	25.00	36.53	94	38.86	103	75-125	6	0-20	
Cobalt	8.740	25.00	33.31	98	35.47	107	75-125	6	0-20	
Copper	11.72	25.00	36.66	100	39.17	110	75-125	7	0-20	
Lead	5.810	25.00	30.29	98	32.38	106	75-125	7	0-20	
Molybdenum	0.5686	25.00	20.55	80	21.09	82	75-125	3	0-20	
Nickel	8.724	25.00	32.94	97	35.45	107	75-125	7	0-20	
Selenium	ND	25.00	22.67	91	22.31	89	75-125	2	0-20	
Silver	ND	12.50	12.51	100	13.17	105	75-125	5	0-20	
Thallium	ND	25.00	24.62	98	26.15	105	75-125	6	0-20	
Vanadium	42.07	25.00	58.92	67	63.13	84	75-125	7	0-20	3
Zinc	45.53	25.00	65.83	81	71.03	102	75-125	8	0-20	
Lithium	12.01	25.00	32.57	82	33.11	84	75-125	2	0-20	
Calcium	5623	25.00	5012	4X	5301	4X	75-125	4X	0-20	Q
Magnesium	5402	25.00	4897	4X	5284	4X	75-125	4X	0-20	Q
Potassium	2586	250.0	2585	4X	2676	4X	75-125	4X	0-20	Q
Sodium	586.0	250.0	819.2	93	843.5	103	75-125	3	0-20	
Boron	7.735	25.00	29.83	88	30.73	92	75-125	3	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	T22.11.5. AII
		Method:	EPA 6010B
Project: NRG Coolwater			Page 13 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-07-1717-1	**Sample**	**Aqueous**	**ICP 7300**	**07/27/16**	**07/27/16 15:39**	**160727SA1**
16-07-1717-1	**Matrix Spike**	**Aqueous**	**ICP 7300**	**07/27/16**	**07/27/16 15:41**	**160727SA1**
16-07-1717-1	**Matrix Spike Duplicate**	**Aqueous**	**ICP 7300**	**07/27/16**	**07/27/16 15:42**	**160727SA1**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Selenium	0.6606	5.000	5.396	95	5.555	98	75-125	3	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 1311
		Method:	EPA 6010B
Project: NRG Coolwater			Page 14 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-07-1614-1	**Sample**	**Solid**	**ICP 7300**	**07/25/16**	**07/27/16 10:09**	**160726SA1**
16-07-1614-1	**Matrix Spike**	**Solid**	**ICP 7300**	**07/25/16**	**07/27/16 10:10**	**160726SA1**
16-07-1614-1	**Matrix Spike Duplicate**	**Solid**	**ICP 7300**	**07/25/16**	**07/27/16 10:12**	**160726SA1**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Selenium	ND	5.000	5.080	102	4.437	89	79-127	14	0-9	4

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: NRG Coolwater			Page 15 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-07-0013-1	**Sample**	**Sediment**	**Mercury 04**	**07/06/16**	**07/06/16 21:25**	**160706S03**
16-07-0013-1	**Matrix Spike**	**Sediment**	**Mercury 04**	**07/06/16**	**07/06/16 21:27**	**160706S03**
16-07-0013-1	**Matrix Spike Duplicate**	**Sediment**	**Mercury 04**	**07/06/16**	**07/06/16 21:29**	**160706S03**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	0.1457	0.8350	0.9119	92	0.8694	87	76-136	5	0-16	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: NRG Coolwater			Page 16 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P1-FL-1-0	**Sample**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:30**	**160707S01**
P1-FL-1-0	**Matrix Spike**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:33**	**160707S01**
P1-FL-1-0	**Matrix Spike Duplicate**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:35**	**160707S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	ND	0.8350	0.9802	117	0.8883	106	71-137	10	0-14	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: NRG Coolwater			Page 17 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-07-1565-1	**Sample**	**Solid**	**Mercury 05**	**07/25/16**	**07/25/16 12:59**	**160725S01**
16-07-1565-1	**Matrix Spike**	**Solid**	**Mercury 05**	**07/25/16**	**07/25/16 13:01**	**160725S01**
16-07-1565-1	**Matrix Spike Duplicate**	**Solid**	**Mercury 05**	**07/25/16**	**07/25/16 13:03**	**160725S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	ND	0.8350	0.8999	108	0.9333	112	71-137	4	0-14	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	SM 2540 C (M)
Project: NRG Coolwater			Page 1 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
P3-FL-5-0	**Sample**	**Solid**	**N/A**	**07/06/16 00:00**	**07/06/16 17:00**	**G0706TDSD1**
P3-FL-5-0	**Sample Duplicate**	**Solid**	**N/A**	**07/06/16 00:00**	**07/06/16 17:00**	**G0706TDSD1**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Solids, Total Dissolved	78390	71390	9	0-10	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	SM 2540 C (M)
Project: NRG Coolwater			Page 2 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
P1	**Sample**	**Solid**	**N/A**	**07/06/16 00:00**	**07/06/16 19:00**	**G0706TDSD3**
P1	**Sample Duplicate**	**Solid**	**N/A**	**07/06/16 00:00**	**07/06/16 19:00**	**G0706TDSD3**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Solids, Total Dissolved	24970	27000	8	0-10	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	SM 2540 C (M)
Project: NRG Coolwater			Page 3 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
P1-FL-2-3	**Sample**	**Solid**	**N/A**	**07/26/16 00:00**	**07/26/16 22:00**	**G0726TDSD1**
P1-FL-2-3	**Sample Duplicate**	**Solid**	**N/A**	**07/26/16 00:00**	**07/26/16 22:00**	**G0726TDSD1**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Solids, Total Dissolved	4455	4677	5	0-10	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	EPA 300.0
Project: NRG Coolwater			Page 1 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-922-739	**LCS**	**Solid**	**IC 10**	**07/01/16**	**07/01/16 14:38**	**160701L01P**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Fluoride	25.00	24.32	97	90-110	
Chloride	500.0	493.3	99	90-110	
Nitrate (as N)	50.00	49.11	98	90-110	
Sulfate	500.0	488.9	98	90-110	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	EPA 300.0
Project: NRG Coolwater			Page 2 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-922-740	**LCS**	**Solid**	**IC 10**	**07/01/16**	**07/02/16 00:05**	**160701L02P**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Fluoride	25.00	25.44	102	90-110	
Chloride	500.0	496.3	99	90-110	
Nitrate (as N)	50.00	49.56	99	90-110	
Sulfate	500.0	490.8	98	90-110	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	N/A
		Method:	EPA 300.0
Project: NRG Coolwater			Page 3 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-922-746	**LCS**	**Solid**	**IC 10**	**07/26/16**	**07/27/16 13:01**	**160726L01P**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Fluoride	25.00	22.96	92	90-110	
Chloride	500.0	480.7	96	90-110	
Nitrate (as N)	50.00	48.30	97	90-110	
Sulfate	500.0	479.9	96	90-110	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 4 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-420-1864	**LCS**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 18:07**	**160701B04**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Motor Oil	400.0	357.1	89	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 5 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-420-1913	**LCS**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 07:30**	**160726B09**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Motor Oil	400.0	393.9	98	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 6 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-420-1868	**LCS**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 20:48**	**160701B09**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Motor Oil	400.0	409.5	102	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 7 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-422-2525	**LCS**	**Solid**	**GC 46**	**07/01/16**	**07/01/16 17:50**	**160701B03**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	379.6	95	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 8 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-422-2573	**LCS**	**Solid**	**GC 47**	**07/26/16**	**07/27/16 07:13**	**160726B08**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	390.8	98	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: NRG Coolwater			Page 9 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-422-2527	**LCS**	**Solid**	**GC 49**	**07/01/16**	**07/01/16 20:30**	**160701B08**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	306.6	77	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: NRG Coolwater			Page 10 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
097-01-002-22900	**LCS**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:11**	**160630L01A**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Antimony	25.00	24.38	98	80-120	73-127	
Arsenic	25.00	24.23	97	80-120	73-127	
Barium	25.00	26.15	105	80-120	73-127	
Beryllium	25.00	23.59	94	80-120	73-127	
Cadmium	25.00	25.37	101	80-120	73-127	
Chromium	25.00	25.96	104	80-120	73-127	
Cobalt	25.00	27.10	108	80-120	73-127	
Copper	25.00	25.62	102	80-120	73-127	
Lead	25.00	25.34	101	80-120	73-127	
Molybdenum	25.00	24.89	100	80-120	73-127	
Nickel	25.00	26.95	108	80-120	73-127	
Selenium	25.00	22.96	92	80-120	73-127	
Silver	12.50	12.51	100	80-120	73-127	
Thallium	25.00	25.09	100	80-120	73-127	
Vanadium	25.00	24.68	99	80-120	73-127	
Zinc	25.00	25.72	103	80-120	73-127	
Lithium	25.00	24.24	97	80-120	73-127	
Calcium	25.00	27.03	108	80-120	73-127	
Magnesium	25.00	26.62	106	80-120	73-127	
Potassium	250.0	247.9	99	80-120	73-127	
Sodium	250.0	245.9	98	80-120	73-127	
Boron	25.00	20.22	81	80-120	73-127	

Total number of LCS compounds: 22
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: NRG Coolwater			Page 11 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
097-01-002-22899	**LCS**	**Solid**	**ICP 7300**	**06/30/16**	**07/08/16 10:09**	**160630L06**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Antimony	25.00	23.62	94	80-120	73-127	
Arsenic	25.00	23.33	93	80-120	73-127	
Barium	25.00	25.39	102	80-120	73-127	
Beryllium	25.00	22.78	91	80-120	73-127	
Cadmium	25.00	24.43	98	80-120	73-127	
Chromium	25.00	25.04	100	80-120	73-127	
Cobalt	25.00	26.00	104	80-120	73-127	
Copper	25.00	24.67	99	80-120	73-127	
Lead	25.00	24.54	98	80-120	73-127	
Molybdenum	25.00	24.04	96	80-120	73-127	
Nickel	25.00	26.18	105	80-120	73-127	
Selenium	25.00	22.33	89	80-120	73-127	
Silver	12.50	12.16	97	80-120	73-127	
Thallium	25.00	24.22	97	80-120	73-127	
Vanadium	25.00	23.86	95	80-120	73-127	
Zinc	25.00	24.98	100	80-120	73-127	
Lithium	25.00	23.29	93	80-120	73-127	
Calcium	25.00	28.11	112	80-120	73-127	
Magnesium	25.00	26.79	107	80-120	73-127	
Potassium	250.0	238.9	96	80-120	73-127	
Sodium	250.0	245.0	98	80-120	73-127	
Boron	25.00	19.91	80	80-120	73-127	

Total number of LCS compounds: 22
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: NRG Coolwater			Page 12 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
097-01-002-23013	**LCS**	**Solid**	**ICP 7300**	**07/27/16**	**07/29/16 09:22**	**160727L06**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Antimony	25.00	24.20	97	80-120	73-127	
Arsenic	25.00	24.34	97	80-120	73-127	
Barium	25.00	26.38	106	80-120	73-127	
Beryllium	25.00	24.82	99	80-120	73-127	
Cadmium	25.00	25.55	102	80-120	73-127	
Chromium	25.00	26.10	104	80-120	73-127	
Cobalt	25.00	26.67	107	80-120	73-127	
Copper	25.00	25.68	103	80-120	73-127	
Lead	25.00	25.71	103	80-120	73-127	
Molybdenum	25.00	24.64	99	80-120	73-127	
Nickel	25.00	26.91	108	80-120	73-127	
Selenium	25.00	23.76	95	80-120	73-127	
Silver	12.50	12.83	103	80-120	73-127	
Thallium	25.00	25.78	103	80-120	73-127	
Vanadium	25.00	25.14	101	80-120	73-127	
Zinc	25.00	25.63	103	80-120	73-127	
Lithium	25.00	25.12	100	80-120	73-127	
Calcium	25.00	27.04	108	80-120	73-127	
Magnesium	25.00	25.52	102	80-120	73-127	
Potassium	250.0	257.0	103	80-120	73-127	
Sodium	250.0	264.2	106	80-120	73-127	
Boron	25.00	23.84	95	80-120	73-127	

Total number of LCS compounds: 22
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	T22.11.5. AII
		Method:	EPA 6010B
Project: NRG Coolwater			Page 13 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
097-05-006-8548	**LCS**	**Aqueous**	**ICP 7300**	**07/25/16**	**07/27/16 15:38**	**160727LA1**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Selenium	5.000	5.386	108	80-120	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 1311
		Method:	EPA 6010B
Project: NRG Coolwater			Page 14 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-021-2045	**LCS**	**Aqueous**	**ICP 7300**	**07/25/16**	**07/27/16 10:08**	**160726LA1**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Selenium	5.000	5.161	103	80-120	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: NRG Coolwater			Page 15 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-16-272-2286	**LCS**	**Solid**	**Mercury 04**	**07/06/16**	**07/06/16 21:23**	**160706L03**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Mercury	0.8350	0.7331	88	85-121	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: NRG Coolwater			Page 16 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-16-272-2290	**LCS**	**Solid**	**Mercury 04**	**07/07/16**	**07/07/16 13:28**	**160707L01**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Mercury	0.8350	0.8897	107	85-121	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: NRG Coolwater			Page 17 of 17

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-16-272-2344	**LCS**	**Solid**	**Mercury 05**	**07/25/16**	**07/25/16 12:57**	**160725L01**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Mercury	0.8350	0.9191	110	85-121	

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RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 16-06-2043 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA 300.0	N/A	969	IC 10	1
EPA 6010B	EPA 3050B	935	ICP 7300	1
EPA 6010B	EPA 1311	935	ICP 7300	1
EPA 6010B	T22.11.5. AII	935	ICP 7300	1
EPA 7471A	EPA 7471A Total	868	Mercury 04	1
EPA 7471A	EPA 7471A Total	868	Mercury 05	1
EPA 8015B (M)	EPA 3550B	682	GC 49	1
EPA 8015B (M)	EPA 3550B	972	GC 46	1
EPA 8015B (M)	EPA 3550B	972	GC 47	1
SM 2540 C (M)	N/A	1009	N/A	1

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Glossary of Terms and Qualifiers

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Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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Virendra Patel

From: Steve Williams <Steve.Williams@erm.com>
Sent: Monday, July 25, 2016 4:26 PM
To: Steve Ossim; Virendra Patel
Cc: Alfonso Nunez
Subject: RE: NRG Coolwater Additional Analyses

Virendra, please proceed.

Please also add title 22 metals 6010/6020 and mercury to sample P1-FL-1-1 and P1-FL-1-3

Steve Williams PG, CHG
Partner

ERM
2875 Michelle Dr. Suite 200
Irvine, California 92606
Cell: 949-294-0835
Office Direct: 949-623-4674
Office main: 949-623-4700

Steve.williams@erm.com
Visit us at www.erm.com

From: Steve Ossim
Sent: Monday, July 25, 2016 11:28 AM
To: Virendra Patel
Cc: Steve Williams; Alfonso Nunez
Subject: NRG Coolwater Additional Analyses

Hello Virendra,

Per our conversation earlier, we'd like to run analyses in accordance to the attached COC on samples that were previously held. We are aware that we are outside the hold time for TPH, but would like to run this anyway.

All new analyses are denoted in red ink with a circled "X". Please advise with any potential questions or concerns.

Sincerely appreciated,
Steve

Steve Ossim
Associate Geologist

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ERM
2875 Michelle Drive, Suite 200
Irvine, CA 92606

Tel: +949-623-4700 4707 (direct line)
Mobile: +317-509-5989

steve.ossim@erm.com
www.erm.com

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WO #/ LAB USE ONLY: **16-06-2043**

DATE: 06/27/16

PAGE: 1 OF 8

LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☒ COELT EDF GLOBAL ID: GB362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com
No 7471A Mercury analysis

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals o 6010/747X o 6020/747X	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +	STLC Selenium			Notes
1	P5-1	6/27/2016	7:25	soil	1-8oz/1-4oz	X									X			
2	P5-2	6/27/2016	7:30	soil	1-8oz/1-4oz													
3	P5-3	6/27/2016	7:35	soil	1-8oz/1-4oz				x	x	x	x	x	x				Composite P5-1 to P5-5 into "P5"
4	P5-4	6/27/2016	7:40	soil	1-8oz/1-4oz													*STLC Selenium on composite*
5	P5-5	6/27/2016	7:45	soil	1-8oz/1-4oz													
6	P4-1	6/27/2016	8:15	soil	1-8oz/1-4oz													
7	P4-2	6/27/2016	8:20	soil	1-8oz/1-4oz													
8	P4-3	6/27/2016	8:25	soil	1-8oz/1-4oz				x	x	x	x	x	x				Composite P4-1 to P4-5 into "P4"
9	P4-4	6/27/2016	8:30	soil	1-8oz/1-4oz													
10	P4-5	6/27/2016	8:35	soil	1-8oz/1-4oz													

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature) Rudy V	Received by: (Signature/Affiliation) ECI	Date: 062816	Time: 1840.
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

06/02/14 Revision

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PAGE: 4 OF 8

LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☒ COELT EDF GLOBAL ID: GB36203600Z LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

No 7471A mercury analysis

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals o 6010/747X o 6020/747X	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +												
26	P1-FL-1-0	6/27/2016	14:40	soil	1-8oz/1-4oz				x	x	x	x	x	x												
27	P1-FL-1-0.5	6/27/2016	14:45	soil	1-8oz/1-4oz				x	x	x	x	x	x												
28	P1-FL-1-1	6/27/2016	14:50	soil	1-8oz/1-4oz				X						Hold											
29	P1-FL-1-3	6/27/2016	14:55	soil	1-8oz/1-4oz				X						Hold											
30	P1-FL-2-0	6/27/2016	14:15	soil	1-8oz/1-4oz				x	x	x	x	x	x												
31	P1-FL-2-0.5	6/27/2016	14:20	soil	1-8oz/1-4oz				x	x	x	x	x	x												
32	P1-FL-1	6/27/2016	14:25	soil	1-8oz/1-4oz										Hold											
33	P1-FL-2-3	6/27/2016	14:30	soil	1-8oz/1-4oz										Hold											
34																										

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Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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LABORATORY CLIENT: Environmental Resource Management (ERM)	CLIENT PROJECT NAME / NUMBER: NRG Coolwater
2875 Michelle Drive, Suite 200	P.O. NO.: 355141.02
CITY: Irvine STATE: CA ZIP: 92606	PROJECT CONTACT: Steve Williams
TEL: 949-623-4700 E-MAIL: steve.williams@erm.com	SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☒ COELT EDF GLOBAL ID: GB 362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

No 747/A mercury analysis

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals o 6010/747X o 6020/747X	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +	
34	P1-FL-3-0	6/27/2016	13:45	soil	1-8oz/1-4oz				x	x	x	x	x	x	
35	P1-FL-3-0.5	6/27/2016	13:50	soil	1-8oz/1-4oz				x	x	x	x	x	x	
36	P1-FL-3-1	6/27/2016	13:55	soil	1-8oz/1-4oz										Hold
37	P1-FL-3-3	6/27/2016	14:00	soil	1-8oz/1-4oz										Hold
38	P2-FL-4-0	6/27/2016	13:20	soil	1-8oz/1-4oz				x	x	x	x	x	x	
39	P2-FL-4-0.5	6/27/2016	13:25	soil	1-8oz/1-4oz				x	x	x	x	x	x	
40	P2-FL-4-1	6/27/2016	13:30	soil	1-8oz/1-4oz										Hold
41	P2-FL-4-3	6/27/2016	13:35	soil	1-8oz/1-4oz										Hold

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Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☒ COELT EDF GLOBAL ID: GB362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

No 747/A mercury analysis

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals o 6010/747X o 6020/747X	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +	
43	P3-FL-5-0	6/27/2016	11:30	soil	1-8oz/1-4oz				x	x	x	x	x	x	
43	P3-FL-5-0.5	6/27/2016	11:35	soil	1-8oz/1-4oz				x	x	x	x	x	x	
44	P3-FL-5-1	6/27/2016	11:40	soil	1-8oz/1-4oz										Hold
45	P3-FL-5-3	6/27/2016	11:45	soil	1-8oz/1-4oz										Hold
46	P4-FL-6-0	6/27/2016	11:00	soil	1-8oz/1-4oz				x	x	x	x	x	x	
47	P4-FL-6-0.5	6/27/2016	11:05	soil	1-8oz/1-4oz				x	x	x	x	x	x	
48	P4-FL-6-1	6/27/2016	11:10	soil	1-8oz/1-4oz										Hold
49	P4-FL-6-3	6/27/2016	11:15	soil	1-8oz/1-4oz										Hold

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 062816	Time: 1840.
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

[X] COELT EDF GLOBAL ID: GB362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

No 7471A Mercury analysis

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals o 6010/747X o 6020/747X	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 + **		STLC Selenium	TCLP Selenium
50	P5-FL-7-0	6/27/2016	10:45	soil	1-8oz/1-4oz				x	x	x	x	x	x		X	X
51	P5-FL-7-0.5	6/27/2016	10:50	soil	1-8oz/1-4oz				x	x	x	x	x	x			
52	P5-FL-7-1	6/27/2016	10:55	soil	1-8oz/1-4oz				X	X	X	X	X		Hold		
53	P5-FL-7-3	6/27/2016	11:00	soil	1-8oz/1-4oz				X	X	X	X	X		Hold		
54	P5-FL-8-0	6/27/2016	10:00	soil	1-8oz/1-4oz				x	x	x	x	x	x			
55	P5-FL-8-0.5	6/27/2016	10:05	soil	1-8oz/1-4oz				x	x	x	x	x	x			
56	P5-FL-8-1	6/27/2016	10:10	soil	1-8oz/1-4oz				X				X		Hold		
57	P5-FL-8-3	6/27/2016	10:15	soil	1-8oz/1-4oz				X				X		Hold		

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 062816	Time: 1840
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☐☒ COELT EDF GLOBAL ID: GB362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals - 6010/747A o 6020/747A	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +	STLC Selenium	TCLP Selenium
58	B-1	6/27/2016	15:25	soil	1-8oz/1-4oz				x	x	x	x	x	x		
59	B-2	6/27/2016	15:15	soil	1-8oz/1-4oz				x	x	x	x	x	x		
60	DUP	6/27/2016	--	soil	1-8oz/1-4oz				x	x	x	x	x	x		
61	B-3	6/27/2016	15:30	soil	1-8oz/1-4oz				x	x	x	x	x	x		

	Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
1	Dmc for Steve Ossim	ECI	6/28/16	1652
2	Rudy K	ECI	062816	1840
3			Date:	Time:

08/02/14 Revision

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Virendra Patel

From: Alfonso Nunez <Alfonso.Nunez@erm.com>
Sent: Wednesday, June 29, 2016 12:28 PM
To: Steve Williams; Virendra Patel; Steve Ossim
Subject: RE: NRG Coolwater -- 16-06-2043 <response requested>

Sorry Virendra,
The change in labs, led to some mis-steps.

SAMPLE ANALYIS

The proposed sample analysis is based on the constituents of concern listed in the WDR; the requirements listed in Hazardous and Solid Waste Management System Disposal of Coal Combustion Residuals from Electric Utilities (U.S. Environmental Protection Agency [USEPA], 2014); and total petroleum hydrocarbons based on operation equipment. The list of analysis and analytical methods are summarized below.

- California Title 22 metals, boron, calcium, lithium, magnesium, potassium, and sodium by USEPA Methods 6010 and 7471;
- Chloride, fluoride, nitrate, and sulfate by USEPA 300.0;
- pH by 9045;
- Total dissolved solids by USEPA Method 106.1;
- Total petroleum hydrocarbons as diesel and as motor oil by USEPA Method 8015b; and
- Radium 226 and 228 by USEPA 903.1 and USEPA 904.0

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From: Steve Williams
Sent: Wednesday, June 29, 2016 11:17 AM
To: Virendra Patel; Steve Ossim; Alfonso Nunez
Subject: RE: NRG Coolwater -- 16-06-2043 <response requested>

Alf, please QC and verify chain with the work plan.

Steve Williams PG, CHG
Partner

ERM
2875 Michelle Dr. Suite 200
Irvine, California 92606
Cell: 949-294-0835
Office Direct: 949-623-4674
Office main: 949-623-4700

Steve.williams@erm.com
Visit us at www.erm.com

From: Virendra Patel [mailto:VirendraPatel@eurofinsUS.com]
Sent: Wednesday, June 29, 2016 11:16 AM
To: Steve Ossim; Alfonso Nunez
Cc: Steve Williams
Subject: RE: NRG Coolwater -- 16-06-2043 <response requested>

The COCs didn't the following:

T22 is to include – Calcium, Lithium, Magnesium, Potassium, Sodium?
TPH is to report TPH diesel and Motor Oil?

Please advise. Thanks!

Best Regards,

Virendra Patel
Project Manager

Eurofins Calscience, Inc.
7440 Lincoln Way
Garden Grove, CA 92841
USA
P: +1 714 895 5494
F: +1 714 894 7501

Email: virendrapatel@eurofinsUS.com
Website: www.eurofinsUS.com/Calscience

From: Steve Ossim [mailto:Steve.Ossim@erm.com]
Sent: Wednesday, June 29, 2016 10:25 AM
To: Alfonso Nunez; Virendra Patel
Cc: Steve Williams
Subject: RE: NRG Coolwater -- 16-06-2043 <response requested>

For the first 4 items, the correct sample times are those written on the labels. P2-2 is 9:10am, P2-3 is 9:15am, P2-4 is 9:20am, P2-5 is 9:25am.

For the last item the chain should read P1-FL-2-1. Label is correct.

From: Alfonso Nunez
Sent: Wednesday, June 29, 2016 10:14 AM
To: Steve Ossim
Cc: Steve Williams
Subject: FW: NRG Coolwater -- 16-06-2043 <response requested>
Importance: High

Steve o
Can you help?
Lets chat

Return to Contents

From: Virendra Patel [mailto:VirendraPatel@eurofinsUS.com]
Sent: Wednesday, June 29, 2016 10:03 AM
To: Alfonso Nunez; Steve Williams
Cc: Erick Ovalle
Subject: NRG Coolwater -- 16-06-2043 <response requested>
Importance: High

Alfonso/Steve,

Good Morning. For the subject project COCs, please provide clarification on the following items:

Sample #17 – P2-2, COC has collection time of 09:15am – sample label has 09:10am – **What is correct collection time?**
Sample #18 – P2-3, COC has collection time of 09:20am – sample label has 09:15am – **What is correct collection time?**
Sample #19 – P2-4, COC has collection time of 09:25am – sample label has 09:20am – **What is correct collection time?**
Sample #20 – P2-5, COC has collection time of 09:30am – sample label has 09:25am – **What is correct collection time?**
Sample #32 – COC has sample ID of P1-FL-1 – sample label has ID of P1-FL-2-1? **What is correct sample ID?**

Best Regards,

Virendra Patel
Project Manager

Eurofins Calscience, Inc.
7440 Lincoln Way
Garden Grove, CA 92841
USA
P: +1 714 895 5494
F: +1 714 894 7501

Email: virendrapatel@eurofinsUS.com
Website: www.eurofinsUS.com/Calscience

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: **16-06-2043**

DATE: 06/27/16

PAGE: 1 OF 8

LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☒ COELT EDF GLOBAL ID: GB362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals o 6010/747X o 6020/747X	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +	Notes
1	P5-1	6/27/2016	7:25	soil	1-8oz/1-4oz	X			x	x	x	x	x	x	Composite P5-1 to P5-5 into "P5"
2	P5-2	6/27/2016	7:30	soil	1-8oz/1-4oz										
3	P5-3	6/27/2016	7:35	soil	1-8oz/1-4oz										
4	P5-4	6/27/2016	7:40	soil	1-8oz/1-4oz										
5	P5-5	6/27/2016	7:45	soil	1-8oz/1-4oz										
6	P4-1	6/27/2016	8:15	soil	1-8oz/1-4oz				x	x	x	x	x	x	Composite P4-1 to P4-5 into "P4"
7	P4-2	6/27/2016	8:20	soil	1-8oz/1-4oz										
8	P4-3	6/27/2016	8:25	soil	1-8oz/1-4oz										
9	P4-4	6/27/2016	8:30	soil	1-8oz/1-4oz										
10	P4-5	6/27/2016	8:35	soil	1-8oz/1-4oz										

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature) Rudy V	Received by: (Signature/Affiliation) ECI	Date: 062816	Time: 1840.
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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WO # / LAB USE ONLY: 06-2043

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PAGE: 2 OF 8

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2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

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P.O. NO.: 355141.02

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☒ COELT EDF GLOBAL ID: GB362036002 LOG CODE:

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11	P3-1	6/27/2016	8:20	soil	1-8oz/1-4oz	X												
12	P3-2	6/27/2016	8:25	soil	1-8oz/1-4oz													
13	P3-3	6/27/2016	8:40	soil	1-8oz/1-4oz				x	x	x	x	x	x				Composite P3-1 to P3-5 into "P3"
14	P3-4	6/27/2016	8:30	soil	1-8oz/1-4oz													
15	P3-5	6/27/2016	8:35	soil	1-8oz/1-4oz													
16	P2-1	6/27/2016	9:05	soil	1-8oz/1-4oz													
17	P2-2	6/27/2016	9:15	soil	1-8oz/1-4oz													
18	P2-3	6/27/2016	9:20	soil	1-8oz/1-4oz				x	x	x	x	x	x				Composite P2-1 to P2-5 into "P2"
19	P2-4	6/27/2016	9:25	soil	1-8oz/1-4oz													
20	P2-5	6/27/2016	9:30	soil	1-8oz/1-4oz													

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Owen for Steve Ossim	ECI	6/28/16	1652
Rudy M	ECI	062816	1840
		Date:	Time:

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PAGE: 3 OF 8

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2875 Michelle Drive, Suite 200

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CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

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☒ COELT EDF GLOBAL ID: 6B362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

REQUESTED ANALYSES

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21	P1-1	6/27/2016	9:00	soil	1-8oz/1-4oz				x	x	x	x	x	x	Composite P1-1 to P1-5 into "P1"
22	P1-2	6/27/2016	9:05	soil	1-8oz/1-4oz										
23	P1-3	6/27/2016	9:10	soil	1-8oz/1-4oz										
24	P1-4	6/27/2016	9:15	soil	1-8oz/1-4oz										
25	P1-5	6/27/2016	9:20	soil	1-8oz/1-4oz										

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
for Steve Oss.	ECI	6/28/16	1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
	ECI	062816	1840
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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DATE: 06/27/16

PAGE: 4 OF 8

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26	P1-FL-1-0	6/27/2016	14:40	soil	1-8oz/1-4oz				x	x	x	x	x	x	
27	P1-FL-1-0.5	6/27/2016	14:45	soil	1-8oz/1-4oz				x	x	x	x	x	x	
28	P1-FL-1-1	6/27/2016	14:50	soil	1-8oz/1-4oz										Hold
29	P1-FL-1-3	6/27/2016	14:55	soil	1-8oz/1-4oz										Hold
30	P1-FL-2-0	6/27/2016	14:15	soil	1-8oz/1-4oz				x	x	x	x	x	x	
31	P1-FL-2-0.5	6/27/2016	14:20	soil	1-8oz/1-4oz				x	x	x	x	x	x	
32	P1-FL-1	6/27/2016	14:25	soil	1-8oz/1-4oz										Hold
33	P1-FL-2-3	6/27/2016	14:30	soil	1-8oz/1-4oz										Hold
34															

	Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
1	for Steve Ossim	ECI	6/28/16	1652
2		ECI	062816	1840.
3				

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P.O. NO.: 355141.02

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☒ COELT EDF GLOBAL ID: GB 362036002 LOG CODE:

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34	P1-FL-3-0	6/27/2016	13:45	soil	1-8oz/1-4oz				x	x	x	x	x	x	
35	P1-FL-3-0.5	6/27/2016	13:50	soil	1-8oz/1-4oz				x	x	x	x	x	x	
36	P1-FL-3-1	6/27/2016	13:55	soil	1-8oz/1-4oz										Hold
37	P1-FL-3-3	6/27/2016	14:00	soil	1-8oz/1-4oz										Hold
38	P2-FL-4-0	6/27/2016	13:20	soil	1-8oz/1-4oz				x	x	x	x	x	x	
39	P2-FL-4-0.5	6/27/2016	13:25	soil	1-8oz/1-4oz				x	x	x	x	x	x	
40	P2-FL-4-1	6/27/2016	13:30	soil	1-8oz/1-4oz										Hold
41	P2-FL-4-3	6/27/2016	13:35	soil	1-8oz/1-4oz										Hold

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) GCI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 06 28 16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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PAGE: 6 OF 8

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☒ COELT EDF GLOBAL ID: 68362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

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42	P3-FL-5-0	6/27/2016	11:30	soil	1-8oz/1-4oz				x	x	x	x	x	x												
43	P3-FL-5-0.5	6/27/2016	11:35	soil	1-8oz/1-4oz				x	x	x	x	x	x												
44	P3-FL-5-1	6/27/2016	11:40	soil	1-8oz/1-4oz										Hold											
45	P3-FL-5-3	6/27/2016	11:45	soil	1-8oz/1-4oz										Hold											
46	P4-FL-6-0	6/27/2016	11:00	soil	1-8oz/1-4oz				x	x	x	x	x	x												
47	P4-FL-6-0.5	6/27/2016	11:05	soil	1-8oz/1-4oz				x	x	x	x	x	x												
48	P4-FL-6-1	6/27/2016	11:10	soil	1-8oz/1-4oz										Hold											
49	P4-FL-6-3	6/27/2016	11:15	soil	1-8oz/1-4oz										Hold											

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 062816	Time: 1840.
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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50	P5-FL-7-0	6/27/2016	10:45	soil	1-8oz/1-4oz				x	x	x	x	x	x	
51	P5-FL-7-0.5	6/27/2016	10:50	soil	1-8oz/1-4oz				x	x	x	x	x	x	
52	P5-FL-7-1	6/27/2016	10:55	soil	1-8oz/1-4oz										Hold
53	P5-FL-7-3	6/27/2016	11:00	soil	1-8oz/1-4oz										Hold
54	P5-FL-8-0	6/27/2016	10:00	soil	1-8oz/1-4oz				x	x	x	x	x	x	
55	P5-FL-8-0.5	6/27/2016	10:05	soil	1-8oz/1-4oz				x	x	x	x	x	x	
56	P5-FL-8-1	6/27/2016	10:10	soil	1-8oz/1-4oz										Hold
57	P5-FL-8-3	6/27/2016	10:15	soil	1-8oz/1-4oz										Hold

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) ECL	Date: 6/28/16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECL	Date: 062816	Time: 1840
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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58	B-1	6/27/2016	15:25	soil	1-8oz/1-4oz				x	x	x	x	x	x
59	B-2	6/27/2016	15:15	soil	1-8oz/1-4oz				x	x	x	x	x	x
60	DUP	6/27/2016	--	soil	1-8oz/1-4oz				x	x	x	x	x	x
61	B-3	6/27/2016	15:30	soil	1-8oz/1-4oz				x	x	x	x	x	x

Relinquished by: (Signature) Dmc for Steve Ossim	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature) Rudy H	Received by: (Signature/Affiliation) ECI	Date: 062816	Time: 1840
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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WORK ORDER NUMBER: 16-06- 2056 (43) 06/28/16

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 2

CLIENT: ERM

DATE: 06 / 28 / 2016

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2A (CF: 0.0°C); Temperature (w/o CF): 2.5 °C (w/ CF): 2.5 °C; ☐ Blank ☑ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 676

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 676

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 1053

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☐	☑	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

Solid: ☑ 4ozCGJ ☑ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (_____) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1053

Reviewed by: 689

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WORK ORDER NUMBER: 16-06- 2043

SAMPLE RECEIPT CHECKLIST

COOLER 2 OF 2

CLIENT: ERM

DATE: 06 / 28 / 2016

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2A (CF: 0.0°C); Temperature (w/o CF): 2.4 °C (w/ CF): 2.4 °C; ☐ Blank ☑ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 676

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 676

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 1053

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

Solid: ☑ 4ozCGJ ☑ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (_____) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1053

Reviewed by: 657

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WORK ORDER NUMBER: 16-06- 2043

SAMPLE ANOMALY REPORT

DATE: 06 / 28 / 2016

SAMPLES, CONTAINERS, AND LABELS:

- ☐ Sample(s) NOT RECEIVED but listed on COC
- ☐ Sample(s) received but NOT LISTED on COC
- ☐ Holding time expired (list client or ECI sample ID and analysis)
- ☐ Insufficient sample amount for requested analysis (list analysis)
- ☐ Improper container(s) used (list analysis)
- ☐ Improper preservative used (list analysis)
- ☐ No preservative noted on COC or label (list analysis and notify lab)
- ☐ Sample container(s) not labeled
- ☐ Client sample label(s) illegible (list container type and analysis)
- ☑ Client sample label(s) do not match COC (comment)
  - ☐ Project information
  - ☑ Client sample ID
  - ☑ Sampling date and/or time
  - ☐ Number of container(s)
  - ☐ Requested analysis
- ☐ Sample container(s) compromised (comment)
  - ☐ Broken
  - ☐ Water present in sample container
- ☐ Air sample container(s) compromised (comment)
  - ☐ Flat
  - ☐ Very low in volume
  - ☐ Leaking (not transferred; duplicate bag submitted)
  - ☐ Leaking (transferred into ECI Tedlar™ bags*)
  - ☐ Leaking (transferred into client's Tedlar™ bags*)

* Transferred at client's request.

Comments

(-16) Received 1 of 2 containers (4 oz CGJ) labeled as P1-2 (Date/Time matched)

(-22) Received 1 of 2 containers (4 oz CGJ) labeled as ~~P1-2~~ P2-1 (Date/Time matched)

6/28/16

(-32) Labeled as P1-FL-2-1 (Date/Time matched)

Collection time per label
(-17) 9:10 (-18) 9:15
(-19) 9:20 (-20) 9:25

MISCELLANEOUS: (Describe)

Comments

HEADSPACE:

(Containers with bubble > 6 mm or ¼ inch for volatile organic or dissolved gas analysis)

ECI Sample ID	ECI Container ID	Total Number**	ECI Sample ID	ECI Container ID	Total Number**

(Containers with bubble for other analysis)

ECI Sample ID	ECI Container ID	Total Number**	Requested Analysis

Comments: _____

Reported by: 1053

Reviewed by: 659

** Record the total number of containers (i.e., vials or bottles) for the affected sample.

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Supplemental Report 2

Additional requested analyses are reported as a stand-alone report.

WORK ORDER NUMBER: 16-06-2043

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: ERM-WEST

Client Project Name: NRG Coolwater

Attention: Steve Williams
2875 Michelle Dr.
Suite 200
Irvine, CA 92606-1021

Approved for release on 09/07/2016 by:
Virendra Patel
Project Manager

ResultLink

Email your PM

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

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Work Order Number: 16-06-2043

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Work Order Narrative

Work Order: 16-06-2043 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 06/28/16. They were assigned to Work Order 16-06-2043.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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Sample Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	PO Number:	355141.02
		Date/Time Received:	06/28/16 18:40
		Number of Containers:	127
Attn:	Steve Williams		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
P5-1	16-06-2043-1	06/27/16 07:25	2	Solid
P5-2	16-06-2043-2	06/27/16 07:30	2	Solid
P5-3	16-06-2043-3	06/27/16 07:35	2	Solid
P5-4	16-06-2043-4	06/27/16 07:40	2	Solid
P5-5	16-06-2043-5	06/27/16 07:45	2	Solid
P4-1	16-06-2043-6	06/27/16 08:15	2	Solid
P4-2	16-06-2043-7	06/27/16 08:20	2	Solid
P4-3	16-06-2043-8	06/27/16 08:25	2	Solid
P4-4	16-06-2043-9	06/27/16 08:30	2	Solid
P4-5	16-06-2043-10	06/27/16 08:35	2	Solid
P3-1	16-06-2043-11	06/27/16 08:20	2	Solid
P3-2	16-06-2043-12	06/27/16 08:25	2	Solid
P3-3	16-06-2043-13	06/27/16 08:40	2	Solid
P3-4	16-06-2043-14	06/27/16 08:30	2	Solid
P3-5	16-06-2043-15	06/27/16 08:35	2	Solid
P2-1	16-06-2043-16	06/27/16 09:05	2	Solid
P2-2	16-06-2043-17	06/27/16 09:10	2	Solid
P2-3	16-06-2043-18	06/27/16 09:15	2	Solid
P2-4	16-06-2043-19	06/27/16 09:20	2	Solid
P2-5	16-06-2043-20	06/27/16 09:25	2	Solid
P1-1	16-06-2043-21	06/27/16 09:00	2	Solid
P1-2	16-06-2043-22	06/27/16 09:05	2	Solid
P1-3	16-06-2043-23	06/27/16 09:10	2	Solid
P1-4	16-06-2043-24	06/27/16 09:15	2	Solid
P1-5	16-06-2043-25	06/27/16 09:20	2	Solid
P1-FL-1-0	16-06-2043-26	06/27/16 14:40	2	Solid
P1-FL-1-0.5	16-06-2043-27	06/27/16 14:45	2	Solid
P1-FL-1-1	16-06-2043-28	06/27/16 14:50	2	Solid
P1-FL-1-3	16-06-2043-29	06/27/16 14:55	2	Solid
P1-FL-2-0	16-06-2043-30	06/27/16 14:15	2	Solid
P1-FL-2-0.5	16-06-2043-31	06/27/16 14:20	2	Solid
P1-FL-2-1	16-06-2043-32	06/27/16 14:25	2	Solid
P1-FL-2-3	16-06-2043-33	06/27/16 14:30	2	Solid
P1-FL-3-0	16-06-2043-34	06/27/16 13:45	2	Solid
P1-FL-3-0.5	16-06-2043-35	06/27/16 13:50	2	Solid
P1-FL-3-1	16-06-2043-36	06/27/16 13:55	2	Solid
P1-FL-3-3	16-06-2043-37	06/27/16 14:00	2	Solid
P2-FL-4.0	16-06-2043-38	06/27/16 13:20	2	Solid
P2-FL-4-0.5	16-06-2043-39	06/27/16 13:25	2	Solid
P2-FL-4-1	16-06-2043-40	06/27/16 13:30	2	Solid
P2-FL-4-3	16-06-2043-41	06/27/16 13:35	2	Solid
P3-FL-5-0	16-06-2043-42	06/27/16 11:30	2	Solid

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Sample Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	PO Number:	355141.02
		Date/Time Received:	06/28/16 18:40
		Number of Containers:	127
Attn:	Steve Williams		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
P3-FL-5-0.5	16-06-2043-43	06/27/16 11:35	2	Solid
P3-FL-5-1	16-06-2043-44	06/27/16 11:40	2	Solid
P3-FL-5-3	16-06-2043-45	06/27/16 11:45	2	Solid
P4-FL-6-0	16-06-2043-46	06/27/16 11:00	2	Solid
P4-FL-6-0.5	16-06-2043-47	06/27/16 11:05	2	Solid
P4-FL-6-1	16-06-2043-48	06/27/16 11:10	2	Solid
P4-FL-6-3	16-06-2043-49	06/27/16 11:15	2	Solid
P5-FL-7-0	16-06-2043-50	06/27/16 10:45	2	Solid
P5-FL-7-0.5	16-06-2043-51	06/27/16 10:50	2	Solid
P5-FL-7-1	16-06-2043-52	06/27/16 10:55	2	Solid
P5-FL-7-3	16-06-2043-53	06/27/16 11:00	2	Solid
P5-FL-8-0	16-06-2043-54	06/27/16 10:00	2	Solid
P5-FL-8-0.5	16-06-2043-55	06/27/16 10:05	2	Solid
P5-FL-8-1	16-06-2043-56	06/27/16 10:10	2	Solid
P5-FL-8-3	16-06-2043-57	06/27/16 10:15	2	Solid
B-1	16-06-2043-58	06/27/16 15:25	2	Solid
B-2	16-06-2043-59	06/27/16 15:15	2	Solid
DUP	16-06-2043-60	06/27/16 00:00	2	Solid
B-3	16-06-2043-61	06/27/16 15:30	2	Solid
P5	16-06-2043-62	06/27/16 00:00	1	Solid
P4	16-06-2043-63	06/27/16 00:00	1	Solid
P3	16-06-2043-64	06/27/16 00:00	1	Solid
P2	16-06-2043-65	06/27/16 00:00	1	Solid
P1	16-06-2043-66	06/27/16 00:00	1	Solid

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Detections Summary

Client:	ERM-WEST	Work Order:	16-06-2043
	2875 Michelle Dr., Suite 200	Project Name:	NRG Coolwater
	Irvine, CA 92606-1021	Received:	06/28/16
Attn:	Steve Williams		

Client SampleID / Analyte	Result	Qualifiers	RL	Units	Method	Extraction
P3-FL-5-0 (16-06-2043-42)						
Arsenic	0.199		0.150	mg/L	EPA 6010B	T22.11.5.AII DI
P3-FL-5-0.5 (16-06-2043-43)						
Arsenic	0.176		0.150	mg/L	EPA 6010B	T22.11.5.AII DI
P5-FL-7-0 (16-06-2043-50)						
Selenium	0.549		0.150	mg/L	EPA 6010B	T22.11.5.AII DI
DUP (16-06-2043-60)						
Selenium	0.489		0.150	mg/L	EPA 6010B	T22.11.5.AII DI

Subcontracted analyses, if any, are not included in this summary.

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* MDL is shown

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: T22.11.5.AII DI
Method: EPA 6010B
Units: mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-0	**16-06-2043-42-A**	**06/27/16 11:30**	**Solid**	**ICP 7300**	**08/30/16**	**09/02/16 15:58**	**160901LA5**

Parameter	Result	RL	DF	Qualifiers
Arsenic	0.199	0.150	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P3-FL-5-0.5	**16-06-2043-43-A**	**06/27/16 11:35**	**Solid**	**ICP 7300**	**08/30/16**	**09/02/16 16:01**	**160901LA5**

Parameter	Result	RL	DF	Qualifiers
Arsenic	0.176	0.150	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0	**16-06-2043-46-A**	**06/27/16 11:00**	**Solid**	**ICP 7300**	**08/30/16**	**09/02/16 16:03**	**160901LA5**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.150	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P4-FL-6-0.5	**16-06-2043-47-A**	**06/27/16 11:05**	**Solid**	**ICP 7300**	**08/30/16**	**09/02/16 16:04**	**160901LA5**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.150	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0	**16-06-2043-50-A**	**06/27/16 10:45**	**Solid**	**ICP 7300**	**08/30/16**	**09/02/16 16:05**	**160901LA5**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.150	1.00	
Selenium	0.549	0.150	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P5-FL-7-0.5	**16-06-2043-51-A**	**06/27/16 10:50**	**Solid**	**ICP 7300**	**08/30/16**	**09/02/16 16:06**	**160901LA5**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.150	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP	**16-06-2043-60-A**	**06/27/16 00:00**	**Solid**	**ICP 7300**	**08/30/16**	**09/02/16 16:10**	**160901LA5**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.150	1.00	
Selenium	0.489	0.150	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ERM-WEST
2875 Michelle Dr., Suite 200
Irvine, CA 92606-1021

Project: NRG Coolwater

Date Received: 06/28/16
Work Order: 16-06-2043
Preparation: T22.11.5.AII DI
Method: EPA 6010B
Units: mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-05-006-8611**	**N/A**	**Aqueous**	**ICP 7300**	**08/30/16**	**09/02/16 15:06**	**160901LA5**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.150	1.00	
Selenium	ND	0.150	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	T22.11.5.AII DI
		Method:	EPA 6010B
Project: NRG Coolwater			Page 1 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
P3-FL-5-0	**Sample**	**Solid**	**ICP 7300**	**08/30/16**	**09/02/16 15:58**	**160901SA5**
P3-FL-5-0	**Matrix Spike**	**Solid**	**ICP 7300**	**08/30/16**	**09/02/16 15:59**	**160901SA5**
P3-FL-5-0	**Matrix Spike Duplicate**	**Solid**	**ICP 7300**	**08/30/16**	**09/02/16 16:00**	**160901SA5**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Arsenic	0.1986	5.000	5.322	102	5.528	107	75-125	4	0-20	
Selenium	0.1805	5.000	4.909	95	5.193	100	75-125	6	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ERM-WEST		Date Received:	06/28/16
2875 Michelle Dr., Suite 200		Work Order:	16-06-2043
Irvine, CA 92606-1021		Preparation:	T22.11.5.AII DI
		Method:	EPA 6010B
Project: NRG Coolwater			Page 1 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
097-05-006-8611	**LCS**	**Aqueous**	**ICP 7300**	**08/30/16**	**09/02/16 15:07**	**160901LA5**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Arsenic	5.000	4.886	98	80-120	
Selenium	5.000	4.838	97	80-120	

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RPD: Relative Percent Difference. CL: Control Limits

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Glossary of Terms and Qualifiers

Work Order: 16-06-2043 Page 1 of 1

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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Virendra Patel

From: Steve Williams <Steve.Williams@erm.com>
Sent: Tuesday, August 30, 2016 10:29 AM
To: Virendra Patel
Cc: Erick Ovalle
Subject: RE: Coolwater Additional Analysis.

Yes, that is correct.

_____

Steve Williams PG, CHG
Partner

ERM
2875 Michelle Dr. Suite 200
Irvine, California 92606
Cell: 949-294-0835
Office Direct: 949-623-4674
Office main: 949-623-4700

Steve.williams@erm.com
Visit us at www.erm.com

From: Virendra Patel [mailto:VirendraPatel@eurofinsUS.com]
Sent: Tuesday, August 30, 2016 10:27 AM
To: Steve Williams
Cc: Erick Ovalle
Subject: RE: Coolwater Additional Analysis.

Steve,

We don't have a sample with an ID "DUP-P5-FL-7-0" as you have listed below– We do have a sample with an ID of "Dup" – this is the same sample, correct?

Please confirm. Thank you.

Best Regards,

Virendra Patel
Project Manager

Eurofins Calscience, Inc.
7440 Lincoln Way
Garden Grove, CA 92841
USA
P: +1 714 895 5494
F: +1 714 894 7501

Email: virendrapatel@eurofinsUS.com
Website: www.eurofinsUS.com/Calscience

Return to Contents

From: Steve Williams [mailto:Steve.Williams@erm.com]
Sent: Tuesday, August 30, 2016 10:13 AM
To: Virendra Patel
Subject: RE: Coolwater Additional Analysis.

Virendra, please also run STLC DI for Selenium on the

P5-FL-7-0
DUP-P5-FL-7-0

Steve Williams PG, CHG
Partner

ERM
2875 Michelle Dr. Suite 200
Irvine, California 92606
Cell: 949-294-0835
Office Direct: 949-623-4674
Office main: 949-623-4700

Steve.williams@erm.com
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From: Steve Williams
Sent: Monday, August 29, 2016 5:02 PM
To: 'Virendra Patel'
Subject: Coolwater Additional Analysis.

Virendra, please run the following samples for Arsenic - STLC DI method.

P3-FL-5-0
P3-FL-5-0.5
P4-FL-6-0
P4-FL-6-0.5
P5-FL-7-0
DUP (P5-FL-7-0)
P5-FL-7-0.5

Steve Williams PG, CHG
Partner

ERM
2875 Michelle Dr. Suite 200
Irvine, California 92606
Cell: 949-294-0835

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Office Direct: 949-623-4674
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Steve.williams@erm.com
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Virendra Patel

From: Steve Williams <Steve.Williams@erm.com>
Sent: Monday, July 25, 2016 4:26 PM
To: Steve Ossim; Virendra Patel
Cc: Alfonso Nunez
Subject: RE: NRG Coolwater Additional Analyses

Virendra, please proceed.

Please also add title 22 metals 6010/6020 and mercury to sample P1-FL-1-1 and P1-FL-1-3

Steve Williams PG, CHG
Partner

ERM
2875 Michelle Dr. Suite 200
Irvine, California 92606
Cell: 949-294-0835
Office Direct: 949-623-4674
Office main: 949-623-4700

Steve.williams@erm.com
Visit us at www.erm.com

From: Steve Ossim
Sent: Monday, July 25, 2016 11:28 AM
To: Virendra Patel
Cc: Steve Williams; Alfonso Nunez
Subject: NRG Coolwater Additional Analyses

Hello Virendra,

Per our conversation earlier, we'd like to run analyses in accordance to the attached COC on samples that were previously held. We are aware that we are outside the hold time for TPH, but would like to run this anyway.

All new analyses are denoted in red ink with a circled "X". Please advise with any potential questions or concerns.

Sincerely appreciated,
Steve

Steve Ossim
Associate Geologist

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ERM
2875 Michelle Drive, Suite 200
Irvine, CA 92606

Tel: +949-623-4700 4707 (direct line)
Mobile: +317-509-5989

steve.ossim@erm.com
www.erm.com

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CHAIN OF CUSTODY RECORD

WO #/ LAB USE ONLY: **16-06-2043**

DATE: 06/27/16

PAGE: 1 OF 8

LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☒ COELT EDF GLOBAL ID: GB362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

No 7471A Mercury analysis

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals o 6010/747X o 6020/747X	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +	STLC Selenium			Notes
1	P5-1	6/27/2016	7:25	soil	1-8oz/1-4oz	X									X			
2	P5-2	6/27/2016	7:30	soil	1-8oz/1-4oz													
3	P5-3	6/27/2016	7:35	soil	1-8oz/1-4oz				x	x	x	x	x	x				Composite P5-1 to P5-5 into "P5"
4	P5-4	6/27/2016	7:40	soil	1-8oz/1-4oz													*STLC Selenium on composite*
5	P5-5	6/27/2016	7:45	soil	1-8oz/1-4oz													
6	P4-1	6/27/2016	8:15	soil	1-8oz/1-4oz													
7	P4-2	6/27/2016	8:20	soil	1-8oz/1-4oz													
8	P4-3	6/27/2016	8:25	soil	1-8oz/1-4oz				x	x	x	x	x	x				Composite P4-1 to P4-5 into "P4"
9	P4-4	6/27/2016	8:30	soil	1-8oz/1-4oz													
10	P4-5	6/27/2016	8:35	soil	1-8oz/1-4oz													

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature) Rudy V	Received by: (Signature/Affiliation) ECI	Date: 062816	Time: 1840.
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

06/02/14 Revision

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WO # / LAB USE ONLY: 06-2043

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PAGE: 4 OF 8

LABORATORY CLIENT: Environmental Resource Management (ERM)	CLIENT PROJECT NAME / NUMBER: NRG Coolwater
2875 Michelle Drive, Suite 200	P.O. NO.: 355141.02
CITY: Irvine STATE: CA ZIP: 92606	PROJECT CONTACT: Steve Williams
TEL: 949-623-4700 E-MAIL: steve.williams@erm.com	SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☒ COELT EDF GLOBAL ID: GB36203600Z LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

No 7471A mercury analysis

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals o 6010/747X o 6020/747X	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +	
26	P1-FL-1-0	6/27/2016	14:40	soil	1-8oz/1-4oz				x	x	x	x	x	x	
27	P1-FL-1-0.5	6/27/2016	14:45	soil	1-8oz/1-4oz				x	x	x	x	x	x	
28	P1-FL-1-1	6/27/2016	14:50	soil	1-8oz/1-4oz				X						Hold
29	P1-FL-1-3	6/27/2016	14:55	soil	1-8oz/1-4oz				X						Hold
30	P1-FL-2-0	6/27/2016	14:15	soil	1-8oz/1-4oz				x	x	x	x	x	x	
31	P1-FL-2-0.5	6/27/2016	14:20	soil	1-8oz/1-4oz				x	x	x	x	x	x	
32	P1-FL-1	6/27/2016	14:25	soil	1-8oz/1-4oz										Hold
33	P1-FL-2-3	6/27/2016	14:30	soil	1-8oz/1-4oz										Hold
34															

Relinquished by: (Signature) for Steve Ossim	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 062816	Time: 1840.
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DATE: 06/27/16

PAGE: 5 OF 8

LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☒ COELT EDF GLOBAL ID: GB 362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

No 747/A mercury analysis

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals o 6010/747X o 6020/747X	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +	
34	P1-FL-3-0	6/27/2016	13:45	soil	1-8oz/1-4oz				x	x	x	x	x	x	
35	P1-FL-3-0.5	6/27/2016	13:50	soil	1-8oz/1-4oz				x	x	x	x	x	x	
36	P1-FL-3-1	6/27/2016	13:55	soil	1-8oz/1-4oz										Hold
37	P1-FL-3-3	6/27/2016	14:00	soil	1-8oz/1-4oz										Hold
38	P2-FL-4-0	6/27/2016	13:20	soil	1-8oz/1-4oz				x	x	x	x	x	x	
39	P2-FL-4-0.5	6/27/2016	13:25	soil	1-8oz/1-4oz				x	x	x	x	x	x	
40	P2-FL-4-1	6/27/2016	13:30	soil	1-8oz/1-4oz										Hold
41	P2-FL-4-3	6/27/2016	13:35	soil	1-8oz/1-4oz										Hold

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 062816	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☒ COELT EDF GLOBAL ID: GB362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

No 747/A mercury analysis

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals o 6010/747X o 6020/747X	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +	
43	P3-FL-5-0	6/27/2016	11:30	soil	1-8oz/1-4oz				x	x	x	x	x	x	
43	P3-FL-5-0.5	6/27/2016	11:35	soil	1-8oz/1-4oz				x	x	x	x	x	x	
44	P3-FL-5-1	6/27/2016	11:40	soil	1-8oz/1-4oz										Hold
45	P3-FL-5-3	6/27/2016	11:45	soil	1-8oz/1-4oz										Hold
46	P4-FL-6-0	6/27/2016	11:00	soil	1-8oz/1-4oz				x	x	x	x	x	x	
47	P4-FL-6-0.5	6/27/2016	11:05	soil	1-8oz/1-4oz				x	x	x	x	x	x	
48	P4-FL-6-1	6/27/2016	11:10	soil	1-8oz/1-4oz										Hold
49	P4-FL-6-3	6/27/2016	11:15	soil	1-8oz/1-4oz										Hold

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 062816	Time: 1840.
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

[X] COELT EDF GLOBAL ID: GB362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

No 7471A Mercury analysis

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals o 6010/747X o 6020/747X	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 + **		STLC Selenium	TCLP Selenium
50	P5-FL-7-0	6/27/2016	10:45	soil	1-8oz/1-4oz				x	x	x	x	x	x		X	X
51	P5-FL-7-0.5	6/27/2016	10:50	soil	1-8oz/1-4oz				x	x	x	x	x	x			
52	P5-FL-7-1	6/27/2016	10:55	soil	1-8oz/1-4oz				X	X	X	X	X		Hold		
53	P5-FL-7-3	6/27/2016	11:00	soil	1-8oz/1-4oz				X	X	X	X	X		Hold		
54	P5-FL-8-0	6/27/2016	10:00	soil	1-8oz/1-4oz				x	x	x	x	x	x			
55	P5-FL-8-0.5	6/27/2016	10:05	soil	1-8oz/1-4oz				x	x	x	x	x	x			
56	P5-FL-8-1	6/27/2016	10:10	soil	1-8oz/1-4oz				X				X		Hold		
57	P5-FL-8-3	6/27/2016	10:15	soil	1-8oz/1-4oz				X				X		Hold		

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 062816	Time: 1840
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

06/02/14 Revision

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WO # / LAB USE ONLY: 06-2043

DATE: 06/27/16

PAGE: 8 OF 8

LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☐☒ COELT EDF GLOBAL ID: GB362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals - 6010/747A o 6020/747A	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +	STLC Selenium	TCLP Selenium
58	B-1	6/27/2016	15:25	soil	1-8oz/1-4oz				x	x	x	x	x	x		
59	B-2	6/27/2016	15:15	soil	1-8oz/1-4oz				x	x	x	x	x	x		
60	DUP	6/27/2016	--	soil	1-8oz/1-4oz				x	x	x	x	x	x		
61	B-3	6/27/2016	15:30	soil	1-8oz/1-4oz				x	x	x	x	x	x		

	Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
1	Email for Steve Ossim	ECI	6/28/16	1652
2	Rudy K	ECI	062816	1840
3			Date:	Time:

08/02/14 Revision

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Virendra Patel

From: Alfonso Nunez <Alfonso.Nunez@erm.com>
Sent: Wednesday, June 29, 2016 12:28 PM
To: Steve Williams; Virendra Patel; Steve Ossim
Subject: RE: NRG Coolwater -- 16-06-2043 <response requested>

Sorry Virendra,
The change in labs, led to some mis-steps.

SAMPLE ANALYIS

The proposed sample analysis is based on the constituents of concern listed in the WDR; the requirements listed in Hazardous and Solid Waste Management System Disposal of Coal Combustion Residuals from Electric Utilities (U.S. Environmental Protection Agency [USEPA], 2014); and total petroleum hydrocarbons based on operation equipment. The list of analysis and analytical methods are summarized below.

- California Title 22 metals, boron, calcium, lithium, magnesium, potassium, and sodium by USEPA Methods 6010 and 7471;
- Chloride, fluoride, nitrate, and sulfate by USEPA 300.0;
- pH by 9045;
- Total dissolved solids by USEPA Method 106.1;
- Total petroleum hydrocarbons as diesel and as motor oil by USEPA Method 8015b; and
- Radium 226 and 228 by USEPA 903.1 and USEPA 904.0

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From: Steve Williams
Sent: Wednesday, June 29, 2016 11:17 AM
To: Virendra Patel; Steve Ossim; Alfonso Nunez
Subject: RE: NRG Coolwater -- 16-06-2043 <response requested>

Alf, please QC and verify chain with the work plan.

Steve Williams PG, CHG
Partner

ERM
2875 Michelle Dr. Suite 200
Irvine, California 92606
Cell: 949-294-0835
Office Direct: 949-623-4674
Office main: 949-623-4700

Steve.williams@erm.com
Visit us at www.erm.com

From: Virendra Patel [mailto:VirendraPatel@eurofinsUS.com]
Sent: Wednesday, June 29, 2016 11:16 AM
To: Steve Ossim; Alfonso Nunez
Cc: Steve Williams
Subject: RE: NRG Coolwater -- 16-06-2043 <response requested>

The COCs didn't the following:

T22 is to include – Calcium, Lithium, Magnesium, Potassium, Sodium?
TPH is to report TPH diesel and Motor Oil?

Please advise. Thanks!

Best Regards,

Virendra Patel
Project Manager

Eurofins Calscience, Inc.
7440 Lincoln Way
Garden Grove, CA 92841
USA
P: +1 714 895 5494
F: +1 714 894 7501

Email: virendrapatel@eurofinsUS.com
Website: www.eurofinsUS.com/Calscience

From: Steve Ossim [mailto:Steve.Ossim@erm.com]
Sent: Wednesday, June 29, 2016 10:25 AM
To: Alfonso Nunez; Virendra Patel
Cc: Steve Williams
Subject: RE: NRG Coolwater -- 16-06-2043 <response requested>

For the first 4 items, the correct sample times are those written on the labels. P2-2 is 9:10am, P2-3 is 9:15am, P2-4 is 9:20am, P2-5 is 9:25am.

For the last item the chain should read P1-FL-2-1. Label is correct.

From: Alfonso Nunez
Sent: Wednesday, June 29, 2016 10:14 AM
To: Steve Ossim
Cc: Steve Williams
Subject: FW: NRG Coolwater -- 16-06-2043 <response requested>
Importance: High

Steve o
Can you help?
Lets chat

Return to Contents

From: Virendra Patel [mailto:VirendraPatel@eurofinsUS.com]
Sent: Wednesday, June 29, 2016 10:03 AM
To: Alfonso Nunez; Steve Williams
Cc: Erick Ovalle
Subject: NRG Coolwater -- 16-06-2043 <response requested>
Importance: High

Alfonso/Steve,

Good Morning. For the subject project COCs, please provide clarification on the following items:

Sample #17 – P2-2, COC has collection time of 09:15am – sample label has 09:10am – **What is correct collection time?**
Sample #18 – P2-3, COC has collection time of 09:20am – sample label has 09:15am – **What is correct collection time?**
Sample #19 – P2-4, COC has collection time of 09:25am – sample label has 09:20am – **What is correct collection time?**
Sample #20 – P2-5, COC has collection time of 09:30am – sample label has 09:25am – **What is correct collection time?**
Sample #32 – COC has sample ID of P1-FL-1 – sample label has ID of P1-FL-2-1? **What is correct sample ID?**

Best Regards,

Virendra Patel
Project Manager

Eurofins Calscience, Inc.
7440 Lincoln Way
Garden Grove, CA 92841
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F: +1 714 894 7501

Email: virendrapatel@eurofinsUS.com
Website: www.eurofinsUS.com/Calscience

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: **16-06-2043**

DATE: 06/27/16

PAGE: 1 OF 8

LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☒ COELT EDF GLOBAL ID: GB362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals o 6010/747X o 6020/747X	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +	Notes
1	P5-1	6/27/2016	7:25	soil	1-8oz/1-4oz	X			x	x	x	x	x	x	Composite P5-1 to P5-5 into "P5"
2	P5-2	6/27/2016	7:30	soil	1-8oz/1-4oz										
3	P5-3	6/27/2016	7:35	soil	1-8oz/1-4oz										
4	P5-4	6/27/2016	7:40	soil	1-8oz/1-4oz										
5	P5-5	6/27/2016	7:45	soil	1-8oz/1-4oz										
6	P4-1	6/27/2016	8:15	soil	1-8oz/1-4oz				x	x	x	x	x	x	Composite P4-1 to P4-5 into "P4"
7	P4-2	6/27/2016	8:20	soil	1-8oz/1-4oz										
8	P4-3	6/27/2016	8:25	soil	1-8oz/1-4oz										
9	P4-4	6/27/2016	8:30	soil	1-8oz/1-4oz										
10	P4-5	6/27/2016	8:35	soil	1-8oz/1-4oz										

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature) Rudy V	Received by: (Signature/Affiliation) ECI	Date: 062816	Time: 1840.
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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WO # / LAB USE ONLY: 06-2043

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LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☒ COELT EDF GLOBAL ID: GB362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals o 6010/747X o 6020/747X	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +				Notes
11	P3-1	6/27/2016	8:20	soil	1-8oz/1-4oz	X												
12	P3-2	6/27/2016	8:25	soil	1-8oz/1-4oz													
13	P3-3	6/27/2016	8:40	soil	1-8oz/1-4oz				x	x	x	x	x	x				Composite P3-1 to P3-5 into "P3"
14	P3-4	6/27/2016	8:30	soil	1-8oz/1-4oz													
15	P3-5	6/27/2016	8:35	soil	1-8oz/1-4oz													
16	P2-1	6/27/2016	9:05	soil	1-8oz/1-4oz													
17	P2-2	6/27/2016	9:15	soil	1-8oz/1-4oz													
18	P2-3	6/27/2016	9:20	soil	1-8oz/1-4oz				x	x	x	x	x	x				Composite P2-1 to P2-5 into "P2"
19	P2-4	6/27/2016	9:25	soil	1-8oz/1-4oz													
20	P2-5	6/27/2016	9:30	soil	1-8oz/1-4oz													

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Owen for Steve Ossim	ECI	6/28/16	1652
Rudy M	ECI	062816	1840
		Date:	Time:

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PAGE: 3 OF 8

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2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

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☒ COELT EDF GLOBAL ID: 6B362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

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21	P1-1	6/27/2016	9:00	soil	1-8oz/1-4oz				x	x	x	x	x	x	Composite P1-1 to P1-5 into "P1"
22	P1-2	6/27/2016	9:05	soil	1-8oz/1-4oz										
23	P1-3	6/27/2016	9:10	soil	1-8oz/1-4oz										
24	P1-4	6/27/2016	9:15	soil	1-8oz/1-4oz										
25	P1-5	6/27/2016	9:20	soil	1-8oz/1-4oz										

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for Steve Oss.	ECI	6/28/16	1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
	ECI	062816	1840
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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26	P1-FL-1-0	6/27/2016	14:40	soil	1-8oz/1-4oz				x	x	x	x	x	x	
27	P1-FL-1-0.5	6/27/2016	14:45	soil	1-8oz/1-4oz				x	x	x	x	x	x	
28	P1-FL-1-1	6/27/2016	14:50	soil	1-8oz/1-4oz										Hold
29	P1-FL-1-3	6/27/2016	14:55	soil	1-8oz/1-4oz										Hold
30	P1-FL-2-0	6/27/2016	14:15	soil	1-8oz/1-4oz				x	x	x	x	x	x	
31	P1-FL-2-0.5	6/27/2016	14:20	soil	1-8oz/1-4oz				x	x	x	x	x	x	
32	P1-FL-1	6/27/2016	14:25	soil	1-8oz/1-4oz										Hold
33	P1-FL-2-3	6/27/2016	14:30	soil	1-8oz/1-4oz										Hold
34															

Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 062816	Time: 1840.
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

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☒ COELT EDF GLOBAL ID: GB 362036002 LOG CODE:

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34	P1-FL-3-0	6/27/2016	13:45	soil	1-8oz/1-4oz				x	x	x	x	x	x	
35	P1-FL-3-0.5	6/27/2016	13:50	soil	1-8oz/1-4oz				x	x	x	x	x	x	
36	P1-FL-3-1	6/27/2016	13:55	soil	1-8oz/1-4oz										Hold
37	P1-FL-3-3	6/27/2016	14:00	soil	1-8oz/1-4oz										Hold
38	P2-FL-4-0	6/27/2016	13:20	soil	1-8oz/1-4oz				x	x	x	x	x	x	
39	P2-FL-4-0.5	6/27/2016	13:25	soil	1-8oz/1-4oz				x	x	x	x	x	x	
40	P2-FL-4-1	6/27/2016	13:30	soil	1-8oz/1-4oz										Hold
41	P2-FL-4-3	6/27/2016	13:35	soil	1-8oz/1-4oz										Hold

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Steve Ossim	GCI	6/28/16	1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
	GCI	062816	1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: 06-2043

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PAGE: 6 OF 8

LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

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SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

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43	P3-FL-5-0	6/27/2016	11:30	soil	1-8oz/1-4oz				x	x	x	x	x	x												
43	P3-FL-5-0.5	6/27/2016	11:35	soil	1-8oz/1-4oz				x	x	x	x	x	x												
44	P3-FL-5-1	6/27/2016	11:40	soil	1-8oz/1-4oz										Hold											
45	P3-FL-5-3	6/27/2016	11:45	soil	1-8oz/1-4oz										Hold											
46	P4-FL-6-0	6/27/2016	11:00	soil	1-8oz/1-4oz				x	x	x	x	x	x												
47	P4-FL-6-0.5	6/27/2016	11:05	soil	1-8oz/1-4oz				x	x	x	x	x	x												
48	P4-FL-6-1	6/27/2016	11:10	soil	1-8oz/1-4oz										Hold											
49	P4-FL-6-3	6/27/2016	11:15	soil	1-8oz/1-4oz										Hold											

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 062816	Time: 1840.
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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WO #: / LAB USE ONLY: 06-2043

DATE: 06/27/16

PAGE: 7 OF 8

LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☒ COELT EDF GLOBAL ID: GB362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals o 6010/747X o 6020/747X	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +	
50	P5-FL-7-0	6/27/2016	10:45	soil	1-8oz/1-4oz				x	x	x	x	x	x	
51	P5-FL-7-0.5	6/27/2016	10:50	soil	1-8oz/1-4oz				x	x	x	x	x	x	
52	P5-FL-7-1	6/27/2016	10:55	soil	1-8oz/1-4oz										Hold
53	P5-FL-7-3	6/27/2016	11:00	soil	1-8oz/1-4oz										Hold
54	P5-FL-8-0	6/27/2016	10:00	soil	1-8oz/1-4oz				x	x	x	x	x	x	
55	P5-FL-8-0.5	6/27/2016	10:05	soil	1-8oz/1-4oz				x	x	x	x	x	x	
56	P5-FL-8-1	6/27/2016	10:10	soil	1-8oz/1-4oz										Hold
57	P5-FL-8-3	6/27/2016	10:15	soil	1-8oz/1-4oz										Hold

Relinquished by: (Signature) Done for Steve Ossim	Received by: (Signature/Affiliation) ECL	Date: 6/28/16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECL	Date: 062816	Time: 1840
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

06/02/14 Revision

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: 06-2043

DATE: 06/27/16

PAGE: 8 OF 8

LABORATORY CLIENT: Environmental Resource Management (ERM)

2875 Michelle Drive, Suite 200

CITY: Irvine STATE: CA ZIP: 92606

TEL: 949-623-4700 E-MAIL: steve.williams@erm.com

CLIENT PROJECT NAME / NUMBER: NRG Coolwater

P.O. NO.: 355141.02

PROJECT CONTACT: Steve Williams

SAMPLER(S): (PRINT) Steve Ossim; Shad Whitten

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS X STANDARD

☐ [X] COELT EDF GLOBAL ID: GB362036002 LOG CODE:

SPECIAL INSTRUCTIONS: also send to: steve.ossim@erm.com, alfonso.nunez@erm.com

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	T22 Metals - 6010/747A o 6020/747A	Cl, Fl, Nitrate, Sulfate, EPA 300.0	pH by 9045	TDS 160.1	TPH 8015B	Radium 226 + 228 by USEPA 903.1 +
58	B-1	6/27/2016	15:25	soil	1-8oz/1-4oz				x	x	x	x	x	x
59	B-2	6/27/2016	15:15	soil	1-8oz/1-4oz				x	x	x	x	x	x
60	DUP	6/27/2016	--	soil	1-8oz/1-4oz				x	x	x	x	x	x
61	B-3	6/27/2016	15:30	soil	1-8oz/1-4oz				x	x	x	x	x	x

Relinquished by: (Signature) Dmc for Steve Ossim	Received by: (Signature/Affiliation) ECI	Date: 6/28/16	Time: 1652
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 062816	Time: 1840
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

06/02/14 Revision

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WORK ORDER NUMBER: 16-06- 2050 (43) 6/28/16

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 2

CLIENT: ERM

DATE: 06 / 28 / 2016

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2A (CF: 0.0°C); Temperature (w/o CF): 2.5 °C (w/ CF): 2.5 °C; ☐ Blank ☑ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 676

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 676

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 1053

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☐	☑	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

Solid: ☑ 4ozCGJ ☑ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (_____) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1053

Reviewed by: 689

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WORK ORDER NUMBER: 16-06-2043

SAMPLE RECEIPT CHECKLIST

COOLER 2 OF 2

CLIENT: ERM

DATE: 06 / 28 / 2016

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2A (CF: 0.0°C); Temperature (w/o CF): 2.4 °C (w/ CF): 2.4 °C; ☐ Blank ☑ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 676

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 676

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 1053

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: **(Trip Blank Lot Number:** _____**)**

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

Solid: ☑ 4ozCGJ ☑ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (_____) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1053

Reviewed by: 657

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WORK ORDER NUMBER: 16-06- 2043

SAMPLE ANOMALY REPORT

DATE: 06 / 28 / 2016

SAMPLES, CONTAINERS, AND LABELS:

- ☐ Sample(s) NOT RECEIVED but listed on COC
- ☐ Sample(s) received but NOT LISTED on COC
- ☐ Holding time expired (list client or ECI sample ID and analysis)
- ☐ Insufficient sample amount for requested analysis (list analysis)
- ☐ Improper container(s) used (list analysis)
- ☐ Improper preservative used (list analysis)
- ☐ No preservative noted on COC or label (list analysis and notify lab)
- ☐ Sample container(s) not labeled
- ☐ Client sample label(s) illegible (list container type and analysis)
- ☑ Client sample label(s) do not match COC (comment)
  - ☐ Project information
  - ☑ Client sample ID
  - ☑ Sampling date and/or time
  - ☐ Number of container(s)
  - ☐ Requested analysis
- ☐ Sample container(s) compromised (comment)
  - ☐ Broken
  - ☐ Water present in sample container
- ☐ Air sample container(s) compromised (comment)
  - ☐ Flat
  - ☐ Very low in volume
  - ☐ Leaking (not transferred; duplicate bag submitted)
  - ☐ Leaking (transferred into ECI Tedlar™ bags*)
  - ☐ Leaking (transferred into client's Tedlar™ bags*)

* Transferred at client's request.

Comments

(-16) Received 1 of 2 containers (4 oz CGJ) labeled as P1-2 (Date/Time matched)

(-22) Received 1 of 2 containers (4 oz CGJ) labeled as ~~P1-2~~ P2-1 (Date/Time matched)

6/28/16

(-32) Labeled as P1-FL-2-1 (Date/Time matched)

Collection time per label
(-17) 9:10 (-18) 9:15
(-19) 9:20 (-20) 9:25

MISCELLANEOUS: (Describe)

Comments

HEADSPACE:

(Containers with bubble > 6 mm or ¼ inch for volatile organic or dissolved gas analysis)

ECI Sample ID	ECI Container ID	Total Number**	ECI Sample ID	ECI Container ID	Total Number**

(Containers with bubble for other analysis)

ECI Sample ID	ECI Container ID	Total Number**	Requested Analysis

Comments: _____

Reported by: 1053

Reviewed by: 659

** Record the total number of containers (i.e., vials or bottles) for the affected sample.

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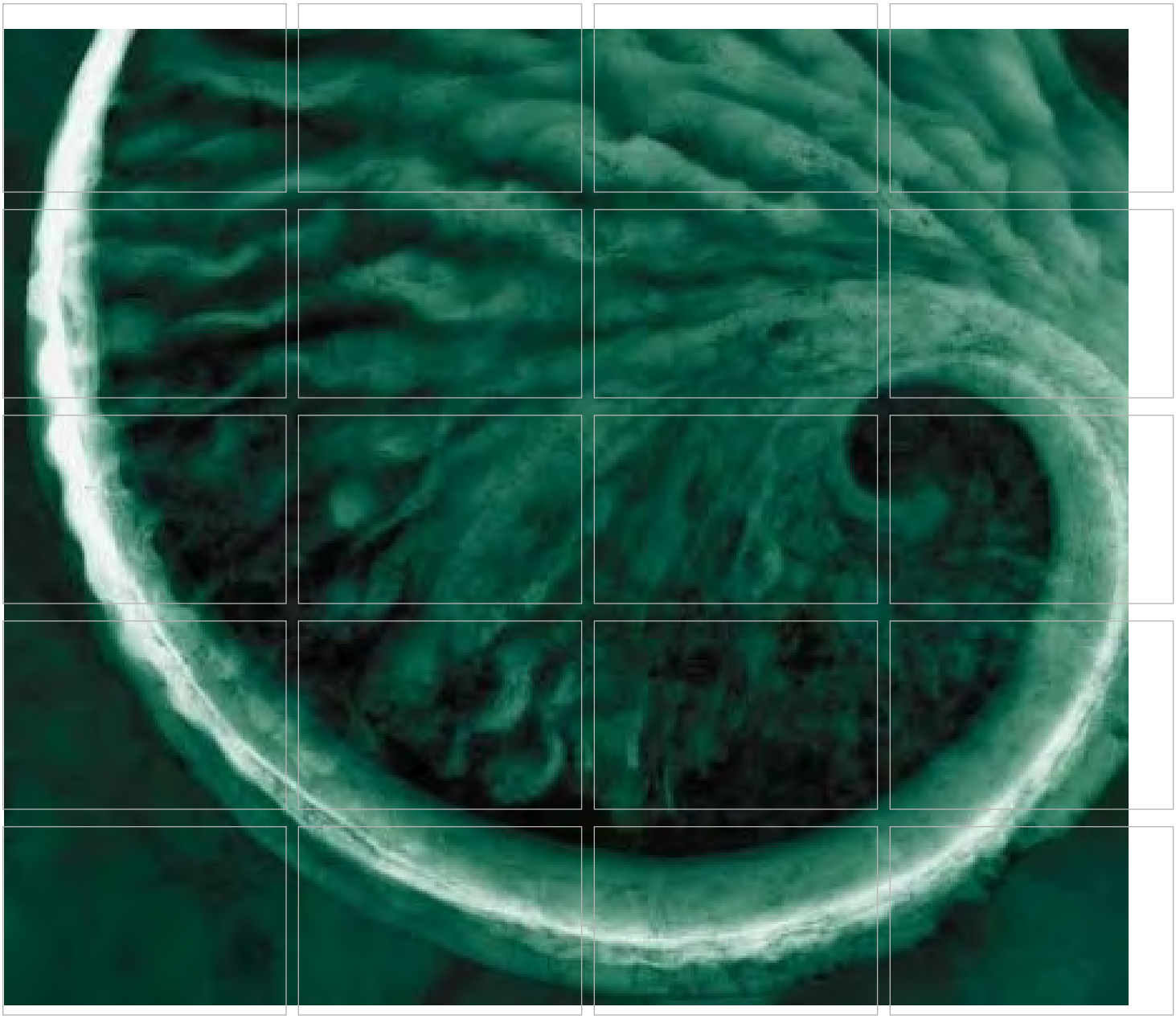

Evaporation Impoundment Characterization Workplan Coolwater Generating Station

NRG Energy, Inc.
3700 Santa Fe Street
Daggett, California

March 2016

www.erm.com

ERM

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Evaporation Impoundment Characterization Workplan Coolwater Generating Station

3700 Santa Fe Street
Daggett, California

March 2016

Project No. 0290120

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1.0 INTRODUCTION

ERM-West, Inc. (ERM) has prepared this Evaporation Impoundment Characterization Workplan (Workplan) on behalf of NRG California South LP (NRG), owner of the Coolwater Generating Station (CGS) a subsidiary of NRG Energy, Inc.

CGS is located at 3700 Santa Fe Street in Daggett, California (site; Figure 1). CGS consists of four electricity generating units (Units 1-4), five evaporation impoundment ponds, former coal gasification facility (CGF), and supporting administrative and operational/warehouse facilities and out-of-service equipment.

NRG and the Lahontan Regional Water Quality Control Board (LRWQCB) inspected CGS on 3 March 2016. Following the site inspection, the LRWQCB requested NRG to characterize the waste settled solids in the evaporation impoundment and shallow soil surrounding the respective impoundment cells. This Workplan is submitted in response to the request by LRWQCB for the assessment, and in compliance with Waste Discharge Requirements (WDR) RWQCB Order No. 6-98-54, Monitoring and Reporting Program, Section IV.

The evaporation impoundment is located to the east of CGS and consists of five manmade, lined ponds (Ponds 1 through 5), as shown on Figure 1. The ponds were constructed in 1973 and have been used to dispose of cooling water blowdown and other low-volume wastes from CGS, the former CGF, and the former Solar One and Solar Two facilities. The objective of this assessment is to characterize the current chemical composition of accumulated settled solids within each of the ponds and assess surficial soil outside of the ponds within CGS's property boundary.

To meet the above objectives, this Workplan has been prepared as follows:

- Section 1.0 - Introduction.
- Section 2.0 – Background - This section provides relevant information regarding the site history, description of the facility and the evaporation impoundment, geology and hydrogeology of the area and local climate conditions.

- Section 3.0 – Evaporation Impoundment Sampling. This section provides the methodology for sampling settled solids with the ponds and soil around the ponds, laboratory analyses, decontamination, and waste disposal.
- Section 4.0 – Evaporation Impoundment Characterization Report. Contents of the Closure Report are presented in this section.
- Section 5.0 - Schedule and Notifications. A schedule for proposed site activities and for LRWQCB notifications is presented in this section.
- Section 6.0 – References. This section provides a list of references used in the preparation of this Workplan.

2.0 BACKGROUND INFORMATION

This section provides an overview of the history of the site, previous operations, and a description of the facility.

2.1 SITE HISTORY

CGS began operations in 1961 as a part of Southern California Edison Company (SCE). Prior to 1961, the site was agricultural land. As part of the 1996 deregulation of California's energy market, in 1998 SCE sold CGS to Alta Power Generation LLC., a subsidiary of Houston Industries Inc. In 1999 Houston Industries Inc. changed its name to Reliant Energy and subsequently to RRI Energy. The sale included CGS, the evaporation impoundments, and the former CGF property. SCE retained the surrounding property including the former solar facilities and a solid waste pile associated with the former CGF. Figure 1 provides an overview of CGS and SCE's property boundaries and facilities.

In 2010, RRI Energy and Mirant Energy merged to form GenOn Energy, Inc. In 2012, NRG Energy, Inc. acquired GenOn Energy, Inc., including CGS. NRG deactivated electricity generating Units 1-4 on 1 January 2015. NRG is currently in the process of deactivating the facility.

2.2 SITE DESCRIPTION

Coolwater Generating Station

CGS covers approximately 293 acres of land situated on one irregular shaped parcel. CGS is developed with multiple structures, buildings, and roads. The main components of the site include four power generating units and ancillary structures (i.e., aboveground storage tanks [ASTs]; cooling towers; an evaporation impoundment; administration, maintenance and storage buildings; and switchyards).

The site was first developed in approximately 1960 with the construction of generation Unit #1. After 1960, the site continued to be developed with three additional electrical generation units as summarized below.

Table 1 – Electric Generation Unit Summary

Unit No.	Initial Operation	Fuel Option	Generation Capacity
1	1961	Natural Gas, Oil	64MW
2	1964	Natural Gas, Oil	75MW
3	1978	Natural Gas, Distillate	246MW
4	1978	Natural Gas, Distillate	246MW

MW = Megawatts

Coal Gasification Facility

The "Cool Water Coal Gasification Program" (CWCGP) built and operated the first commercial–scale prototype of an integrated gasification-combined cycle power plant. The objective of the project was to demonstrate the viability of integrating coal gasification with a combined-cycle power plant. The project also evaluated plant performance of four different types of bituminous coals. The CGF began operation in 1984 and ceased operation in 1989. After CGF ceased operation, CGS continued to operate using natural gas and fuel oils. The CGF was located immediately north of the current CGS (Figure 1). The CGF waste streams were discharged solely into Ponds 4 and 5. Waste streams discharged to the ponds included grey water, stripped "sour water", and coal fines from slurry lines and tank flushing.

Former Solar Facilities

As part of the "Solar Project", Solar One and Solar Two facilities were formerly located on SCE property to the northeast of CGS. Solar One was a pilot solar-thermal project and the first test of a large-scale thermal solar power tower plant.

Solar One used hundreds of large mirror assemblies (heliostats) to concentrate the sun's energy onto a common focal point to produce heat to run a steam turbine generator. The high-temperature heat transfer fluid was used to carry the energy to a boiler on the ground where the steam was used to spin a series of turbines. Solar One was in operation from 1982 to 1986.

In 1995, Solar One was converted into Solar Two by adding a second ring of larger heliostats around the existing Solar One and using molten salt as the energy storage medium instead of oil or water as with Solar One. Solar Two was deactivated in 1999 and demolished in 2009. The footprint of the former solar facilities is currently open land maintained

by SCE. Waste streams (e.g. blowdown water, demineralizer, etc.) from the former solar facilities were discharged into CGS Ponds 2 and 3.

Source Water

CGS is provided with water for all operations and potable use from on- and off-site groundwater production wells owned and operated by NRG.

2.3 EVAPORATION IMPOUNDMENT

The evaporation impoundment is located on the northeastern portion of the property; it was constructed in 1973 and consists of five separate ponds (Figures 1 and 2). The five ponds are single-clay lined with compacted sand layers above and below the clay-liner and total approximately 130-acres of evaporation surface area and a total design capacity of 0.82 million gallons per day of input. WDRs are currently established under RWQCB Order No. 6-98-54. Historically, the ponds received wastewater from the former solar facilities (into Ponds 2 and 3), the CGF (into Ponds 4 and 5), and the CGS (into all ponds). Until the CGS was deactivated on 1 January 2015 and the solar facilities were deactivated in 1999, approximately 90 to 95 percent of the discharge from the CGS power plant and the solar facilities was wastewater from cooling blowdown and the remaining 5 to 10 percent from the water treatment units (demineralizer, water softener brine) and an oil-water separator on CGS property. Discharges into Ponds 4 and 5 from the CGF consisted of grey water, stripped "sour water", and coal fines from slurry lines and tank flushing until the CGF was deactivated in 1989. After CGS was deactivated on 1 January 2015, the primary discharge to ponds has been the direct discharge of groundwater in order to keep the impoundment clay-liner material hydrated and prevent desiccation cracking. The discharge of groundwater into the ponds also helps minimize wind erosion of materials retained in the ponds by maintaining a moist surface.

The dimensions of each pond (measured from berm center) and a summary of waste streams are presented in Table 2.

Table 2 – Pond Dimensions and Wastewater Sources

Cell	Waste Disposal Source and Duration	Maximum Length (feet)	Maximum Width (feet)	Acres
1	CGS - 1973 to 2015	1930	830	28.2
2	CGS - 1973 to 2015 Solar One, Two 1982 to 1999	2080	620	28.4
3	CGS - 1973 to 2015 Solar One, Two 1982 to 1999	2100	640	28.5
4	CGS - 1973 to 2015 CGF 1984 to 1989	2260	610	28.5
5	CGS - 1973 to 2015 CGF 1984 to 1989	1990	880	30.2

In compliance with the WDR, the evaporation impoundment monitoring program consists of; quarterly groundwater sampling of four compliance groundwater monitoring wells (note; four additional monitoring wells not specified in the WDR are also sampled), quarterly soil moisture measurements from 28 Trase waveguides installed in 14 vadose zone monitoring wells, semiannual groundwater gradient determination, sampling of wastewater contained in the ponds, and measurements of freeboard in each pond. As discussed in the 2016 *Self-Monitoring Report, Monitoring and Reporting Program No 98-54, Annual Groundwater Monitoring Report* (Hamilton, 2016), based on the results of the monitoring program, no indication of a release to groundwater has occurred from the evaporation impoundment.

In addition, previous sampling and monitoring programs have been conducted to assess the concentrations of the constituents of concern within the settled deposits of the evaporation impoundment. The 18 August 1992 letter from SCE to the LRWQCB, *Article 5 Water Quality Monitoring Requirements,* provides settled deposit or "sludge" data for all 5 of the evaporation ponds (Kay, 1992). This data presented in Table 1 of the letter supports a non-hazardous waste determination for the settled deposits within the 5 evaporation ponds.

2.4 GEOLOGY AND HYDROGEOLOGY

Geology

CGS is located in the Mojave Desert Geomorphic Province, a wedge shaped area bounded by the Garlock Fault to the north, San Andreas Fault to the south and west, and the Colorado River to the east (Dibblee, 1967). The site is located in the western portion of the Mojave Valley. The Mojave Valley in the site vicinity consists of a broad alluvial plain bounded on the south by the Newberry Mountains, on the north by the Calico Mountains and on the west by the Mitchell Range (U.S. Geological Survey [USGS], 1997).The geology under the CGS consists of alluvial deposits including silty sand, sand, and gravelly sand mixed with lenses of silt and clay to depths of several hundred feet.

Hydrogeology

The site is within the Baja Sub Area of the Mojave River groundwater basin (Stamos, et al, 2001). There are two aquifers located in the vicinity of CGS, the Floodplain Aquifer and the Regional Aquifer (Stamos, et al, 2001). The Floodplain Aquifer is made up of the modern Mojave River alluvium, which consists of unconsolidated permeable, coarse sands and gravel extended to a depth of approximately 200 feet below ground surface (bgs). The Floodplain Aquifer is the principal aquifer system in the area and overlies the Regional Aquifer, which is approximately 500 feet bgs below CGS and much deeper in other areas to the east and west (Stamos et al, 2001) and consists of less permeable alluvial fan deposits and older Mojave River alluvial deposits (USGS, 1997). Based on the 7 July 2015 WDR groundwater monitoring event for the site (Hamilton, 2016), the average depth to groundwater is approximately 175 feet bgs; groundwater flow direction is to the southeast; groundwater gradient is 0.0007 foot per foot; and the estimated flow rate is approximately one foot per day.

2.5 WEATHER, TOPOGRAPHY, AND SURFACE WATER

According to the Mojave Water Agency, the average annual rainfall in the area is approximately 4-inches or less per year. The predominant wind direction, as measured at the Newberry Springs Weather Station east of CGS, is from the west. The temperature can fluctuate from well above 100 degrees Fahrenheit in the summer to below freezing in the winter.

Topography and Surface Water

CGS lies at approximately 1,971 feet above mean sea level. Topographically the site is relatively flat gently sloping north towards the Mojave River. The Mojave River originates at the base of the San Bernardino Mountains and flows south then east into the Mojave Desert. In the vicinity of CGS, the Mojave River is normally dry, flowing occasionally during periods of high precipitation.

3.0 EVAPORATION IMPOUNDMENT SAMPLING PLAN

This section presents methodology for settled solids and soil profiling and background soil sampling. All work will be conducted in accordance with a site-specific Health and Safety Plan (Appendix A).

NRG will notify LRWQCB of the proposed sampling activities in order to coordinate and allow LRWQCB staff to observe and collect additional samples, if necessary.

Prior to sampling soil at the pond perimeter locations, both USA DigAlert and a private utility locating company will be notified of proposed sampling in order to mark underground utilities. In addition, site utility maps will be reviewed with site personnel.

Settled Solids and soil samples will be collected as follows:

- Composite samples of settled solids will be collected from each of the five ponds (Ponds 1, 2, 3, 4, and 5). For each pond, the composite sample will be a laboratory composite of five discrete samples. Discrete samples will be collected at a depth of approximately 0.2 - 0.5 feet bgs (above the clay liner and compacted sand). The sampled material will be collected from the bottom of the ponds using a hand auger or trowel. Discrete samples will be collected in separate containers and submitted to a laboratory for compositing and analysis. To prepare the composite sample from each pond, the laboratory will take equal portions (approximately 30 grams) from each sample container and mix the sample together. Then aliquots from the composite samples are taken for individual analyses.
- Soil samples will be collected between the berm and fence line on the north, south, and eastern (prevailing downwind) side of the ponds. Soil samples will be collected using a hand auger and/or trowel. At each location, soil borings will be advanced utilizing a hand auger to a depth of 3 feet bgs. Samples will be collected from the surface, 6 inches bgs, 1 foot bgs, and 3 feet bgs. The surface and 6-inch samples will be submitted to the laboratory for analysis and the 1- and 3-foot samples will be submitted to the laboratory and archived pending results.
- Two to three background samples will be collected from 6 inches to 1 foot bgs to establish background benchmark conditions. Two proposed background locations are shown on Figure 2; a third

location may be identified in the field in consultation with the LRWQCB.

Proposed sample locations are summarized in Table 2 and shown on Figure 2.

All samples will be in placed in clean laboratory-supplied glass containers with the appropriate preservatives (if required) for the various analyses. Samples will be sent to a California-certified laboratory in an ice chest with ice under chain-of-custody protocol.

Table 3 – Sample Plan Summary

Sample ID	Depth (feet)	Location	Rationale
P1-1	0.2 to 0.6	Within Pond 1	Composite Sample of Pond 1 Settled Solids
P1-2	0.2 to 0.6		
P1-3	0.2 to 0.6		
P1-4	0.2 to 0.6		
P1-5	0.2 to 0.6		
P1-N-1	0, 0.5, 1, 3	North of Pond 1	Crosswind Sample
P1-N-2	0, 0.5, 1, 3	North of Pond 1	Crosswind Sample
P1-E-1	0, 0.5, 1, 3	East of Pond 1	Downwind
P2-1	0.2 to 0.6	Within Pond 2	Composite Sample of Pond 1 Settled Solids
P2-2	0.2 to 0.6		
P2-3	0.2 to 0.6		
P2-4	0.2 to 0.6		
P2-5	0.2 to 0.6		
P2-E-1	0, 0.5, 1, 3	East of Pond 2	Downwind Sample
P3-1	0.2 to 0.6	Within Pond 3	Composite Sample of Pond 1 Settled Solids
P3-2	0.2 to 0.6		
P3-3	0.2 to 0.6		
P3-4	0.2 to 0.6		
P3-5	0.2 to 0.6		
P3-E-1	0, 0.5, 1, 3	East of Pond 3	Downwind Sample
P4-1	0.2 to 0.6	Within Pond 4	Composite Sample of Pond 1 Settled Solids
P4-2	0.2 to 0.6		
P4-3	0.2 to 0.6		
P4-4	0.2 to 0.6		
P4-5	0.2 to 0.6		
P4-E-1	0, 0.5, 1, 3	East of Pond 4	Downwind Sample
P5-1	0.2 to 0.6	Within Pond 5	Composite Sample of Pond 1 Settled Solids
P5-2	0.2 to 0.6		
P5-3	0.2 to 0.6		
P5-4	0.2 to 0.6		
P5-5	0.2 to 0.6		
P5-N-1	0, 0.5, 1, 3	North of Pond 5	Downwind Sample
P5-E-1	0, 0.5, 1, 3	East of Pond 5	Crosswind Sample
B-1	0.5-1	Southwest of Ponds	Background Sample
B-2	0.5-1	West of Ponds	Background Sample

3.1 SAMPLE ANALYIS

The proposed sample analysis is based on the constituents of concern listed in the WDR; the requirements listed in Hazardous and Solid Waste Management System Disposal of Coal Combustion Residuals from Electric Utilities (U.S. Environmental Protection Agency [USEPA], 2014); and total petroleum hydrocarbons based on operation equipment. The list of analysis and analytical methods are summarized below.

- California Title 22 metals, boron, calcium, lithium, magnesium, potassium, and sodium by USEPA Methods 6010 and 7471;
- Chloride, fluoride, nitrate, and sulfate by USEPA 300.0;
- pH by 9045;
- Total dissolved solids by USEPA Method 106.1;
- Total petroleum hydrocarbons as diesel and as motor oil by USEPA Method 8015b; and
- Radium 226 and 228 by USEPA 903.1 and USEPA 904.0

3.2 EQUIPMENT DECONTAMINATION

Decontamination of sampling equipment shall be performed to reduce the potential for cross-contamination between monitoring points. Non-dedicated sampling equipment will be decontaminated before and after samples are collected. Equipment will be triple rinsed, which will consist of a detergent and water wash, a potable water rinse, and a distilled water rinse. Decontamination of personal protective equipment is addressed in the Health and Safety Plan.

3.3 INVESTIGATION DERIVED WASTE

Pending the results of the laboratory analysis, all investigation derived waste will be stored on site in Department of Transportation-approved drums. All manifests or other transport and disposal documents will be included in the final implementation report. All characterization derived wastes will be disposed of at an appropriate facility based on the waste profile.

4.0 EVAPORATION IMPOUNDMENT CHARACTERIZATION REPORT

An Evaporation Impoundment Characterization Report will be prepared describing the profiling and confirmation sampling results. The following items will be included in the report:

- Site description and site history;
- Summary of sampling activities, including field observations collected during operations;
- Analytical results, including summary tables, data validation, and copies of the laboratory analytical reports and chain-of-custody forms;
- Conclusions and recommendations; and
- Professional Geologist or Engineer signature page.

The report will be submitted to the LRWQCB electronically.

5.0 SCHEDULE AND NOTIFICATIONS

Sampling will be conducted within 2 weeks of Workplan approval from the LRWQCB.

The Evaporation Impoundment Characterization Report will be submitted to the LRWQCB approximately 3 weeks after receipt of final laboratory data.

6.0 REFERENCES

Dibblee, Thomas W. Jr. 1967. *Areal Geology of the Western Mojave Desert California; U.S. Geological Survey Professional Paper 522.*

Hamilton, P. 2016. *Self-Monitoring Report, Monitoring and Reporting Program No 98-54, Annual Groundwater Monitoring Report*. 11 January.

Kay, D. 1992. *Article 5 Water Quality Monitoring Requirements*, SCE Letter to Lahontan Regional Water Quality Control Board. 18 August.

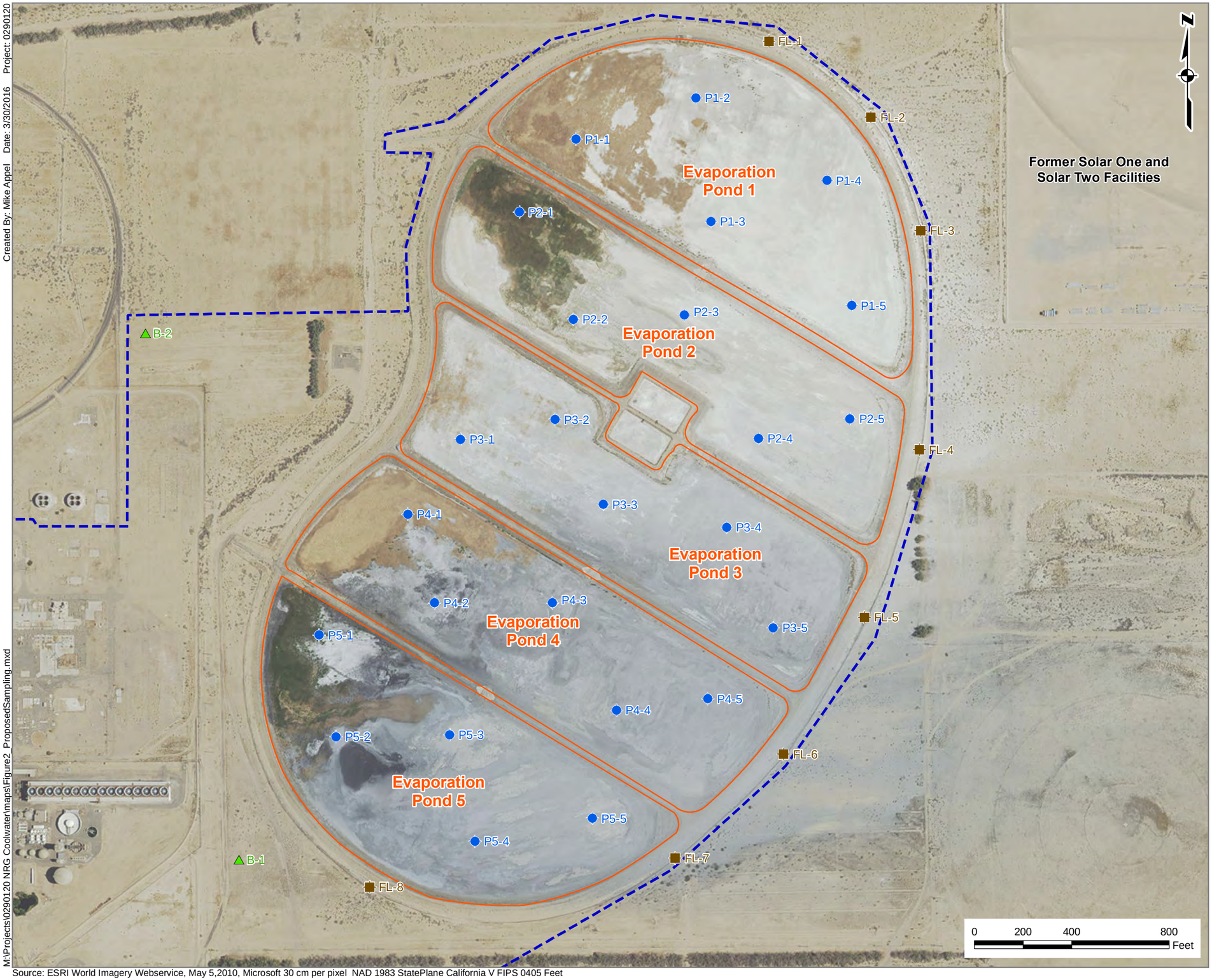
Stamos, Christina L., Nishikawa, Tracy, and Martin, Peter. 2001. Water Supply in the Mojave River Ground-Water Basin, 1931-99, and the Benefits of Artificial Recharge. U.S. Geological Survey, Water Fact Sheet 122-01.

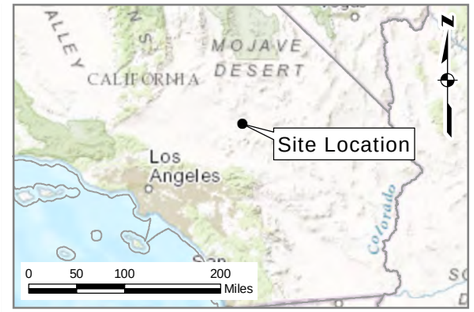
U.S. Environmental Protection Agency (USEPA). 2014. *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities*. 19 December.

U.S. Geological Survey (USGS). 1997. *Geohydrology and Water Quality of Marine Logistics Base, Nebo and Yermo Annexes, Near Barstow, California U.S. Geological Survey, Water Resources Investigation Report 96-4301.*

Figures

Project: 0290120
Date: 3/30/2016
Created By: Mike Appel





Legend

- Pond Surface Sample Location
- Fence Line Sample Location
- Background Sample Location
- Evaporation Ponds
- Property Boundary

Notes:
Property Boundary from San Bernadino GIS.

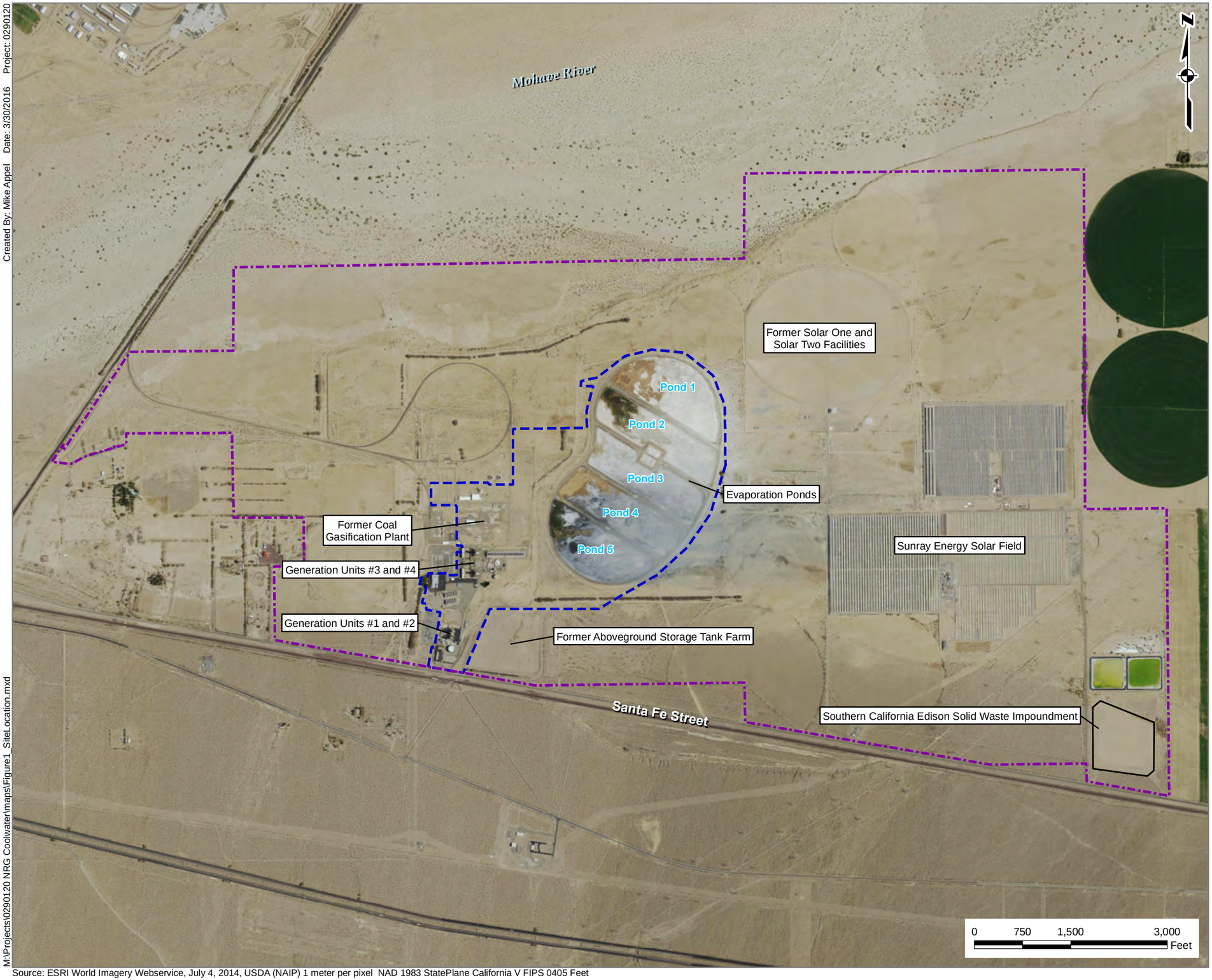
M:\Projects\0290120 NRG Coolwater\maps\Figure2_ProposedSampling.mxd

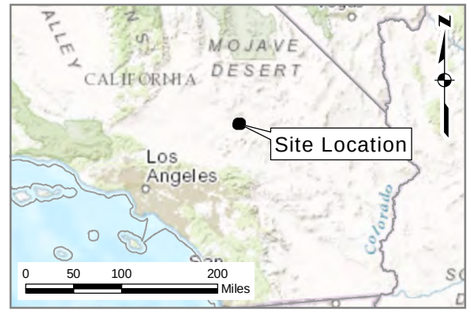
Source: ESRI World Imagery Webservice, May 5,2010, Microsoft 30 cm per pixel NAD 1983 StatePlane California V FIPS 0405 Feet

Figure 2
Proposed Sampling Locations
NRG Coolwater Facility
Daggett, California

Environmental Resources Management
www.erm.com

Created By: Mike Appel Date: 3/30/2016 Project: 0290120





Legend

- NRG Coolwater Property Boundary
- Southern California Edison Solid Waste Impoundment
- Southern California Edison Property Boundary

Notes:
Parcel Boundary from San Bernadino County GIS.

M:\Projects\0290120 NRG Coolwater\maps\Figure1_SiteLocation.mxd

Source: ESRI World Imagery Webservice, July 4, 2014, USDA (NAIP) 1 meter per pixel NAD 1983 StatePlane California V FIPS 0405 Feet

Figure 1
Site Location
NRG Coolwater Facility
Daggett, California

Environmental Resources Management
www.erm.com

Appendix A
Health and Safety Plan

This Level 2 health and safety plan (HASP) is intended to provide health and safety guidelines for project work meeting one or more of the following criteria:

- Some likelihood of physical and/or chemical hazard exposure (e.g., sampling, use of equipment and tools);
- Number of job tasks is five or greater;
- Use of subcontractors;
- Work meets the definition of being "high hazard", which includes, but is not limited to:
    - Activities that could have an adverse effect on the environment (e.g., use of bulk liquid storage tanks, generators, etc.);
    - Air or boat transport via charter or non-commercial carrier/vendor;
    - Confined space entry;
    - Construction;
    - Demolition, Decontamination and Demolition (DDD) operations;
    - Diving;
    - Excavations, trenching, drilling, or other ground disturbance activities (i.e., activities requiring subsurface clearance [SSC] operations);
    - Hazardous energy control operations;
    - Hot work (e.g., welding, flame cutting, or other spark-producing activities);
    - Injection well operations;
    - Off-shore or over water work (including oil platform visits);
    - Rigging and lifting operations; and
    - Work at heights in excess of four feet.

The HASP should be developed with input from the project team and reviewed with all ERM project personnel, including subcontractors. A signed copy of the HASP must be maintained at the project site during work and must be archived in the project files.

H&S Team review is required for the Level 2 HASP. You can e-mail completed plans requiring review to the ERM North America HASP Review Team (ERMNASafetyLeads@erm.com). This HASP must be reviewed by the Project Manager and reviewed/approved by the Partner in Charge (PIC) and updated as warranted to address changes in scope, hazards present, project personnel, etc. At a minimum, HASPs must be reviewed annually or if the scope of work changes. Updated HASPs should also be sent to the H&S Team for review and PIC for approval.

Administrative Information

This document has been developed for the sole use of ERM staff. Subcontractors and other project participants must develop their own HASP.

This document is valid for a maximum time period of one year after completion. The document must be reviewed if the scope of work or nature of site hazards changes and must be updated as warranted.

Project Name: NRG Coolwater	Site Name & Location: Coolwater Generating Station 37000 Santa Fe St. Daggett, CA
Client Contact and Phone: Jeff Edwards 760-250-8060	GMS Project #: 0290120
Health & Safety Plan Date: 03/23/2016	Revision Number and Date: N/A
Field Work Start Date: 4/4/2016	Anticipated Field Work End Date: April / May 2016
Project Manager: Marlene Dawes	Partner In Charge: Steve Williams
Field Safety Officer: Staci DeSantis	Additional ERM Personnel on site: Steve Ossim, Pete Grasso, Shad Whitten

H&S Team Review

Reviewer Name: Click here to enter text. Review Date: Click here to enter a date.	Signature File:

Site Description and Scope of Work

Include relevant background information regarding the site, such as location, size, type of facility, topography, weather, infrastructure, security, previous site use, etc. Describe nature and extent of any soil/air/water/groundwater contamination. Describe any other aspects of the site that may potentially affect the health, safety, or security of on-site personnel.

Include a description of work to be completed during the project. From this, develop a list of tasks to be completed by ERM personnel, as well as a list of tasks to be completed by subcontractor personnel.

Site Description: The NRG Coolwater Generation Station is a deactivated electric power generating facility consisting of two natural gas- or low sulfur fuel oil-fired units rated at 65 and 81 megawatts, respectively, and two combined cycle generating units (each consisting of two combustion turbines, two heat recovery steam generators, and a steam turbine) rated at 246 megawatts each.

Project Background and Scope of Work

Include list of tasks to be completed by ERM personnel during this project, and a separate list of tasks to be completed by any contractors at the site. A site-specific Job Hazard Analysis (JHA; ERM Form S1-ERM-002-FM4) must be completed for each task to be performed. Contractors must provide their own HASP and a JHA for each task they will perform for ERM review.

A JHA template and reference/example JHAs for more common tasks can be found at: Americas H&S Page - JHAs.

ERM Scope of Work: ERM will collect environmental sludge and soil samples using a hand auger and other hand tools. The sludge samples will collected from evapoartion ponds and surrounding soil. The objective of this study is to characterize the sludge within the ponds and assess surficial soil downwind of the ponds which may have been impacted by wind-blown dust from the ponds.

ERM Task 1: Driving	☒ JHA Attached?
ERM Task 2: Soil Sampling	☒ JHA Attached?
ERM Task 3:	☒ JHA Attached?
ERM Task 4:	☒ JHA Attached?
ERM Task 5:	☒ JHA Attached?
ERM Task 6:	☒ JHA Attached?
ERM Task 7:	☒ JHA Attached?

Contractor Scope of Work: Possible geophysical survey, no other contractors/subcontractors are needed.

Contractor Task 1: Potential geophysical survey	☐ JHA Reviewed?
Contractor Task 2: Click here to enter text.	☐ JHA Reviewed?
Contractor Task 3: Click here to enter text.	☐ JHA Reviewed?
Contractor Task 4: Click here to enter text.	☐ JHA Reviewed?
Contractor Task 5: Click here to enter text.	☐ JHA Reviewed?
Contractor Task 6: Click here to enter text.	☐ JHA Reviewed?
Contractor Task 7: Click here to enter text.	☐ JHA Reviewed?

Contractor(s) to be used:	Approved under Contractor Management Program?
1. TBD	☐ Yes ☐ No
2. Click here to enter text.	☐ Yes ☐ No
3. Click here to enter text.	☐ Yes ☐ No
4. Click here to enter text.	☐ Yes ☐ No
5. Click here to enter text.	☐ Yes ☐ No

Site/Project General Information

Site Type (check all applicable boxes)

☒	Industrial	☐	Hazardous waste release (Hazwoper)
☐	Residential	☐	Remote or Inactive Facility*
☐	Unsecured	☐	Other (specify): Vitamin Manufacturing Facility
☐	Coastal/offshore (on or near water)	☐	Other (specify): Click here to enter text.

*ERM Form S3-NAM-029-FM6 (*Undeveloped, Remote, or Inactive Sites*) must be completed and attached to this document.

Main Project Hazards (check all applicable boxes)

☐	Aerial Lift Use (e.g., Scissor Lifts, Cherry Pickers)[1]	☐	Helicopter/Fixed Wing Aircraft Transportation[3]
☐	All-Terrain Vehicle Use[1]	☐	High Noise (>85 dBA)
☐	ASTs/USTs	☐	Hot Work (Welding, Cutting, Brazing)[2]
☐	Biological Hazards	☐	International Travel[4]
☒	Chemical Exposure Potential (including asbestos)	☐	Long Distance/Duration Driving[5]
☐	Chemical Mixing/Injection	☐	Mining (Surface/Underground)
☐	Compressed Gas	☒	Natural Hazards (Plants, Animals, Insects)
☐	Confined Space Entry[2]	☐	Off-Shore Platform Work[6]
☐	Construction[1]	☐	Overhead Power Lines
☐	Control of Hazardous Energy (i.e., Lockout/Tagout)[2]	☐	Portable/Fixed Ladders
☐	DDD Operations[1]	☐	Radiation (Ionizing/Non-ionizing)
☐	Diving[1]	☐	Rigging/Lifting[2]
☒	Ergonomics/Material Handling	☐	Scaffold Use
☐	Excavation/Trenching/Drilling[2]	☐	Shift Work (e.g., night work)
☐	Extended or Nonstandard Work Shifts (>14 hours)	☐	Short Service Employees
☒	Extreme Weather	☒	Slips/Trips
☐	Explosives Use[1]	☐	Subsurface Clearance (Buried Utilities)[2]
☐	Falls from height (>4 feet)[1]	☐	Working on/over Water (including transport)[1]
☐	Forklift/Industrial Truck Use[1]	☐	Unexploded Ordnance/Munitions and Explosives of Concern (UXO/MEC)[1]
☒	Hand/Power Tool Use		
☐	Heavy Equipment Use	☐	Other (specify): Click here to enter text.

1 High hazard work requiring H&S team coordination. Additional control measures may be required beyond JHA.

2 Permit-required high hazard work requiring H&S Team coordination and ERM or equivalent client-required permit to be completed.

3 If traveling using a helicopter or fixed wing aircraft, ERM employees are required to follow the provisions of ERM Standard S1-ERM-009-ST (*Fixed Wing Aircraft and Helicopter Safety*).

4 A Travel Risk Assessment (TRA) is required for all international travel (with the sole exception of travel to a Low Risk country where ERM has a permanent office). Consult ERM Standard S1-ERM-005-ST.

5 If driving more than 500 km (310 miles) in a single day, driving in excess of 4.5 hours in a single day, or driving in a remote location, a Journey Management Plan (see ERM Standard S1-ERM-008-PR) is required and should be appended to this HASP.

6 If traveling to/from and working on an off shore platform, ERM employees are required to follow the provisions of ERM Standard S1-ERM-006-ST (*Offshore Platform Safety*).

Chemical Products Used or Stored On-Site

For each chemical product identified, a Safety Data Sheet (SDS) must be attached to this HASP.

☒	Alconox or Liquinox	☐	Household bleach (NaOCl)
☐	Hydrocholoric acid (HCl)	☐	Calibration gas
☐	Nitric acid (HNO_3)	☐	Other (specify): Click here to enter text.
☐	Sulfuric acid (H_2SO_4)	☐	Other (specify): Click here to enter text.
☐	Sodium hydroxide (NaOH)	☐	Other (specify): Click here to enter text.
☐	Isopropyl alcohol	☐	Other (specify): Click here to enter text.

Note: Eyewash solution must be readily available on all project sites where materials are used or stored that pose a risk of getting into the eyes via splashing or through contact with airborne gases, vapors, dusts, or mists. This includes sample preservatives. The eyewash unit, whether stationary or portable, must be large enough to provide at least 15 minutes of eye flushing.

Regulated Chemicals of Concern

Check any chemicals known or suspected to be present on the site to which the ERM team may be exposed. These chemicals include OSHA-regulated potential carcinogens (29 CFR 1910.1003 through 1016) as well as those chemicals for which OSHA has established specific respiratory protection requirements (29 CFR 1910.134). If any of these chemicals are present on site, contact your H&S team member for guidance and describe any additional protective measures to be taken, as necessary.

☐	Friable asbestos	☐	Hexavalent chromium
☐	3,3'-Dichlorobenzidine	☐	Coke oven emissions
☐	Benzidine	☐	Ethylene oxide
☐	Beta-Propiolactone	☐	1,2-Butadiene
☐	N-Nitrosomethylamine	☐	Methyl chromoethyl ether
☐	Lead	☐	Beta-Napthylamine
☐	Benzene	☐	Ethyleneimine
☐	Acrylonitrile	☐	4-Dimethylaminoazobenzene
☐	Methylenedianiline	☐	Inorganic arsenic
☐	4-Nitrobiphenyl	☐	Cadmium
☐	alpha-Napthylamine	☐	1,2-Dibromo-3-chloropropane
☐	bis-Chloromethyl ether	☐	Formaldehyde
☐	4-Aminodiphenyl	☐	Methylene chloride
☐	2-Acetyaminoflourene	☒	**No ERM exposure to these compounds**
☐	Vinyl chloride		

Known or Suspected Chemicals of Concern

The following section must be filled out for all confirmed or suspected chemicals present on the site to which the ERM team may reasonably be exposed. Information on each chemical must be provided to all team members.

Material name: Title 22 Metals		Highest reported concentration*: previously ND	
Primary hazards: Low levels of metals found in soil. - exposure limits are not defined because concentrations can greatly vary.		Exposure symptoms: Symptoms and physical findings associated with heavy metal poisoning vary according to the metal accumulated. Many of the heavy metals, such as zinc, copper, chromium, iron and manganese, are essential to body function in very small amounts. If these metals accumulate in the body in concentrations sufficient to cause poisoning, then serious damage may occur.	
OSHA Exposure Limits**	NIOSH Exposure Limits**	ACGIH Exposure Limits**	IDLH Level**:
PEL:	REL:	TLV:	
STEL:	STEL:	STEL:	Ionization Potential (in eV):
Other: Click here to enter text.	Other:	Other: Click here to enter text.	
Material name: Petroleum Hydrocarbon		Highest reported concentration*: previously ND	
Primary hazards: Low levels of petroleum hydrocarbons found in soil. - exposure limits are not defined because concentrations can greatly vary. Previously, site sample results were non detect.		Exposure symptoms: **Potential Symptoms:** Irritation of eyes, skin, respiratory tract; dizziness, headache, nausea; chemical pneumonitis (from aspiration of liquid); dry, red skin; irritant contact dermatitis; eye redness, pain Health Effects: Irritation-Eyes---Mild (HE-16); Kidney damage (HE3), Potential lung damage (HE-10); Suspected carcinogen (Marine diesel fuel) (HE2)	
OSHA Exposure Limits**	NIOSH Exposure Limits**	ACGIH Exposure Limits**	IDLH Level**:
PEL: Click here to enter text.	REL: Click here to enter text.	TLV: 300 ppm	Click here to enter text.
STEL: Click here to enter text.	STEL: Click here to enter text.	STEL: 500 ppm	Ionization Potential (in eV): Click here to enter text.
Other: OSHA does not have a PEL for diesel fuel, but it is designated as an OSHA Select Carcinogen.	Other: Click here to enter text.	Other: Click here to enter text.	
Material name: Radium		Highest reported concentration*: Click here to enter text.	

Primary hazards: Low levels of Radium found in soil. Exposure limits are not defined by regulatory agencies. Previously, site sample results were non detect.		Exposure symptoms: Radium is a chemical used mainly as an anti-cancer agent . Ingestion and other exposures to the chemical can cause various symptoms. The type and severity of symptoms varies depending on the amount of chemical involved and the nature of the exposure.	
OSHA Exposure Limits**	NIOSH Exposure Limits**	ACGIH Exposure Limits**	IDLH Level**: Click here to enter text.
PEL: Click here to enter text.	REL: Click here to enter text.	TLV: Click here to enter text.	
STEL: Click here to enter text.	STEL: Click here to enter text.	STEL: Click here to enter text.	Ionization Potential (in eV): Click here to enter text.
Other: Click here to enter text.	Other: Click here to enter text.	Other: Click here to enter text.	
Material name: Click here to enter text.		Highest reported concentration*: Click here to enter text.	
Primary hazards: Click here to enter text.		Exposure symptoms: Click here to enter text.	
OSHA Exposure Limits**	NIOSH Exposure Limits**	ACGIH Exposure Limits**	IDLH Level**: Click here to enter text.
PEL: Click here to enter text.	REL: Click here to enter text.	TLV: Click here to enter text.	
STEL: Click here to enter text.	STEL: Click here to enter text.	STEL: Click here to enter text.	Ionization Potential (in eV): Click here to enter text.
Other: Click here to enter text.	Other: Click here to enter text.	Other: Click here to enter text.	

For additional chemicals, refer to S3-NAM-029-FM9 (Additional Known or Suspected Chemicals of Concern).
*Specify units and sample medium; **Specify units
OSHA Permissible Exposure Limits (PEL) and Short Term Exposure Limits (STEL); https://www.osha.gov/dsg/annotated-pels/
NIOSH Recommended Exposure Limits (REL), STELs, and Immediately Dangerous to Life and Health (IDLH); http://www.cdc.gov/niosh/npg/
ACGIH Threshold Limit Values (TLV) and STELs; contact your Division H&S Leader for additional information on these values.

Personal Protective Equipment

Req = Required PPE for one or more tasks to be performed; required on site at all times. NA = Not applicable to this project.

Equipment	Req	NA	Supplies	Req	NA
Steel-toed Boots	☒	☐	Inner Chemical Gloves	☒	☐
Outer Disposable Boots	☐	☒	Outer Chemical Gloves	☐	☒
Long Sleeve Shirt/Pants	☐	☒	Leather or Kevlar Gloves	☒	☐
Tyvek Suit	☐	☒	Safety Glasses/Goggles	☒	☐
Poly-Coated Tyvek Suit	☐	☒	Face Shield	☐	☒
Fully Encapsulated Chemical Suit	☐	☒	Hearing Protection	☐	☒
Flame Resistant Clothing/Coveralls	☐	☒	Half-face Respirator	☐	☒
High Visibility Traffic Vest	☒	☐	Full-face Respirator	☐	☒
Hard Hat	☒	☐	If either half or full-face respirator checked: • Define cartridge type: Click here to enter text. • Define cartridge change frequency: Click here to enter text.		
Other (specify): Click here to enter text.	☐	☐			

Respirator selection should be based on the Assigned Protection Factor (APF) and the Maximum Use Concentration (MUC). To determine the appropriate respirator selection, the lowest appropriate published exposure guideline should be known. The Division H&S Leader or project H&S consultant can provide assistance in defining the APF and MUC, as necessary. They can also assist in defining actions levels and cartridge change schedules when air-purifying respirators are used. Note that cartridge change schedules must be outlined above and in the JHA for any task requiring respiratory protection.

Use of respiratory protection requires three elements: training in respiratory protection techniques, completion of medical surveillance confirming that you are fit to wear a respirator, and fit testing with the make and model of respirator you will be using. Refer to S3-NAM-026-PR (*Respiratory Protection*) for additional information.

Training, Medical Surveillance, and Safety Supplies

Req = Required; requirements are based on the specific tasks performed in the field and the type of environments, chemicals, or hazards encountered. NA = Not applicable to this project.

Training	Req	NA	Medical Surveillance**	Req	NA
40-Hour Hazwoper	☒	☐	Medical Clearance	☒	☐
Current 8-hour Hazwoper Refresher	☒	☐	Respirator Clearance and Fit Test	☐	☒
8-Hour Hazwoper Supervisor*	☐	☒	Blood Lead and ZPP	☐	☒
Current First Aid/CPR	☒	☐	Other (specify): Click here to enter text.	☐	☐
40-Hour MSHA New Miner	☐	☒	Other (specify): Click here to enter text.	☐	☐
Current 8-hour MSHA Refresher	☐	☒	**Safety Supplies**	**Req**	**NA**
ERM Field Safety Officer (FSO)	☒	☐	First Aid Kit	☒	☐
DDD Practice FSO/DM	☐	☒	Eyewash Solution (15 minute flush)	☒	☐
Subsurface Clearance (SSC)	☒	☐	Air Horn	☐	☒
EPA Hazardous Waste	☐	☒	Decontamination Supplies	☒	☐
Hazmat/Dangerous Goods Shipping	☐	☒	Fire Extinguisher	☒	☐
International Traveler	☐	☒	Potable Water	☒	☐
Other (specify): Click here to enter text.	☐	☐	Toilets	☐	☒
Other (specify): Click here to enter text.	☐	☐	Other (specify): decontamination supplies are for sampling equipment.	☒	☐

*Provides specialized training to serve as an on-site manager supervising employees engaged in work covered by 29 CFR 1910.120.

**Physical examination requirements should be discussed with Workcare well in advance of project to allow adequate time to schedule exams.

Monitoring Equipment

All monitoring equipment on site must be calibrated per manufacturer specifications (including daily bump tests) and results recorded. Under stable conditions, measurements must be made in the breathing zone at least once every 30 minutes.

Combustible Gas Indicator	Reading	Action Guideline	Comments
Check if required: ☐	0 to 10% LEL	Monitor. Evacuate if confined space.	Click here to enter text.
Model: Click here to enter text.	10 to 25% LEL	Potential fire or explosion hazard.	
Task number(s): Click here to enter text.	>25% LEL	Fire/explosion hazard. Evacuate.	

Oxygen Meter	Reading	Action Guideline	Comments
Check if required: ☐	>23.5%	Fire hazard. Evacuate.	Click here to enter text.
Model: Click here to enter text.	23.5 to 19.5%	Normal oxygen levels.	
Task number(s): Click here to enter text.	<19.5%	Oxygen deficient conditions. Evacuate.	

Radiation Survey Meter	Reading	Action Guideline	Comments
Check if required: ☐	Normal background	Proceed with normal operations.	Annual exposure not to exceed 1250 mrem per quarter. Background reading must be taken in an area known to be free of radiation sources.
Model: Click here to enter text.	3x background	Notify Radiation Safety Officer.	
Task number(s): Click here to enter text.	>3x background	Radiological hazard. Evacuate.	

Photoionization Detector	Reading	Action Guideline	Comments
Check if required: ☐	Any response below Click here to enter text. ppm, sustained for 1 minute	Level "D" PPE is acceptable up to the action level. For response above established background level(s), appropriate level PPE requirements must be met.	The action level for upgrading the level of protection is typically ½ the lowest published exposure limit for the potential COCs at the site. For COCs with extremely low exposure limits (e.g., <5 ppm), contact your Division H&S Leader for guidance on action levels.
Model: Click here to enter text.	Click here to enter text. ppm to Click here to enter text. ppm, sustained for 1 minute	Level "C" is acceptable as appropriate.	
Task number(s): Click here to enter text.	Greater than Click here to enter text. ppm above background, sustained for 1 minute	Stop work. Tasks requiring Level B or Level A PPE are not anticipated during this project. If Level B or Level A PPE is needed, as determined by the FSO and/or the PM, the Division H&S Leader will be notified and the HASP will be revised.	See end of this section for additional information on respirator selection.

Flame Ionization Detector	Reading	Action Guideline	Comments
Check if required: ☐	Any response below Click here to enter text. ppm, sustained for 1 minute	Level "D" PPE is acceptable up to the action level. For response above established background level(s), appropriate level PPE requirements must be met.	The action level for upgrading the level of protection is typically ½ the lowest published exposure limit for the potential COCs at the site. For COCs with extremely low exposure limits (e.g., <5 ppm), contact your Division H&S Leader for guidance on action levels. See end of this section for additional information on respirator selection.
Model: Click here to enter text.	Click here to enter text. ppm to Click here to enter text. ppm, sustained for 1 minute	Level "C" is acceptable as appropriate.	
Task number(s): Click here to enter text.	Greater than Click here to enter text. ppm above background, sustained for 1 minute	Stop work. Tasks requiring Level B or Level A PPE are not anticipated during this project. If Level B or Level A PPE is needed, as determined by the FSO and/or the PM, the Division H&S Leader will be notified and the HASP will be revised.	
Colorimetric Detector Tubes	**Reading**	**Action Guideline**	**Comments**
Check if required: ☐	Specify: Click here to enter text.	Specify: Click here to enter text.	Click here to enter text.
Model: Click here to enter text.			
Task number(s): Click here to enter text.			
Other (specify): Click here to enter text.	**Reading**	**Action Guideline**	**Comments**
Check if required: ☐	Specify: Click here to enter text.	Specify: Click here to enter text.	Click here to enter text.
Model: Click here to enter text.			
Task number(s): Click here to enter text.			

Work Zones

Complete if exclusion zones are necessary because of chemical and/or equipment hazards. Describe the set-up of these zones. Include landmarks, dimensions (as necessary), and whether they are for equipment or personnel decontamination.

Exclusion Zone: NA. Very low at or below non detect levels.

Contamination Reduction Zone: NA

Support Zone: NA

Site Access/Control

Describe procedures for limiting unauthorized entry to the work zone(s). Describe any security requirements.

Access Control Procedures: NA. Site is remote. Only facility personnel will have access to the sampling area, client will be oniste during sampling.

Decontamination Procedures

Describe procedures for the decontamination of personnel and equipment.

Personnel: ERM employees will take care not to take soils from the pond area into other areas and rinse boots if necessary before mobilization.

Equipment: Equipment will be decontaminated with brushes and equinox followed by DI water. Rinsing fluids will be caught in a bucket and properly disposed of by client facility staff.

Spill Prevention and Response ***Ensure all chemical containers on site are labeled and lids are secured when not in use. When transferring chemicals from one container to another, or when refueling vehicles or equipment, provide containment beneath the transfer point to capture potential spills. Immediately report all chemical spills to the PIC/PM and submit an ECS entry with 24 hours.***
Will ERM staff or ERM-hired contractors possess containerized chemicals on the project site? ☒ Yes ☐ No
Will container size be greater than or equal to one gallon? ☐ Yes ☒ No
If the answer to both of these questions is Yes, follow the requirements outlined in ERM Procedure S3-NAM-042-PR (*Spill Prevention and Response*)?
Waste Management Planning
Will ERM's project activities generate waste materials? ☒ Yes ☐ No
Will ERM undertake some level of contractual responsibility for handling waste for the client? ☐ Yes ☒ No
If the answer to either of these questions is Yes, follow the requirements outlined in ERM Procedure S3-NAM-038-PR (*Waste Management Planning*).
Describe any waste reduction/minimization techniques to be used on the site: Very little waste will be created. What waste is created will be handled by the client.
Client-Specific Emergency Response ***In the event of an emergency, client-specific emergency response procedures may take precedence over ERM established procedures.*** ***While engaging in field-related activities on an active client site, measures they have in place to signal either emergency response or evacuation need to be reviewed and documented.*** ***Once completed, this summary should be discussed with all visitors, contractors, and others subject to HASP review upon site visit.***
Contributing factor initiating emergency response (process, material, weather): Emergency at site manufacturing facility could occur and client site contact will notify ERM field staff of Emergency alarms, lights, and/or sounds associated with an emergency.
Lights and/or sounds associated with evacuation: see above.
Drill requirements for contractors on-site: NA
Initial and alternative muster points: Client site contact will inform ERMers of muster poitn locations in the case of an emergency.
Specific evacuation procedures: Site/client specific procedures will be disucssed at the site with the site contact upon arrival.

Method for accounting for site visitors: ERMers will check in with a the site contact at the facility (sign in-sign out)
PPE and spill kit requirements (if emergency response is spill related): Level D PPE will be on hand for all field personnel.
Map associated with evacuation attached? ☐ Yes ☒ No

Emergency Contacts

All ERM employees are empowered to pause or stop work to address any unsafe acts/conditions, questions, concerns or changed conditions. All work-related safety events should be shared with the project team and promptly entered into the Event Communication System (ECS).

FOR ALL MEDICAL EMERGENCIES, CALL 911 OR THE LOCAL EMERGENCY NUMBER.

For ALL non-emergency incidents resulting in any injury or illness, you must:

- *Give appropriate first aid care to the injured or ill individual and secure the scene.*
- *Immediately notify the PM, PIC, and the H&S Team.*
- *At direction of PM, PIC, or H&S Team, call WorkCare Incident Intervention at (888) 449-7787 (available 24 hours/7 days per week in US only).*
- *Clients may have their own procedures which we may need to follow.*

For all incidents (injuries, illnesses, spills, fires, property damage, etc.) and significant near misses, enter the event into ECS within 24 hours.

Contact	Name	Location	Phone
Hospital (attach map)	Bastow Community Hospital	820 E Mountain View St, Barstow, CA 92311	760-255-3200
Police	Barstow PD	220 E Mountain View	911 or 760-256-2211
Fire	Daggett FD	33702 2nd Street	911 or 760-254-5474
Incident Intervention	WorkCare	NA	888-449-7787
Partner-in-Charge	Steve Williams	Irvine, CA	Work: 949-623-4674 Cell: 949-294-0835
Project Manager	Marlene Duffy	Irvine, CA (on site)	Work: 949-623-4689 Cell: 714-234-9156
Field Manager (if not PM)	Maggie Tymkow	Click here to enter text.	Work: Click here to enter text. Cell: Click here to enter text.
Field Safety Officer (if not PM)	Maggie Tymkow	Click here to enter text.	Work: 949-623-4706 Cell: 562-882-4402
SSC Experienced Person	Maggie Tymkow	Click here to enter text.	Work: Click here to enter text. Cell: Click here to enter text.

Division H&S Contact	Steven Perkins	Irvine, CA	Work: 949-623-4700 Cell: 714-928-3608
Region H&S Director	Mark Hickey	Colorado	Work: 720-200-7172 Cell: 720-625-2869
Subcontractor Contact	NA	Click here to enter text.	Work: Click here to enter text. Cell: Click here to enter text.
Client Contact	Jeff Peters		Work: Cell: 760-250-8060
Additional Contact	NA	Click here to enter text.	Work: Click here to enter text. Cell: Click here to enter text.

Acknowledgement

I have read, understood, and agree with the information set forth in this health and safety plan (HASP), and will follow guidance in the plan and in ERM's Document Control System (DCS). I understand the training and medical monitoring requirements (if any) for conducting activities covered by this HASP and have met these requirements.

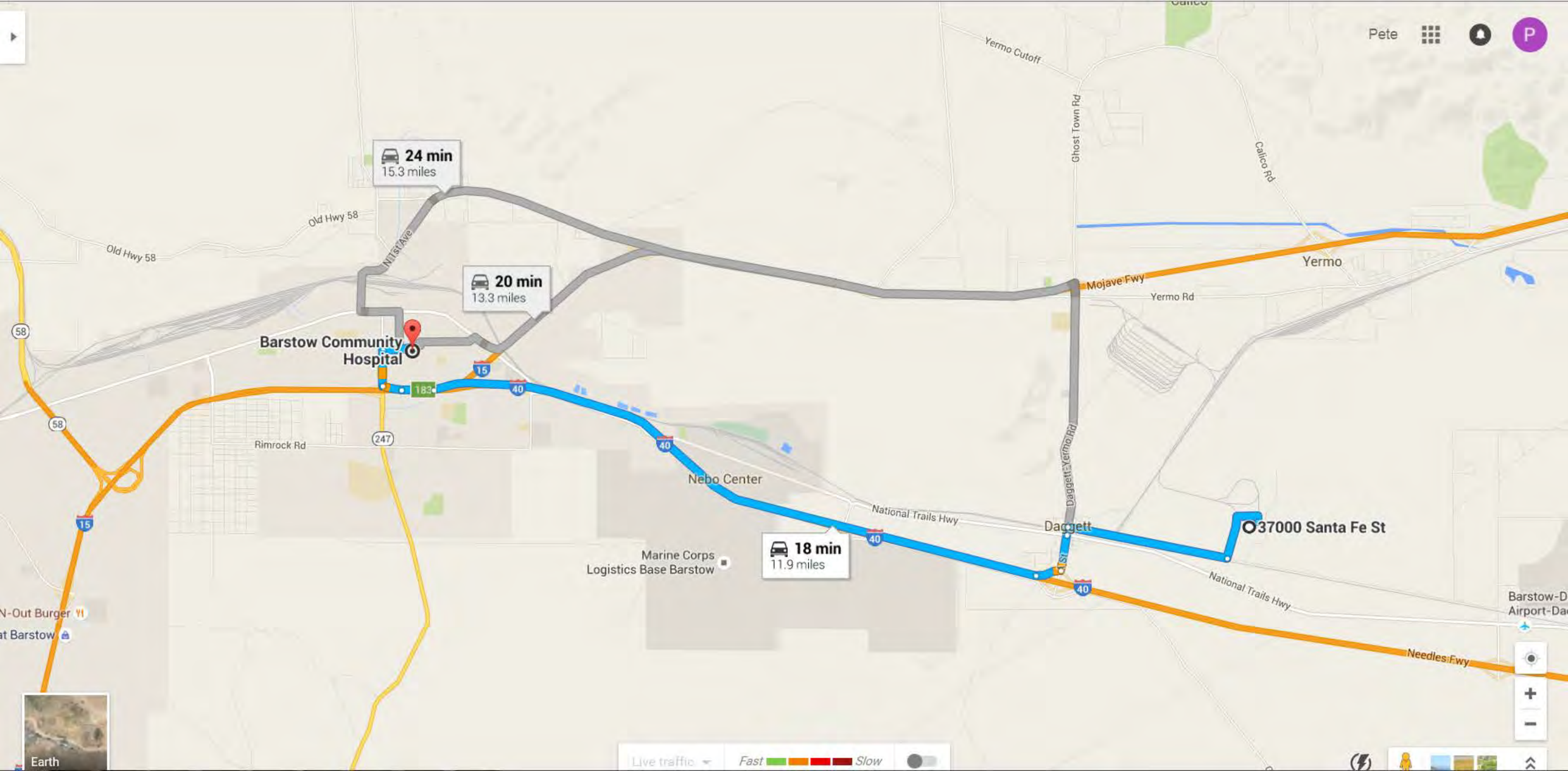
ERM has prepared this plan solely for the purpose of protecting the health and safety of ERM employees. Contractors, visitors, and others at the site are required to follow provisions in this document at a minimum, but must refer to the organization's health and safety program for their protection.

Printed Name	Signature	Organization	Date
Approval Signatures		**Project Manager**	**Date**

Signatures in this section indicate the signing employee will comply with and enforce this HASP, as well as procedures and guidelines established in ERM's DCS. Signatures also indicate that any subcontractors performing work under contract to ERM have met the minimum safety standards in S3-NAM-030-PR (Contractor Management).	Typed Name: Marlene Duffy Signature File:	Click here to enter a date.
	Partner-in-Charge	**Date**
	Typed Name: Steve Williams Signature File:	Click here to enter a date.

Attachments ***Check all appropriate documents to be attached to this HASP.***	
☐ Site-specific JHAs for all tasks (including contractors)	☒ Map of route to hospital with turn-by-turn instructions
☒ Subsurface Clearance (SSC) Project Plan	☐ Facility site map(s)
☒ Site Safety Meeting Form (S3-NAM-029-FM5)	☐ SNAP Cards
☒ Vehicle Inspection Forms (S1-ERM-008-FM2)	☐ Project/Field Audit Checklist (M1-ERM-016-FM3)
☐ Journey Management Plans (S1-ERM-008-FM1)	☐ Industrial Hygiene Sample Data (S3-NAM-005-FM1)
☒ Safety Data Sheets (SDS) for chemicals brought to site	☐ Ambient Air Monitoring Form (S3-NAM-005-FM2)
☒ Information on chemicals of concern (ICSC cards or like)	☐ Client-specific requirements
☐ PLAN Risk Assessment	☐ Other: Click here to enter text.
Applicable ERM Safety Standards/Procedures ***Check all that procedures/standards that are applicable to this project. Refer to the standards/procedures for guidance and, where applicable, use forms, work instructions, and guideline documents associated with these standards/procedures in the completion of site work. Copies of all standards/procedures must be procured from ERM's Document Control System.***	
Global (Tier I) Standards/Procedures	
☒ Short Service Employees (S1-ERM-003-PR)	☐ Travel Risk Assessment (S1-ERM-005-ST)
☐ Offshore Platform Safety (S1-ERM-006-ST)	☒ Subsurface Clearance Standard (S1-ERM-007-ST)
☒ Driver and Vehicle Safety (S1-ERM-008-PR)	☐ Fixed Wing Aircraft/Helicopter Travel (S1-ERM-009-ST)
Local (Tier III) Standards/Procedures	
☐ Demolition (S3-NAM-004-PR)	☐ Excavation and Trenching (S3-NAM-008-PR)
☐ Fall Protection (S3-NAM-009-PR)	☐ Setting Occ. Exposure Guidelines (S3-NAM-010-PR)
☒ Hazard Communication (S3-NAM-011-PR)	☐ Ladder Safety (S3-NAM-012-PR)
☐ Cold Stress (S3-NAM-013-PR)	☐ Hearing Conservation (S3-NAM-014-PR)
☐ Heat Stress (S3-NAM-015-PR)	☐ Incident Reporting and Investigation (S3-NAM-016-PR)
☐ Medical Services (S3-NAM-019-PR)	☐ Medical Surveillance (S3-NAM-020-PR)
☒ Personal Protective Equipment (S3-NAM-021-PR)	☐ Hot Work (S3-NAM-023-PR)
☐ Regulatory Inspection (S3-NAM-024-PR)	☐ Respiratory Protection (S3-NAM-026-PR)
☐ Contractor Management (S3-NAM-030-PR)	☐ Contractor Management (S3-NAM-030-PR)
☐ High Risk Activity Driving (S3-NAM-031-PR)	☒ Hand Tools/Portable Power Equipment (S3-NAM-033-PR)
☐ Electrical Safety (S3-NAM-035-PR)	☐ Incident/Illness Management (S3-NAM-037-PR)
☐ Waste Management Planning (S3-NAM-038-PR)	☐ Energy Isolation (S3-NAM-039-PR)
☐ Working Over Water (S3-NAM-041-PR)	☐ Spill Prevention and Response (S3-NAM-042-PR)
☐ Fatigue Management (S3-NAM-044-PR)	☐ Cutting Tools and Hand Safety (S3-NAM-047-PR)
☐ Lone Worker (S3-NAM-048-PR)	☐ Compressed Gas Cylinders (S3-NAM-049-PR)

See It; Own It; Share It	Stop Work Authority
It means that: • **We know that we have a responsibility to look out for each other, to intervene when necessary, to be proactive and to help keep safety issues from becoming problems.** • **We also look out for ourselves. If we recognize that a situation is unsafe, we are expected to stop what we're doing, reassess the situation and consult with others if necessary before proceeding safely.** • **We assign no blame to anyone who raises safety issues.** • **We strive to learn lessons from the large and small events that are part of our daily experience.**	**It is ERM policy that all ERM and ERM Contractor employees have the authority, without fear of reprimand or retaliation to:** • **Immediately stop any work activity that presents a danger to the site team or the public.** • **Get involved, question and rectify any situation or work activity that is identified as not being in compliance with the HASP or with broader ERM health and safety policies.** • **Report any unsafe acts or conditions to supervision or, preferably, intervene to safely correct such acts or conditions themselves.**


Pete
24 min
15.3 miles
20 min
13.3 miles
18 min
11.9 miles
Barstow Community Hospital
Old Hwy 58
Old Hwy 58
N 1st Ave
Rimrock Rd
Nebo Center
Marine Corps Logistics Base Barstow
Yermo Cutoff
Ghost Town Rd
Calico Rd
Mojave Fwy
Yermo
Yermo Rd
Daggett-Yermo Rd
Daggett
National Trails Hwy
National Trails Hwy
37000 Santa Fe St
Needles Fwy
Barstow-D
Airport-Da
N-Out Burger
at Barstow
Earth
Live traffic
Fast
Slow

Google Maps

37000 Santa Fe St, Daggett, CA 92327 to Barstow Community Hospital

Drive 11.9 miles, 18 min

37000 Santa Fe St
Daggett, CA 92327

Get on I-40 W from Santa Fe St

8 min (3.4 mi)

1. Head north toward Santa Fe St

0.8 mi

2. Turn right onto Santa Fe St

1.8 mi

3. Turn left onto Daggett-Yermo Rd

476 ft

4. Continue onto A St

0.4 mi

5. Turn right to merge onto I-40 W toward Barstow

0.3 mi

Follow I-40 W to Barstow Rd in Barstow. Take exit 183 from I-15 S

7 min (7.8 mi)

6. Merge onto I-40 W

7.2 mi

7. Use the right lane to merge onto I-15 S

0.4 mi

8. Use the right lane to take exit 183 for CA-247/Barstow Rd

0.2 mi

Continue on Barstow Rd. Drive to Lance Dr

3 min (0.7 mi)

9. Turn right onto Barstow Rd

0.4 mi

10. Turn right onto Lance Dr
    Destination will be on the right

0.3 mi

Barstow Community Hospital
820 East Mountain View Street, Barstow, CA 92311

JHA
Job Hazard Analysis

Project Number:	0290120	Project / Client Name:	NRG Coolwater
Project Manager:	Marlene Dawes	Location:	Coolwater Generating Station 37000 Santa Fe St. Daggett, CA
Partner-in-Charge:	Steve Williams	Date and Revision Number:	3/30/16 Rev. 1

SPECIFIC TASK:	**Soil Sampling with Hand Auger**

Minimum Required PPE for Entire Task:	☑ Hard Hat ☑ Safety-Toe Shoes ☐ Hearing Protection ☐ Goggles ☐ Face Shield ☐ Respirator <enter type and cartridge type> ☑ Other (specify): ☑ Safety Glasses ☑ Reflective Vest ☑ Gloves nitrile ☑ PPE clothing		
Additional Task-Step Specific PPE: (as indicated below under Controls)	none	Equipment / Tools Required:	Hand auger
Training Required for this Task:	none	Permits Required for this Task:	
Forms Associated with This Task:	none		

JHA Developed / Reviewed By:			JHA Review In Field
Name / Job Title:	Name / Job Title:	Name / Job Title:	Field Safety Officer (FSO) to ensure all personnel performing this task have reviewed JHA and agree to follow it. Site-specific changes to this JHA have been made as warranted based on this review. **FSO Signature/Date:**
Steve Ossim/Assoc Geologist	Pete Grasso/ Staff Engineer		

Task Steps[1]		Potential Hazards & Consequences[2]		select	Likelihood	Severity	RISK	Controls to Eliminate or Reduce Risks[3]	
1	All Site Visits	1	General Hazards	multiple	2	4	8	1	Wear long-sleeved clothing, steel-toed boots, refletive vest, and safety glasses at all times.
2	Soil Sampling	2a	Dermal Contact with Contaminated Materials	H&S	3	3	9	2a	Wear PPE (e.g., nitrile gloves to handle hydrocarbons) required for contact with affected materials. Refer to HASP to determine constituents of concern for the site to determine the appropriate type of PPE.
									If clothing becomes wet or saturated with liquid, hydrocarbons, waste, etc., remove clothing immediately, wash affected area, and change into dry clothing before completing work.
									Containerize all fluids during decontamination procedures to minimize contact with contaminated materials.
									Do not stand near other samplers or those performing decontamination procedures to avoid contact with contaminated materials.
		2b	Airborne Particulates and Debris	H&S	3	3	9	2b	Approach and stay upwind of potential sources of vapors.
									If prescribed by the HASP, monitor air concentrations in the breathing zone using direct-reading, real-time instruments such as OVM, Draeger tubes, and/or Mini-Ram as outlined in the Ambient Air Monitoring section of HASP.
									If hazardous conditions are identified, stop work until precautions are taken.
									Wear PPE including face shield or safety glasses with side shields, nitrile or PVC gloves and long sleeves.
									Use water to control dust in area if doing so will not create other hazards on site (slipping, environmental impact, etc.).
									If prescribed by the HASP, monitor air concentrations in the breathing zone using direct-reading, real-time instruments such as OVM, Draeger tubes, and/or Mini-Ram as outlined in the Ambient Air Monitoring section of HASP.
		2c	Pinch Hazard Sampling Tools	H&S	3	3	9	2c	One person must operate the extruder while the second person receives the core.
									Wear PPE including leather or ASTM Blade Cut Resistant Level 2 work gloves when operating soil sample extruder.

Task Steps[1]		Potential Hazards & Consequences[2]		select	Likelihood	Severity	RISK	Controls to Eliminate or Reduce Risks[3]	
									Workers shall not place hands within 18 inches of mechanically actuated or rotating equipment, and equipment must be de-energized and locked out before handling.
									Keep hands 18 inches away from pinch points and rough or sharp sample tube edges.
		2d	Sharp Sampling Tools	H&S	3	3	9	2d	Keep hands away from cutting surfaces of tools.
									When opening sleeve (for samples collected while drilling or geoprobing), cut away from body. Use leather, ASTM Blade Cut Resistant Level 2 work gloves when using facility approved utility knife, keep hands away from pinch points and sharp tool edges.
									When collecting samples from a hand auger bit, keep hands away from sharp edges of auger.
									Do not use glass sample jars with broken or jagged edges.
									Only use scissor or cutting tools with shielded blade.
		2e	Physical Injury from Managing Equipment	H&S	3	3	9	2e	Use the proper tool for the job (e.g., hammer for striking, etc.).
									Position hands/fingers away from work area when using tool.
									Avoid repetitive motion and overstraining muscles.
									Wear PPE including leather or ASTM Blade Cut Resistant Level 2 work gloves.
		2f	Cross Contamination	PL	1	3	3	2f	Decontaminate or dispose of sampling equipment between sampling locations.
									Double-check sample labels to ensure accuracy and adhesion to containers.
3	Decontaminate Equipment	3a	Dermal Contact with Contaminated Materials	H&S	3	3	9	3a	See above.
		3b	Airborne Particulates and Debris	H&S	3	3	9	3b	See above.
		3c	Sharp Sampling Tools	H&S	3	3	9	3c	See above.
4	Waste Disposal	4	General Hazards	multiple	3	3	9	4	Refer to Waste Management JSA for descriptions of Job Steps, Potential Hazards, and Controls.
5	Heat Stress	5	Heat Stress	H&S	3	4	12	5	Check the weather forecast in advance & be prepared for those conditions Schedule regular breaks, watch your colleagues using the buddy system. Use sun block for skin protection, drink cool drinks regularly (i.e.: before you become thirsty), take breaks in the shade or vehicle Stop work if fatigue or physical stress situations develop in your or those around you

Task Steps[1]	Potential Hazards & Consequences[2] select	Likelihood	Severity	RISK	Controls to Eliminate or Reduce Risks[3]

ONE JHA PER TASK. SUBCONTRACTORS MUST PROVIDE THEIR OWN JHAS. JHAS SHOULD BE WRITTEN IN PLAIN LANGUAGE AND SHOULD BE NO MORE THAN 2-3 PAGES IN LENGTH.
INSERT ADDITIONAL ROWS AS NEEDED ABOVE (MUST MANUALLY COPY AND PASTE FORMULA IN COLUMN H). ROW HEIGHTS MAY NEED TO BE MANUALLY EXPANDED TO VIEW ALL TEXT.
LEAVE SEVERAL BLANK OVERSIZED ROWS TO ALLOW HANDWRITTEN FIELD ADDITIONS. CAN ALSO DELETE UNNEEDED ROWS TO FIT PAGE(S).

1. Each task consists of a set of steps. List and number all the steps in the sequence they are performed. Specify the equipment or other details.
2. List potential health & safety hazards and consequences - ONE PER ROW - and select "H&S" from the drop-down list. Then list any potential security, environmental, and/or property loss impacts - ONE PER ROW - and select the corresponding code(s) from the drop-down list. Use numbers and letters for each hazard/impact listed (1a, 1b, etc.). Hazards should be described in terms of their specific origin and negative consequences (e.g., instead of "moving equipment", write "injury from getting struck by forklift").
3. Describe the specific actions or procedures that will be implemented to eliminate or reduce each hazard. Be clear, concise, and specific. Use objective, observable, and quantified terms (e.g., instead of "use good body positioning," write "don't bend at waist or reach above head"). Use numbers and letters corresponding to listed hazards.
4. Select the likelihood of occurrence and severity of each hazard, AFTER implementation of the planned control measures (use the Risk Matrix as a guide). The corresponding risk rating will then be automatically calculated [RISK = Likelihood x Severity].

A risk rating shaded red indicates that work cannot continue without additional control measures and approval of Partner-in-Charge.

WAYS TO ELIMINATE OR REDUCE RISKS (IN ORDER OF PREFERENCE):

ELIMINATE / AVOID --> SUBSTITUTE / MODIFY --> ISOLATE --> ENGINEER / SAFEGUARD --> TRAINING AND PROCEDURES --> WARNING AND ALERT MECHANISMS --> PPE

JHA
Job Hazard Analysis

Project Number:	0290120	Project / Client Name:	NRG Coolwater
Project Manager:	Marlene Dawes	Location:	Coolwater Generating Station 37000 Santa Fe St. Daggett, CA
Partner-in-Charge:	Steve Williams	Date and Revision Number:	3/30/16 Rev. 1

SPECIFIC TASK:	**Driving**

Minimum Required PPE for Entire Task:	☐ Hard Hat ☐ Safety-Toe Shoes ☐ Hearing Protection ☐ Goggles ☐ Face Shield ☐ Respirator <enter type and cartridge type> ☐ Other (specify): ☐ Safety Glasses ☐ Reflective Vest ☐ Gloves <enter type here> ☐ PPE clothing <enter type here (e.g., Tyvek, FRC, long sleeves)> <enter additional PPE here>		
Additional Task-Step Specific PPE: (as indicated below under Controls)	none	Equipment / Tools Required:	none
Training Required for this Task:	none	Permits Required for this Task:	Driver's License
Forms Associated with This Task:	none		

JHA Developed / Reviewed By:			JHA Review In Field
Name / Job Title:	Name / Job Title:	Name / Job Title:	Field Safety Officer (FSO) to ensure all personnel performing this task have reviewed JHA and agree to follow it. Site-specific changes to this JHA have been made as warranted based on this review. **FSO Signature/Date:**
Steve Ossim/Assoc Geologist	Pete Grasso / Staff Engineer		

Task Steps[1]		Potential Hazards & Consequences[2]		select	Likelihood	Severity	RISK	Controls to Eliminate or Reduce Risks[3]	
1	Vehicle Inspection	1a	Unsafe Vehicle	H&S	2	3	6	1a	Before entering vehicle, inspect vehicle for body damage.
									Before entering vehicle, check tires for inflation and tread.
									Before entering vehicle, check under vehicle for leaks/obstructions.
									Before driving, check to see that registration/insurance/last maintenance report are current and present.
									Before driving, check to verify that horn, lights, and instrument panel are operational.
									Before driving, check wipers and washer; clean windows; and adjust mirrors .
									Before driving, secure all loose items.
									Before driving, adjust seat, head rest, and mirrors.
									Before driving, driver and passengers must fasten seat belts/shoulder harness.
		1b	Vehicle Problems on Long Journey (>100 miles)	H&S	1	4	4	1b	Before driving, check fluid levels in vehicle.
									Before driving, verify that fire extinguisher, traffic triangles, first aid kit, jack, and spare tire are in vehicle.
2	Driving	2a	Inattentive Driving	H&S	1	4	4	2a	Keep eyes on roadway at all times.
									Yield right-of-way to others and allows other vehicles to merge, change lanes, turn, etc.
									Respect pedestrians, cyclists, other drivers.
									Remain courteous and tolerant of others' poor driving.
		2b	Unsafe Operation of Vehicle	H&S	1	4	4	2b	Keep two hands on wheel at 9 and 3 o'clock positions.
									Do not answer cell phone or pager while driving, do not read or answer text messages while driving, and do not change radio stations while vehicle is moving.
									Adjust to traffic conditions, including driving below the speed limit on congested roadways.
									Use turn signals when turning or switching lanes.
									Maintain safe following distance behind other vehicles (4-second rule).
									Follow posted speed limits, and reduce speed as necessary due to road conditions.
									Before backing up, look behind vehicle/checks for traffic, pedestrians, and parked vehicles.
		2c	Failure to Scan Roadway	H&S	3	3	9	2c	Scan the road ahead (2-3 blocks or 1/4 mile) and anticipate actions of others to avoid sudden swerves, stops, lane changes, tight merges, etc.

Task Steps[1]		Potential Hazards & Consequences[2]		select	Likelihood	Severity	RISK	Controls to Eliminate or Reduce Risks[3]	
									Check mirrors every 5-8 seconds and stay out of other drivers' blind spots.
									Check for hazards on the road, e.g., animals, debris, and road conditions.
									Read and obey traffic signals.
		2d	Abrupt Slowing and Stopping	H&S	3	2	6	2d	Make complete stop at signals, at a safe distance; allow front vehicle to move before accelerating.
									Scan intersection left and right; anticipate intent of other vehicles before reaching "point of no return."
									Cover brakes safely and adjust speed.
		2e	Unsafe Merging and Lane Changes	H&S	3	3	9	2e	Use signals, check blind spots, and leave adequate space before pulling back into lane.
3	Parking	3	Unsafe Operation of Vehicle	H&S	1	4	4	3	Obey signs and use signals in parking lot.
									Maintain proper speed inside the lot.
									Ensure vehicle is legally/properly parked.
									Set parking brake and secure vehicle.
									Use wheel chocks on sloped terrain.
									Park to allow a forward exit from the parking spot unless limited by parking lot configuration, parking attendant, or other controlling factor.

ONE JHA PER TASK. SUBCONTRACTORS MUST PROVIDE THEIR OWN JHAS. JHAS SHOULD BE WRITTEN IN PLAIN LANGUAGE AND SHOULD BE NO MORE THAN 2-3 PAGES IN LENGTH.
INSERT ADDITIONAL ROWS AS NEEDED ABOVE (MUST MANUALLY COPY AND PASTE FORMULA IN COLUMN H). ROW HEIGHTS MAY NEED TO BE MANUALLY EXPANDED TO VIEW ALL TEXT.
LEAVE SEVERAL BLANK OVERSIZED ROWS TO ALLOW HANDWRITTEN FIELD ADDITIONS. CAN ALSO DELETE UNNEEDED ROWS TO FIT PAGE(S).

1. Each task consists of a set of steps. List and number all the steps in the sequence they are performed. Specify the equipment or other details.

2. List potential health & safety hazards and consequences - ONE PER ROW - and select "H&S" from the drop-down list. Then list any potential security, environmental, and/or property loss impacts - ONE PER ROW - and select the corresponding code(s) from the drop-down list. Use numbers and letters for each hazard/impact listed (1a, 1b, etc.). Hazards should be described in terms of their specific origin and negative consequences (e.g., instead of “moving equipment”, write “injury from getting struck by forklift”).

3. Describe the specific actions or procedures that will be implemented to eliminate or reduce each hazard. Be clear, concise, and specific. Use objective, observable, and quantified terms (e.g., instead of “use good body positioning,” write “don’t bend at waist or reach above head”). Use numbers and letters corresponding to listed hazards.

4. Select the likelihood of occurrence and severity of each hazard, AFTER implementation of the planned control measures (use the Risk Matrix as a guide). The corresponding risk rating will then be automatically calculated [RISK = Likelihood x Severity].

A risk rating shaded red indicates that work cannot continue without additional control measures and approval of Partner-in-Charge.

WAYS TO ELIMINATE OR REDUCE RISKS (IN ORDER OF PREFERENCE):

ELIMINATE / AVOID --> SUBSTITUTE / MODIFY --> ISOLATE --> ENGINEER / SAFEGUARD --> TRAINING AND PROCEDURES --> WARNING AND ALERT MECHANISMS --> PPE

ERM Vehicle Safety Checklist

Date	Operator	Project#	Mileage
Vehicle Make/Model License#			Company Vehicle? ☐ Y ☐ N

I. Inspection	Before Driving: OK	Deficient	N/A	Comments
Prior to Use, and Weekly Thereafter for all vehicles used for field work.				
All glass and mirrors	☐	☐	☐	
Engine Fluids (oil, radiator coolant)	☐	☐	☐	
Headlights (incl Hi/Lo lights)	☐	☐	☐	
Horn	☐	☐	☐	
Instrumentation warning lights	☐	☐	☐	
Misc. vibration, noise, loose parts (requires comment)	☐	☐	☐	
Overall vehicle cleanliness/damage	☐	☐	☐	
Reverse warning/alarm	☐	☐	☐	
Seatbelts for all seats	☐	☐	☐	
Tail Lights / Brake lights	☐	☐	☐	
Tires - visual condition/tread/pressure	☐	☐	☐	
Turn signal / hazard lights	☐	☐	☐	
Under vehicle – leaks	☐	☐	☐	
Windshield cleanliness and lack of damage/cracks	☐	☐	☐	
Windshield wipers & fluid	☐	☐	☐	

Required H&S supplies/ equipment	☐ Anti-lock brakes	☐ Air bags	☐ First aid kit	☐ Reflective safety vest (for all occupants)	☐ Spare tire and jack – in good condition	☐ Roadside warning (triangles or flares)
Optional H&S supplies/equipment		☐ Jumper cables	☐ Fire Extinguisher		☐ Torch / flashlight	☐ Camera

Name & signature of reviewer : ……

Safety Reminders

1. Drive defensively - scan road ahead and anticipate actions of other drivers.
2. Ensure sufficient rest before and during the trip. Take a 15 minute break after every 2 hours of continuous driving.
3. Seat belts to be worn by all passengers and driver at all times.
4. Adjust seat / mirrors / headrest / steering wheel and ensure clean windows with no obstructions; Secure loose items.
5. Eliminate distractions – do not use mobile phones or any other electronic devices while driving. Refer to ERM's ***Global Policy on Mobile/Cellular Telephone and Personal Digital Assistant (PDA) Use While in a Vehicle.***
6. Secure all loose loads.
7. Obey all posted road signs and speed limits.
8. Maintain safe following distance - use "3-second rule." in good weather conditions. Adjust speed / following distance for adverse road/weather conditions.
9. Do not consume any alcohol or drugs, or any other substance or medication that could impair their ability to drive. Refer to ERM's ***Global Policy on Drug and Alcohol Use***.

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	Applicability:	Form	Document Number:	Version:
	North America		S3-NAM-029-FM5	2
	Title: **Site Safety Meeting Form**		**Last Revision Date:**	6/24/15

Project Name/ Location:				**Phone:**	
Project Number:		**Date:**		**Time:**	
Meeting Leader:					

Today's Work Tasks(s)	**Conducted By:**

1. **Review relevant sections of the Health and Safety Plan (HASP), Job Hazard Analyses (JHAs) for planned tasks, and any other applicable procedures. Discuss potential hazards of planned work and control measures to be used to eliminate or reduce risks (including PPE). Pay specific attention to overlapping/ simultaneous operations.**
2. **Review emergency response procedures including emergency phone numbers, location of emergency equipment (fire extinguishers, first aid kit, AED, eyewashes, safety showers, etc.), exit routes, muster points, methods of conducting head count at muster point, and identity of first responders trained in first aid/CPR.**
3. **Does everyone fully understand the task(s)? Are there any changes that need to be assessed? Use SNAP cards to assess risks associated with changed or unplanned tasks.**
4. **Remind the team that everyone on the job site is empowered to stop work if something is unsafe or if there are any questions or concerns regarding safety.**

What tools and equipment are required for today's tasks? Have they been inspected and are they in good condition?

What training/qualifications/experience is necessary for today's assigned tasks?

List any new or Short Service personnel on site today:

Discuss any recent incidents, near misses, field inspection findings, or other safety observations (or observations from similar tasks performed at other sites):

Additional Safety Meeting Topics (check those discussed)
☐ What client safety rules or procedures are applicable to today's activities?
☐ How will you communicate with others on site? How will you communicate with the PIC and PM?
☐ What are the potential impacts of planned activities to visitors, nearby workers, or the public?
☐ Who do you contact if you have questions or before deviating from written procedures?
☐ What happens and who do you contact if there is an injury or other emergency? If working at an active facility, how will you be alerted of an emergency and what will you do?
☐ Where is nearest medical facility and how would we get an injured employee there? If medical help is more than five minutes away, is at least one person on site trained in first aid/CPR? How do you contact them?
☐ Do you have any medical condition or allergy that the project team needs to be aware of? Write this down and keep it in your pocket for reference in the event of an emergency.
☐ Are any work permits required?
☐ Has anything unexpected or out-of-the-ordinary occurred on this job recently to share?
☐ Is there anything different about today's operations as compared to yesterday or previous days?
☐ What is the worst that could happen if something goes wrong today?
☐ What activities occurring today could result in hand injuries? Is everyone aware that the use of fixed open-blade knives is not permitted?
☐ What natural hazards are present (including plants, animals, and insects)?
☐ What areas of the site have slip/trip/fall hazards? Can these be avoided? Are everyone's work boots in good shape?
☐ Other items:

Meeting Attendees (including employees, contractors, and visitors)

Name	Company	Sign-In*	Sign-Out**

* Signature/initials in this space verify that the employee is fit for performing work.

** Signature/initials in this space verify that the employee was uninjured during the workday.

1. Purpose and Scope

This document establishes the minimum requirements for subsurface obstruction and utility clearance [collectively, Subsurface Clearance (SSC)], and applies to all ERM project-related ground disturbance activities. This document is supported by the mandatory requirements in the *Global Subsurface Clearance Process Document* (S1-ERM-007-WI).

2. Roles and Responsibilities

Business Unit Managing Partner (BU MP). Review and either approve or reject any waiver associated with the SSC process for projects under their control. Ensure field verification audits are conducted in accordance with the *Global Subsurface Clearance Process Document.*

Partner in Charge (PIC). Ensure all elements of the SSC process are implemented on their project; determine if a project site meets the criteria for a Remote/Greenfield site.

Project Manager (PM). Ensure a qualified SSC Experienced Person (EP) participates in all projects involving ground disturbance activities.

SSC Experienced Person (EP). Lead the execution of the SSC Process on projects not considered Remote/Greenfield; complete required SSC documentation and field forms; be present in the field during all clearance activities.

3. Definitions

Critical Zone: 10 feet (3 meters) distance in all directions from the surface projection of:

- All known or suspected underground pipes, cables, conduits, drains, galleries, edges of tanks, or any other useful property; and
- Aboveground structures with associated subsurface pipes and/or cables.

Ground Disturbance Activities: activities which require penetration of the ground surface and/or the drilling, coring, or removal of engineered surfaces.

Point Disturbance: ground disturbance activities associated with soil borings; well installation; well over-drilling; or digging small test pits.

Remote/Greenfield Site: a site (or portion of a site) meeting the requirements in Appendix F of the *Global Subsurface Clearance Process Document*, as determined by the PIC.

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4. Requirements

4.1 Subsurface Clearance

No ground disturbance activities, with the exception of Remote/Greenfield sites, shall occur without at least one person in the field being a designated SSC EP. This is subject to waiver when only hand digging will occur in the uppermost 1 foot (0.3 meters) below ground surface. The SSC EP is responsible for ensuring that the SSC Process as defined in the *Global Subsurface Clearance Process Document* is fully implemented.

No ground disturbance activities are permitted within the Critical Zone unless a waiver is granted and the Subsurface Clearance Location Disturbance Permit has been completed.

All point disturbance activities require physical clearance, unless a waiver is granted, and shall meet the following minimum requirements:

- 125% of the outer diameter (OD) of the largest downhole tool to the following depth:
  i. 2 feet (0.6 meters) beyond the bottom of the frost line at the site, or:
  ii. Inside Critical Zones:
    - To 2 feet (0.6 meters) deeper than the known or suspected invert elevation of the subsurface structure, or
    - If the depth of the service is unknown, physical clearance should be performed to 8 feet (2.4 meters).
  iii. Outside Critical Zones: 5 feet (1.5 meters).

For all excavation and trenching, mechanical digging is prohibited within 2 feet (0.6 meter) of subsurface structures. There can be no waiver of this requirement.

4.2 Remote/Greenfield Site

It is the responsibility of the PIC to ensure that the Remote/Greenfield Subsurface Clearance Process, as defined in the *Global Subsurface Clearance Process Document* is fully implemented.

Mechanical digging is prohibited if the site is to be cleared using the Remote/Greenfield Subsurface Clearance Process. There can be no waiver of this requirement.

4.3 Training Requirements

It is the responsibility of the project PIC to ensure that all ERM employees working on or managing projects are trained in accordance with the *Global Subsurface Clearance Process Document.*

SSC EPs shall complete competency testing as described in the *Global Subsurface Clearance Process Document*.

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All personnel training required by this standard shall be documented in ERM Academy.

4.4 Issuance of a Waiver

There are five waivers to the SSC Process that may potentially be issued:

1. Waive the requirement for an SSC EP to be present on site, when ONLY hand digging will occur in the uppermost 1 foot (0.3 meters) below ground surface;
2. Waive the requirement for Public Utility markouts (where allowed by law);
3. Waive the requirement for Private Utility markouts;
4. Waive the requirement for full physical clearance of point disturbance locations; and
5. Allow ground disturbance activities within Critical Zones.

Both the Project PIC and BU MP (or designee) must approve any waivers; all waivers shall be documented in the Subsurface Clearance Project Plan.

4.5 Field Verification Auditing

It is the responsibility of the BU MP to ensure that field verification audits are completed in accordance with the *Global Subsurface Clearance Process Document.* Identified findings shall be managed in accordance with the *Event and Non-conformance Management Procedure* (M1-ERM-015-PR).

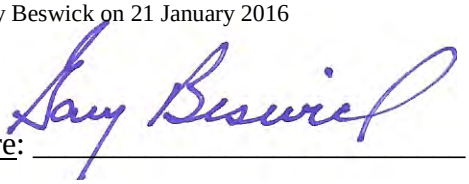
5. References

- S1-ERM-007-WI - Global Subsurface Clearance Process Document
- M1-ERM-015-PR - Event and Non-conformance Management Procedure

Document Control Information

Original Effective Date: 1 April 2015

Approved by: Gary Beswick on 21 January 2016

Approval Signature: 

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Revision History

Section	Version: Reason for Revision	Date
All	1.0: New document.	29 Dec 2014
3, 4.1, 4.2, 4.4	1.1: changed definition of ground disturbance; changed definition of point disturbance, added waiver for shallow hand digging; revised language for clarity.	15 May 2015
5	2.0 – corrected link to SSC Global Process document	21 Jan 2016

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Subsurface Clearance (SSC)
Considerations for Private Utility Locates

This form provides additional guidance and considerations for conducting effective private utility locates.

SSC PROCEDURE REQUIREMENTS
• Excluding remote-greenfield sites, private utility locates are required on all SSC projects. Only the Partner in Charge (PIC) and Business Unit Managing Partner (BU MP) may waive this requirement.
• Locates must be performed by: (1) a prequalified contractor, with direct ("eyes on") supervision by the ERM SSC Experienced Person (EP); or (2) an ERM employee who has an appropriate level of formal training and experience to perform utility locates.
• Locates must be conducted to: (1) verify the routes and locations of all known or suspected services associated with a site; AND (2) clear a minimum distance of 10 feet (3 meters) around each planned ground disturbance location, including excavations / trenches.
• Vegetation or surface obstructions must be cleared / removed as necessary to facilitate private utility markouts. If engineered surfaces such as reinforced concrete are interfering with private locate signals, consider doing an additional locate AFTER removal of the surface but prior to additional ground disturbance.
• Utilities should be marked with paint or other semi-permanent markings whose meaning is clearly understood by the site team. Markings must remain clear and visible for the duration of the ground disturbance activities, and re-marked if necessary.
PLANNING PHASE
• Communicate the detailed scope of work and review all available SSC information with private locators in advance, prior to mobilizing to the site. This way they can bring the right equipment and schedule sufficient time to achieve the clearance objectives.
• Select the right equipment and methods to be used, based on your discussions with the contractor and the "Guidance on Selection and Applicability of Detection Equipment Used for Private Utility Location" in Appendix G of the SSC Process Document.
PRE-CLEARANCE PHASE
• Provide all available information to locators to help them confirm the routes of all known or suspected services. This includes but may not be limited to: as-builts, public locator responses/markings, knowledgeable site contact information, and results of visual clues survey.
• We must ensure that utility locators are thorough and use multiple tools and methods, including active tracing techniques. Ground penetrating radar (GPR) surveys should be used wherever possible.
• For electromagnetic (EM) location, insist on inducement of a signal and active tracing of all conductors, wherever possible.
• Perform at least two different depth scans with GPR: (1) a higher frequency near-surface scan and (2) a lower-frequency scan within the target depth range for site services. This is especially critical for sites with concrete slabs or other engineered surfaces, where utilities may be direct buried within or directly below the surface.
• Ask the private locators about any issues or limitations with their surveys. Have them provide a written report of their findings.

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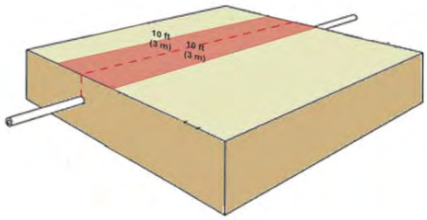
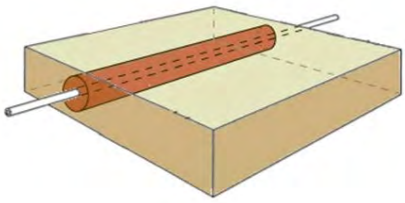
Subsurface Clearance (SSC)
Field Review Checklist for Contractors

Site Name:	
Client:	
ERM Project No.:	
Contractor activities to be performed on Site:	

Use this form to conduct and document review with contractor field personnel, to ensure they have been properly briefed on the applicable components of ERM's SSC Process.

TOPIC	REVIEWED	N/A	COMMENTS
All personnel on ERM projects are empowered to stop work, without fear of reprimand, if it is unsafe to proceed or if there are concerns or questions.	☐	☐	
If at any time during project execution, the scope of work or jobsite conditions change, work should be stopped and the potential H&S effect of the change discussed.	☐	☐	
Ground disturbance activities may NOT be performed at any location without authorization by the ERM SSC Experienced Person (EP). Clearance activities may NOT be performed at any location unless the ERM EP is physically present.	☐	☐	
Unless explicitly authorized by ERM's Partner-in-Charge and Business Unit Managing Partner, ground disturbance may NOT be performed within 10 feet (3 meters) distance (referred to as the "Critical Zone") of the surface projection of: • Any known or suspected underground pipes, cables, conduits, drains, galleries, edges of tanks, or any other useful property; or • Aboveground structures with associated subsurface pipes and/or cables, including but not limited to pump islands, pump galleries, manifolds, electrical transformers, compressors, production wells, loading racks, or other process equipment.	☐	☐	**"The Critical Zone"** 
Unless authorized by the ERM EP, ground disturbance / clearance activities must NOT be performed in areas that are in direct conflict with any markings made by public or private utility locators.	☐	☐	
Unless explicitly authorized by ERM's Partner-in-Charge and Business Unit Managing Partner, all borehole and small test pit locations must be physically cleared prior to use of mechanized equipment. Required physical clearance depths and diameters for point disturbances are as follows: • Physically clear to a diameter at least 125% of the largest downhole tool to be used. • Physically clear to the deeper of: o 2 feet (0.6 meters) beyond the bottom of the frost line at the site, or: o Outside Critical Zones to 5 feet (1.5 meters), or o Inside Critical Zones to the deeper of: 8 feet (2.4 meters), or 2 feet (0.6 meters) deeper than the expected invert elevation of the subsurface structure.	☐	☐	**"The Excavation Buffer"** 

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TOPIC	REVIEWED	N/A	COMMENT:
Mechanical digging is prohibited inside a 2-foot (0.6-meter) distance (referred to as the "Excavation Buffer") in all directions from subsurface structures that will be intentionally exposed due to ground disturbance activities. Removal of material inside the Excavation Buffer may only proceed by hand using non-conductive tools.	☐	☐	
For all equipment brought to the site, the minimum horizontal distance from any point on the equipment to the nearest overhead electrical power line must adhere to the minimum safe clearance requirements stipulated by regulation, utility companies, client requirements, and/or industry best practice.	☐	☐	
If subsurface structures are to be de-energized prior to ground disturbance activities, only trained personnel may do so via a formal, written energy isolation program.	☐	☐	
Contractor personnel should be observant during ground disturbance activities for the presence of warning signs indicating non-native soil, fill materials, and/or the presence of unexpected subsurface structures. Any evidence of warning signs, unexpected encounters with subsurface structures, or any other near misses or incidents must be immediately reported to the ERM EP or field supervisor. Contractor personnel must participate, as requested, in investigations of near misses and incidents.	☐	☐	
Other topics discussed:	☐	☐	

N/A = Not applicable to this project.

REQUIREMENTS FOR TOOLS AND EQUIPMENT:

- Hand digging tools must have a non-conductive handle (e.g., fiberglass, wood, composite) AND / OR fully insulated handles and upper shaft. It is a best practice to also wear insulated electrical gloves certified to appropriate standards.
- Blades on shovels and post-hole diggers must have rounded or blunt edges.
- Pick axes or pointed spades are not to be used for physical clearance.
- Electric-powered equipment must have ground fault protection. If this is not feasible, fully insulated electrical gloves certified to appropriate standards must be worn at all times during equipment use/operation.
- Equipment must be inspected prior to use, maintained according to manufacturer recommendations, and operated only by trained personnel.
- Rig- or stand-mounted concrete coring equipment must be anchored to the ground/floor using proper anchors.

Checklist Completed By: (SSC Experienced Person)		
Name (Print)	Name (Sign)	Date / Time

Reviewed By: (All Contractor Personnel)		
Name (Print)	Name (Sign)	Date / Time

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SUBSURFACE CLEARANCE PROJECT PLAN
Addendum to HASP
GMS Project No: 0290120

This Subsurface Clearance (SSC) Project Plan should be completed for each phase of ground disturbance activities at a project location, and included as an addendum to the Project-Specific Health & Safety Plan (HASP).

Ground disturbance activities that fall under this SSC Project Plan include ALL activities which require penetration of the ground surface (regardless of depth), and/or the drilling, coring or removal of engineered surfaces (pavement, concrete, etc.). Examples of ground disturbance activities include, but are not limited to:

- Hand digging / hand augering
- Drilling
- Direct-push or Geoprobe® borings
- Well installation
- Well decommissioning by over-drilling
- Excavation (by hand or with mechanical equipment)
- Trenching
- Grading
- Concrete coring
- Driving of posts, stakes, rods, poles, or sheet pile.

This SSC Project Plan summarizes the types and sources of SSC information obtained, describes the Site Services Model, and documents any waivers to ERM's Global SSC Process. The ERM Partner-in-Charge (PIC), Project Manager (PM), and SSC Experienced Person (EP)[1] must review and approve this SSC Project Plan, and maintain a copy (1) at the project location for the duration of ground disturbance activities and (2) in the project files.
All waivers must be approved by BOTH: (1) the ERM PIC and (2) the Business Unit Managing Partner (BU MP) or the BU MP's designee (cannot be the same person as the PIC).

Administrative Information		
	Project Name and Location: NRG Coolwater CUPA 37000 Sante Fe St. Daggett, CA	
	Scope of Ground Disturbance Activities: *Check all that apply:* ☒ Point disturbances ☐ Excavation / trenching ☐ Removal of engineered surfaces ☐ Other - Describe:	*Use field documentation to document SSC:* • *Process Checklist – broadly across the site* • *Remote/Greenfield Site Process Checklist – broadly across the site for those projects that meet these criteria and where ONLY hand digging will occur (refer to SSC Process Document Section 1.2)* • *Location Disturbance Permit – for each location inside a Critical Zone*
	SSC Project Plan Date: 3/23/2016	Field Work Start Date: 4/4/2016
	Project Manager: Signature:	Partner In Charge: Signature:
	SSC EP: Signature:	BU MP (req'd for waivers): Signature:
	List any SSC General Employees (GEs) working on this project:	

[1] SSC EP not required for project sites determined to be Remote/Greenfield sites (as defined in the ERM Global SSC Process), where ONLY hand digging will occur.

Subsurface Clearance Information Sources Summary **Document the information sources that ERM used or will use to locate Subsurface Structures on site.**	**Information Sources**	**Yes**	**No**	**N/A**	**Comments**
	Facility-provided as-built drawings, maps, site plans showing subsurface structures / utilities	☒	☐	☐	Date(s):
	Other information obtained (e.g., easements, right-of-ways, historical plot plans, current/historical aerial photographs, fire insurance plans, tank (dip) charts, SSC information obtained as part of previous site investigations, soil surveys, boring logs	☐	☐	☒	List (including dates):
	Knowledgeable Contact Person	☒	☐	☐	Who: TBD Time in Job: Time at Site:
	Utility Markouts	**Yes**	**No**	**N/A**	**Comments**
	Site is Remote/Greenfield site AND only hand digging will occur	☐	☐	☒	*If "YES", utility markouts are not required by ERM process (Note that public markouts may be legally required based on jurisdiction of project site – it is the responsibility of the PIC and PM to determine these requirements and comply)*
	Public Utility Markouts (where they are available)	☐	☐	☐	*Required where available – if not available check "N/A". If available and checked "NO", a Waiver is required (if legally able to do so).* Who:
	Private Utility Markouts	☐	☐	☐	*If checked "NO" and site is not a Remote/Greenfield site, a Waiver is required* ERM employee ☐ or Subcontractor ☐ Who: List methods / equipment used:

For Remote/Greenfield Sites where ONLY hand digging will occur – the remaining sections of this SSC Project Plan do not apply and can be left blank.

Site Services Model

List the utilities or other below ground services present on site.

Do we know the locations of these services, their conveyance on site (to the site boundary, as appropriate) and the location of isolation switches or valves?

If "Present" and not located or "Unknown", comment on how those gaps will be addressed.

Attach a site plan / drawing (to scale) showing planned ground disturbance location(s), the locations/routes of all identified or suspected subsurface structures and services, and associated critical zones.

Utility / Service	Present	Anticipated Depth (note units)	Located? Yes	Located? No	Absent	Unknown	Status (active/ inactive/ abandoned)	Comment *(how located? Lines of evidence – types and quality. How will gaps be addressed?)*
Electricity	☐		☐	☐	☐	☐		Voltage:
Gas	☐		☐	☐	☐	☐		
Petroleum Pipeline	☐		☐	☐	☐	☐		
Other Pressurized Lines	☐		☐	☐	☐	☐		Type:
Process Sewer	☐		☐	☐	☐	☐		
Sanitary Sewer	☐		☐	☐	☐	☐		
Storm Sewer	☐		☐	☐	☐	☐		
Potable Water	☐		☐	☐	☐	☐		
Telephone / Communication	☐		☐	☐	☐	☐		
Fiber Optic	☐		☐	☐	☐	☐		
Plant air / steam	☐		☐	☐	☐	☐		
Fuel / oil	☐		☐	☐	☐	☐		
Reclaimed / waste water	☐		☐	☐	☐	☐		
Fire suppression	☐		☐	☐	☐	☐		
Underground tank(s)	☐		☐	☐	☐	☐		
Other:	☐		☐	☐	☐	☐		

Subsurface Clearance Process Waivers **Document any waivers to the process approved by BOTH the PIC and BU MP.** **Legally required steps cannot be waived.**	Process Component Being Waived:	Waived By (PIC)	Waived by (BU MP)	Date	Reason
	Performance of Public Utility Markouts (where they are available)				
	Performance of Private Utility Markouts				
	No ground disturbance inside a Critical Zone				
	Physical Clearance to required depth(s) and diameters(s) at Point Disturbance Location(s). Indicate specific location(s):				
	Requirement for SSC EP to be present on site, when ONLY hand digging/hand augering will occur in the uppermost 1 foot (0.3 meters)				

Subsurface and Overhead Utility Clearance Map	**Attach a site plan / drawing (to scale) showing planned ground disturbance location(s), the locations/routes of all identified or suspected subsurface structures and services, associated critical zones, and location of all isolation devices and/or shutoff valves.**

Subsurface Clearance Location Disturbance Permit

Disturbance Location Designation:

ERM Project No.: _____

SSC Exp. Person: _____

Contact Person Approval of Ground Disturbance Locations (indicate verbal approval by printing "Verbal" in the signature space)

Name (Print)	Company	Name (Sign)	Date / Time

Critical Zone Determination and Clearance Depth (It is not preferred to initiate ground disturbance activities within a Critical Zone)

If the Disturbance Location is known or suspected to fall within a Critical Zone, then a sketch (see reverse) or other map **must be** developed showing the location of all potential utilities within 10 feet (3 m) of the disturbance location. Sketch / map must be to scale.

This Location Is:

☐ Inside a Critical Zone. Partner-in-Charge (PIC) and Business Unit Managing Partner (BU MP) must BOTH grant waiver for disturbance at this location. Ensure documentation in the SSC Project Plan addendum to the HASP. Physical Clearance for point disturbances will proceed to the deeper of: **0.6 m / 2 feet below the frost line, 0.6 m / 2 feet deeper than the expected invert elevation of the service, OR 2.4 m / 8 feet below ground level.**

☐ Outside a Critical Zone.
Physical Clearance for point disturbances will proceed to the deeper of: **0.6 m / 2 feet below the frost line or 1.5 m / 5 feet below ground level.**

Utility Markouts

Has this location been cleared through both public and private utility locates?	Y ☐	N ☐	*"N" requires waiver*

Physical Clearance Technique at This Location

☐ Cleared using the following techniques / equipment:

Clearance depth and diameter (specify units):

☐ None – or not completed to required depth or diameter. For point disturbances, this must be waived by PIC and BU MP. (Ensure documentation in the SSC Project Plan addendum to HASP.)

Reason: Date / Time:

Physical Clearance Executed & Observed By:

Company	Representative(s)	Date / Time Complete	Notes

Was any Subsurface Structure discovered (damaged or undamaged) during Clearance?

☐ No (Proceed) ☐ Yes If Yes: Work stopped and discussed with PIC (Date / Time): _____

Agreed Action: _____

SSC Process Complete

Name of SSC Experienced Person (Print)	Name (Sign)	Date / Time

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Critical Zone Determination Sketch (use this or other map to confirm proximal Critical Zones).

Instructions:

1. Create a sketch of the disturbance (in the space to left or attach) that is drawn to scale and contains the following information:
   a. The disturbance location
   b. Surface landmarks and overhead obstructions (buildings, roads, overhead lines, etc.)
   c. Critical landmarks and Subsurface Structures (tanks, transformers, wells, racks, etc.)
   d. Underground services:
      i. Identified in the Site Service Model
      ii. Marked by Public and Private utility markouts
      iii. As relayed by the Contact Person
      iv. Nearest shutoff / isolation mechanism for each
   e. Any surface clues as to potential underground services (junction boxes, drains, disturbed concrete, signage, etc.)
   f. The site property boundary
2. Use your sketch to mark Critical Zones (3m or 10 feet) around critical landmarks and underground structures / services.
3. For Excavations, use your sketch to mark Excavation Buffers (0.6m or 2 feet) from Subsurface Structures.
4. If the disturbance location falls inside the Critical Zone, the preferred course of action is step out to a safe location outside a Critical Zone.
5. Disturbance within a Critical Zone can only proceed with both PIC and BU MP (or designee) approval.

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Subsurface Clearance Field Process Checklist

Site/Project Name: _____

Client: _____

ERM Project No.: _____

SSC Exp. Person: _____

Project Information Utilized for Field SSC Activities	Yes	No	N/A	Comments
Knowledgeable Contact Person(s) requested and identified				
Contractors prequalified and approved				
ERM / client SSC requirements have been communicated to all field personnel (including contractors)				
As-built drawings, site plans, aerial photographs, and/or other information sources available and reviewed				
Site plan(s) / drawing(s) developed showing subsurface lines/structures, Critical Zones, and planned ground disturbance locations				
SSC Experienced Person (EP) with current SSC certification assigned				
Project staff with current SSC certification assigned				
UXO / MEC risks assessed: UXO / MEC is present or potentially present				If Yes, stop work and contact PIC

General Field Activity & Site Walk	Yes	No	N/A	Comments
HASP available, reviewed, and signed by project team				
Site walk visual clues / site features (below) integrated into Site Services Model				

Identified Visual Clue	Yes	No		Identified Visual Clue	Yes	No
Lights				Heated floors (in-floor radiant heating)		
Signage				Fire hydrants		
Sewer drains / cleanouts				Sprinkler systems		
Cable / pipeline markers				Water meters		
Utility poles with conduit leading to the ground				Natural gas meters		
Utility boxes				UST fill ports and vent pipes		
Manholes				Equipment / manifold locations		
Pavement scarring				Steam lines		
Distressed vegetation or vegetation in linear pattern				Remote buildings with no visible utilities		

Comments / Others:

Contact Person Approval of Ground Disturbance at All Locations (indicate verbal approval by printing "Verbal" in the signature space)

Name (Print)	Company	Name (Sign)	Date / Time

Utility Markouts	Yes	No	N/A	Comments
Public Utility Markouts completed (where available; waiver required if "NO")				
List utilities notified:				
Responses received from ALL companies notified?				
Private Utility Markout completed (waiver required if "NO");				

NOTE: Private utility markouts must be performed by competent, trained personnel. Contractors must be overseen directly by SSC EP with "eyes on" supervision".

Performed by:

Type of equipment / methods used:

Note any issues or limitations (e.g., sources of interference, geology, etc.):

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Subsurface Clearance Field Process Checklist

Site/Project Name: _____

Client: _____

ERM Project No.: _____

SSC Exp. Person: _____

Final Critical Zone determinations made by the SSC EP				

Critical Zones

Are there any ground disturbance locations known or suspected to be inside Critical Zones?

☐ **Yes.** PIC and BU MP (or designee) must BOTH grant waiver for work within the Critical Zone. The SSC Location Disturbance Permit or equivalent is required for those locations.

☐ **No.** Physical Clearance will proceed to the deeper of: 0.6 m / 2 feet below the frost line or 1.5 m / 5 feet below ground level, whichever is deeper.

Overhead Clearance	Yes	No	N/A	Comments
Overhead utility lines in the general vicinity of ERM work onsite?				
If overhead utilities are present, has nominal voltage been determined? If yes, list in comments section.				Voltage:
Overhead clearances confirmed with equipment operators for safely deploying equipment to the location? (The minimum horizontal distance from any point on the equipment to the nearest overhead electrical power line should adhere to the minimum clearance requirements stipulated by regulation, utility companies, client requirements, and/or industry best practice.)				Clearance distance(s):
Proximity alarms and /or spotters necessary to ensure safe clearances?				
If the equipment is to be closer than the minimum clearance distance to the overhead utility, can utility be de-energized via formal lockout/tagout (LOTO) program?				
If utility cannot be de-energized, alternate plan developed with approval from the PIC, H&S Team, and client/site owner?				

Clearance for Point Disturbances	Yes	No	N/A	Comments
Physical Clearance technique used: (waiver required if no Physical clearance performed)				Specify:
Diameter of physical clearance at least 125% of outside diameter of largest downhole tool (150% is best practice)				
Physical Clearance successfully completed at all locations				

Clearance for Excavations	Yes	No	N/A	Comments
Communicate excavation plan and Excavation Buffer location(s) to contractor. Delineate excavation buffers.				
There are disturbance locations known or suspected to be inside Critical Zones (waiver required if yes)				
De-energize subsurface services via formal LOTO program prior to beginning excavation				

Additional Notes:

SSC Process Completed By (SSC Experienced Person)

Name (Print)	Name (Sign)	Date / Time

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Subsurface Clearance Field Process Checklist

Site/Project Name: _____

Client: _____

ERM Project No.: _____

SSC Exp. Person: _____

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MATERIAL SAFETY DATA SHEET

ALCONOX®

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS, Australian WorkSafe, Japanese Industrial Standard JIS Z 7250:2000, and European Union REACH Regulations

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:	**ALCONOX®**
CHEMICAL FAMILY NAME:	Detergent.
PRODUCT USE:	Critical-cleaning detergent for laboratory, healthcare and industrial applications
U.N. NUMBER:	Not Applicable
U.N. DANGEROUS GOODS CLASS:	Non-Regulated Material
SUPPLIER/MANUFACTURER'S NAME:	Alconox, Inc.
ADDRESS:	30 Glenn St., Suite 309, White Plains, NY 10603. USA
EMERGENCY PHONE:	**TOLL-FREE in USA/Canada** 800-255-3924
	International calls 813-248-0585
BUSINESS PHONE:	914-948-4040
DATE OF PREPARATION:	May 2011
DATE OF LAST REVISION:	February 2008

SECTION 2 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: This product is a white granular powder with little or no odor. Exposure can be irritating to eyes, respiratory system and skin. It is a non-flammable solid. The Environmental effects of this product have not been investigated.

US DOT SYMBOLS

Non-Regulated

CANADA (WHMIS) SYMBOLS

EUROPEAN and (GHS) Hazard Symbols

Signal Word: **Warning!**

EU LABELING AND CLASSIFICATION:

Classification of the substance or mixture according to Regulation (EC) No1272/2008 Annex 1
EC# 205-633-8 This substance is not classified in the Annex I of Directive 67/548/EEC
EC# 268-356-1 This substance is not classified in the Annex I of Directive 67/548/EEC
EC# 231-838-7 This substance is not classified in the Annex I of Directive 67/548/EEC
EC# 231-767-1 This substance is not classified in the Annex I of Directive 67/548/EEC
EC# 207-638-8 Index# 011-005-00-2
EC# 205-788-1 This substance is not classified in the Annex I of Directive 67/548/EEC

GHS Hazard Classification(s):

Eye Irritant Category 2A

Hazard Statement(s):

H319: Causes serious eye irritation

Precautionary Statement(s):

P260: Do not breath dust/fume/gas/mist/vapors/spray
P264: Wash hands thoroughly after handling
P271: Use only in well ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection/

Hazard Symbol(s):

[Xi] Irritant

Risk Phrases:
R20: Harmful by inhalation
R36/37/38: Irritating to eyes, respiratory system and skin

Safety Phrases:
S8: Keep container dry
S22: Do not breath dust
S24/25: Avoid contact with skin and eyes

HEALTH HAZARDS OR RISKS FROM EXPOSURE:

ACUTE: Exposure to this product may cause irritation of the eyes, respiratory system and skin. Ingestion may cause gastrointestinal irritation including pain, vomiting or diarrhea.

CHRONIC: This product contains an ingredient which may be corrosive.

TARGET ORGANS: ACUTE: Eye, respiratory System, Skin CHRONIC: None Known

SECTION 3 - COMPOSITION and INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS:	CAS #	EINECS #	ICSC #	WT %	HAZARD CLASSIFICATION; RISK PHRASES
Sodium Bicarbonate	144-55-8	205-633-8	1044	33 - 43%	HAZARD CLASSIFICATION: None RISK PHRASES: None
Sodium (C10 – C16) Alkylbenzene Sulfonate	68081-81-2	268-356-1	Not Listed	10 – 20%	HAZARD CLASSIFICATION: None RISK PHRASES: None
Sodium Tripolyphosphate	7758-29-4	231-838-7	1469	5 - 15%	HAZARD CLASSIFICATION: None RISK PHRASES: None
Tetrasodium Pyrophosphate	7722-88-5	231-767-1	1140	5 - 15%	HAZARD CLASSIFICATION: None RISK PHRASES: None
Sodium Carbonate	497-19-8	207-638-8	1135	1 - 10%	HAZARD CLASSIFICATION: [Xi] Irritant RISK PHRASES: R36
Sodium Alcohol Sulfate	151-21-3	205-788-1	0502	1 – 5%	HAZARD CLASSIFICATION: None RISK PHRASES: None
Balance of other ingredients are non-hazardous or less than 1% in concentration (or 0.1% for carcinogens, reproductive toxins, or respiratory sensitizers).					

NOTE: ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-2004 format. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR, EU Directives and the Japanese Industrial Standard *JIS Z 7250: 2000*.

SECTION 4 - FIRST-AID MEASURES

Contaminated individuals of chemical exposure must be taken for medical attention if any adverse effect occurs. Rescuers should be taken for medical attention, if necessary. Take copy of label and MSDS to health professional with contaminated individual.

EYE CONTACT: If product enters the eyes, open eyes while under gentle running water for at least 15 minutes. Seek medical attention if irritation persists.

SKIN CONTACT: Wash skin thoroughly after handling. Seek medical attention if irritation develops and persists. Remove contaminated clothing. Launder before re-use.

INHALATION: If breathing becomes difficult, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention if breathing dificulty continues.

INGESTION: If product is swallowed, call physician or poison control center for most current information. If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow. Seek medical advice. Take a copy of the label and/or MSDS with the victim to the health professional.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing skin, or eye problems may be aggravated by prolonged contact.

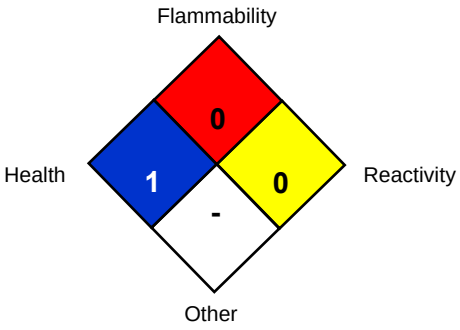
RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and reduce over-exposure.

SECTION 5 - FIRE-FIGHTING MEASURES

FLASH POINT: Not Flammable
AUTOIGNITION TEMPERATURE: Not Applicable
FLAMMABLE LIMITS (in air by volume, %): Lower (LEL): NA Upper (UEL): NA
FIRE EXTINGUISHING MATERIALS: As appropriate for surrounding fire. Carbon dioxide, foam, dry chemical, halon, or water spray.

UNUSUAL FIRE AND EXPLOSION HAZARDS: This product is non-flammable and has no known explosion hazards.
Explosion Sensitivity to Mechanical Impact: Not Sensitive.
Explosion Sensitivity to Static Discharge: Not Sensitive
SPECIAL FIRE-FIGHTING PROCEDURES: Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

NFPA RATING SYSTEM



HMIS RATING SYSTEM

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM

HEALTH HAZARD (BLUE)	1
FLAMMABILITY HAZARD (RED)	0
PHYSICAL HAZARD (YELLOW)	0

PROTECTIVE EQUIPMENT			
EYES	RESPIRATORY	HANDS	BODY
	See Sect 8		See Sect 8

For Routine Industrial Use and Handling Applications

Hazard Scale: **0** = Minimal **1** = Slight **2** = Moderate **3** = Serious **4** = Severe * = Chronic hazard

SECTION 6 - ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Personnel should be trained for spill response operations.
SPILLS: Contain spill if safe to do so. Prevent entry into drains, sewers, and other waterways. Sweep, shovel or vacuum spilled material and place in an appropriate container for re-use or disposal. Avoid dust generation if possible. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations).

SECTION 7 - HANDLING and STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing dusts generated by this product. Use in a well-ventilated location. Remove contaminated clothing immediately.

STORAGE AND HANDLING PRACTICES: Containers of this product must be properly labeled. Store containers in a cool, dry location. Keep container tightly closed when not in use. Store away from strong acids or oxidizers.

SECTION 8 - EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS/GUIDELINES:

Chemical Name	CAS#	ACGIH TWA	OSHA TWA	SWA
Sodium Bicarbonate	144-55-8	10 mg/m³ Total Dust	15 mg/m³ Total Dust	10 mg/m³ Total Dust
Sodium (C10 – C16) Alkylbenzene Sulfonate	68081-81-2	10 mg/m³ Total Dust	15 mg/m³ Total Dust	10 mg/m³ Total Dust
Sodium Tripolyphosphate	7758-29-4	10 mg/m³ Total Dust	15 mg/m³ Total Dust	10 mg/m³ Total Dust
Tetrasodium Pyrophosphate	7722-88-5	5 mg/m³	5 mg/m³	5 mg/m³
Sodium Carbonate	497-19-8	10 mg/m³ Total Dust	15 mg/m³ Total Dust	10 mg/m³ Total Dust
Sodium Alcohol Sulfate	151-21-3	10 mg/m³ Total Dust	15 mg/m³ Total Dust	10 mg/m³ Total Dust

Currently, International exposure limits are not established for the components of this product. Please check with competent authority in each country for the most recent limits in place.

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below. Use local exhaust ventilation to control airborne dust. Ensure eyewash/safety shower stations are available near areas where this product is used.

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.

RESPIRATORY PROTECTION: Based on test data, exposure limits should not be exceeded under normal use conditions when using Alconox Detergent. Maintain airborne contaminant concentrations below guidelines listed above, if applicable. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states.

EYE PROTECTION: Safety glasses. If necessary, refer to U.S. OSHA 29 CFR 1910.133 or appropriate Canadian Standards.

HAND PROTECTION: Use chemical resistant gloves to prevent skin contact.. If necessary, refer to U.S. OSHA 29 CFR 1910.138 or appropriate Standards of Canada.

BODY PROTECTION: Use body protection appropriate to prevent contact (e.g. lab coat, overalls). If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards.

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL STATE:	Solid
APPEARANCE & ODOR:	White granular powder with little or no odor.
ODOR THRESHOLD (PPM):	Not Available
VAPOR PRESSURE (mmHg):	Not Applicable
VAPOR DENSITY (AIR=1):	Not Applicable.
BY WEIGHT:	Not Available
EVAPORATION RATE (nBuAc = 1):	Not Applicable.
BOILING POINT (C°):	Not Applicable.
FREEZING POINT (C°):	Not Applicable.
pH:	9.5 (1% aqueous solution)
SPECIFIC GRAVITY 20°C: (WATER =1)	0.85 – 1.1
SOLUBILITY IN WATER (%)	>10% w/w
COEFFICIENT OF WATER/OIL DIST.:	Not Available
VOC:	None
CHEMICAL FAMILY:	Detergent

SECTION 10 - STABILITY and REACTIVITY

STABILITY: Product is stable
DECOMPOSITION PRODUCTS: When heated to decomposition this product produces Oxides of carbon (COx)
MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Strong acids and strong oxidizing agents.
HAZARDOUS POLYMERIZATION: Will not occur.
CONDITIONS TO AVOID: Contact with incompatible materials and dust generation.

SECTION 11 - TOXICOLOGICAL INFORMATION

TOXICITY DATA: Toxicity data is available for mixture:

CAS# 497-19-8 LD50 Oral (Rat)	4090 mg/kg
CAS# 497-19-8 LD50 Oral (Mouse)	6600 mg/kg
CAS# 497-19-8 LC50 Inhalation (Rat)	2300 mg/m³ 2H
CAS# 497-19-8 LC50 Inhalation (Mouse)	1200 mg/m³ 2H
CAS# 7758-29-4 LD50 Oral (Rat)	3120 mg/kg
CAS# 7758-29-4 LD50 Oral (Mouse)	3100 mg/kg
CAS# 7722-88-5 LD50 Oral (Rat)	4000 mg/kg

SUSPECTED CANCER AGENT: None of the ingredients are found on the following lists: FEDERAL OSHA Z LIST, NTP, CAL/OSHA, IARC and therefore is not considered to be, nor suspected to be a cancer-causing agent by these agencies.
IRRITANCY OF PRODUCT: Contact with this product can be irritating to exposed skin, eyes and respiratory system.
SENSITIZATION OF PRODUCT: This product is not considered a sensitizer.
REPRODUCTIVE TOXICITY INFORMATION: No information concerning the effects of this product and its components on the human reproductive system.

SECTION 12 - ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.
ENVIRONMENTAL STABILITY: No Data available at this time.
EFFECT OF MATERIAL ON PLANTS or ANIMALS: No evidence is currently available on this product's effects on plants or animals.

EFFECT OF CHEMICAL ON AQUATIC LIFE: No evidence is currently available on this product's effects on aquatic life.

SECTION 13 - DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate Federal, State, and local regulations, those of Canada, Australia, EU Member States and Japan.

SECTION 14 - TRANSPORTATION INFORMATION

US DOT; IATA; IMO; ADR:

THIS PRODUCT IS NOT HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.
PROPER SHIPPING NAME: Non-Regulated Material
HAZARD CLASS NUMBER and DESCRIPTION: Not Applicable
UN IDENTIFICATION NUMBER: Not Applicable
PACKING GROUP: Not Applicable.
DOT LABEL(S) REQUIRED: Not Applicable
NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (2004): Not Applicable
MARINE POLLUTANT: None of the ingredients are classified by the DOT as a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B)

U.S. DEPARTMENT OF TRANSPORTATION (DOT) SHIPPING REGULATIONS:
This product is not classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101.

TRANSPORT CANADA, TRANSPORTATION OF DANGEROUS GOODS REGULATIONS:
This product is not classified as Dangerous Goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA):
This product is not classified as Dangerous Goods, by rules of IATA:

INTERNATIONAL MARITIME ORGANIZATION (IMO) DESIGNATION:
This product is not classified as Dangerous Goods by the International Maritime Organization.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR):

This product is not classified by the United Nations Economic Commission for Europe to be dangerous goods.

SECTION 15 - REGULATORY INFORMATION

UNITED STATES REGULATIONS

SARA REPORTING REQUIREMENTS: This product is not subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act., as follows: None

TSCA: All components in this product are listed on the US Toxic Substances Control Act (TSCA) inventory of chemicals.

SARA 311/312:

Acute Health: Yes Chronic Health: No Fire: No Reactivity: No

U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for this product. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.

U.S. CERCLA REPORTABLE QUANTITY (RQ): None

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): None of the ingredients are on the California Proposition 65 lists.

CANADIAN REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS: All of the components of this product are on the DSL Inventory

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS: No component of this product is on the CEPA First Priorities Substance Lists.

CANADIAN WHMIS CLASSIFICATION and SYMBOLS: This product is categorized as a Controlled Product, Hazard Class D2B as per the Controlled Product Regulations

EUROPEAN ECONOMIC COMMUNITY INFORMATION:

EU LABELING AND CLASSIFICATION:

Classification of the mixture according to Regulation (EC) No1272/2008. See section 2 for details.

AUSTRALIAN INFORMATION FOR PRODUCT:

AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES (AICS) STATUS: All components of this product are listed on the AICS.

STANDARD FOR THE UNIFORM SCHEDULING OF DRUGS AND POISONS: Not applicable.

JAPANESE INFORMATION FOR PRODUCT:

JAPANESE MINISTER OF INTERNATIONAL TRADE AND INDUSTRY (MITI) STATUS: The components of this product are not listed as Class I Specified Chemical Substances, Class II Specified Chemical Substances, or Designated Chemical Substances by the Japanese MITI.

INTERNATIONAL CHEMICAL INVENTORIES:

Listing of the components on individual country Chemical Inventories is as follows:

Asia-Pac:	Listed
Australian Inventory of Chemical Substances (AICS):	Listed
Korean Existing Chemicals List (ECL):	Listed
Japanese Existing National Inventory of Chemical Substances (ENCS):	Listed
Philippines Inventory if Chemicals and Chemical Substances (PICCS):	Listed
Swiss Giftliste List of Toxic Substances:	Listed
U.S. TSCA:	Listed

SECTION 16 - OTHER INFORMATION

PREPARED BY: Paul Eigbrett Global Safety Management, 10006 Cross Creek Blvd. Suite 440, Tampa, FL 33647

Disclaimer: To the best of Alconox, Inc. knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness is not guaranteed and no warranties of any type either express or implied are provided. The information contained herein relates only to this specific product.

ANNEX:

IDENTIFIED USES OF ALCONOX® AND DIRECTIONS FOR USE

Used to clean: Healthcare instruments, laboratory ware, vacuum equipment, tissue culture ware, personal protective equipment, sampling apparatus, catheters, tubing, pipes, radioactive contaminated articles, optical parts, electronic components, pharmaceutical apparatus, cosmetics manufacturing equipment, metal castings, forgings and stampings, industrial parts, tanks and reactors. Authorized by USDA for use in federally inspected meat and poultry plants. Passes inhibitory residue test for water analysis. FDA certified.

Used to remove: Soil, grit, grime, buffing compound, slime, grease, oils, blood, tissue, salts, deposits, particulates, solvents, chemicals, radioisotopes, radioactive contaminations, silicon oils, mold release agents.

Surfaces cleaned: Corrosion inhibited formulation recommended for glass, metal, stainless steel, porcelain, ceramic, plastic, rubber and fiberglass. Can be used on soft metals such as copper, aluminum, zinc and magnesium if rinsed promptly. Corrosion testing may be advisable.

Cleaning method: Soak, brush, sponge, cloth, ultrasonic, flow through clean-inplace. Will foam—not for spray or machine use.

Directions: Make a fresh 1% solution (2 1/2 Tbsp. per gal., 1 1/4 oz. per gal. or 10 grams per liter) in cold, warm, or hot water. If available use warm water. Use cold water for blood stains. For difficult soils, raise water temperature and use more detergent. Clean by soak, circulate, wipe, or ultrasonic method. Not for spray machines, will foam. For nonabrasive scouring, make paste. Use 2% solution to soak frozen stopcocks. To remove silver tarnish, soak in 1% solution in aluminum container. RINSE THOROUGHLY—preferably with running water. For critical cleaning, do final or all rinsing in distilled, deionized, or purified water. For food contact surfaces, rinse with potable water. Used on a wide range of glass, ceramic, plastic, and metal surfaces. Corrosion testing may be advisable.

Grey arsenic As Atomic mass: 74.9 ICSC # 0013	CAS # 7440-38-2 RTECS # CG0525000 UN # 1558 EC # 033-001-00-X October 18, 1999 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames. NO contact with strong oxidizers. NO contact with hot surfaces.	Powder, water spray, foam, carbon dioxide.
EXPLOSION	Risk of fire and explosion is slight when exposed to hot surfaces or flames in the form of fine powder or dust.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE		PREVENT DISPERSION OF DUST! AVOID ALL CONTACT! AVOID EXPOSURE OF (PREGNANT) WOMEN!	IN ALL CASES CONSULT A DOCTOR!
•**INHALATION**	Cough. Sore throat. Shortness of breath. Weakness. See Ingestion.	Closed system and ventilation.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
•**SKIN**	Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse skin with plenty of water or shower.
•**EYES**	Redness.	Face shield or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•**INGESTION**	Abdominal pain. Diarrhoea. Nausea. Vomiting. Burning sensation in the throat and chest. Shock or collapse. Unconsciousness.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention.

Self-Monitoring Report
Monitoring and Reporting Program No. 98-54
Groundwater Monitoring
Coolwater Generating Station

Daggett, California

Prepared for:

NRG California South LP
Coolwater Generating Station

April 27, 2018

Prepared by:

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Introduction

This report summarizes the major events of the groundwater monitoring program for the period from September 2017 through March 2018. For continuity, the report contains a tabular listing of the analytical data collected during the previous 6-month period. The analytical data is presented in time-series plots for each of the monitoring parameters. To better display the data, the last two years have been included on the plots. The field forms for the two sampling events in the 6-month period (occurring on October 12, 2017 and February 7, 2018) are included in Appendix A. The laboratory analytical reports have been included in Appendix B along with the 4/27/2017 reports missing from the last semi-annual report. Figure 1 is a site map showing the location of sampling wells, piezometers, and site facilities.

The evaporation ponds are inspected by station personnel for evidence of any physical problems with the dikes or intake facilities. Since the station is no longer in operation, wastewater is no longer being generated and conveyed to the ponds. Inspections of the ponds still occur. However, the purpose of the inspections is to determine the condition of the ponds and if any dust control measures are necessary. Table 1 shows the dates of the pond inspections during September 2017 through March 2018. About 72 million gallons of water was conveyed to the ponds over the monitoring period for dust control. The water quality data presented on Table 6 shows the water was station service water not wastewater.

The groundwater monitoring program consists of quarterly groundwater sampling, quarterly soil moisture measurements adjacent to the ponds by use of time domain reflectometry (TDR), semi-annual groundwater gradient determination, and sampling of wastewater contained in the ponds when present. The Monitoring and Reporting Program No. 98-54 defines the monitoring points for the Impoundments as groundwater monitoring wells MW-1, MW-2, MW-4, B, and 2A. The background groundwater sample is collected from well 2A. Figure 1 shows the location of the monitoring wells. The positions of the TDR stations are presented on Figure 1 in Appendix C. Table 2 contain a description and use of each monitoring well on the site. The table shows that five wells are used to collect groundwater samples and groundwater level measurements. Six additional wells are only used for water level measurements.

There are also two wells used as piezometers for a specific purpose. A clay layer was encountered at a depth of 75 feet in each of the bore-holes for wells MW-2 and MW-4. Since this layer had the potential to create a perched zone of either leaked wastewater (MW-2) or groundwater (MW-4), it was decided to

install a piezometer about five feet from each well. These two piezometers are sounded at each quarterly event to determine if water is present. If water is present, a sample would be collected for analysis.

Changes to the Monitoring Program

The groundwater monitoring components were in good operating conditions during the October 2017 and February 2018 sampling events with a single exception at each event. The repaired sampling pump placed in well MW-4 again failed at the October event. The new pump has been ordered.

Vadose Monitoring System

In 1997, a vadose zone monitoring system was installed adjacent to the five evaporation ponds at the site. The first survey occurred on January 21, 1998. The system is composed of twenty-eight TDR waveguides installed in fourteen, forty foot deep borings. The waveguides were installed at the twenty and forty foot horizons in each drill hole. These instruments determine the soil moisture by volume of the material in which they are installed. A detailed report of the installation activities titled "Vadose Zone Monitoring System, Coolwater Generating Station" dated December 26, 1997 was submitted to the Regional Board. The report included a discussion of the geologic material encountered, the initial moisture readings, background soil moistures, and proposed action values. A survey of the system is performed each quarter.

The position of the system array is shown on Figure 1 in Appendix C. The data gathered from each probe is displayed graphically on Figures 2 through 15 in Appendix C. These graphs use all data from the inception of the soil moisture monitoring. Table 1 in Appendix C is a tabulation of the last four surveys by station. Besides the soil moisture readings, the table lists the background soil moisture and the Action Limits for each station listed in the Waste Discharge Permit No. 6-98-54. The final column lists the twenty year average soil moisture value which includes about eighty readings. The background values were determined by averaging the first four quarterly readings.

No wastewater leak from the evaporation ponds has been detected in the moisture data. Each of the stations continues to measure minor moisture changes between quarterly readings. These are normal variations since the manufacturer's operating manual indicates the measuring accuracy is plus or minus two percent of the full scale. The graphical plots show that the Action Limits have not been approached by the moisture readings. The most recent readings are similar the twenty year average data.

In January 2004, the manufacturer installed a software update in the reading electronics. This resulted in a sudden change in the readings at several of the TRD stations.

The signature of a wastewater leak has been detected twice at other facilities where the TRD system was in use. At both events, the response of the instruments was dramatic rather than subtle. Within two quarterly surveys, the soil moisture elevated from below ten percent to saturation (one hundred percent). Increased soil moistures were measured in other TRD stations moving away from the leak. After the leak was located and repaired, the soil moisture immediately began to decease at all TRD locations affected by the leak. The soil moisture readings returned to near background values within six months or two surveys.

Groundwater

Groundwater Levels

The measured depth to water and calculated groundwater elevation for the station monitoring wells on 7/20/17 and 2/7/18 are presented on Table 3. A groundwater elevation plot for the 2/7/18 measurements is shown on Figure 2. This plot illustrates an east to southeast flow direction beneath the impoundments. The 2/7/18 plot has a calculated slope between wells 2A and SWM-1 of 2.16 feet per mile. The gradient beneath the basin complex was calculated at 0.0006 foot per foot. The rate of groundwater flow can be estimated using aquifer characteristics developed for the Hydrologic Assessment Report (1986). These parameters show that the estimated flow rate is about one foot per day.

Groundwater Quality

The analytical results from groundwater samples obtained at the 10/12/17 and 2/7/18 sampling events from site monitoring wells are submitted on Table 5. Table 5 shows that the monitoring program consists of seven general mineral and three general physical parameters. Of these parameters, only nitrate has an established Maximum Contamination Level (MCL) of 10 mg/L. Time-series plots are presented on Figures 3 through 7 for the following monitoring parameters: electrical conductivity, total dissolved solids, sodium, sulfate, and chloride. Background groundwater data was collected from well 2A.

The groundwater quality beneath the evaporation ponds is influenced by two sources. The water quality in the area of well MW-4 is subject to recharge

from the alluvial fans south of the site. The groundwater in the fan deposits tends to have a higher mineral content. Wells located close to the Mojave River channel normally detect the lowest mineral concentrations.

In the past, agricultural operations adjacent to the ponds have influenced the groundwater quality at wells MW-1, MW-2, and B. Irrigation in the summer months would cause an increase in the measured parameters. A corresponding decrease would occur in the winter months with groundwater recharge to the basin. The irrigation operation apparently mobilizes constituents in the soil which are transported to the groundwater. This trend is no longer observed in the monitoring data since the agricultural operations were abandoned. The time-series plots for the last 6-months (Figures 3 through 7) show only minor fluctuations of parameters in the samples collected from the site monitoring wells.

The purpose of the groundwater monitoring is to detect any leakage from the impoundments. When available, samples of water from the ponds have been analyzed for the same parameters as the groundwater. The ponds have normally been dry since the station is presently not operating. The analytical results are included on Table 6. The concentration values for these samples have historically been extremely high. There is no indication or trend in the monitoring data that any highly saline wastewater is entering the groundwater. The variations observed on the time-series plots are normal for the station monitoring wells.

Quality Control

Table 7 contains the quality control data for the duplicate sample (Dup) collected at the 10/12/17 (well B) and 2/7/18 (well B) sampling events. The relative percentage deviation, RPD, indicates repeatability in the laboratory analysis.

Statistical Analysis

To indicate evidence of a release, the parametric interval method and inter well comparisons for sample analysis of water quality data have been utilized in this report. The four parameters compared are TDS, sodium, sulfate, and chloride. Tables have been generated to facilitate this statistical analysis. Constituent concentrations from each downgradient well are divided by the constituent concentration determined in the upgradient well. The resulting concentration ratio is compared to a predetermined test statistic calculated from historical well data. If the concentration ratio exceeds the test statistic, then this is considered a statistically significant result, the cause of which must be further investigated.

The 10/12/17 and 2/7/18 quarterly groundwater data are shown on Tables 8 and 9, respectively. The results of all calculations for the July event indicated that

there was no statistically significant event. However, the data from the February event indicated a statistically significant event for the groundwater sample collected from well MW-4 for sulfate. The calculated downstream to background ratio was 1.436 and the threshold for a statistically significant event is 1.422. The sulfate data listed on Table 5 indicates the sulfate concentration contained in the background sample (well 2A) reduced to a lower than normal value, 72 to 55 ppm, while the value recorded in the MW-4 sample remained consistent to previous quarterly samples. As viewed on Figure 2, well MW-4 is in a cross-gradient position related to the evaporation ponds. The second quarter sampling event occurred on 4/19/18 and is presently in the laboratory for analysis. The analytical report should be available in early May. When the report is available, the ratio will be calculated and the Board notified.

Conclusions

The groundwater monitoring data has not detected any release of wastewater to the soil or groundwater beneath the evaporation ponds. The vadose monitoring system has not recorded any abnormal soil moisture trends. There is no surface evidence of a release at the impoundments such as vegetation loss or unusual soil discoloration. No sludge was detected in the Pond Sump while the grab sample was collected. The groundwater elevation data indicates a normal flow direction to the southeast beneath the ponds. No mound has been detected on the groundwater surface that would be indicative of a leaking pond. The analytical groundwater data collected from the compliance wells shows normal trends anticipated from past monitoring.

Table 1

Freeboard Measurements -- Wastewater Evaporation Ponds
Coolwater Generating Station

Pond ID	POND 1	POND 2	POND 3	POND 4	POND 5
Minimum Permited Freeboard (feet)	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
Date					
10/17/2017	7.00	6.99	7.00	7.00	6.95
11/14/2017	7.00	6.99	7.00	7.00	6.95
12/14/2017	7.00	6.99	7.00	7.00	6.95
1/18/2018	7.00	6.99	7.00	7.00	6.95
2/20/2018	7.00	6.99	7.00	7.00	6.95
3/14/2018	7.00	6.99	7.00	7.00	6.95
4/19/2018	7.00	6.99	7.00	7.00	6.95

Table 2

Description and Use of Monitoring Wells
Coolwater Generating Station

Well No.	Elevation Top of Casing (feet)	Well Depth (feet)	Well Diameter (inches)	Perforated Interval (feet)	Depth to Pump Intake (feet) (Measured from top of casing)	Type of Pump
Well Use: Groundwater Sampling and Measuring Groundwater Levels						
MW-1	1952.11	250	6	100-250	200	Redi-Flo 2
MW-2	1952.92	250	6	100-250	200	Redi-Flo 2
MW-4	1974.55	284	6	121-284	225	Redi-Flo 2
2A	1953.76	403	14	163-403	300	Turbine
B	1948.65	320	20	120-320	200	Redi-Flo 2
Well Use: Measuring Groundwater Levels						
1A	1940.28	400	16	160-400	180	Grundfos
13	1960.65	300	16	200-300	205	Grundfos
C	1936.90	360	20	160-360	340	Grundfos
SWM-1	1944.55	208	4	50-208	----------	----------
Domestic	1960.60	300	8	200-300	280	Grundfos
MW-3	1942.63	250	6	100-250	----------	----------
Well Use: Potential Perched Water						
MW-2A	1952.69	75	2	65-75	----------	----------
MW-4A	1969.49	75	2	65-75	----------	----------

Table 3

Groundwater Elevations
Coolwater Generating Station

Well No.	Well Elevation	Depth to Water 7/20/17	Water Elevation 7/20/17	Depth to Water 2/7/18	Water Elevation 2/7/18
MW-1	1952.11	180.71	1771.40	180.76	1771.35
MW-2	1952.92	181.80	1771.12	181.87	1771.05
MW-4	1974.55	203.54	1771.01	203.88	1770.67
2A	1953.76	180.75	1773.01	181.29	1772.47
B	1948.65	178.63	1770.02	178.69	1769.96
13	1960.65	188.21	1772.44	188.42	1772.23
1A	1940.28	169.25	1771.03	169.46	1770.82
C	1936.90	166.24	1770.66	166.46	1770.44
SWM-1	1944.55	177.65	1766.90	176.18	1768.37
DW	1960.60	187.54	1773.06	188.20	1772.40
MW-3	1942.63	168.48	1774.15	168.58	1774.05

Table 4

Groundwater Elevations
Coolwater Generating Station

Piezometer No.	Date	Comment
MW-2A	4/27/2017	Well was Dry
	7/20/2017	Well was Dry
	10/12/2017	Well was Dry
	2/7/2018	Well was Dry
MW-4A	4/27/2017	Well was Dry
	7/20/2017	Well was Dry
	10/12/2017	Well was Dry
	2/7/2018	Well was Dry
MW-5	4/27/2017	Well was Dry
	7/20/2017	Well was Dry
	10/12/2017	Well was Dry
	2/7/2018	Well was Dry

Table 5

Groundwater Chemistry -- Coolwater Generating Station

Well No.	Date	EC	pH	Mg	Na	K	SO4	Cl	NO3-N	F	TDS
	Units	uS	units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	MCL	*	*	*	*	*	*	*	10	*	*
MW-1	4/27/2017	750	7.7		59		110	72			430
	7/20/2017	870	7.8		81		100	80			520
	10/12/2017	780	7.8		59		100	69			470
	2/7/2018	770	7.6	14.3	65	3.6	100	75	1.8	0.38	450
MW-2	4/27/2017	920	8.1		110		120	100			530
	7/20/2017	1,000	7.9		100		120	110			600
	10/12/2017	1,000	7.9		100		120	110			600
	2/7/2018	1,000	7.8	14.1	100	3.6	120	100	2.7	0.56	590
MW-4	4/27/2017	Pump Failure									
	7/20/2017	600	8.1		85		74	37			380
	10/12/2017	Pump Failure									
	2/7/2018	580	8.2	4.2	88	2.1	79	39	1.2	0.49	360
2A	4/27/2017	730	7.9		73		89	74			430
	7/20/2017	620	8		60		72	67			360
	10/12/2017	630	8.1		63		72	68			350
	2/7/2018	550	8.2	8.8	70	3.5	55	92	ND	0.37	290
B	4/27/2017	910	7.9		97		110	89			540
	7/20/2017	930	7.9		98		110	86			550
	10/12/2017	1,000	7.9		100		110	84			580
	2/7/2018	850	8	13.2	100	3.6	100	96	0.3	0.38	490

Note: * indicates that an MCL has not been established

Table 6

Evaporation Pond Wastewater Chemistry -- Coolwater Generating Station

Pond No.	Date	EC	pH	Mg	Na	K	SO4	Cl	NO3-N	F	TDS
	Units	uS	units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	MCL	*	*	*	*	*	*	*	10		*
Pond 1	4/27/2017	Pond was Dry									
	7/20/2017	Pond was Dry									
	10/12/2017	Pond was Dry									
	2/7/2018	Pond was Dry									
Pond 2	4/27/2017	Pond was Dry									
	7/20/2017	Pond was Dry									
	10/12/2017	Pond was Dry									
	2/7/2018	Pond was Dry									
Pond 3	4/27/2017	Pond was Dry									
	7/20/2017	Pond was Dry									
	10/12/2017	Pond was Dry									
	2/7/2018	Pond was Dry									
Pond 4	4/27/2017	Pond was Dry									
	7/20/2017	Pond was Dry									
	10/12/2017	Pond was Dry									
	2/7/2018	Pond was Dry									

Note: * indicates that an MCL has not been established

Table 6

Evaporation Pond Wastewater Chemistry -- Coolwater Generating Station

Pond No.	Date	EC	pH	Mg	Na	K	SO4	Cl	NO3-N	F	TDS
	Units	uS	units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	MCL	*	*	*	*	*	*	*	10		*
Pond 5	4/27/2017	Pond was Dry									
	7/20/2017	Pond was Dry									
	10/12/2017	Pond was Dry									
	2/7/2018	Pond was Dry									
Pond Sump	4/27/2017	420	8		38		44	32			240
	7/20/2017	900	7.9		75		110	93			550
	10/12/2017	920	8		74		110	91			550
	2/7/2018	490	8.1	7	47	2.3	57	42	1.6	0.55	280

Note: * indicates that an MCL has not been established

Table 7

Quarterly Sampling -- Quality Control
Coolwater Generating Station

10/12/17 Sampling Event				
Parameter	**Units**	**B**	**Dup**	**RPD**
EC	uS	1000	1000	0
pH	units	7.9	7.9	0
Sodium	mg/l	100	98	2
Sulfate	mg/l	110	110	0
Chloride	mg/l	84	85	1
TDS	mg/l	580	580	0

2/7/18 Sampling Event				
Parameter	**Units**	**B**	**Dup**	**RPD**
EC	uS	850	860	1
pH	units	8.0	8.0	0
Sodium	mg/l	100	99	1
Sulfate	mg/l	100	100	0
Chloride	mg/l	96	97	1
TDS	mg/l	490	480	2

Statistical Analysis -- Groundwater Data
Coolwater Generating Station

Table 8

Constituent: **Na** Date: 10/12/17

Downstream Well	Downstream Concentration (ppm)	Background Well	Background Concentration (ppm)	Ratio: Downstream / Background	Significant Event if Ratio is greater than	Mark if Significant
MW-1	59	2A	63	0.937	4.501	
MW-2	100	2A	63	1.587	3.925	
B	100	2A	63	1.587	3.270	
MW-4		2A	63	0.000	2.431	

Constituent: **SO4** Date: 10/12/17

Downstream Well	Downstream Concentration (ppm)	Background Well	Background Concentration (ppm)	Ratio: Downstream / Background	Significant Event if Ratio is greater than	Mark if Significant
MW-1	100	2A	72	1.389	6.540	
MW-2	120	2A	72	1.667	3.685	
B	110	2A	72	1.528	7.280	
MW-4		2A	72	0.000	1.422	

Constituent: **Cl** Date: 10/12/17

Downstream Well	Downstream Concentration (ppm)	Background Well	Background Concentration (ppm)	Ratio: Downstream / Background	Significant Event if Ratio is greater than	Mark if Significant
MW-1	69	2A	68	1.015	7.708	
MW-2	110	2A	68	1.618	4.334	
B	84	2A	68	1.235	7.766	
MW-4		2A	68	0.000	2.347	

Constituent: **TDS** Date: 10/12/17

Downstream Well	Downstream Concentration (ppm)	Background Well	Background Concentration (ppm)	Ratio: Downstream / Background	Significant Event if Ratio is greater than	Mark if Significant
MW-1	470	2A	350	1.343	6.286	
MW-2	600	2A	350	1.714	3.393	
B	580	2A	350	1.657	9.525	
MW-4		2A	350		2.824	

Table 9

Statistical Analysis -- Groundwater Data
Coolwater Generating Station

Constituent: **Na** Date: 2/7/18

Downstream Well	Downstream Concentration (ppm)	Background Well	Background Concentration (ppm)	Ratio: Downstream / Background	Significant Event if Ratio is greater than	Mark if Significant
MW-1	65	2A	70	0.929	4.501	
MW-2	100	2A	70	1.429	3.925	
B	100	2A	70	1.429	3.270	
MW-4	88	2A	70	1.257	2.431	

Constituent: **SO4** Date: 2/7/18

Downstream Well	Downstream Concentration (ppm)	Background Well	Background Concentration (ppm)	Ratio: Downstream / Background	Significant Event if Ratio is greater than	Mark if Significant
MW-1	100	2A	55	1.818	6.540	
MW-2	120	2A	55	2.182	3.685	
B	100	2A	55	1.818	7.280	
MW-4	79	2A	55	1.436	1.422	**X**

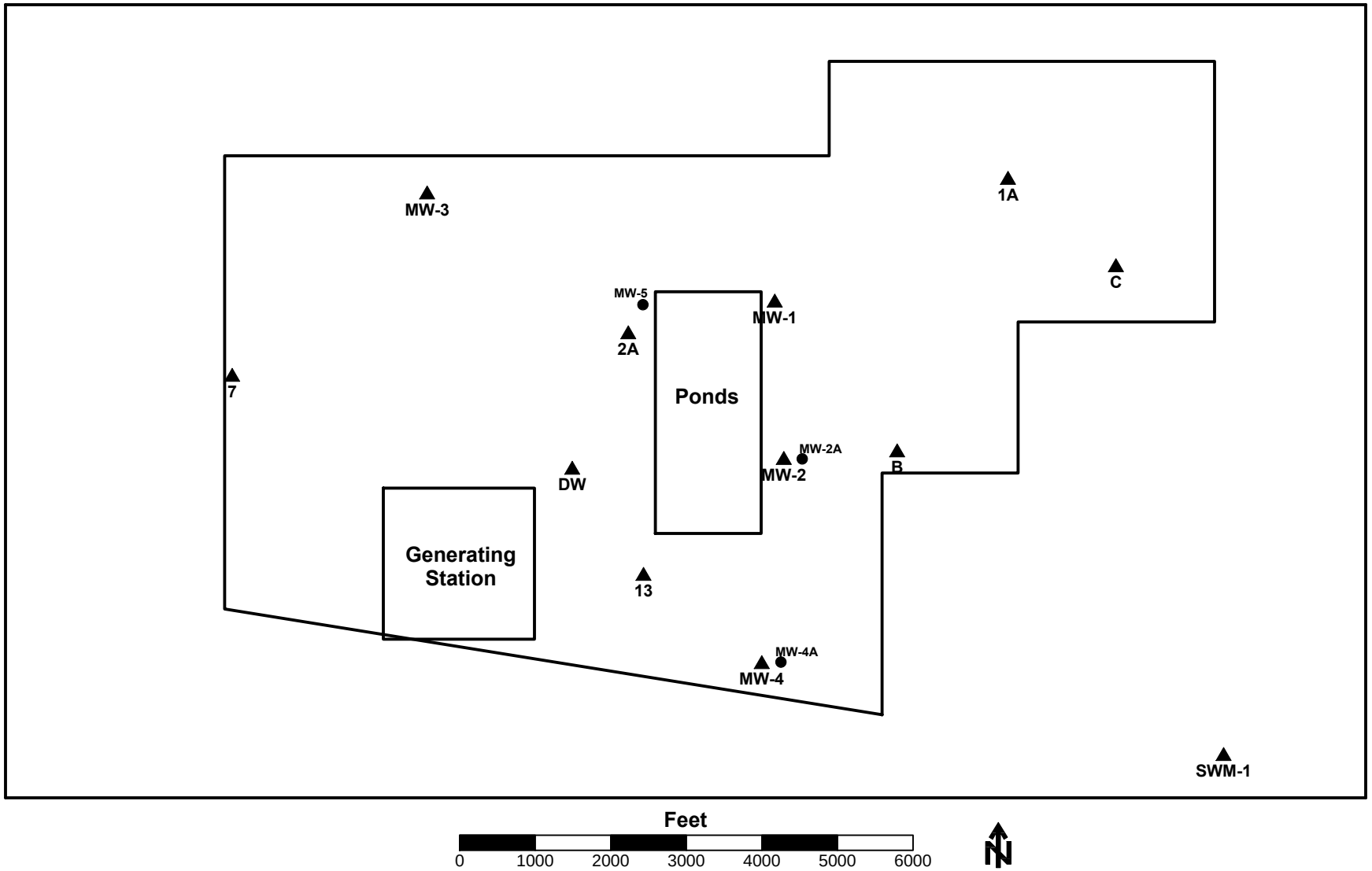
Constituent: **Cl** Date: 2/7/18

Downstream Well	Downstream Concentration (ppm)	Background Well	Background Concentration (ppm)	Ratio: Downstream / Background	Significant Event if Ratio is greater than	Mark if Significant
MW-1	75	2A	92	0.815	7.708	
MW-2	100	2A	92	1.087	4.334	
B	96	2A	92	1.043	7.766	
MW-4	39	2A	92	0.424	2.347	

Constituent: **TDS** Date: 2/7/18

Downstream Well	Downstream Concentration (ppm)	Background Well	Background Concentration (ppm)	Ratio: Downstream / Background	Significant Event if Ratio is greater than	Mark if Significant
MW-1	450	2A	290	1.552	6.286	
MW-2	590	2A	290	2.034	3.393	
B	490	2A	290	1.690	9.525	
MW-4	360	2A	290	1.241	2.824	

Groundwater Sampling Well and Piezometer Locations
Coolwater Generating Station

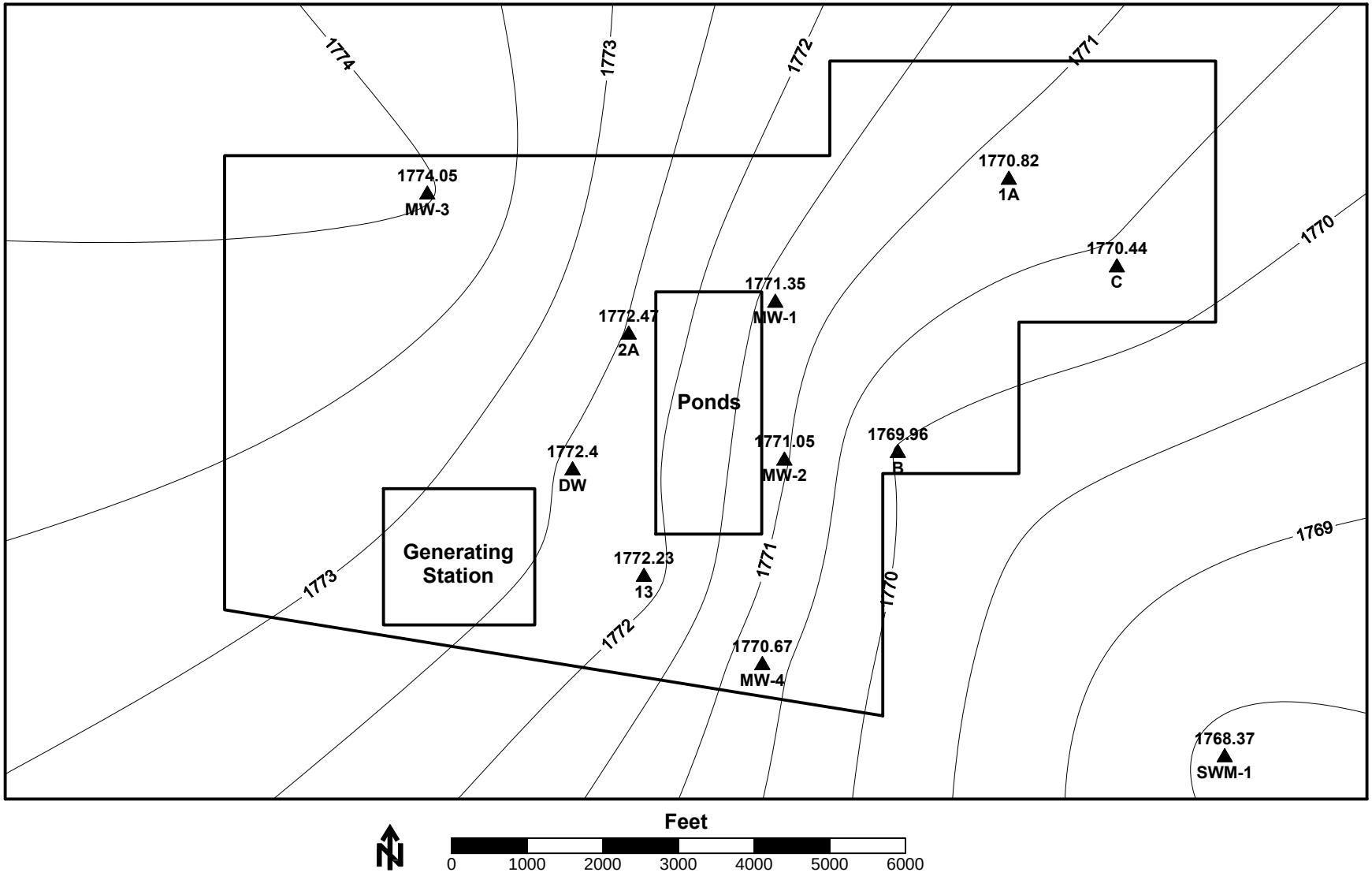


▲ Location of Sampling Well with ID Posted Below

● Location of Piezometer

Figure 1

Groundwater Elevation -- 2/7/18
Coolwater Generating Station



▲ Location of Well with ID Posted Below
Depth to Water Measurements and Samples

Figure 2

Electrical Conductivity

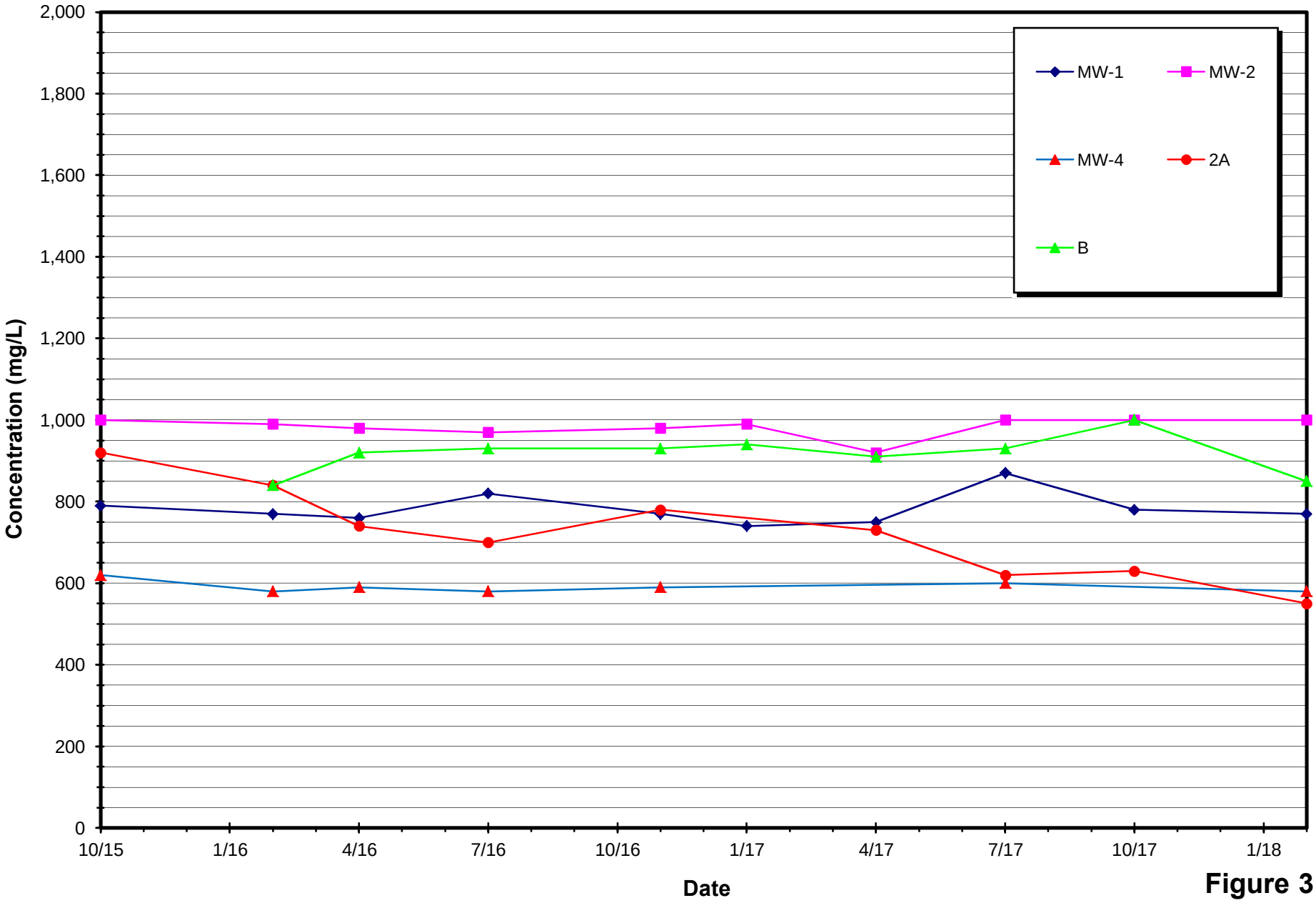


Figure 3

Total Dissolved Solids

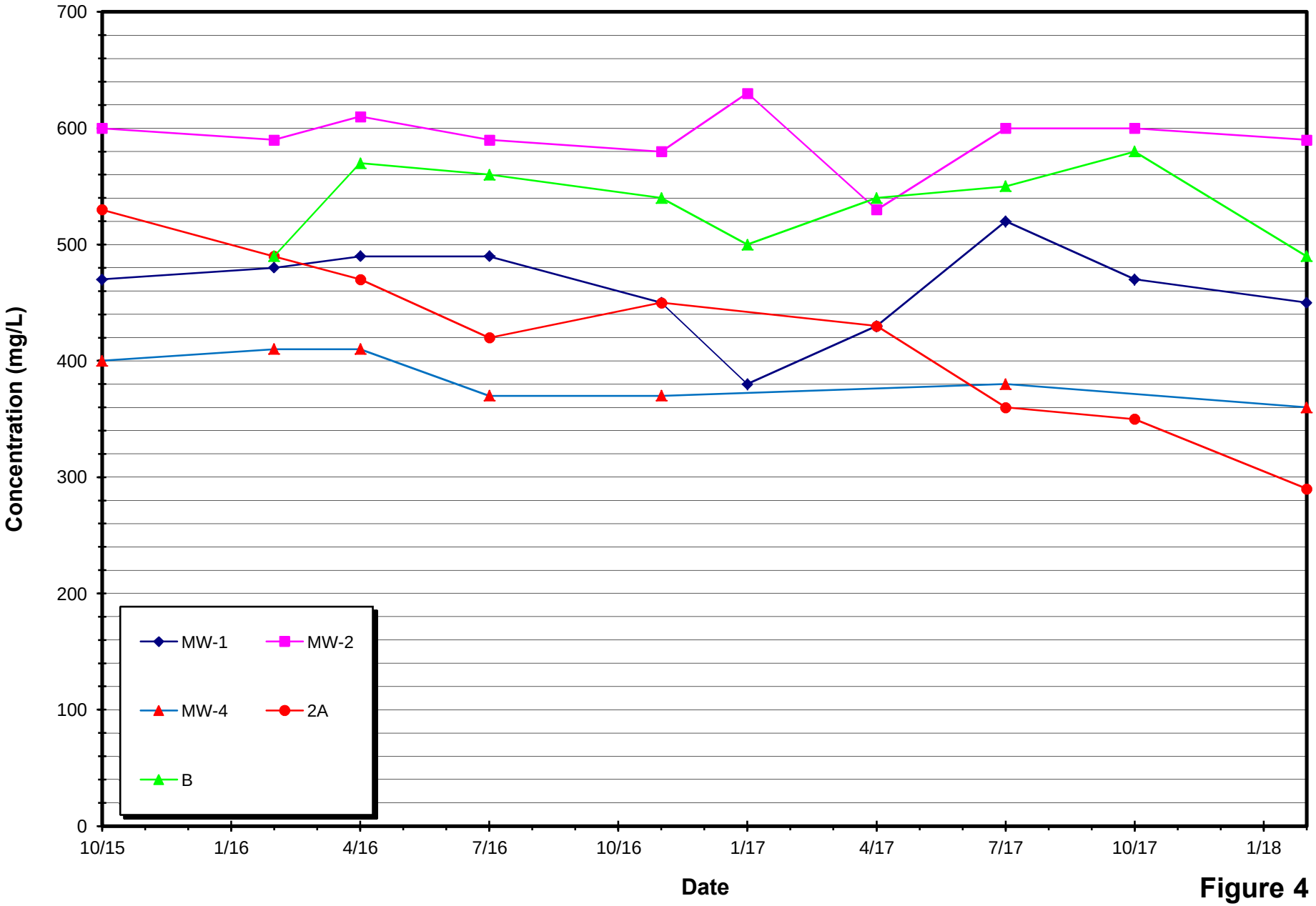


Figure 4

Sodium Concentration

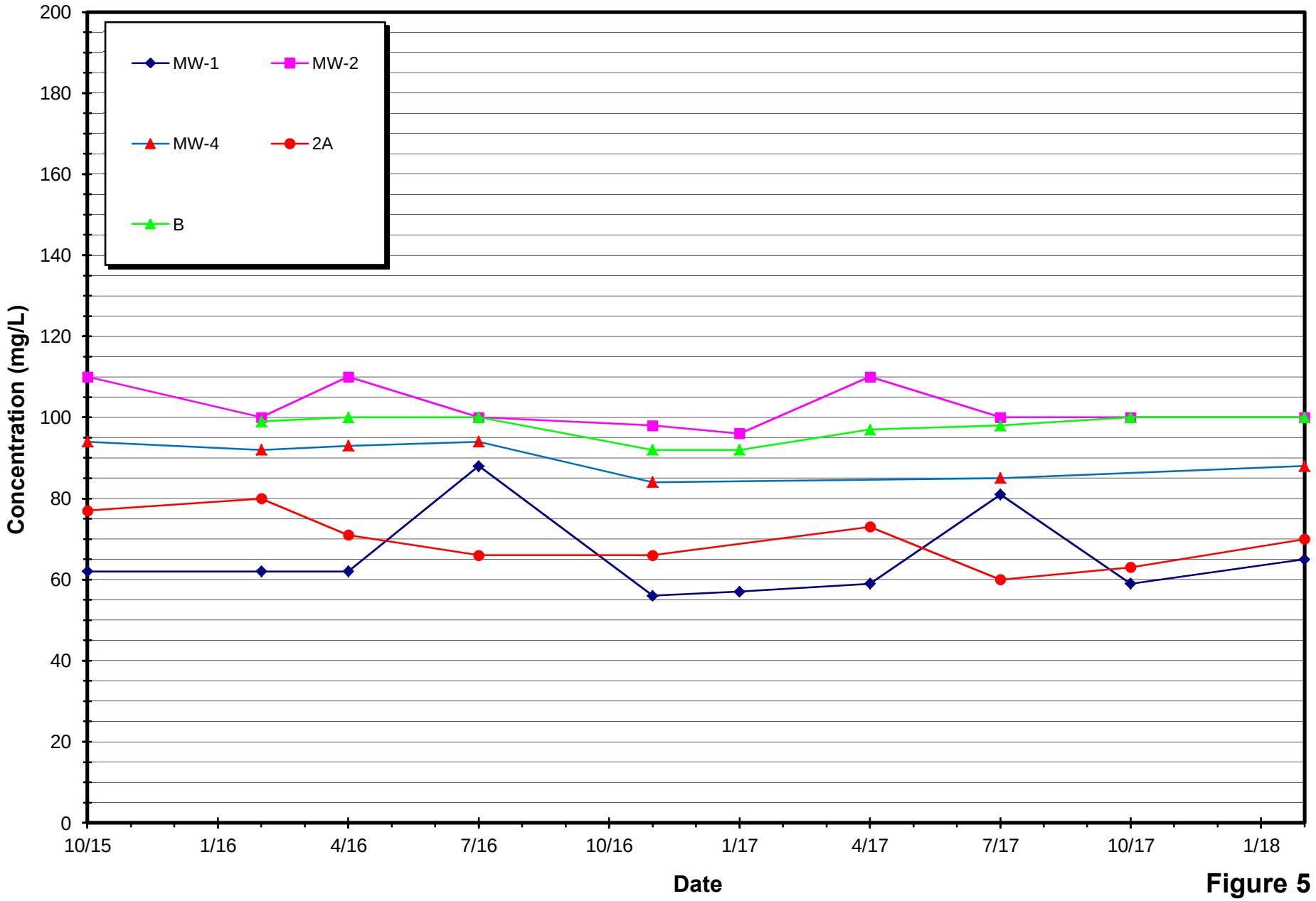


Figure 5

Sulfate Concentration

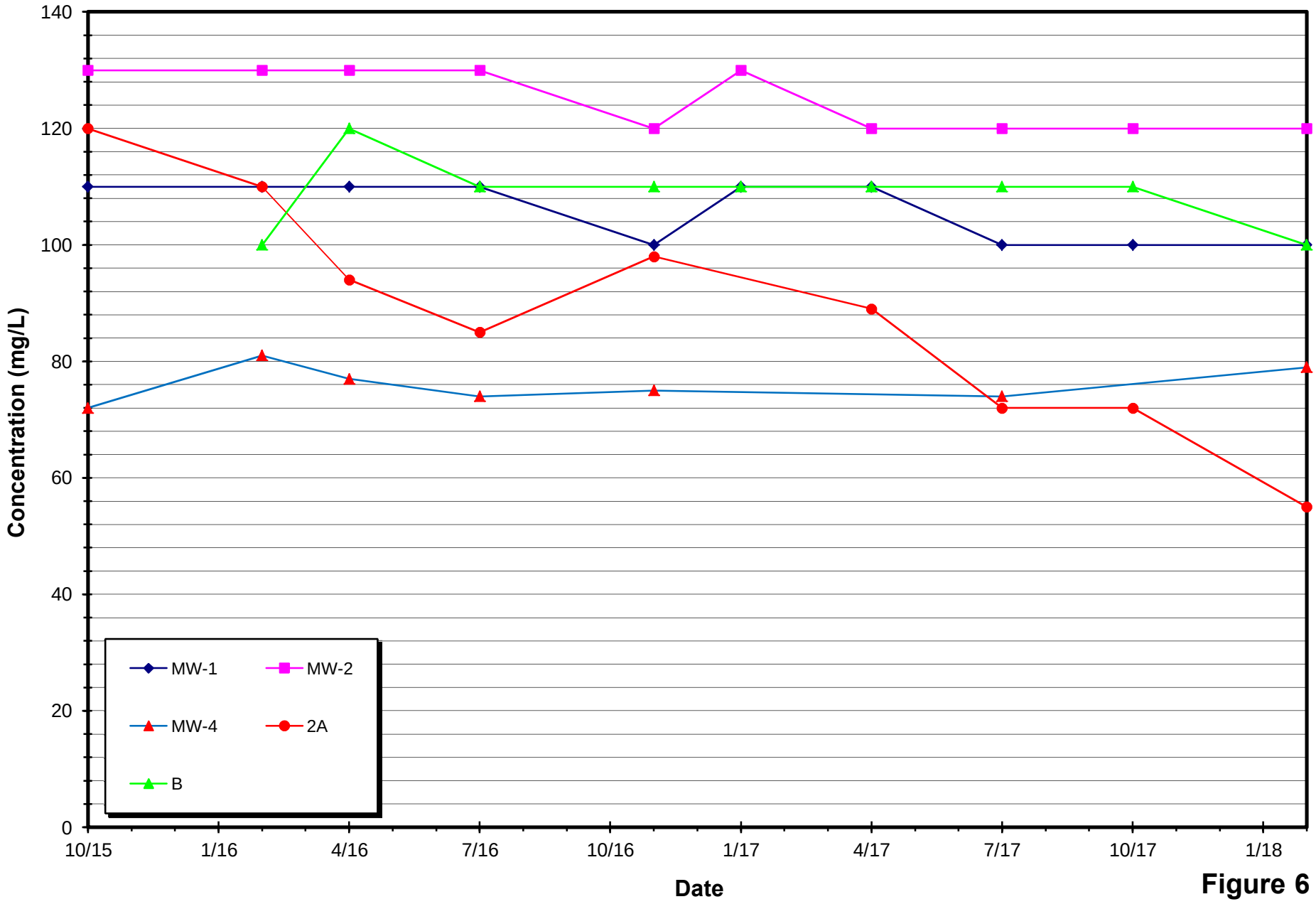


Figure 6

Chloride Concentration

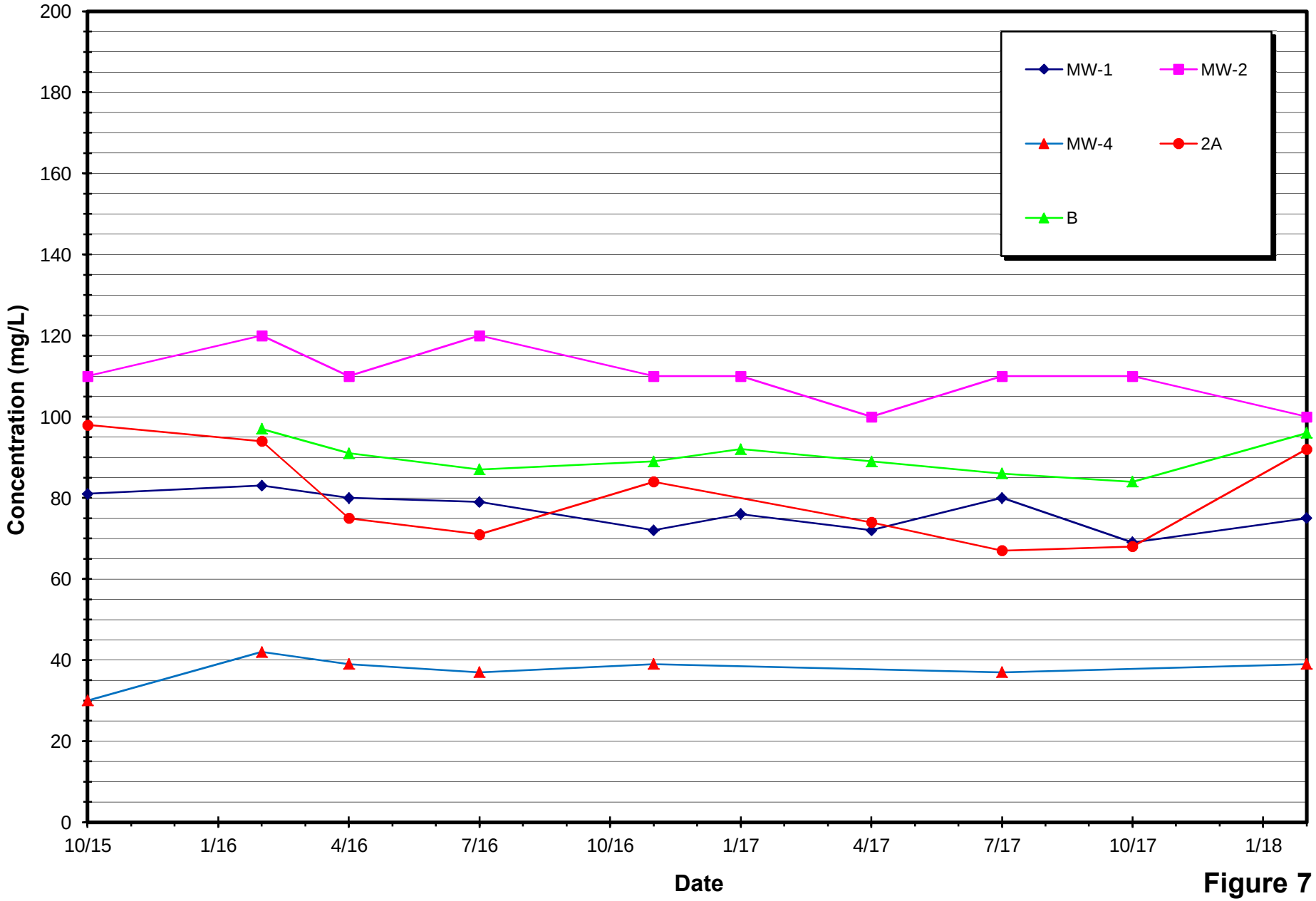


Figure 7

Appendix A: Field Forms

10/12/17 Sampling Event
2/7/18 Sampling Event

Coolwater Generating Station
Groundwater Quality Monitoring

Second and Fourth Quarter Sampling

Performed by: P. HAMILTON

Well ID	Date	Time	Sample ID
MW-1	10/12/17	1020	MW1
MW-2		1005	MW2
MW-2A		—	—
MW-4		—	—
MW-4A		—	—
MW-5		—	—
1A		—	—
2A		0855	2A
B		0930	B
C		0810	C
13		0840	13
Duplicate		0940	DUP

Comments: 1A FAILED PUMP MOTOR

MW4 PUMP FAILURE

Coolwater Generating Station
Groundwater Quality Monitoring

Sampling Location	Date	Time	Sample ID
Pond 1	10/12/17		DRY
Pond 2			
Pond 3			
Pond 4			
Pond 5			
Pond Sump		1040	PS

Comments:

Coolwater Generating Station
Groundwater Quality Monitoring

First and Third Quarter Sampling

Performed by: P. HAMILTON

Well ID	Date	Time	Water Depth	Temp C	Sample ID
MW-1	2/7/18	0830	180.76	17.8	MW1
MW-2	2/7/18	1040	181.87	19.9	MW2
MW-2A	2/7/18	—	—	—	—
MW-4	2/7/18	0955	203.88	22.4	MW4
MW-4A	2/7/18	—	—	—	—
MW-5	2/7/18	—	—	—	—
1A	2/7/18	—	—	—	Electrical Problem
2A	2/7/18	0740	181.29	17.3	2A
B	2/7/18	0850	178.69	19.4	B
C	2/7/18	0800	166.46	16.3	C
13	2/7/18	0910	188.42	19.8	13
Duplicate	2/7/18	—	—	—	DUP

Comments:

SWM-1 176.18

DW 188.20

MW-3 168.58

Coolwater Generating Station
Groundwater Quality Monitoring

Sampling Location	Date	Time	Sample ID
Pond 1	2/7/18	/	DRY
Pond 2	/	/	/
Pond 3	/	/	/
Pond 4	/	/	/
Pond 5	/	/	/
Pond Sump	2/7/18	1125	PS

Comments:

Appendix B: Laboratory Reports

4/27/17 Sampling Event
10/12/17 Sampling Event
2/7/18 Sampling Event

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders: 7D27049

Project: Coolwater

Attn: Mr. Pat Hamilton

Client: Hamilton Geotechnical
2715 Altamira Circle
West Covina, CA 91792

Report Date: 5/18/2017
Received Date: 4/27/2017
Turnaround Time: Normal
Phones: (626) 422-0523
Fax: (626) 913-5476
P.O. #:
Billing Code:

Dear Mr. Pat Hamilton,

Enclosed are the results of analyses for samples received 4/27/17 with the Chain-of-Custody document. The samples were received in good condition, at 2.3 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Sample Results

Sample: C
7D27049-01 (Water)
Sampled: 04/27/17 8:10 by P. Hamilton

Analyte		Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7	**Batch ID:** W7D1512	**Instr:** ICP02		**Prepared:** 04/27/17 17:35			**Analyst:** JCK
Sodium, Total		**38**	0.50	mg/l	1	05/14/17 15:43	
Method: EPA 300.0	**Batch ID:** W7E0363	**Instr:** LC12		**Prepared:** 05/05/17 15:14			**Analyst:** jan
Chloride, Total		**31**	0.50	mg/l	1	05/07/17 17:51	
Sulfate as SO4		**42**	0.50	mg/l	1	05/07/17 17:51	
Method: SM 2510B	**Batch ID:** W7E0011	**Instr:** AA02		**Prepared:** 05/01/17 10:51			**Analyst:** stg
Specific Conductance (EC)		**400**	2.0	umhos/cm	1	05/01/17 13:16	
Method: SM 2540C	**Batch ID:** W7D1537	**Instr:** Inst		**Prepared:** 04/28/17 10:32			**Analyst:** stg
Total Dissolved Solids		**230**	10	mg/l	1	04/28/17 17:31	
Method: SM 4500H+-B	**Batch ID:** W7D1497	**Instr:** AA02		**Prepared:** 04/27/17 16:04			**Analyst:** stg
pH		**7.43**	0.10	Units	1	04/27/17 18:03	*

Sample: 2A
7D27049-02 (Water)
Sampled: 04/27/17 7:55 by P. Hamilton

Analyte		Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7	**Batch ID:** W7D1512	**Instr:** ICP02		**Prepared:** 04/27/17 17:35			**Analyst:** JCK
Sodium, Total		**73**	0.50	mg/l	1	05/14/17 15:46	
Method: EPA 300.0	**Batch ID:** W7E0363	**Instr:** LC12		**Prepared:** 05/05/17 15:14			**Analyst:** jan
Chloride, Total		**74**	0.50	mg/l	1	05/07/17 17:51	
Sulfate as SO4		**89**	0.50	mg/l	1	05/07/17 17:51	
Method: SM 2510B	**Batch ID:** W7E0011	**Instr:** AA02		**Prepared:** 05/01/17 10:51			**Analyst:** stg
Specific Conductance (EC)		**730**	2.0	umhos/cm	1	05/01/17 13:16	

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Sample Results

(Continued)

Sample: 2A — Sampled: 04/27/17 7:55 by P. Hamilton

7D27049-02 (Water) (Continued)

Analyte		Result	MRL	Units	Dil	Analyzed	Qualifier
Method: SM 2540C	**Batch ID:** W7D1537	**Instr:** Inst		**Prepared:** 04/28/17 10:32			**Analyst:** stg
Total Dissolved Solids		**430**	10	mg/l	1	04/28/17 17:31	
Method: SM 4500H+-B	**Batch ID:** W7D1497	**Instr:** AA02		**Prepared:** 04/27/17 16:04			**Analyst:** stg
pH		**7.86**	0.10	Units	1	04/27/17 18:03	*

Sample: 1A — Sampled: 04/27/17 8:25 by P. Hamilton

7D27049-03 (Water)

Analyte		Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7	**Batch ID:** W7D1512	**Instr:** ICP02		**Prepared:** 04/27/17 17:35			**Analyst:** JCK
Sodium, Total		**42**	0.50	mg/l	1	05/14/17 15:49	
Method: EPA 300.0	**Batch ID:** W7E0363	**Instr:** LC12		**Prepared:** 05/05/17 15:14			**Analyst:** jan
Chloride, Total		**33**	0.50	mg/l	1	05/07/17 17:51	
Sulfate as SO4		**45**	0.50	mg/l	1	05/07/17 17:51	
Method: SM 2510B	**Batch ID:** W7E0011	**Instr:** AA02		**Prepared:** 05/01/17 10:51			**Analyst:** stg
Specific Conductance (EC)		**440**	2.0	umhos/cm	1	05/01/17 13:16	
Method: SM 2540C	**Batch ID:** W7D1537	**Instr:** Inst		**Prepared:** 04/28/17 10:32			**Analyst:** stg
Total Dissolved Solids		**260**	10	mg/l	1	04/28/17 17:31	
Method: SM 4500H+-B	**Batch ID:** W7D1497	**Instr:** AA02		**Prepared:** 04/27/17 16:04			**Analyst:** stg
pH		**7.56**	0.10	Units	1	04/27/17 18:03	*

Sample: B — Sampled: 04/27/17 8:55 by P. Hamilton

7D27049-04 (Water)

Analyte		Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7	**Batch ID:** W7D1512	**Instr:** ICP02		**Prepared:** 04/27/17 17:35			**Analyst:** JCK
Sodium, Total		**97**	0.50	mg/l	1	05/14/17 15:52	
Method: EPA 300.0	**Batch ID:** W7E0363	**Instr:** LC12		**Prepared:** 05/05/17 15:14			**Analyst:** jan
Chloride, Total		**89**	1.0	mg/l	2	05/07/17 17:51	
Sulfate as SO4		**110**	1.0	mg/l	2	05/07/17 17:51	
Method: SM 2510B	**Batch ID:** W7E0011	**Instr:** AA02		**Prepared:** 05/01/17 10:51			**Analyst:** stg
Specific Conductance (EC)		**910**	2.0	umhos/cm	1	05/01/17 13:16	
Method: SM 2540C	**Batch ID:** W7D1537	**Instr:** Inst		**Prepared:** 04/28/17 10:32			**Analyst:** stg
Total Dissolved Solids		**540**	10	mg/l	1	04/28/17 17:31	
Method: SM 4500H+-B	**Batch ID:** W7D1497	**Instr:** AA02		**Prepared:** 04/27/17 16:04			**Analyst:** stg
pH		**7.93**	0.10	Units	1	04/27/17 18:03	*

Sample: MW2 — Sampled: 04/27/17 9:10 by P. Hamilton

7D27049-05 (Water)

Analyte		Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7	**Batch ID:** W7D1512	**Instr:** ICP02		**Prepared:** 04/27/17 17:35			**Analyst:** JCK
Sodium, Total		**110**	0.50	mg/l	1	05/14/17 15:55	
Method: EPA 300.0	**Batch ID:** W7E0363	**Instr:** LC12		**Prepared:** 05/05/17 15:14			**Analyst:** jan
Chloride, Total		**100**	1.0	mg/l	2	05/07/17 17:51	
Sulfate as SO4		**120**	1.0	mg/l	2	05/07/17 17:51	
Method: SM 2510B	**Batch ID:** W7E0011	**Instr:** AA02		**Prepared:** 05/01/17 10:51			**Analyst:** stg

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Sample Results

(Continued)

Sample: MW2 — Sampled: 04/27/17 9:10 by P. Hamilton

7D27049-05 (Water) (Continued)

Analyte		Result	MRL	Units	Dil	Analyzed	Qualifier
Method: SM 2510B (Continued)	**Batch ID:** W7E0011	**Instr:** AA02		**Prepared:** 05/01/17 10:51			**Analyst:** stg
Specific Conductance (EC)		**920**	2.0	umhos/cm	1	05/01/17 13:16	
Method: SM 2540C	**Batch ID:** W7D1537	**Instr:** Inst		**Prepared:** 04/28/17 10:32			**Analyst:** stg
Total Dissolved Solids		**530**	10	mg/l	1	04/28/17 17:31	
Method: SM 4500H+-B	**Batch ID:** W7D1497	**Instr:** AA02		**Prepared:** 04/27/17 16:04			**Analyst:** stg
pH		**8.11**	0.10	Units	1	04/27/17 18:03	*

Sample: MW1 — Sampled: 04/27/17 9:25 by P. Hamilton

7D27049-06 (Water)

Analyte		Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7	**Batch ID:** W7D1512	**Instr:** ICP02		**Prepared:** 04/27/17 17:35			**Analyst:** JCK
Sodium, Total		**59**	0.50	mg/l	1	05/14/17 15:58	
Method: EPA 300.0	**Batch ID:** W7E0363	**Instr:** LC12		**Prepared:** 05/05/17 15:14			**Analyst:** jan
Chloride, Total		**72**	1.0	mg/l	2	05/07/17 17:51	
Sulfate as SO4		**110**	1.0	mg/l	2	05/07/17 17:51	
Method: SM 2510B	**Batch ID:** W7E0011	**Instr:** AA02		**Prepared:** 05/01/17 10:51			**Analyst:** stg
Specific Conductance (EC)		**750**	2.0	umhos/cm	1	05/01/17 13:16	
Method: SM 2540C	**Batch ID:** W7D1537	**Instr:** Inst		**Prepared:** 04/28/17 10:32			**Analyst:** stg
Total Dissolved Solids		**430**	10	mg/l	1	04/28/17 17:31	
Method: SM 4500H+-B	**Batch ID:** W7D1497	**Instr:** AA02		**Prepared:** 04/27/17 16:04			**Analyst:** stg
pH		**7.74**	0.10	Units	1	04/27/17 18:03	*

Sample: PS — Sampled: 04/27/17 9:30 by P. Hamilton

7D27049-07 (Water)

Analyte		Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7	**Batch ID:** W7D1512	**Instr:** ICP02		**Prepared:** 04/27/17 17:35			**Analyst:** JCK
Sodium, Total		**38**	0.50	mg/l	1	05/14/17 16:01	
Method: EPA 300.0	**Batch ID:** W7E0363	**Instr:** LC12		**Prepared:** 05/05/17 15:14			**Analyst:** jan
Chloride, Total		**32**	1.0	mg/l	2	05/07/17 17:51	
Sulfate as SO4		**44**	1.0	mg/l	2	05/07/17 17:51	
Method: SM 2510B	**Batch ID:** W7E0011	**Instr:** AA02		**Prepared:** 05/01/17 10:51			**Analyst:** stg
Specific Conductance (EC)		**420**	2.0	umhos/cm	1	05/01/17 13:16	
Method: SM 2540C	**Batch ID:** W7D1537	**Instr:** Inst		**Prepared:** 04/28/17 10:32			**Analyst:** stg
Total Dissolved Solids		**240**	10	mg/l	1	04/28/17 17:31	
Method: SM 4500H+-B	**Batch ID:** W7D1497	**Instr:** AA02		**Prepared:** 04/27/17 16:04			**Analyst:** stg
pH		**8.04**	0.10	Units	1	04/27/17 18:03	*

Sample: 13 — Sampled: 04/27/17 8:40 by P. Hamilton

7D27049-08 (Water)

Analyte		Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7	**Batch ID:** W7D1512	**Instr:** ICP02		**Prepared:** 04/27/17 17:35			**Analyst:** JCK
Sodium, Total		**110**	0.50	mg/l	1	05/14/17 16:04	
Method: EPA 300.0	**Batch ID:** W7E0363	**Instr:** LC12		**Prepared:** 05/05/17 15:14			**Analyst:** jan
Chloride, Total		**72**	1.0	mg/l	2	05/07/17 17:51	

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Sample Results

(Continued)

Sample: 13 — Sampled: 04/27/17 8:40 by P. Hamilton

7D27049-08 (Water) (Continued)

Analyte		Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 300.0 (Continued)	**Batch ID:** W7E0363	**Instr:** LC12		**Prepared:** 05/05/17 15:14			**Analyst:** jan
Sulfate as SO4		**100**	1.0	mg/l	2	05/07/17 17:51	
Method: SM 2510B	**Batch ID:** W7E0011	**Instr:** AA02		**Prepared:** 05/01/17 10:51			**Analyst:** stg
Specific Conductance (EC)		**890**	2.0	umhos/cm	1	05/01/17 13:16	
Method: SM 2540C	**Batch ID:** W7D1537	**Instr:** Inst		**Prepared:** 04/28/17 10:32			**Analyst:** stg
Total Dissolved Solids		**550**	10	mg/l	1	04/28/17 17:31	
Method: SM 4500H+-B	**Batch ID:** W7D1497	**Instr:** AA02		**Prepared:** 04/27/17 16:04			**Analyst:** stg
pH		**7.72**	0.10	Units	1	04/27/17 18:03	*

Sample: DUP — Sampled: 04/27/17 9:00 by P. Hamilton

7D27049-09 (Water)

Analyte		Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7	**Batch ID:** W7D1512	**Instr:** ICP02		**Prepared:** 04/27/17 17:35			**Analyst:** JCK
Sodium, Total		**57**	0.50	mg/l	1	05/14/17 16:06	
Method: EPA 300.0	**Batch ID:** W7E0363	**Instr:** LC12		**Prepared:** 05/05/17 15:14			**Analyst:** jan
Chloride, Total		**73**	1.0	mg/l	2	05/07/17 17:51	
Sulfate as SO4		**110**	1.0	mg/l	2	05/07/17 17:51	
Method: SM 2510B	**Batch ID:** W7E0011	**Instr:** AA02		**Prepared:** 05/01/17 10:51			**Analyst:** stg
Specific Conductance (EC)		**750**	2.0	umhos/cm	1	05/01/17 13:16	
Method: SM 2540C	**Batch ID:** W7D1537	**Instr:** Inst		**Prepared:** 04/28/17 10:32			**Analyst:** stg
Total Dissolved Solids		**440**	10	mg/l	1	04/28/17 17:31	
Method: SM 4500H+-B	**Batch ID:** W7D1497	**Instr:** AA02		**Prepared:** 04/27/17 16:04			**Analyst:** stg
pH		**7.79**	0.10	Units	1	04/27/17 18:03	*

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Quality Control Results

Anions by IC, EPA Method 300.0

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W7E0363 - Direct Injection										
Blank (W7E0363-BLK1)				**Prepared: 05/05/17 Analyzed: 05/07/17**						
Chloride, Total	ND	0.50	mg/l							
Sulfate as SO4	ND	0.50	mg/l							
LCS (W7E0363-BS1)				**Prepared: 05/05/17 Analyzed: 05/07/17**						
Chloride, Total	10.5	0.50	mg/l	10.0		105	90-110			
Sulfate as SO4	10.4	0.50	mg/l	10.0		104	90-110			
Matrix Spike (W7E0363-MS1)	**Source: 7D27049-02**			**Prepared: 05/05/17 Analyzed: 05/07/17**						
Chloride, Total	180	5.0	mg/l	100	74.5	105	76-118			
Sulfate as SO4	197	5.0	mg/l	100	89.3	108	78-111			
Matrix Spike (W7E0363-MS2)	**Source: 7D27049-03**			**Prepared: 05/05/17 Analyzed: 05/07/17**						
Chloride, Total	136	5.0	mg/l	100	32.7	103	76-118			
Sulfate as SO4	149	5.0	mg/l	100	44.9	104	78-111			
Matrix Spike Dup (W7E0363-MSD1)	**Source: 7D27049-02**			**Prepared: 05/05/17 Analyzed: 05/07/17**						
Chloride, Total	180	5.0	mg/l	100	74.5	105	76-118	0.2	20	
Sulfate as SO4	196	5.0	mg/l	100	89.3	106	78-111	0.8	20	
Matrix Spike Dup (W7E0363-MSD2)	**Source: 7D27049-03**			**Prepared: 05/05/17 Analyzed: 05/07/17**						
Chloride, Total	137	5.0	mg/l	100	32.7	104	76-118	0.7	20	
Sulfate as SO4	149	5.0	mg/l	100	44.9	104	78-111	0.4	20	

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W7D1497 - General Preparation										
LCS (W7D1497-BS1)				**Prepared & Analyzed: 04/27/17**						
pH	7.45	0.10	Units	7.41		101	98.8-101			
Duplicate (W7D1497-DUP1)	**Source: 7D27049-01**			**Prepared & Analyzed: 04/27/17**						
pH	7.57	0.10	Units		7.43			2	3.1	
Batch: W7D1537 - General Preparation										
Blank (W7D1537-BLK1)				**Prepared & Analyzed: 04/28/17**						
Total Dissolved Solids	ND	10	mg/l							
LCS (W7D1537-BS1)				**Prepared & Analyzed: 04/28/17**						
Total Dissolved Solids	820	10	mg/l	824		100	96-102			
Duplicate (W7D1537-DUP1)	**Source: 7D27050-04**			**Prepared & Analyzed: 04/28/17**						
Total Dissolved Solids	1230	10	mg/l		1230			0.5	10	
Duplicate (W7D1537-DUP2)	**Source: 7D28002-01**			**Prepared & Analyzed: 04/28/17**						
Total Dissolved Solids	2480	10	mg/l		2740			10	10	
Batch: W7E0011 - General Preparation										
Blank (W7E0011-BLK1)				**Prepared & Analyzed: 05/01/17**						
Specific Conductance (EC)	ND	2.0	umhos/cm							
LCS (W7E0011-BS1)				**Prepared & Analyzed: 05/01/17**						
Specific Conductance (EC)	206	2.0	umhos/cm	200		103	95-105			
Duplicate (W7E0011-DUP1)	**Source: 7D27049-01**			**Prepared & Analyzed: 05/01/17**						

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Quality Control Results

(Continued)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W7E0011 - General Preparation (Continued)										
Duplicate (W7E0011-DUP1)	**Source: 7D27049-01**			**Prepared & Analyzed: 05/01/17**						
Specific Conductance (EC)	402	2.0	umhos/cm		403			0.2	5	

Metals by EPA 200 Series Methods

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W7D1512 - EPA 200.2										
Blank (W7D1512-BLK1)				**Prepared: 04/27/17 Analyzed: 05/14/17**						
Sodium, Total	ND	0.50	mg/l							
LCS (W7D1512-BS1)				**Prepared: 04/27/17 Analyzed: 05/14/17**						
Sodium, Total	48.7	0.50	mg/l	50.0		97	85-115			
Matrix Spike (W7D1512-MS1)	**Source: 7D27049-01**			**Prepared: 04/27/17 Analyzed: 05/14/17**						
Sodium, Total	87.4	0.50	mg/l	50.0	37.5	100	70-130			
Matrix Spike Dup (W7D1512-MSD1)	**Source: 7D27049-01**			**Prepared: 04/27/17 Analyzed: 05/14/17**						
Sodium, Total	87.0	0.50	mg/l	50.0	37.5	99	70-130	0.4	30	

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Notes and Definitions

Item	Definition
*	The recommended holding time for this analysis is only 15 minutes. The sample was analyzed as soon as it was possible but it was received and analyzed past holding time.
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR)
MDA	Minimum Detectable Activity
NR	Not Reportable
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.
An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)
All results are expressed on wet weight basis unless otherwise specified.
All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.

Reviewed by:

Hai Van Nguyen
Senior Project Manager

DoD-ELAP #L2457 • ELAP-CA #1132 • EPA-UCMR #CA00211 • HW-DOH # • ISO 17025 #L2457.01 • LACSD #10143 • NELAP-CA #04229CA • NELAP-OR #4047 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

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7J12073

CHAIN OF CUSTODY RECORD

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Page 1 Of 1

CLIENT NAME: HAMILTON GEOTECHNICAL	PROJECT: COOLWATER
ADDRESS: 2715 ALTAMIRA CIR. WEST COVINA, CA 91792	PHONE: 626 422 0523
	FAX:
	Email:
	PO#:
PROJECT MANAGER P. HAMILTON	Sampler P. HAMILTON

ID# (For lab Use Only)	DATE SAMPLED	TIME SAMPLED	SMPL TYPE	SAMPLE IDENTIFICATION/SITE LOCATION	# OF CONT.	pH, TDS, EC	Na, SO4, Cl									
	10/12/17	0810	GW	C	2	X	X									
		0840		13	2	X	X									
		0855		2A	2	X	X									
		0930		B	2	X	X									
		0805		MW2	2	X	X									
		0940		DUP	2	X	X									
		1020		MW1	2	X	X									
		1040		RS	2	X	X									

ANALYSES REQUESTED

Special Handling

- ☐ Same Day Rush 150%
- ☐ 24 Hour Rush 100%
- ☐ 4-5 Day Rush 75%
- ☐ Rush Extraction 50%
- ☒ 10-15 Business Days
- ☒ QA/QC Package

Charges will apply for weekends and holidays

Method of Shipment

COMMENTS

RELINQUISHED BY		DATE / TIME	RECEIVED BY		DATE / TIME
SIGNATURE: Pat Hamilton	PRINT NAME	10/12/17 3:06	SIGNATURE: Jamalmen	PRINT NAME	10/12/17 1506
SIGNATURE	PRINT NAME		SIGNATURE	PRINT NAME	
SIGNATURE	PRINT NAME		SIGNATURE	PRINT NAME	

SAMPLE CONDITION:

Actual Temperature: 2.0°C

Received On Ice	(Y)	N
Preserved	Y	(N)
Evidence Seals Present	Y	(N)
Container Attacked	Y	(N)
Preserved at Lab	(Y)	N

SAMPLE TYPE CODE:
AQ=Aqueous
NA= Non Aqueous
SL = Sludge
DW = Drinking Water
WW = Waste Water
RW = Rain Water
GW = Ground Water
SO = Soil
SW = Solid Waste
OL = Oil
OT = Other Matrix

PRESCHEDULED RUSH ANALYSES WILL TAKE PRIORITY OVER UNSCHEDULED RUSH REQUESTS. CLIENT AGREES TO TERMS AND CONDITIONS (SEE BACK OF THIS FORM).

SPECIAL REQUIREMENTS / BILLING INFORMATION

DISTRIBUTION: WHITE & CANARY - For Laboratory PINK - For Client

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders: 7J12073

Project: Coolwater

Attn: Mr. Pat Hamilton

Client: Hamilton Geotechnical
2715 Altamira Circle
West Covina, CA 91792

Report Date: 10/25/2017
Received Date: 10/12/2017
Turnaround Time: Normal
Phones: (626) 422-0523
Fax: (626) 913-5476
P.O. #:
Billing Code:

Dear Mr. Pat Hamilton,

Enclosed are the results of analyses for samples received 10/12/17 with the Chain-of-Custody document. The samples were received in good condition, at 2.6 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Sample Results

Sample: C
7J12073-01 (Water)

Sampled: 10/12/17 8:10 by P. Hamilton

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7 **Batch ID:** W7J1242 **Instr:** ICP03				**Prepared:** 10/20/17 16:51		**Analyst:** JCK
Sodium, Total	**39**	0.50	mg/l	1	10/24/17 12:18	
Method: EPA 300.0 **Batch ID:** W7J0758 **Instr:** LC12				**Prepared:** 10/13/17 07:55		**Analyst:** jan
Chloride, Total	**51**	0.50	mg/l	1	10/13/17 14:40	
Sulfate as SO4	**56**	0.50	mg/l	1	10/13/17 14:40	
Method: SM 2510B **Batch ID:** W7J1077 **Instr:** AA02				**Prepared:** 10/18/17 13:44		**Analyst:** stg
Specific Conductance (EC)	**520**	2.0	umhos/cm	1	10/18/17 15:32	
Method: SM 2540C **Batch ID:** W7J0997 **Instr:** Inst				**Prepared:** 10/17/17 15:53		**Analyst:** kvm
Total Dissolved Solids	**300**	10	mg/l	1	10/18/17 14:27	
Method: SM 4500H+-B **Batch ID:** W7J0754 **Instr:** AA02				**Prepared:** 10/12/17 19:43		**Analyst:** stg
pH	**7.35**	0.10	Units	1	10/12/17 23:21	*

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Sample Results

(Continued)

Sample: 13 — Sampled: 10/12/17 8:40 by P. Hamilton

7J12073-02 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7 **Batch ID:** W7J1242 **Instr:** ICP03 **Prepared:** 10/20/17 16:51 **Analyst:** JCK						
Sodium, Total	**110**	0.50	mg/l	1	10/24/17 12:21	
Method: EPA 300.0 **Batch ID:** W7J0758 **Instr:** LC12 **Prepared:** 10/13/17 07:55 **Analyst:** jan						
Chloride, Total	**70**	1.0	mg/l	2	10/13/17 14:40	
Sulfate as SO4	**100**	1.0	mg/l	2	10/13/17 14:40	
Method: SM 2510B **Batch ID:** W7J1077 **Instr:** AA02 **Prepared:** 10/18/17 13:44 **Analyst:** stg						
Specific Conductance (EC)	**920**	2.0	umhos/cm	1	10/18/17 15:32	
Method: SM 2540C **Batch ID:** W7J0997 **Instr:** Inst **Prepared:** 10/17/17 15:53 **Analyst:** kvm						
Total Dissolved Solids	**550**	10	mg/l	1	10/18/17 14:27	
Method: SM 4500H+-B **Batch ID:** W7J0754 **Instr:** AA02 **Prepared:** 10/12/17 19:43 **Analyst:** stg						
pH	**7.74**	0.10	Units	1	10/12/17 23:21	*

Sample: 2A — Sampled: 10/12/17 8:55 by P. Hamilton

7J12073-03 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7 **Batch ID:** W7J1137 **Instr:** ICP03 **Prepared:** 10/19/17 10:57 **Analyst:** JCK						
Sodium, Total	**63**	0.50	mg/l	1	10/20/17 18:30	
Method: EPA 300.0 **Batch ID:** W7J0758 **Instr:** LC12 **Prepared:** 10/13/17 07:55 **Analyst:** jan						
Chloride, Total	**68**	1.0	mg/l	2	10/13/17 14:40	
Sulfate as SO4	**72**	1.0	mg/l	2	10/13/17 14:40	
Method: SM 2510B **Batch ID:** W7J1077 **Instr:** AA02 **Prepared:** 10/18/17 13:44 **Analyst:** stg						
Specific Conductance (EC)	**630**	2.0	umhos/cm	1	10/18/17 15:32	
Method: SM 2540C **Batch ID:** W7J0997 **Instr:** Inst **Prepared:** 10/17/17 15:53 **Analyst:** kvm						
Total Dissolved Solids	**350**	10	mg/l	1	10/18/17 14:27	
Method: SM 4500H+-B **Batch ID:** W7J0754 **Instr:** AA02 **Prepared:** 10/12/17 19:43 **Analyst:** stg						
pH	**8.09**	0.10	Units	1	10/12/17 23:21	*

Sample: B — Sampled: 10/12/17 9:30 by P. Hamilton

7J12073-04 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7 **Batch ID:** W7J1137 **Instr:** ICP03 **Prepared:** 10/19/17 10:57 **Analyst:** JCK						
Sodium, Total	**100**	0.50	mg/l	1	10/20/17 18:33	
Method: EPA 300.0 **Batch ID:** W7J0758 **Instr:** LC12 **Prepared:** 10/13/17 07:55 **Analyst:** jan						
Chloride, Total	**84**	1.0	mg/l	2	10/13/17 14:40	
Sulfate as SO4	**110**	1.0	mg/l	2	10/13/17 14:40	
Method: SM 2510B **Batch ID:** W7J1077 **Instr:** AA02 **Prepared:** 10/18/17 13:44 **Analyst:** stg						
Specific Conductance (EC)	**1000**	2.0	umhos/cm	1	10/18/17 15:32	
Method: SM 2540C **Batch ID:** W7J0997 **Instr:** Inst **Prepared:** 10/17/17 15:53 **Analyst:** kvm						
Total Dissolved Solids	**580**	10	mg/l	1	10/18/17 14:27	
Method: SM 4500H+-B **Batch ID:** W7J0754 **Instr:** AA02 **Prepared:** 10/12/17 19:43 **Analyst:** stg						
pH	**7.87**	0.10	Units	1	10/12/17 23:21	*

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Sample Results

(Continued)

Sample: MW2 — Sampled: 10/12/17 10:05 by P. Hamilton

7J12073-05 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7 **Batch ID:** W7J1137 **Instr:** ICP03 **Prepared:** 10/19/17 10:57 **Analyst:** JCK						
Sodium, Total	**100**	0.50	mg/l	1	10/20/17 18:35	
Method: EPA 300.0 **Batch ID:** W7J0758 **Instr:** LC12 **Prepared:** 10/13/17 07:55 **Analyst:** jan						
Chloride, Total	**110**	1.0	mg/l	2	10/13/17 14:40	
Sulfate as SO4	**120**	1.0	mg/l	2	10/13/17 14:40	
Method: SM 2510B **Batch ID:** W7J1077 **Instr:** AA02 **Prepared:** 10/18/17 13:44 **Analyst:** stg						
Specific Conductance (EC)	**1000**	2.0	umhos/cm	1	10/18/17 15:32	
Method: SM 2540C **Batch ID:** W7J0997 **Instr:** Inst **Prepared:** 10/17/17 15:53 **Analyst:** kvm						
Total Dissolved Solids	**600**	10	mg/l	1	10/18/17 14:27	
Method: SM 4500H+-B **Batch ID:** W7J0754 **Instr:** AA02 **Prepared:** 10/12/17 19:43 **Analyst:** stg						
pH	**7.91**	0.10	Units	1	10/12/17 23:21	*

Sample: DUP — Sampled: 10/12/17 9:40 by P. Hamilton

7J12073-06 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7 **Batch ID:** W7J1137 **Instr:** ICP03 **Prepared:** 10/19/17 10:57 **Analyst:** JCK						
Sodium, Total	**98**	0.50	mg/l	1	10/20/17 18:38	
Method: EPA 300.0 **Batch ID:** W7J0758 **Instr:** LC12 **Prepared:** 10/13/17 07:55 **Analyst:** jan						
Chloride, Total	**85**	1.0	mg/l	2	10/13/17 14:40	
Sulfate as SO4	**110**	1.0	mg/l	2	10/13/17 14:40	
Method: SM 2510B **Batch ID:** W7J1077 **Instr:** AA02 **Prepared:** 10/18/17 13:44 **Analyst:** stg						
Specific Conductance (EC)	**1000**	2.0	umhos/cm	1	10/18/17 15:32	
Method: SM 2540C **Batch ID:** W7J0997 **Instr:** Inst **Prepared:** 10/17/17 15:53 **Analyst:** kvm						
Total Dissolved Solids	**580**	10	mg/l	1	10/18/17 14:27	
Method: SM 4500H+-B **Batch ID:** W7J0754 **Instr:** AA02 **Prepared:** 10/12/17 19:43 **Analyst:** stg						
pH	**7.88**	0.10	Units	1	10/12/17 23:21	*

Sample: MW1 — Sampled: 10/12/17 10:20 by P. Hamilton

7J12073-07 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7 **Batch ID:** W7J1137 **Instr:** ICP03 **Prepared:** 10/19/17 10:57 **Analyst:** JCK						
Sodium, Total	**59**	0.50	mg/l	1	10/20/17 18:41	
Method: EPA 300.0 **Batch ID:** W7J0758 **Instr:** LC12 **Prepared:** 10/13/17 07:55 **Analyst:** jan						
Chloride, Total	**69**	1.0	mg/l	2	10/13/17 14:40	
Sulfate as SO4	**100**	1.0	mg/l	2	10/13/17 14:40	
Method: SM 2510B **Batch ID:** W7J1077 **Instr:** AA02 **Prepared:** 10/18/17 13:44 **Analyst:** stg						
Specific Conductance (EC)	**780**	2.0	umhos/cm	1	10/18/17 15:32	
Method: SM 2540C **Batch ID:** W7J0997 **Instr:** Inst **Prepared:** 10/17/17 15:53 **Analyst:** kvm						
Total Dissolved Solids	**470**	10	mg/l	1	10/18/17 14:27	
Method: SM 4500H+-B **Batch ID:** W7J0754 **Instr:** AA02 **Prepared:** 10/12/17 19:43 **Analyst:** stg						
pH	**7.84**	0.10	Units	1	10/12/17 23:21	*

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Sample Results

(Continued)

Sample: PS

Sampled: 10/12/17 10:40 by P. Hamilton

7J12073-08 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7 **Batch ID:** W7J1137 **Instr:** ICP03 **Prepared:** 10/19/17 10:57 **Analyst:** JCK						
Sodium, Total	**74**	0.50	mg/l	1	10/20/17 18:44	
Method: EPA 300.0 **Batch ID:** W7J0758 **Instr:** LC12 **Prepared:** 10/13/17 07:55 **Analyst:** jan						
Chloride, Total	**91**	1.0	mg/l	2	10/13/17 14:40	
Sulfate as SO4	**110**	1.0	mg/l	2	10/13/17 14:40	
Method: SM 2510B **Batch ID:** W7J1077 **Instr:** AA02 **Prepared:** 10/18/17 13:44 **Analyst:** stg						
Specific Conductance (EC)	**920**	2.0	umhos/cm	1	10/18/17 15:32	
Method: SM 2540C **Batch ID:** W7J0997 **Instr:** Inst **Prepared:** 10/17/17 15:53 **Analyst:** kvm						
Total Dissolved Solids	**550**	10	mg/l	1	10/18/17 14:27	
Method: SM 4500H+-B **Batch ID:** W7J0754 **Instr:** AA02 **Prepared:** 10/12/17 19:43 **Analyst:** stg						
pH	**8.01**	0.10	Units	1	10/12/17 23:21	*

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Quality Control Results

Anions by IC, EPA Method 300.0

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W7J0758 - Direct Injection										
Blank (W7J0758-BLK1)				**Prepared & Analyzed: 10/13/17**						
Chloride, Total	ND	0.50	mg/l							
Sulfate as SO4	ND	0.50	mg/l							
LCS (W7J0758-BS1)				**Prepared & Analyzed: 10/13/17**						
Chloride, Total	9.98	0.50	mg/l	10.0		100	90-110			
Sulfate as SO4	10.2	0.50	mg/l	10.0		102	90-110			
Matrix Spike (W7J0758-MS1)	**Source: 7J09048-01**			**Prepared & Analyzed: 10/13/17**						
Chloride, Total	151	5.0	mg/l	100	48.9	102	76-118			
Sulfate as SO4	216	5.0	mg/l	100	103	114	78-111			MS-05
Matrix Spike (W7J0758-MS2)	**Source: 7J09048-02**			**Prepared & Analyzed: 10/13/17**						
Chloride, Total	131	5.0	mg/l	100	30.2	101	76-118			
Sulfate as SO4	181	5.0	mg/l	100	74.0	107	78-111			
Matrix Spike Dup (W7J0758-MSD1)	**Source: 7J09048-01**			**Prepared & Analyzed: 10/13/17**						
Chloride, Total	150	5.0	mg/l	100	48.9	101	76-118	0.6	20	
Sulfate as SO4	215	5.0	mg/l	100	103	113	78-111	0.6	20	MS-05
Matrix Spike Dup (W7J0758-MSD2)	**Source: 7J09048-02**			**Prepared & Analyzed: 10/13/17**						
Chloride, Total	131	5.0	mg/l	100	30.2	101	76-118	0.008	20	
Sulfate as SO4	181	5.0	mg/l	100	74.0	107	78-111	0.5	20	

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W7J0754 - General Preparation										
LCS (W7J0754-BS1)				**Prepared & Analyzed: 10/12/17**						
pH	7.45	0.10	Units	7.41		101	98.8-101			
Duplicate (W7J0754-DUP1)	**Source: 7J12073-02**			**Prepared & Analyzed: 10/12/17**						
pH	7.74	0.10	Units		7.74			0	3.1	
Batch: W7J0997 - General Preparation										
Blank (W7J0997-BLK1)				**Prepared: 10/17/17 Analyzed: 10/18/17**						
Total Dissolved Solids	ND	10	mg/l							
LCS (W7J0997-BS1)				**Prepared: 10/17/17 Analyzed: 10/18/17**						
Total Dissolved Solids	796	10	mg/l	824		97	96-102			
Duplicate (W7J0997-DUP1)	**Source: 7J13057-01**			**Prepared: 10/17/17 Analyzed: 10/18/17**						
Total Dissolved Solids	2960	10	mg/l		2950			0.07	10	
Duplicate (W7J0997-DUP2)	**Source: 7J16100-07**			**Prepared: 10/17/17 Analyzed: 10/18/17**						
Total Dissolved Solids	1080	10	mg/l		1030			5	10	
Batch: W7J1077 - General Preparation										
Blank (W7J1077-BLK1)				**Prepared & Analyzed: 10/18/17**						
Specific Conductance (EC)	ND	2.0	umhos/cm							
LCS (W7J1077-BS1)				**Prepared & Analyzed: 10/18/17**						
Specific Conductance (EC)	204	2.0	umhos/cm	200		102	95-105			
Duplicate (W7J1077-DUP1)	**Source: 7J06002-01**			**Prepared & Analyzed: 10/18/17**						

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Quality Control Results

(Continued)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W7J1077 - General Preparation (Continued)										
Duplicate (W7J1077-DUP1)	**Source: 7J06002-01**			**Prepared & Analyzed: 10/18/17**						
Specific Conductance (EC)	1100	2.0	umhos/cm		1100			0.5	5	

Metals by EPA 200 Series Methods

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W7J1137 - EPA 200.2										
Blank (W7J1137-BLK1)				**Prepared: 10/19/17 Analyzed: 10/20/17**						
Sodium, Total	ND	0.50	mg/l							
LCS (W7J1137-BS1)				**Prepared: 10/19/17 Analyzed: 10/20/17**						
Sodium, Total	47.3	0.50	mg/l	50.0		95	85-115			
Matrix Spike (W7J1137-MS1)	**Source: 7J12073-08**			**Prepared: 10/19/17 Analyzed: 10/20/17**						
Sodium, Total	118	0.50	mg/l	50.0	74.1	88	70-130			
Matrix Spike Dup (W7J1137-MSD1)	**Source: 7J12073-08**			**Prepared: 10/19/17 Analyzed: 10/20/17**						
Sodium, Total	122	0.50	mg/l	50.0	74.1	96	70-130	3	30	
Batch: W7J1242 - EPA 200.2										
Blank (W7J1242-BLK1)				**Prepared: 10/20/17 Analyzed: 10/24/17**						
Sodium, Total	ND	0.50	mg/l							
LCS (W7J1242-BS1)				**Prepared: 10/20/17 Analyzed: 10/24/17**						
Sodium, Total	46.2	0.50	mg/l	50.2		92	85-115			
Matrix Spike (W7J1242-MS1)	**Source: 7J18082-01**			**Prepared: 10/20/17 Analyzed: 10/24/17**						
Sodium, Total	161	0.50	mg/l	50.2	117	88	70-130			
Matrix Spike Dup (W7J1242-MSD1)	**Source: 7J18082-01**			**Prepared: 10/20/17 Analyzed: 10/24/17**						
Sodium, Total	163	0.50	mg/l	50.2	117	92	70-130	1	30	

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Notes and Definitions

Item	Definition
*	The recommended holding time for this analysis is only 15 minutes. The sample was analyzed as soon as it was possible but it was received and analyzed past holding time.
MS-05	The spike recovery and/or RPD were outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR)
MDA	Minimum Detectable Activity
NR	Not Reportable
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.
An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)
All results are expressed on wet weight basis unless otherwise specified.
All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.

Reviewed by:

Valerie Rejuso
Project Manager

DoD-ELAP #L2457 • ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • HW-DOH # • ISO 17025 #L2457.01 • LACSD #10143 • NELAP-OR #4047 • NJ-DEP #CA015 • SCAQMD #93LA1006

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

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Tel 626-336-2139 ♦ Fax 626-336-2634 ♦ www.wecklabs.com

8P07091

CLIENT NAME: HAMILTON GEOTECHNICAL

PROJECT: COOLWATER

ADDRESS: 2715 ALTAMIRA CIR, WEST COVINA CA 91792

PHONE: 626 422-0523

FAX:

Email:

PO#:

PROJECT MANAGER: P. HAMILTON

Sampler: P. HAMILTON

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- ☐ 24 Hour Rush 100%
- ☐ 4-5 Day Rush 75%
- ☐ Rush Extraction 50%
- ☒ 10-15 Business Days
- ☒ QA/QC Package

Charges will apply for weekends and holidays

Method of Shipment

COMMENTS

ID# (For lab Use Only)	DATE SAMPLED	TIME SAMPLED	SMPL TYPE	SAMPLE IDENTIFICATION/SITE LOCATION	# OF CONT.	ANALYSES REQUESTED: pH, TDS, EC	Na, SO4, Cl	Mg, K, F	NO3-N
	2/7/18	0740	GW	2A	2	X	—	—	X
		0800		C	2	X	—	—	X
		0830		MW1	2	X	—	—	X
		0850		B	2	X	—	—	X
		0910		13	2	X	—	—	X
		0955		MW4	2	X	—	—	X
		1040		MW2	2	X	—	—	X
		1100		DUP	2	X	—	—	X
		1125		PB	2	X	—	—	X

RELINQUISHED BY		DATE / TIME	RECEIVED BY		DATE / TIME
SIGNATURE: Pat Hamilton	PRINT NAME:	2/7/18 2:44	SIGNATURE: Jamahmer	PRINT NAME:	2/7/18 1444
SIGNATURE:	PRINT NAME:		SIGNATURE:	PRINT NAME:	
SIGNATURE:	PRINT NAME:		SIGNATURE:	PRINT NAME:	

SAMPLE CONDITION:

Actual Temperature: 1.3C

Received On Ice	(Y)	N
Preserved	Y	(N)
Evidence Seals Present	Y	(N)
Container Attacked	Y	(N)
Preserved at Lab	(Y)	N

SAMPLE TYPE CODE:
AQ=Aqueous
NA= Non Aqueous
SL = Sludge
DW = Drinking Water
WW = Waste Water
RW = Rain Water
GW = Ground Water
SO = Soil
SW = Solid Waste
OL = Oil
OT = Other Matrix

PRESCHEDULED RUSH ANALYSES WILL TAKE PRIORITY OVER UNSCHEDULED RUSH REQUESTS. CLIENT AGREES TO TERMS AND CONDITIONS (SEE BACK OF THIS FORM).

SPECIAL REQUIREMENTS / BILLING INFORMATION

DISTRIBUTION: WHITE & CANARY - For Laboratory PINK - For Client

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders: 8B07091

Project: Coolwater

Attn: Mr. Pat Hamilton

Client: Hamilton Geotechnical
2715 Altamira Circle
West Covina, CA 91792

Report Date: 2/16/2018
Received Date: 2/7/2018
Turnaround Time: Normal
Phones: (626) 422-0523
Fax: (626) 913-5476
P.O. #:
Billing Code:

Dear Mr. Pat Hamilton,

Enclosed are the results of analyses for samples received 2/07/18 with the Chain-of-Custody document. The samples were received in good condition, at 1.3 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Sample Results

Sample: 2A
8B07091-01 (Water)

Sampled: 02/07/18 7:40 by P. Hamilton

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7 **Batch ID:** W8B0667 **Instr:** ICP03		**Prepared:** 02/13/18 16:20			**Analyst:** JCK	
Magnesium, Total	**8.83**	0.100	mg/l	1	02/15/18 11:56	
Potassium, Total	**3.5**	0.10	mg/l	1	02/15/18 11:56	
Sodium, Total	**70**	0.50	mg/l	1	02/15/18 11:56	
Method: EPA 300.0 **Batch ID:** W8B0351 **Instr:** LC12		**Prepared:** 02/08/18 07:53			**Analyst:** jan	
Chloride, Total	**92**	0.50	mg/l	1	02/08/18 17:06	
Fluoride, Total	**0.37**	0.10	mg/l	1	02/08/18 17:06	
Nitrate as N	ND	110	ug/l	1	02/08/18 17:06	
Sulfate as SO4	**55**	0.50	mg/l	1	02/08/18 17:06	
Method: SM 2510B **Batch ID:** W8B0380 **Instr:** AA02		**Prepared:** 02/08/18 10:52			**Analyst:** stg	
Specific Conductance (EC)	**550**	2.0	umhos/cm	1	02/08/18 12:16	
Method: SM 2540C **Batch ID:** W8B0529 **Instr:** Inst		**Prepared:** 02/12/18 10:21			**Analyst:** ymt	
Total Dissolved Solids	**290**	10	mg/l	1	02/12/18 17:25	
Method: SM 4500H+-B **Batch ID:** W8B0342 **Instr:** AA02		**Prepared:** 02/07/18 16:28			**Analyst:** stg	
pH	**8.15**	0.10	Units	1	02/07/18 18:53	*

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Sample Results

(Continued)

Sample: C — Sampled: 02/07/18 8:00 by P. Hamilton

8B07091-02 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7 **Batch ID:** W8B0667 **Instr:** ICP03		**Prepared:** 02/13/18 16:20			**Analyst:** JCK	
Magnesium, Total	**6.35**	0.100	mg/l	1	02/15/18 11:58	
Potassium, Total	**2.3**	0.10	mg/l	1	02/15/18 11:58	
Sodium, Total	**40**	0.50	mg/l	1	02/15/18 11:58	
Method: EPA 300.0 **Batch ID:** W8B0351 **Instr:** LC12		**Prepared:** 02/08/18 07:53			**Analyst:** jan	
Chloride, Total	**30**	0.50	mg/l	1	02/08/18 14:06	
Fluoride, Total	**0.49**	0.10	mg/l	1	02/08/18 14:06	
Nitrate as N	**1500**	110	ug/l	1	02/08/18 14:06	
Sulfate as SO4	**42**	0.50	mg/l	1	02/08/18 14:06	
Method: SM 2510B **Batch ID:** W8B0380 **Instr:** AA02		**Prepared:** 02/08/18 10:52			**Analyst:** stg	
Specific Conductance (EC)	**400**	2.0	umhos/cm	1	02/08/18 12:16	
Method: SM 2540C **Batch ID:** W8B0529 **Instr:** Inst		**Prepared:** 02/12/18 10:21			**Analyst:** ymt	
Total Dissolved Solids	**240**	10	mg/l	1	02/12/18 17:25	
Method: SM 4500H+-B **Batch ID:** W8B0342 **Instr:** AA02		**Prepared:** 02/07/18 16:28			**Analyst:** stg	
pH	**7.54**	0.10	Units	1	02/07/18 18:53	*

Sample: MW1 — Sampled: 02/07/18 8:30 by P. Hamilton

8B07091-03 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7 **Batch ID:** W8B0667 **Instr:** ICP03		**Prepared:** 02/13/18 16:20			**Analyst:** JCK	
Magnesium, Total	**14.3**	0.100	mg/l	1	02/15/18 12:01	
Potassium, Total	**3.6**	0.10	mg/l	1	02/15/18 12:01	
Sodium, Total	**65**	0.50	mg/l	1	02/15/18 12:01	
Method: EPA 300.0 **Batch ID:** W8B0351 **Instr:** LC12		**Prepared:** 02/08/18 07:53			**Analyst:** jan	
Chloride, Total	**75**	0.50	mg/l	1	02/08/18 15:00	
Fluoride, Total	**0.38**	0.10	mg/l	1	02/08/18 15:00	
Nitrate as N	**1800**	110	ug/l	1	02/08/18 15:00	
Sulfate as SO4	**100**	1.0	mg/l	2	02/08/18 15:00	
Method: SM 2510B **Batch ID:** W8B0380 **Instr:** AA02		**Prepared:** 02/08/18 10:52			**Analyst:** stg	
Specific Conductance (EC)	**770**	2.0	umhos/cm	1	02/08/18 12:16	
Method: SM 2540C **Batch ID:** W8B0529 **Instr:** Inst		**Prepared:** 02/12/18 10:21			**Analyst:** ymt	
Total Dissolved Solids	**450**	10	mg/l	1	02/12/18 17:25	
Method: SM 4500H+-B **Batch ID:** W8B0342 **Instr:** AA02		**Prepared:** 02/07/18 16:28			**Analyst:** stg	
pH	**7.60**	0.10	Units	1	02/07/18 18:53	*

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Sample Results

(Continued)

Sample: B — Sampled: 02/07/18 8:50 by P. Hamilton

8B07091-04 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7 **Batch ID:** W8B0667 **Instr:** ICP03		**Prepared:** 02/13/18 16:20			**Analyst:** JCK	
Magnesium, Total	**13.2**	0.100	mg/l	1	02/15/18 12:04	
Potassium, Total	**3.6**	0.10	mg/l	1	02/15/18 12:04	
Sodium, Total	**100**	0.50	mg/l	1	02/15/18 12:04	
Method: EPA 300.0 **Batch ID:** W8B0351 **Instr:** LC12		**Prepared:** 02/08/18 07:53			**Analyst:** jan	
Chloride, Total	**96**	0.50	mg/l	1	02/08/18 15:18	
Fluoride, Total	**0.38**	0.10	mg/l	1	02/08/18 15:18	
Nitrate as N	**300**	110	ug/l	1	02/08/18 15:18	
Sulfate as SO4	**100**	1.0	mg/l	2	02/08/18 15:18	
Method: SM 2510B **Batch ID:** W8B0380 **Instr:** AA02		**Prepared:** 02/08/18 10:52			**Analyst:** stg	
Specific Conductance (EC)	**850**	2.0	umhos/cm	1	02/08/18 12:16	
Method: SM 2540C **Batch ID:** W8B0529 **Instr:** Inst		**Prepared:** 02/12/18 10:21			**Analyst:** ymt	
Total Dissolved Solids	**490**	10	mg/l	1	02/12/18 17:25	
Method: SM 4500H+-B **Batch ID:** W8B0342 **Instr:** AA02		**Prepared:** 02/07/18 16:28			**Analyst:** stg	
pH	**7.97**	0.10	Units	1	02/07/18 18:53	*

Sample: 13 — Sampled: 02/07/18 9:10 by P. Hamilton

8B07091-05 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7 **Batch ID:** W8B0667 **Instr:** ICP03		**Prepared:** 02/13/18 16:20			**Analyst:** JCK	
Magnesium, Total	**9.82**	0.100	mg/l	1	02/15/18 12:07	
Potassium, Total	**3.0**	0.10	mg/l	1	02/15/18 12:07	
Sodium, Total	**120**	0.50	mg/l	1	02/15/18 12:07	
Method: EPA 300.0 **Batch ID:** W8B0351 **Instr:** LC12		**Prepared:** 02/08/18 07:53			**Analyst:** jan	
Chloride, Total	**78**	0.50	mg/l	1	02/08/18 15:36	
Fluoride, Total	**0.47**	0.10	mg/l	1	02/08/18 15:36	
Nitrate as N	**5000**	110	ug/l	1	02/08/18 15:36	
Method: SM 2510B **Batch ID:** W8B0380 **Instr:** AA02		**Prepared:** 02/08/18 10:52			**Analyst:** stg	
Specific Conductance (EC)	**900**	2.0	umhos/cm	1	02/08/18 12:16	
Method: SM 2540C **Batch ID:** W8B0529 **Instr:** Inst		**Prepared:** 02/12/18 10:21			**Analyst:** ymt	
Total Dissolved Solids	**550**	10	mg/l	1	02/12/18 17:25	
Method: SM 4500H+-B **Batch ID:** W8B0342 **Instr:** AA02		**Prepared:** 02/07/18 16:28			**Analyst:** stg	
pH	**7.69**	0.10	Units	1	02/07/18 18:53	*

Sample: 13 — Sampled: 02/07/18 9:10 by P. Hamilton

8B07091-05RE1 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 300.0 **Batch ID:** W8B0495 **Instr:** LC12		**Prepared:** 02/10/18 08:53			**Analyst:** jan	
Sulfate as SO4	**99**	1.0	mg/l	2	02/10/18 10:00	

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Sample Results

(Continued)

Sample: MW4 — Sampled: 02/07/18 9:55 by P. Hamilton

8B07091-06 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7 **Batch ID:** W8B0667 **Instr:** ICP03		**Prepared:** 02/13/18 16:20			**Analyst:** JCK	
Magnesium, Total	**4.24**	0.100	mg/l	1	02/15/18 12:10	
Potassium, Total	**2.1**	0.10	mg/l	1	02/15/18 12:10	
Sodium, Total	**88**	0.50	mg/l	1	02/15/18 12:10	
Method: EPA 300.0 **Batch ID:** W8B0351 **Instr:** LC12		**Prepared:** 02/08/18 07:53			**Analyst:** jan	
Chloride, Total	**39**	0.50	mg/l	1	02/08/18 15:54	
Fluoride, Total	**0.49**	0.10	mg/l	1	02/08/18 15:54	
Nitrate as N	**1200**	110	ug/l	1	02/08/18 15:54	
Sulfate as SO4	**79**	0.50	mg/l	1	02/08/18 15:54	
Method: SM 2510B **Batch ID:** W8B0380 **Instr:** AA02		**Prepared:** 02/08/18 10:52			**Analyst:** stg	
Specific Conductance (EC)	**580**	2.0	umhos/cm	1	02/08/18 12:16	
Method: SM 2540C **Batch ID:** W8B0529 **Instr:** Inst		**Prepared:** 02/12/18 10:21			**Analyst:** ymt	
Total Dissolved Solids	**360**	10	mg/l	1	02/12/18 17:25	
Method: SM 4500H+-B **Batch ID:** W8B0342 **Instr:** AA02		**Prepared:** 02/07/18 16:28			**Analyst:** stg	
pH	**8.18**	0.10	Units	1	02/07/18 18:53	*

Sample: MW2 — Sampled: 02/07/18 10:40 by P. Hamilton

8B07091-07 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7 **Batch ID:** W8B0667 **Instr:** ICP03		**Prepared:** 02/13/18 16:20			**Analyst:** JCK	
Magnesium, Total	**14.1**	0.100	mg/l	1	02/15/18 12:13	
Potassium, Total	**3.6**	0.10	mg/l	1	02/15/18 12:13	
Sodium, Total	**100**	0.50	mg/l	1	02/15/18 12:13	
Method: EPA 300.0 **Batch ID:** W8B0351 **Instr:** LC12		**Prepared:** 02/08/18 07:53			**Analyst:** jan	
Chloride, Total	**100**	1.0	mg/l	2	02/08/18 16:12	
Fluoride, Total	**0.56**	0.10	mg/l	1	02/08/18 16:12	
Nitrate as N	**2700**	110	ug/l	1	02/08/18 16:12	
Sulfate as SO4	**120**	1.0	mg/l	2	02/08/18 16:12	
Method: SM 2510B **Batch ID:** W8B0380 **Instr:** AA02		**Prepared:** 02/08/18 10:52			**Analyst:** stg	
Specific Conductance (EC)	**1000**	2.0	umhos/cm	1	02/08/18 12:16	
Method: SM 2540C **Batch ID:** W8B0529 **Instr:** Inst		**Prepared:** 02/12/18 10:21			**Analyst:** ymt	
Total Dissolved Solids	**590**	10	mg/l	1	02/12/18 17:25	
Method: SM 4500H+-B **Batch ID:** W8B0342 **Instr:** AA02		**Prepared:** 02/07/18 16:28			**Analyst:** stg	
pH	**7.81**	0.10	Units	1	02/07/18 18:53	*

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Sample Results

(Continued)

Sample: DUP — Sampled: 02/07/18 11:00 by P. Hamilton

8B07091-08 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7 **Batch ID:** W8B0667 **Instr:** ICP03		**Prepared:** 02/13/18 16:20			**Analyst:** JCK	
Magnesium, Total	**12.8**	0.100	mg/l	1	02/15/18 12:16	
Potassium, Total	**3.5**	0.10	mg/l	1	02/15/18 12:16	
Sodium, Total	**99**	0.50	mg/l	1	02/15/18 12:16	
Method: EPA 300.0 **Batch ID:** W8B0351 **Instr:** LC12		**Prepared:** 02/08/18 07:53			**Analyst:** jan	
Chloride, Total	**97**	0.50	mg/l	1	02/08/18 16:30	
Fluoride, Total	**0.41**	0.10	mg/l	1	02/08/18 16:30	
Nitrate as N	**310**	110	ug/l	1	02/08/18 16:30	
Sulfate as SO4	**100**	1.0	mg/l	2	02/08/18 16:30	
Method: SM 2510B **Batch ID:** W8B0380 **Instr:** AA02		**Prepared:** 02/08/18 10:52			**Analyst:** stg	
Specific Conductance (EC)	**860**	2.0	umhos/cm	1	02/08/18 12:16	
Method: SM 2540C **Batch ID:** W8B0529 **Instr:** Inst		**Prepared:** 02/12/18 10:21			**Analyst:** ymt	
Total Dissolved Solids	**480**	10	mg/l	1	02/12/18 17:25	
Method: SM 4500H+-B **Batch ID:** W8B0342 **Instr:** AA02		**Prepared:** 02/07/18 16:28			**Analyst:** stg	
pH	**8.01**	0.10	Units	1	02/07/18 18:53	*

Sample: PS — Sampled: 02/07/18 11:25 by P. Hamilton

8B07091-09 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 200.7 **Batch ID:** W8B0667 **Instr:** ICP03		**Prepared:** 02/13/18 16:20			**Analyst:** JCK	
Magnesium, Total	**6.99**	0.100	mg/l	1	02/15/18 12:19	
Potassium, Total	**2.3**	0.10	mg/l	1	02/15/18 12:19	
Sodium, Total	**47**	0.50	mg/l	1	02/15/18 12:19	
Method: EPA 300.0 **Batch ID:** W8B0351 **Instr:** LC12		**Prepared:** 02/08/18 07:53			**Analyst:** jan	
Chloride, Total	**42**	0.50	mg/l	1	02/08/18 16:48	
Fluoride, Total	**0.55**	0.10	mg/l	1	02/08/18 16:48	
Nitrate as N	**1600**	110	ug/l	1	02/08/18 16:48	
Sulfate as SO4	**57**	0.50	mg/l	1	02/08/18 16:48	
Method: SM 2510B **Batch ID:** W8B0380 **Instr:** AA02		**Prepared:** 02/08/18 10:52			**Analyst:** stg	
Specific Conductance (EC)	**490**	2.0	umhos/cm	1	02/08/18 12:16	
Method: SM 2540C **Batch ID:** W8B0529 **Instr:** Inst		**Prepared:** 02/12/18 10:21			**Analyst:** ymt	
Total Dissolved Solids	**280**	10	mg/l	1	02/12/18 17:25	
Method: SM 4500H+-B **Batch ID:** W8B0342 **Instr:** AA02		**Prepared:** 02/07/18 16:28			**Analyst:** stg	
pH	**8.06**	0.10	Units	1	02/07/18 18:53	*

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Quality Control Results

Anions by IC, EPA Method 300.0

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W8B0351 - EPA 300/Dir Inj										
Blank (W8B0351-BLK1)				**Prepared & Analyzed: 02/08/18**						
Chloride, Total	ND	0.50	mg/l							
Fluoride, Total	ND	0.10	mg/l							
Nitrate as N	ND	110	ug/l							
Sulfate as SO4	ND	0.50	mg/l							
LCS (W8B0351-BS1)				**Prepared & Analyzed: 02/08/18**						
Chloride, Total	9.90	0.50	mg/l	10.0		99	90-110			
Fluoride, Total	1.00	0.10	mg/l	1.02		98	90-110			
Nitrate as N	1960	110	ug/l	2020		97	90-110			
Sulfate as SO4	10.3	0.50	mg/l	10.0		103	90-110			
Matrix Spike (W8B0351-MS1)	**Source: 8B05014-01**			**Prepared & Analyzed: 02/08/18**						
Chloride, Total	154	5.0	mg/l	100	50.3	104	76-118			
Fluoride, Total	10.5	1.0	mg/l	10.2	0.303	100	86-107			
Nitrate as N	21900	1100	ug/l	20200	1460	101	84-115			
Sulfate as SO4	193	5.0	mg/l	100	78.4	114	78-111			MS-05
Matrix Spike (W8B0351-MS2)	**Source: 8B07050-04**			**Prepared & Analyzed: 02/08/18**						
Chloride, Total	187	5.0	mg/l	100	81.3	106	76-118			
Fluoride, Total	10.8	1.0	mg/l	10.2	0.640	99	86-107			
Nitrate as N	21000	1100	ug/l	20200	950	99	84-115			
Sulfate as SO4	187	5.0	mg/l	100	74.9	111	78-111			
Matrix Spike Dup (W8B0351-MSD1)	**Source: 8B05014-01**			**Prepared & Analyzed: 02/08/18**						
Chloride, Total	154	5.0	mg/l	100	50.3	104	76-118	0.2	20	
Fluoride, Total	10.5	1.0	mg/l	10.2	0.303	100	86-107	0.2	20	
Nitrate as N	22000	1100	ug/l	20200	1460	101	84-115	0.3	20	
Sulfate as SO4	193	5.0	mg/l	100	78.4	114	78-111	0.07	20	MS-05
Matrix Spike Dup (W8B0351-MSD2)	**Source: 8B07050-04**			**Prepared & Analyzed: 02/08/18**						
Chloride, Total	187	5.0	mg/l	100	81.3	106	76-118	0.07	20	
Fluoride, Total	10.8	1.0	mg/l	10.2	0.640	100	86-107	0.3	20	
Nitrate as N	21000	1100	ug/l	20200	950	99	84-115	0	20	
Sulfate as SO4	187	5.0	mg/l	100	74.9	111	78-111	0.07	20	
Batch: W8B0495 - EPA 300/Dir Inj										
Blank (W8B0495-BLK1)				**Prepared & Analyzed: 02/10/18**						
Sulfate as SO4	ND	0.50	mg/l							
LCS (W8B0495-BS1)				**Prepared & Analyzed: 02/10/18**						
Sulfate as SO4	10.6	0.50	mg/l	10.0		105	90-110			
Matrix Spike (W8B0495-MS1)	**Source: 8B09014-04**			**Prepared & Analyzed: 02/10/18**						
Sulfate as SO4	187	5.0	mg/l	100	82.3	104	78-111			
Matrix Spike (W8B0495-MS2)	**Source: 8B09062-01**			**Prepared & Analyzed: 02/10/18**						
Sulfate as SO4	185	5.0	mg/l	100	75.1	109	78-111			
Matrix Spike Dup (W8B0495-MSD1)	**Source: 8B09014-04**			**Prepared & Analyzed: 02/10/18**						
Sulfate as SO4	187	5.0	mg/l	100	82.3	104	78-111	0.2	20	

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Quality Control Results

(Continued)

Anions by IC, EPA Method 300.0 (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W8B0495 - EPA 300/Dir Inj (Continued)										
Matrix Spike Dup (W8B0495-MSD2)	**Source: 8B09062-01**			**Prepared & Analyzed: 02/10/18**						
Sulfate as SO4	185	5.0	mg/l	100	75.1	110	78-111	0.09	20	

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W8B0342 - General Preparation										
LCS (W8B0342-BS1)				**Prepared & Analyzed: 02/07/18**						
pH	7.42	0.10	Units	7.41		100	98.8-101			
Duplicate (W8B0342-DUP1)	**Source: 8B05014-01**			**Prepared & Analyzed: 02/07/18**						
pH	7.75	0.10	Units		7.68			0.9	3.1	
Batch: W8B0380 - General Preparation										
Blank (W8B0380-BLK1)				**Prepared & Analyzed: 02/08/18**						
Specific Conductance (EC)	ND	2.0	umhos/cm							
LCS (W8B0380-BS1)				**Prepared & Analyzed: 02/08/18**						
Specific Conductance (EC)	193	2.0	umhos/cm	200		96	95-105			
Duplicate (W8B0380-DUP1)	**Source: 8B05014-01**			**Prepared & Analyzed: 02/08/18**						
Specific Conductance (EC)	577	2.0	umhos/cm		570			1	5	
Batch: W8B0529 - General Preparation										
Blank (W8B0529-BLK1)				**Prepared & Analyzed: 02/12/18**						
Total Dissolved Solids	ND	10	mg/l							
LCS (W8B0529-BS1)				**Prepared & Analyzed: 02/12/18**						
Total Dissolved Solids	809	10	mg/l	824		98	96-102			
Duplicate (W8B0529-DUP1)	**Source: 8B07091-07**			**Prepared & Analyzed: 02/12/18**						
Total Dissolved Solids	587	10	mg/l		589			0.3	10	
Duplicate (W8B0529-DUP2)	**Source: 8B07104-02**			**Prepared & Analyzed: 02/12/18**						
Total Dissolved Solids	6670	10	mg/l		6680			0.2	10	

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Quality Control Results

(Continued)

Metals by EPA 200 Series Methods

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W8B0667 - EPA 200.2										
Blank (W8B0667-BLK1)				**Prepared: 02/13/18**	**Analyzed: 02/15/18**					
Magnesium, Total	ND	0.100	mg/l							
Potassium, Total	ND	0.10	mg/l							
Sodium, Total	ND	0.50	mg/l							
LCS (W8B0667-BS1)				**Prepared: 02/13/18**	**Analyzed: 02/15/18**					
Magnesium, Total	51.1	0.100	mg/l	50.0		102	85-115			
Potassium, Total	54.2	0.10	mg/l	50.0		108	85-115			
Sodium, Total	52.0	0.50	mg/l	50.0		104	85-115			
Matrix Spike (W8B0667-MS1)	**Source: 8B07091-01**			**Prepared: 02/13/18**	**Analyzed: 02/15/18**					
Magnesium, Total	60.5	0.100	mg/l	50.0	8.83	103	70-130			
Potassium, Total	59.3	0.10	mg/l	50.0	3.48	112	70-130			
Sodium, Total	123	0.50	mg/l	50.0	70.2	106	70-130			
Matrix Spike Dup (W8B0667-MSD1)	**Source: 8B07091-01**			**Prepared: 02/13/18**	**Analyzed: 02/15/18**					
Magnesium, Total	58.7	0.100	mg/l	50.0	8.83	100	70-130	3	30	
Potassium, Total	57.8	0.10	mg/l	50.0	3.48	109	70-130	2	30	
Sodium, Total	121	0.50	mg/l	50.0	70.2	101	70-130	2	30	

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Notes and Definitions

Item	Definition
*	The recommended holding time for this analysis is only 15 minutes. The sample was analyzed as soon as it was possible but it was received and analyzed past holding time.
MS-05	The spike recovery and/or RPD were outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR)
MDA	Minimum Detectable Activity
NR	Not Reportable
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.
An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)
All results are expressed on wet weight basis unless otherwise specified.
All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.

Reviewed by:

Valerie Rejuso
Project Manager

DoD-ELAP #L2457 • ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • ISO 17025 #L2457.01 • LACSD #10143 • NJ-DEP #CA015

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

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Appendix C: Vadose Zone Monitoring

Table 1

Vadose Zone Soil Moisture Monitoring
Evaporation Ponds
Coolwater Generating Station

TDR Station ID	Survey Date	% Soil Moisture	Background Soil Moisture	Action Limit from permit	20-year Average % Soil Moisture
V1A	7/20/2017	7.9	6.5	10.5	7.7
	10/12/2017	7.7			
	2/7/2018	7.6			
	4/19/2018	7.8			
V1B	7/20/2017	9.6	TBD (7.4)	TBD (11.4)	9.3
	10/12/2017	9.4			
	2/7/2018	9.2			
	4/19/2018	9.1			
V2A	7/20/2017	5.1	4.7	8.7	5.7
	10/12/2017	4.8			
	2/7/2018	5.0			
	4/19/2018	5.1			
V2B	7/20/2017	7.0	7.4	11.4	7.6
	10/12/2017	7.0			
	2/7/2018	6.7			
	4/19/2018	6.9			
V3A	7/20/2017	3.4	3.0	7.0	3.7
	10/12/2017	3.7			
	2/7/2018	3.5			
	4/19/2018	3.6			
V3B	7/20/2017	0.0	0.0	4.0	0.0
	10/12/2017	0.0			
	2/7/2018	0.0			
	4/19/2018	0.0			
V4A	7/20/2017	7.5	7.5	11.5	7.7
	10/12/2017	7.3			
	2/7/2018	7.1			
	4/19/2018	7.3			
V4B	7/20/2017	9.6	9.7	13.7	9.7
	10/12/2017	9.4			
	2/7/2018	9.2			
	4/19/2018	9.0			

Table 1

Vadose Zone Soil Moisture Monitoring
Evaporation Ponds
Coolwater Generating Station

TDR Station ID	Survey Date	% Soil Moisture	Background Soil Moisture	Action Limit from permit	20-year Average % Soil Moisture
V5A	7/20/2017	5.2	5.6	9.6	5.2
	10/12/2017	5.6			
	2/7/2018	5.3			
	4/19/2018	5.2			
V5B	7/20/2017	8.5	5.2	9.2	7.4
	10/12/2017	8.3			
	2/7/2018	8.1			
	4/19/2018	8.4			
V6A	7/20/2017	6.5	6.9	10.9	6.7
	10/12/2017	6.7			
	2/7/2018	6.4			
	4/19/2018	6.2			
V6B	7/20/2017	7.5	6.7	10.7	7.4
	10/12/2017	7.3			
	2/7/2018	7.5			
	4/19/2018	7.2			
V7A	7/20/2017	4.2	4.0	8.0	4.3
	10/12/2017	4.4			
	2/7/2018	4.1			
	4/19/2018	4.2			
V7B	7/20/2017	2.5	0.7	4.7	2.0
	10/12/2017	2.8			
	2/7/2018	2.6			
	4/19/2018	2.7			
V8A	7/20/2017	7.3	7.0	11.0	7.5
	10/12/2017	7.6			
	2/7/2018	7.4			
	4/19/2018	7.5			
V8B	7/20/2017	9.5	12.7	16.7	10.7
	10/12/2017	9.7			
	2/7/2018	9.9			
	4/19/2018	9.4			

Table 1

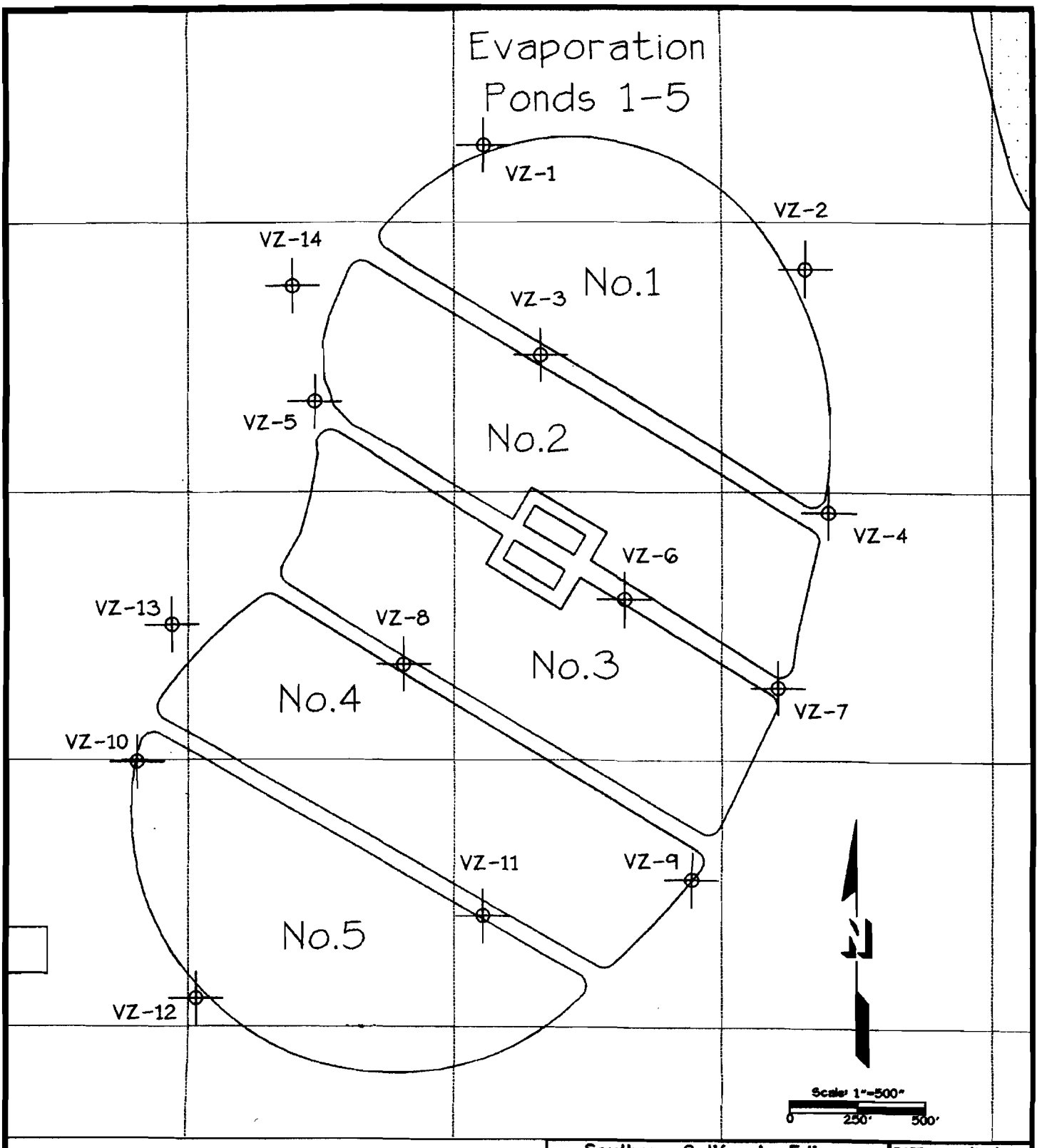
Vadose Zone Soil Moisture Monitoring
Evaporation Ponds
Coolwater Generating Station

TDR Station ID	Survey Date	% Soil Moisture	Background Soil Moisture	Action Limit from permit	20-year Average % Soil Moisture
V9A	7/20/2017	12.5	11.3	15.3	11.9
	10/12/2017	12.2			
	2/7/2018	12.0			
	4/19/2018	12.2			
V9B	7/20/2017	7.2	7.0	11.0	7.4
	10/12/2017	7.4			
	2/7/2018	7.4			
	4/19/2018	7.3			
V10A	7/20/2017	7.1	5.9	9.9	7.1
	10/12/2017	6.9			
	2/7/2018	6.8			
	4/19/2018	6.6			
V10.B	7/20/2017	3.0	1.3	5.3	2.6
	10/12/2017	2.8			
	2/7/2018	2.6			
	4/19/2018	2.8			
V11A	7/20/2017	10.7	TBD (8.8)	TBD (12.8)	10.2
	10/12/2017	10.4			
	2/7/2018	10.2			
	4/19/2018	10.3			
V11B	7/20/2017	7.0	6.0	10.0	6.4
	10/12/2017	6.8			
	2/7/2018	6.6			
	4/19/2018	6.7			
V12A	7/20/2017	3.8	2.2	6.2	3.5
	10/12/2017	3.6			
	2/7/2018	3.7			
	4/19/2018	3.5			
V12B	7/20/2017	5.0	5.3	9.3	4.0
	10/12/2017	5.3			
	2/7/2018	5.1			
	4/19/2018	5.0			

Table 1

Vadose Zone Soil Moisture Monitoring
Evaporation Ponds
Coolwater Generating Station

TDR Station ID	Survey Date	% Soil Moisture	Background Soil Moisture	Action Limit from permit	20-year Average % Soil Moisture
V13A	7/20/2017	6.2	5.0	9.0	5.8
	10/12/2017	6.4			
	2/7/2018	6.5			
	4/19/2018	6.3			
V13B	7/20/2017	5.1	0.0	4.0	4.1
	10/12/2017	5.3			
	2/7/2018	5.4			
	4/19/2018	5.2			
V14A	7/20/2017	5.5	7.3	11.3	5.8
	10/12/2017	5.6			
	2/7/2018	5.3			
	4/19/2018	5.4			
V14B	7/20/2017	3.4	4.5	8.5	3.2
	10/12/2017	3.1			
	2/7/2018	3.3			
	4/19/2018	3.0			



VZ-1 Vadose Zone Monitoring Point

Southern California Edison
Cool Water Generating Station

Vadose Zone Monitoring Points

DATE:	11/21/97
DESIGNED:	DJH
CHECKED:	
APPROVED:	
DRAWN:	TAH
PROJ.:	N301-107

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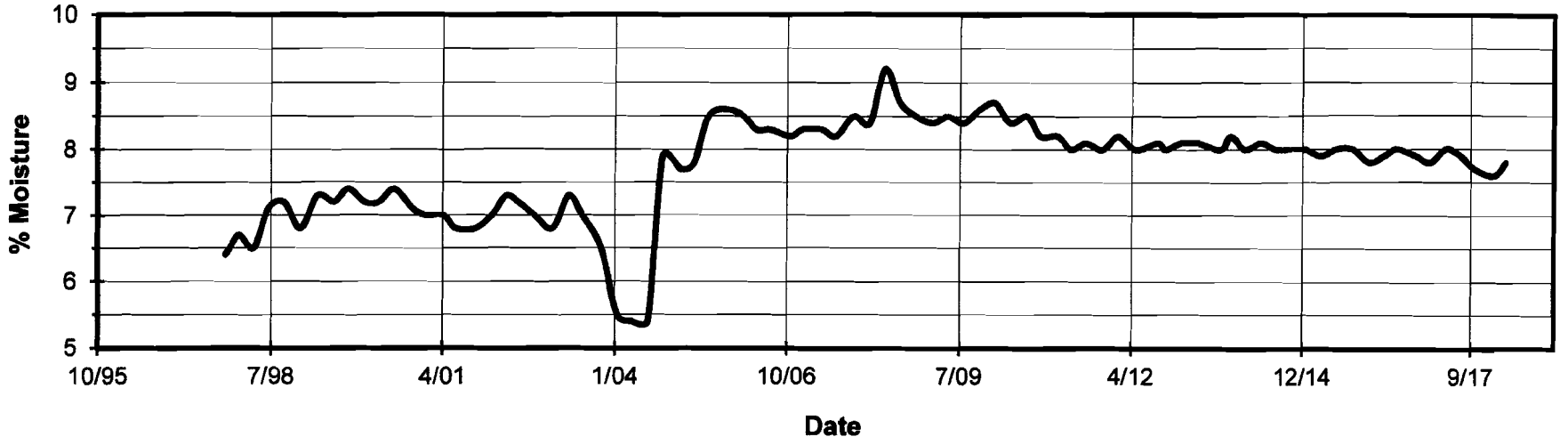
Figure 1

/usr11/sce/n301-107/01sm03-a.dwg 11/21/1997 09:30:59

Vadose Zone Monitoring Station 1A



Vadose Zone Monitoring Station 1B

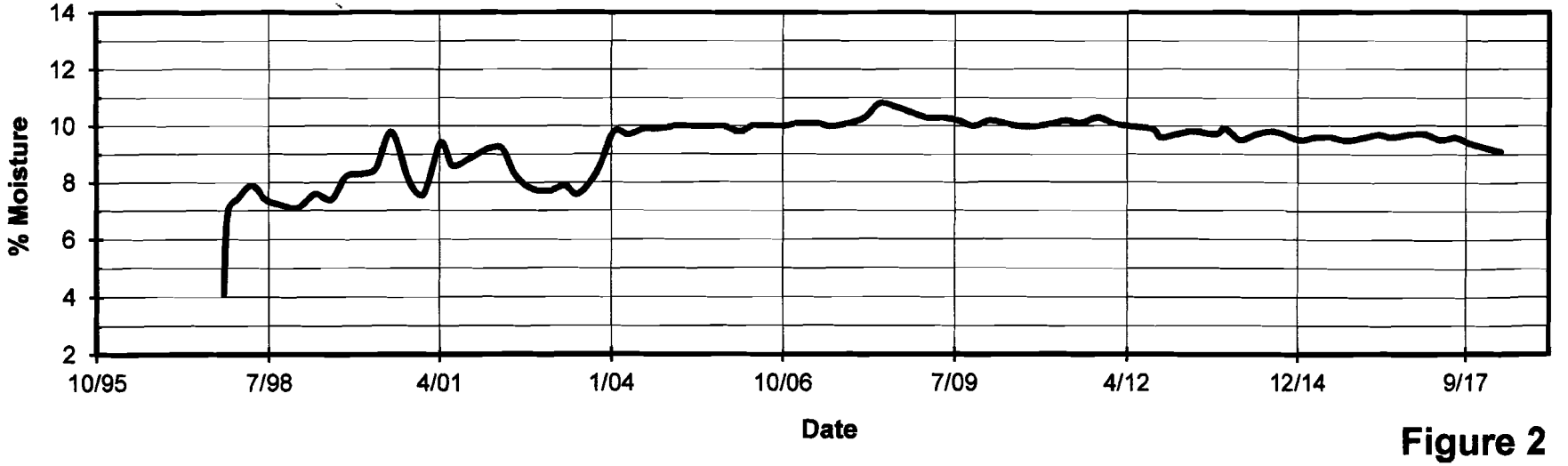
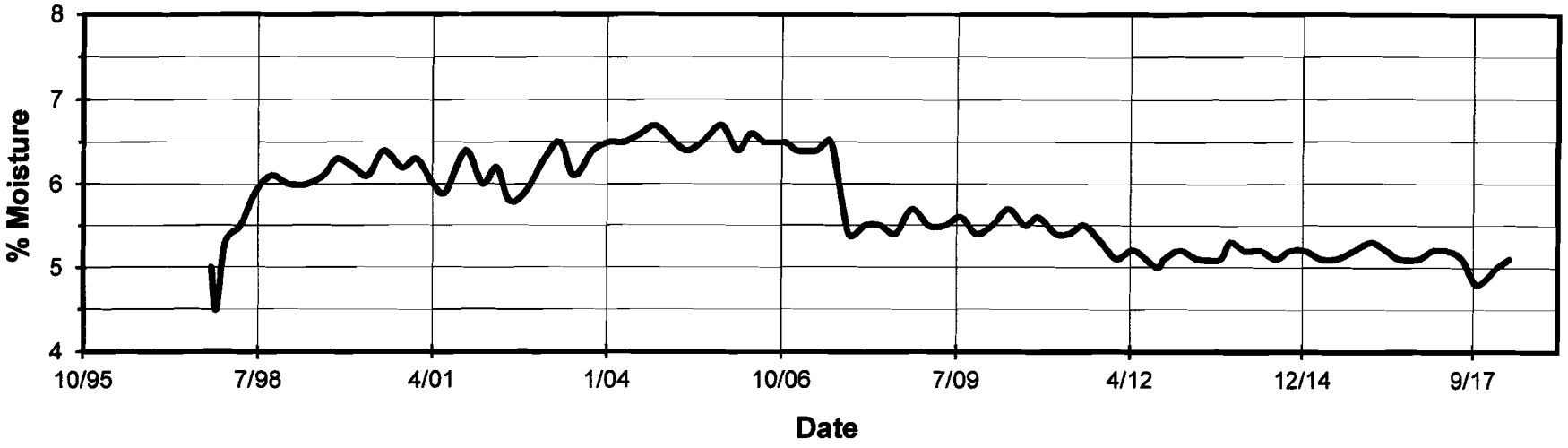


Figure 2

Vadose Zone Monitoring Station 2A



Vadose Zone Monitoring Station 2B

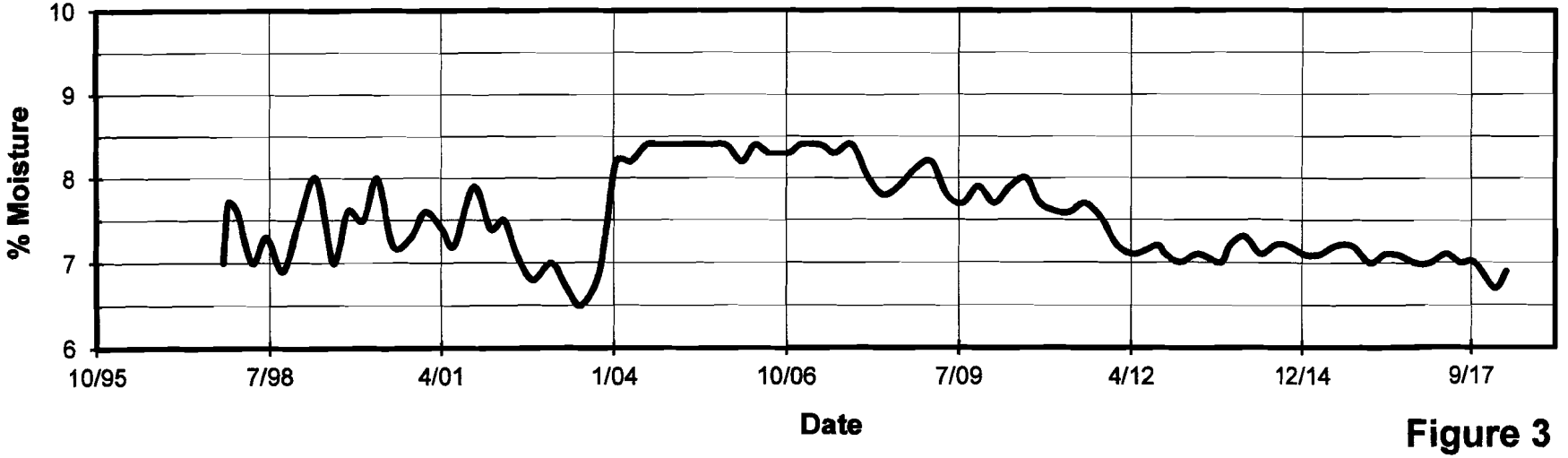
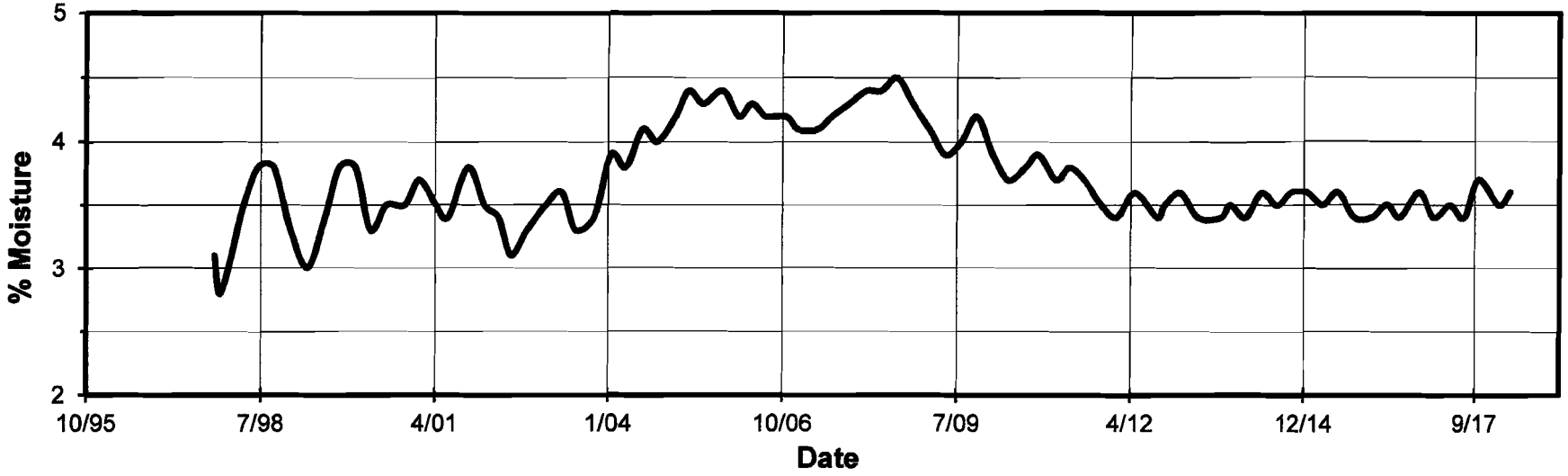


Figure 3

Vadose Zone Monitoring Station 3A



Vadose Zone Monitoring Station 3B

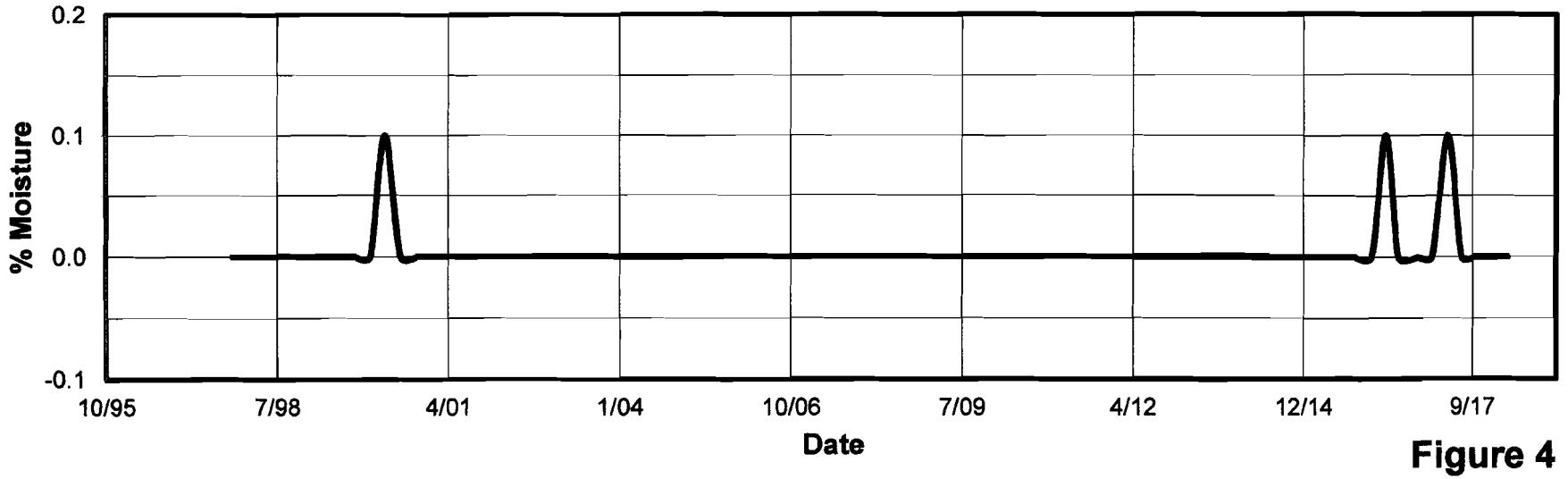
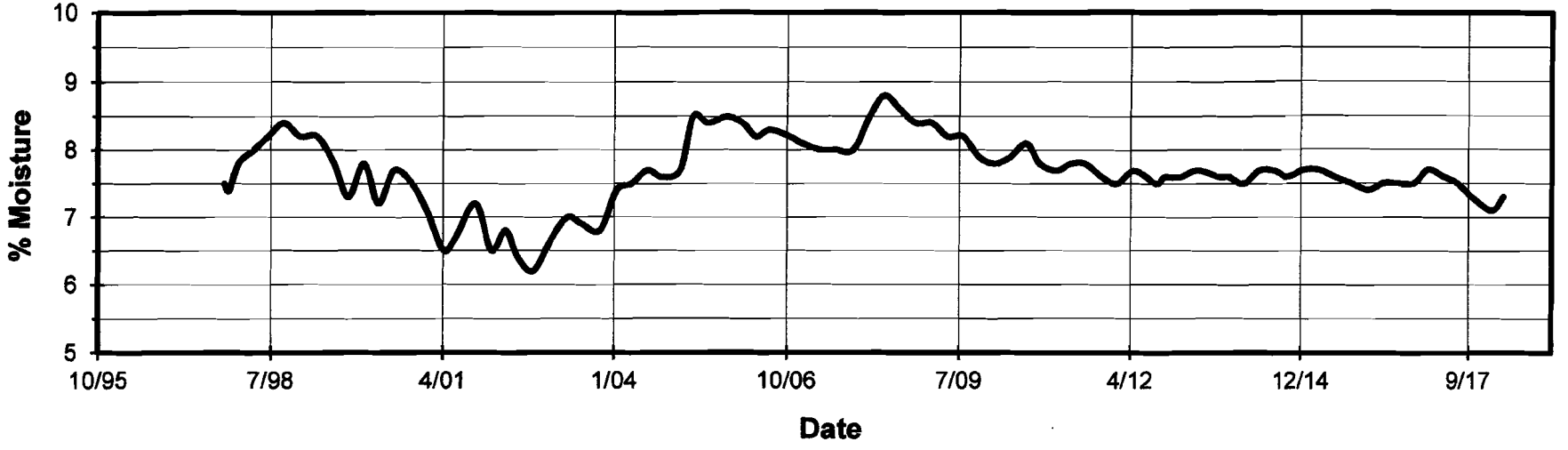


Figure 4

Vadose Zone Monitoring Station 4A



Vadose Zone Monitoring Station 4B

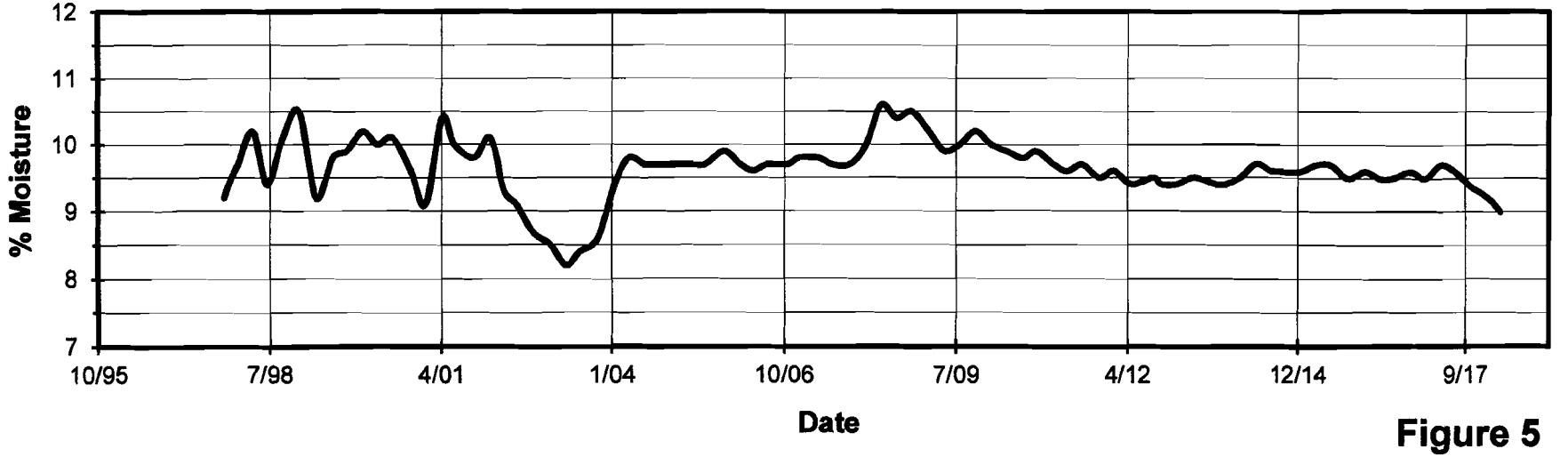
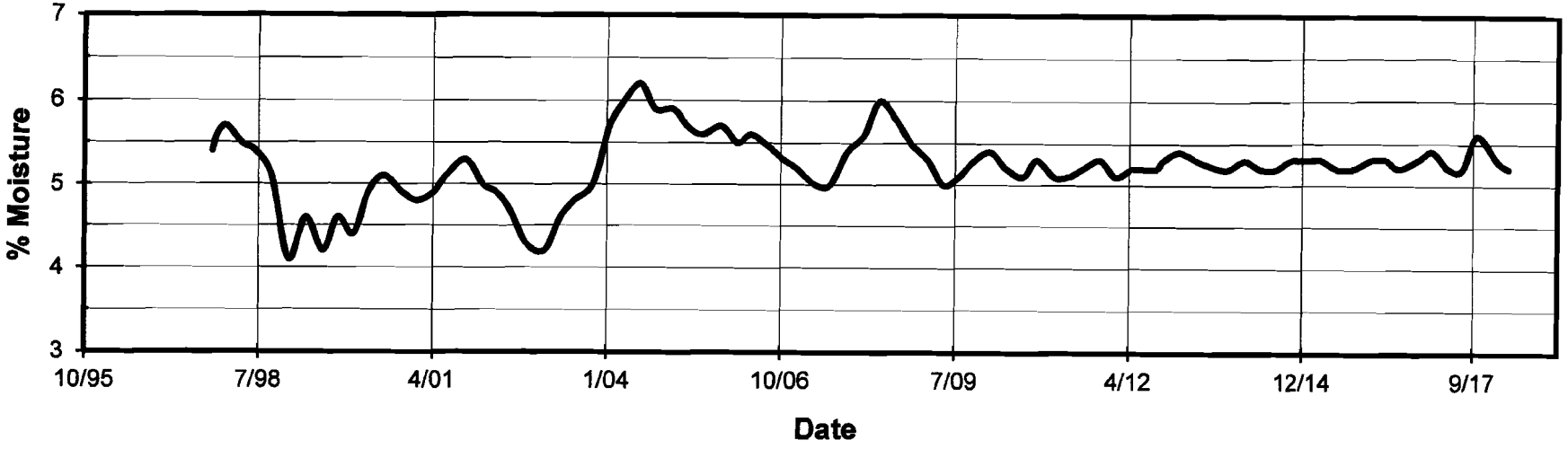


Figure 5

Vadose Zone Monitoring Station 5A



Vadose Zone Monitoring Station 5B

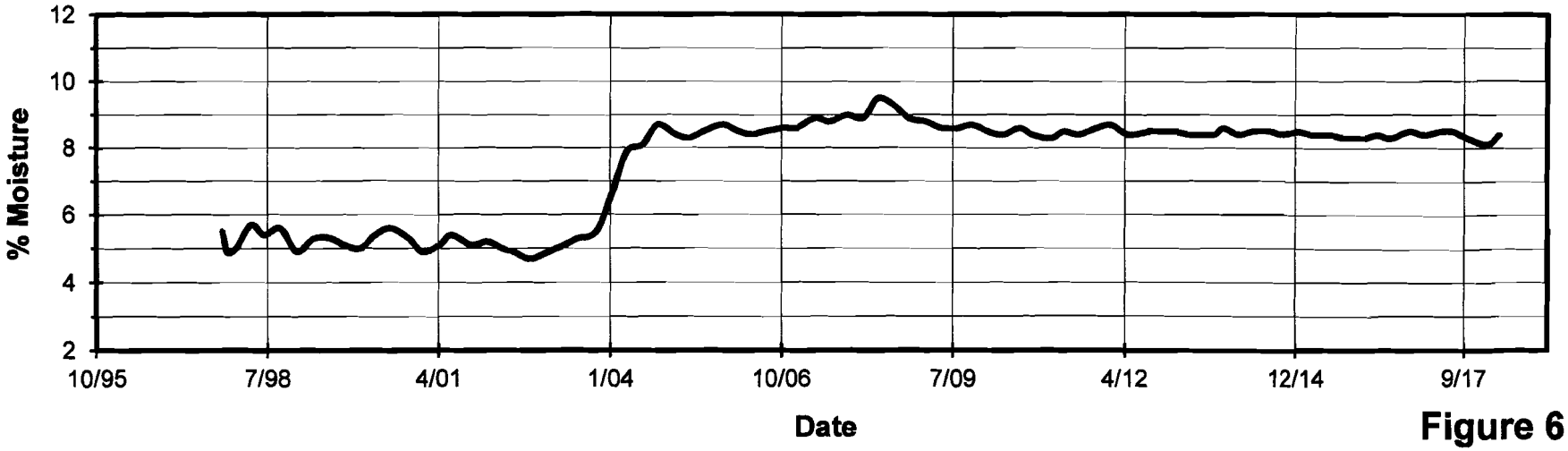
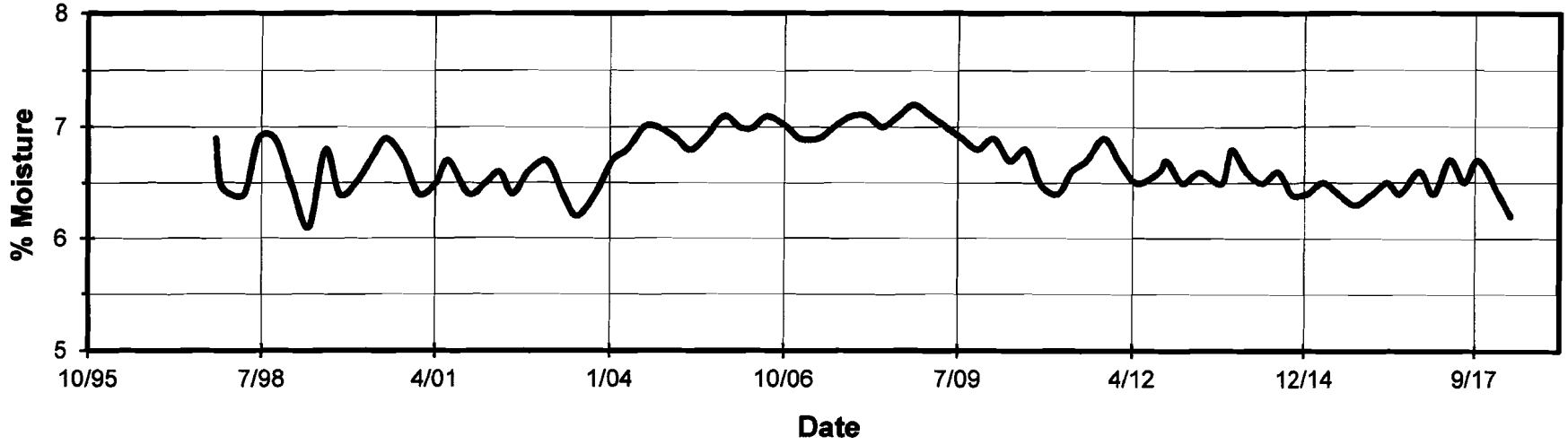


Figure 6

Vadose Zone Monitoring Station 6A



Vadose Zone Monitoring Station 6B

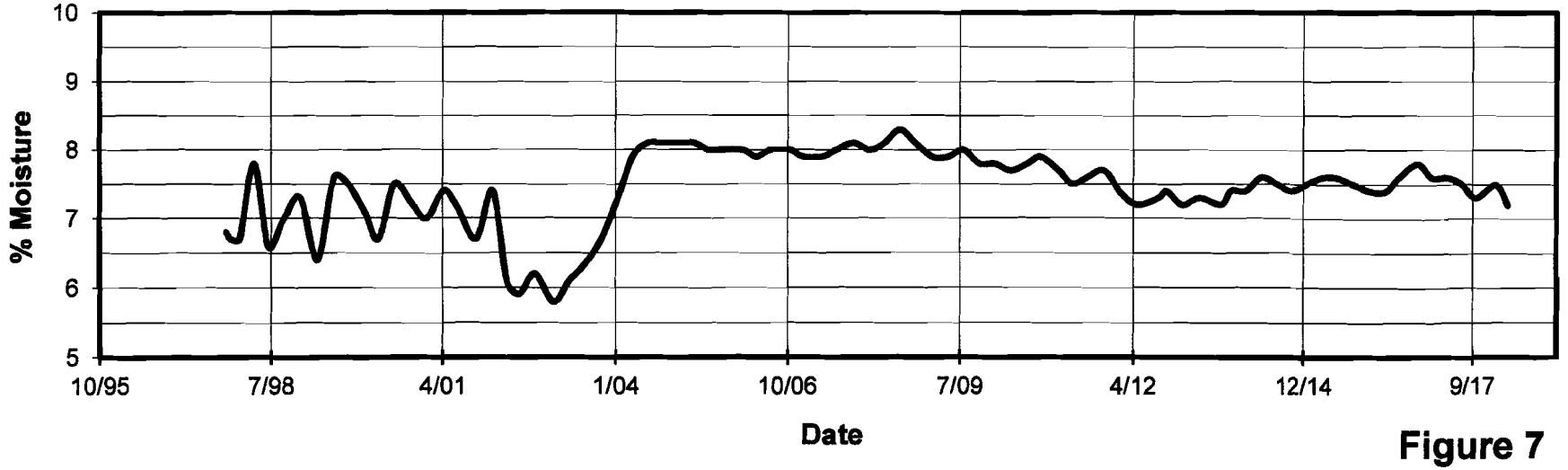
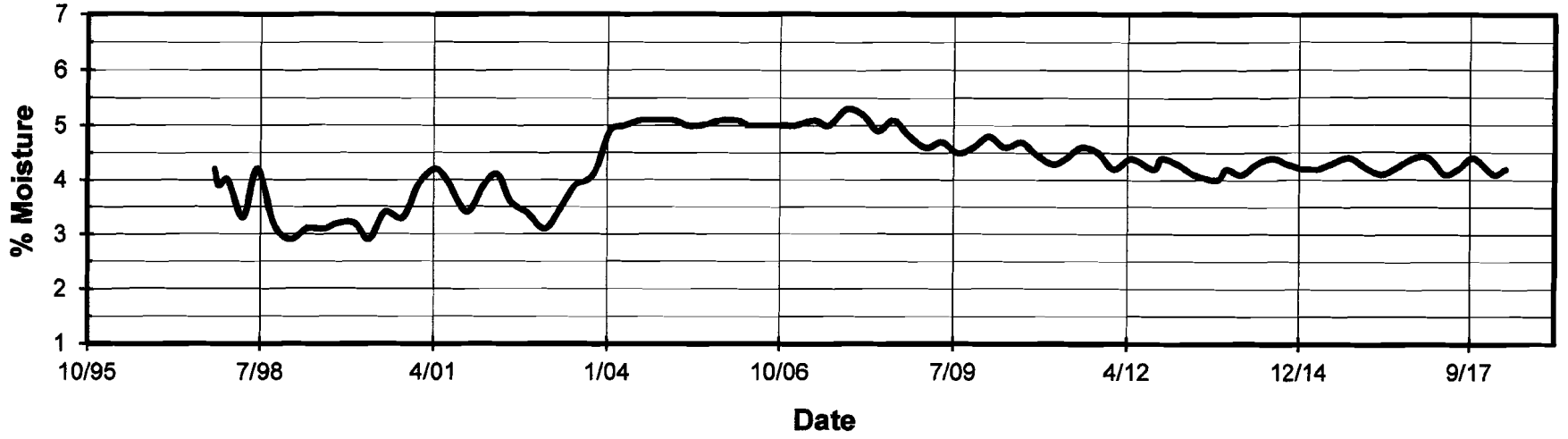


Figure 7

Vadose Zone Monitoring Station 7A



Vadose Zone Monitoring Station 7B

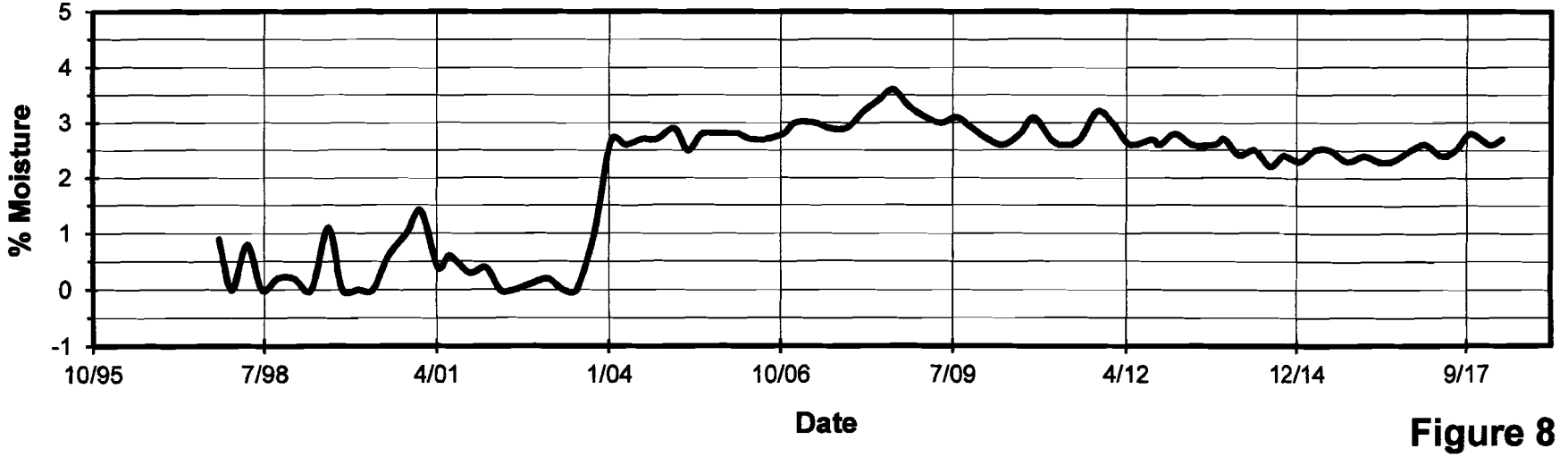
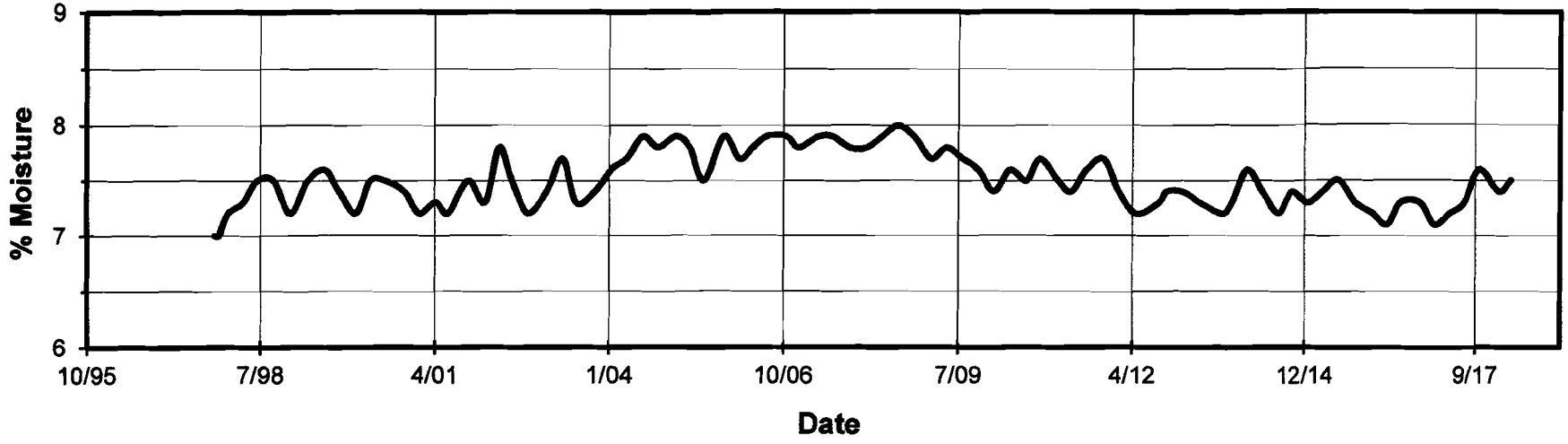


Figure 8

Vadose Zone Monitoring Station 8A



Vadose Zone Monitoring Station 8B

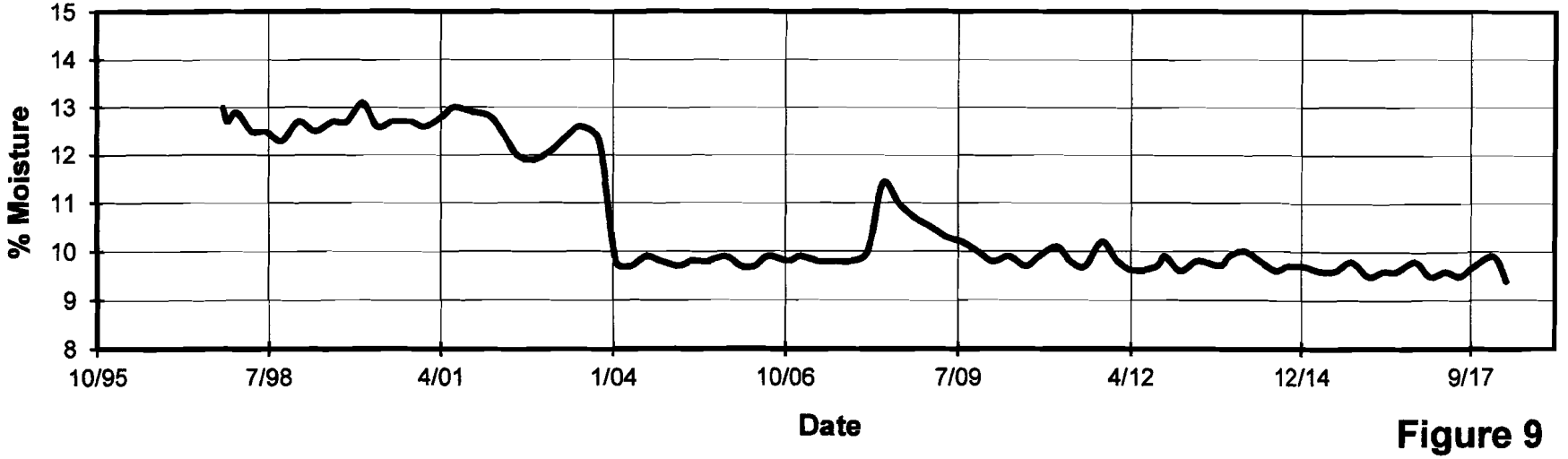
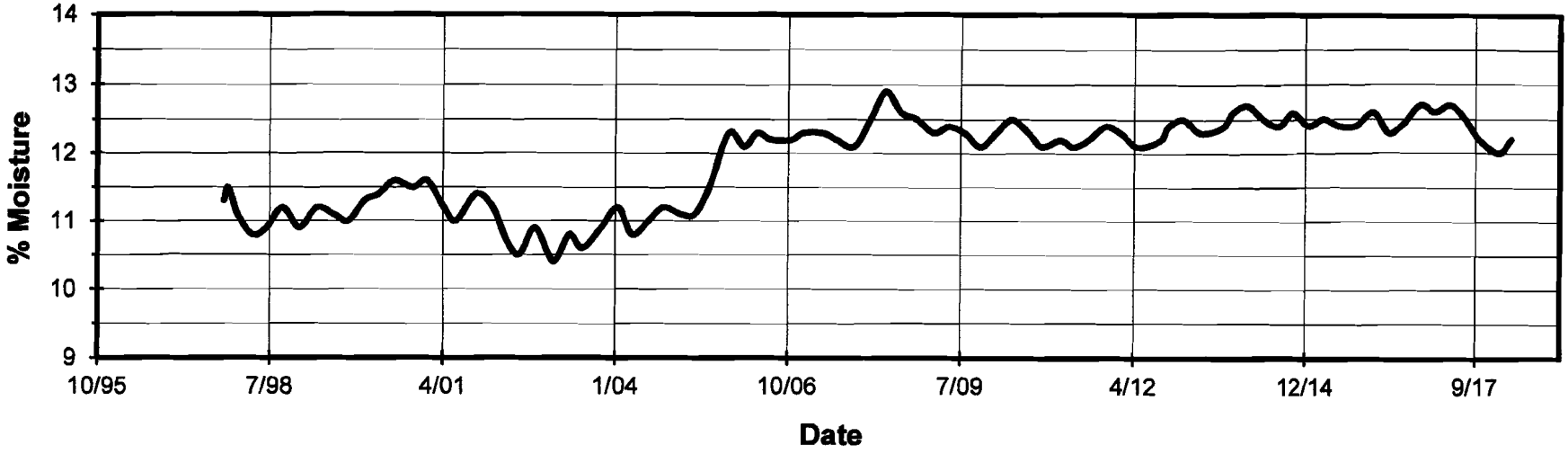


Figure 9

Vadose Zone Monitoring Station 9A



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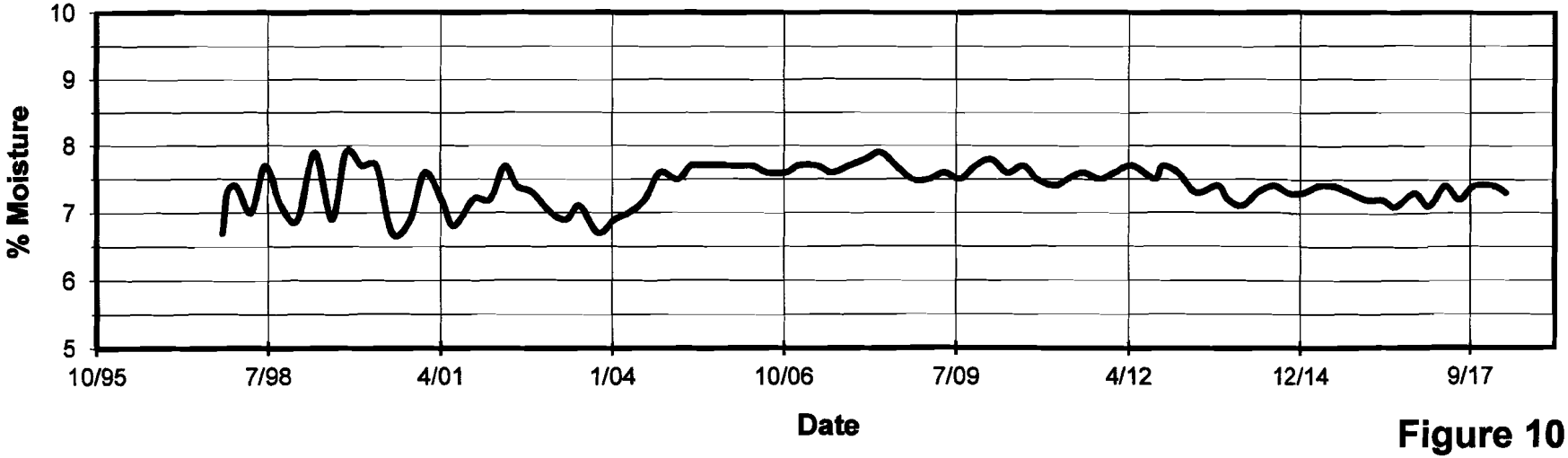
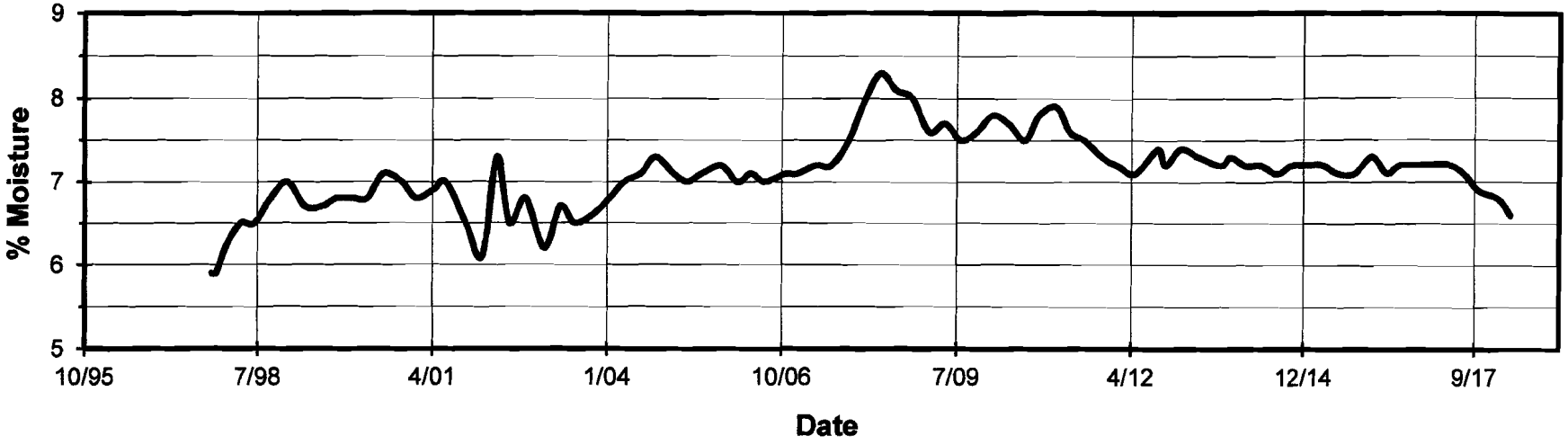


Figure 10

Vadose Zone Monitoring Station 10A



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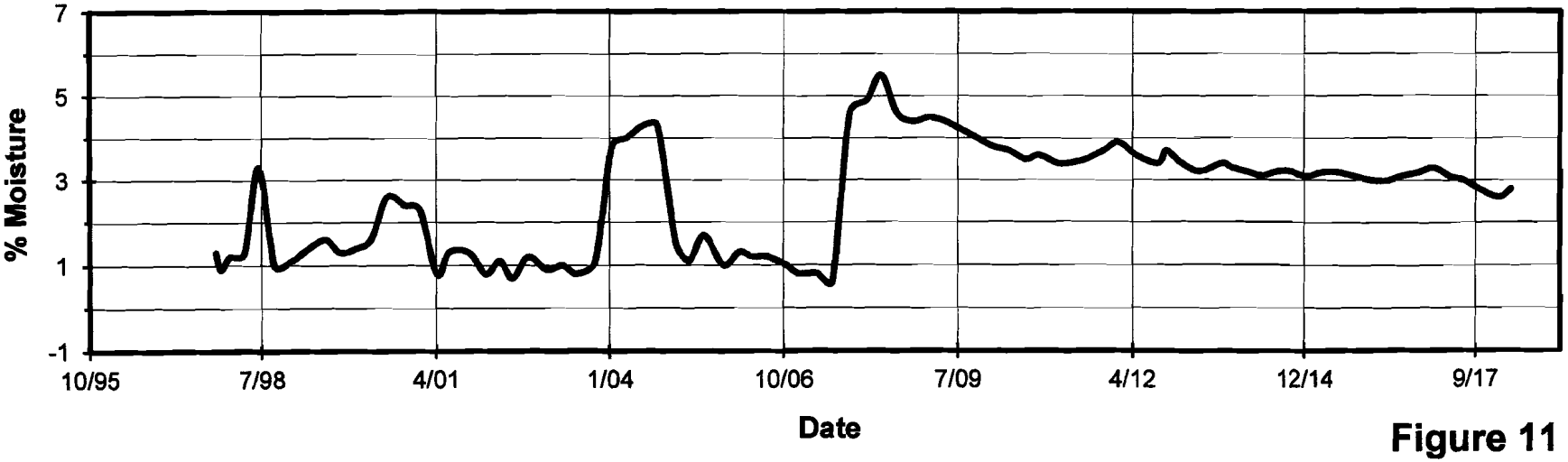

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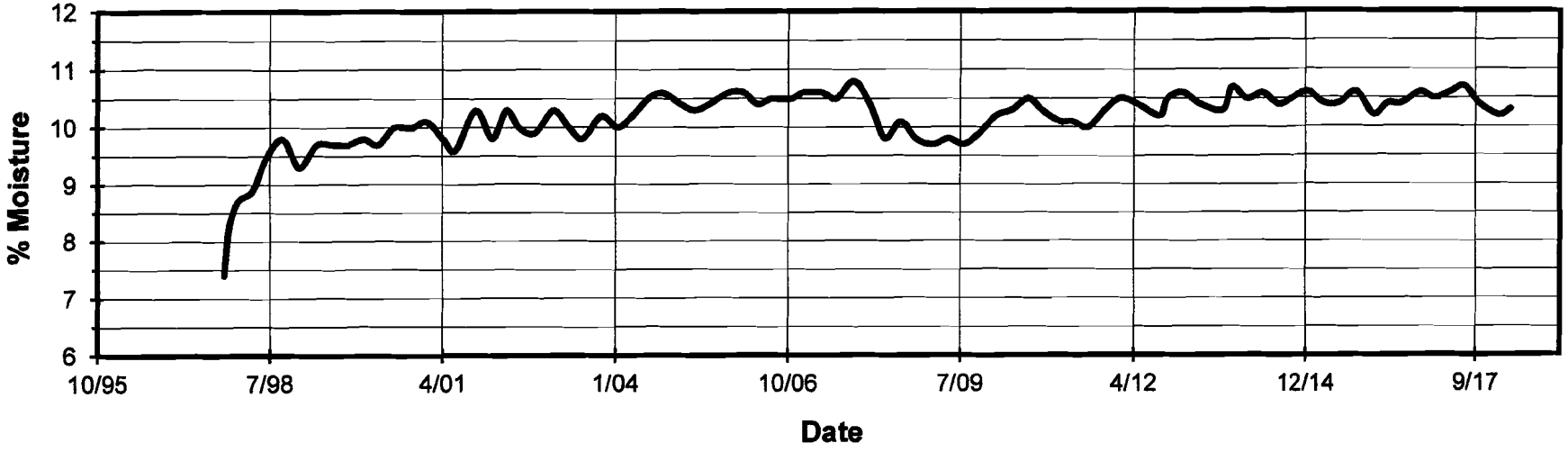

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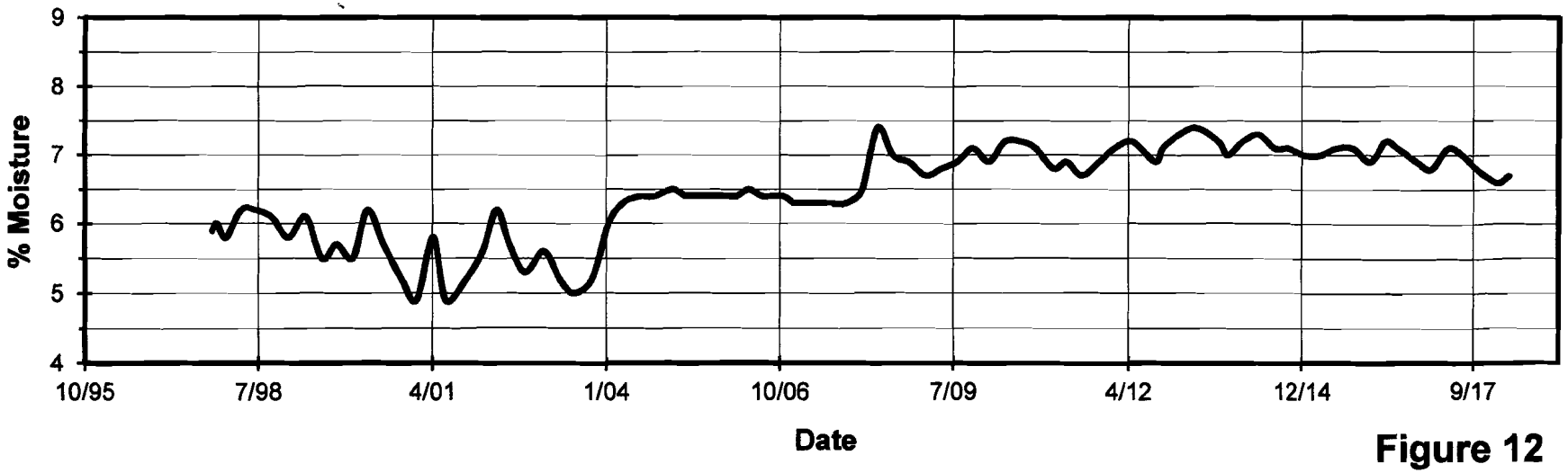

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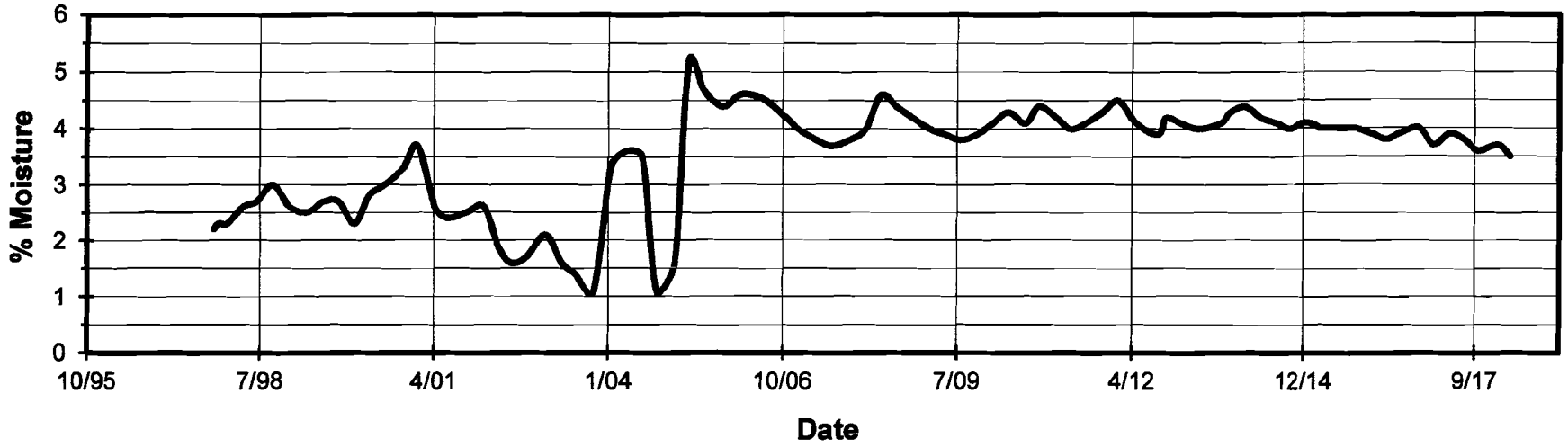

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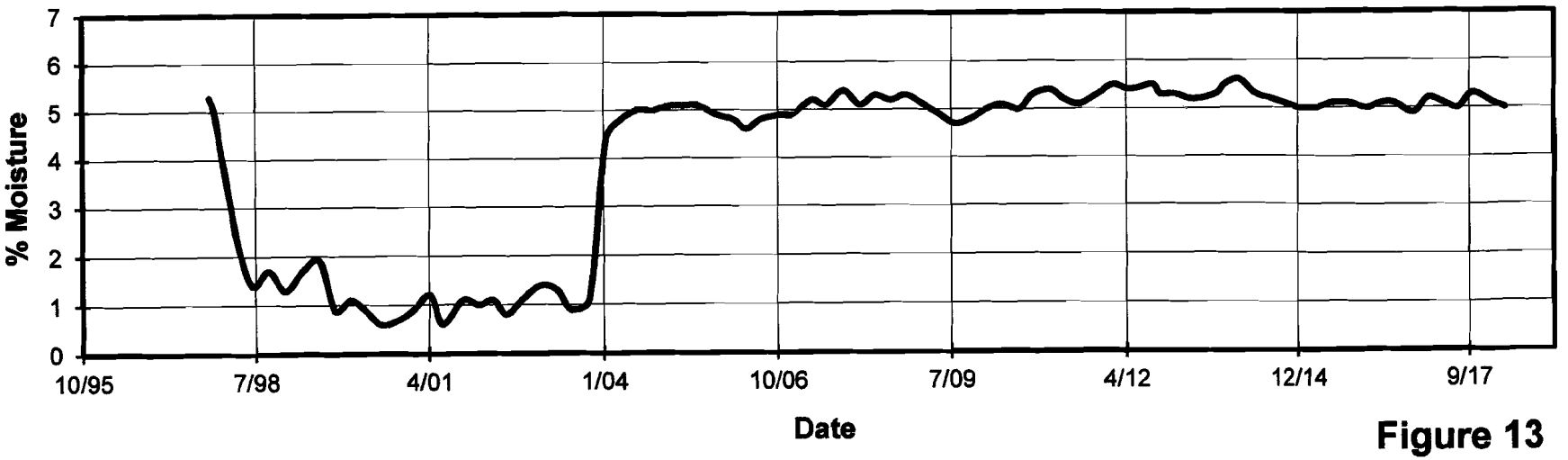
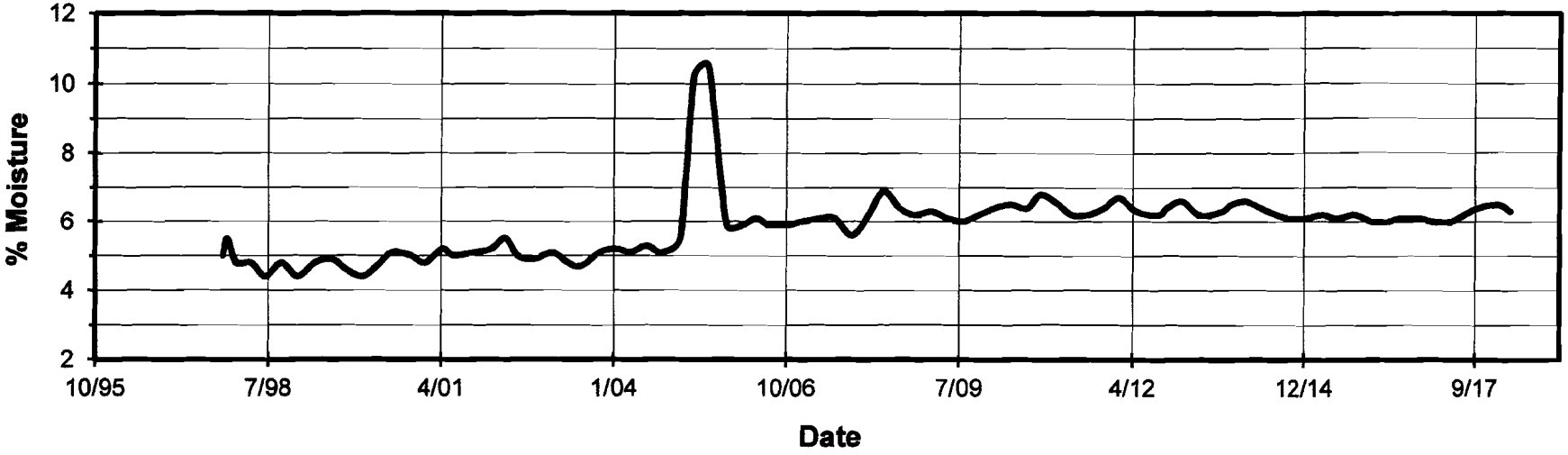


Figure 13

Vadose Zone Monitoring Station 13A



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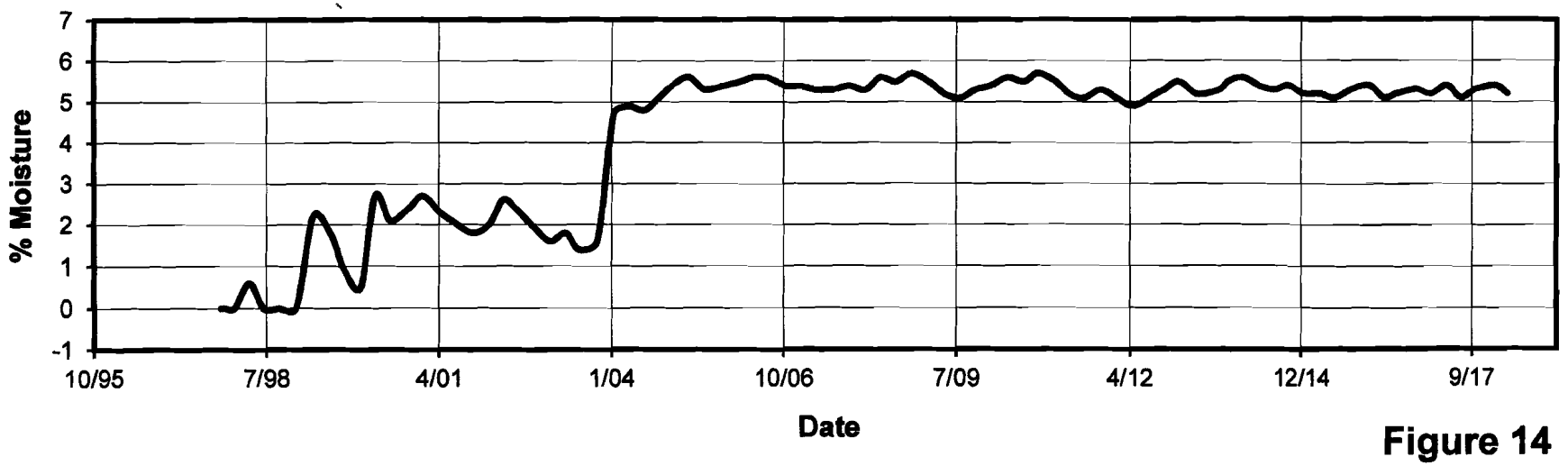

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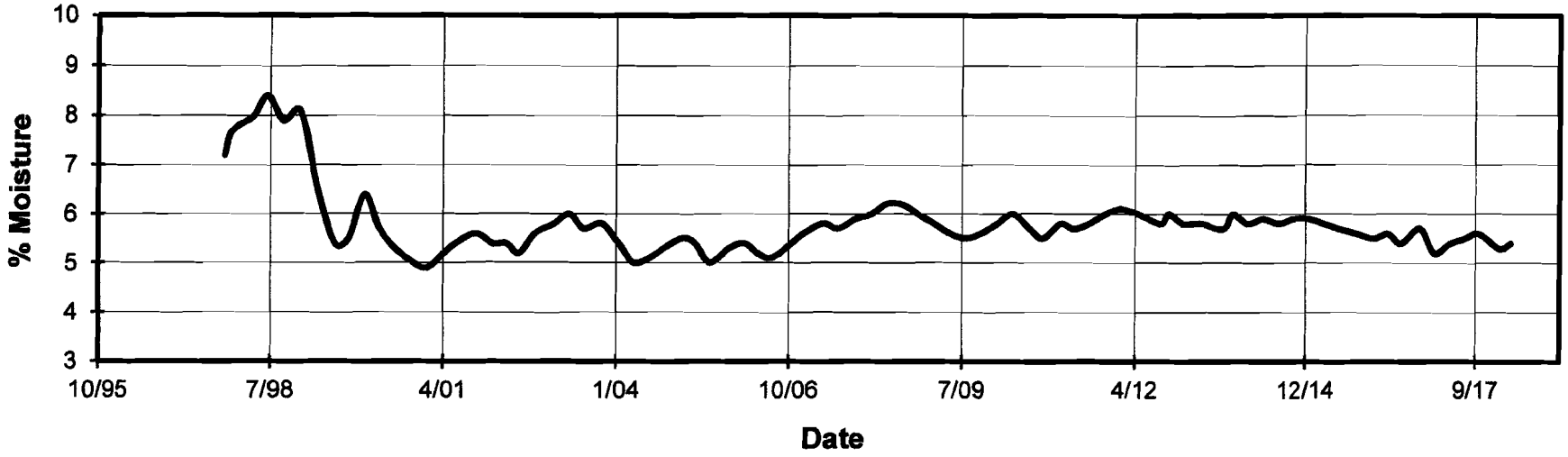
Vadose Zone Monitoring Station 14A



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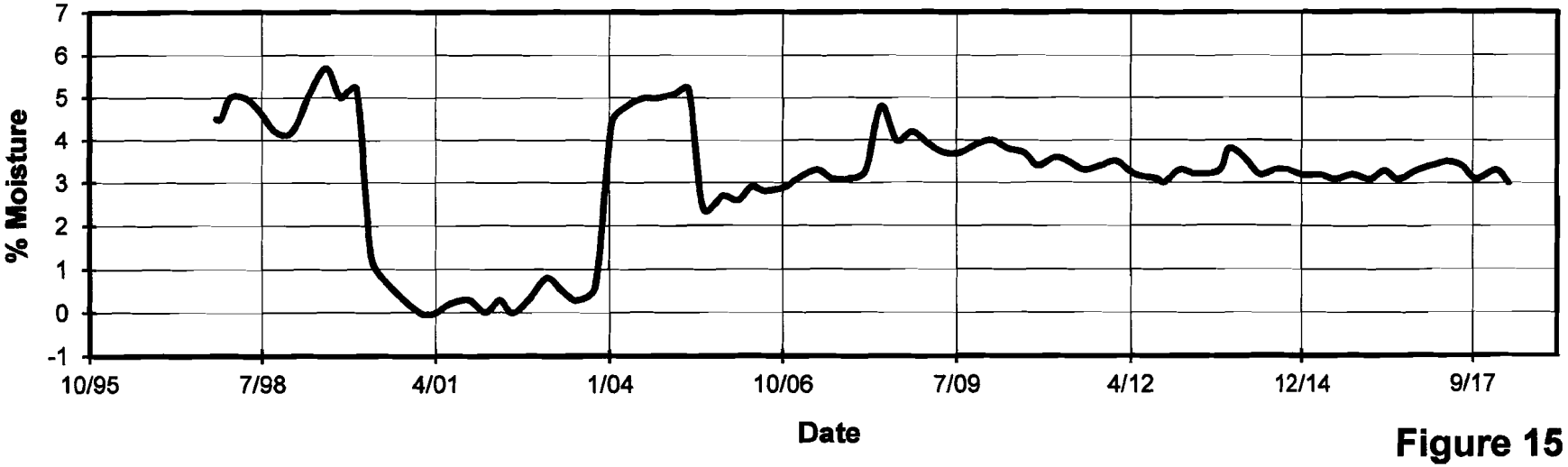

Figure 15

Westwood

Phase I Environmental Site Assessment

Sunray Energy, LLC
Solar Energy Generating System I & II

35100 Santa Fe Street, Daggett, California 92327

November 6, 2015

Prepared For:

Centaurus Renewable Energy, LLC
2800 Post Oak Boulevard, Suite 225
Houston, TX 77056

Westwood

7699 Anagram Drive
Eden Prairie, MN 55344

Main (952) 937-5150
Fax (952) 937-5822

westwoodps.com
(888) 937-5150

November 6, 2015

Kieth Holst
Centaurus Renewable Energy
2800 Post Oak Boulevard, Suite 225
Houston, TX 77056

Re: Phase I Environmental Site Assessment Sunray Energy, LLC Solar Energy Generating System I & II at 35100 Santa Fe St. Daggett, CA
Project No. R0006575.01

Dear Mr. Holst:

Westwood Professional Services (Westwood) completed a Phase I Environmental Site Assessment (Phase I ESA) for the subject property in conformance with the scope and limitations of ASTM Practice E 1527-13. Any exceptions to or deletions from this practice are described in Section 2.2 of this report.

Centaurus Renewable Energy LLC (Centaurus) (USER) retained Westwood Professional Services (Westwood) to prepare a Phase I ESA for the Sunray Energy, LLC Solar Energy Generating System (SEGS) I and II located at 35100 Santa Fe Street, Daggett, San Bernardino County, California 92327 (Subject Property). The operating solar electric generating facility on the Subject Property is in the process of being decommissioned and the facility is being purchased by Centaurus.

This assessment has revealed nine ASTM Recognized Environmental Conditions (RECs) in connection with the Subject Property. Please refer to the report for details. If you have any questions or wish to discuss any particular aspect of the project, please feel free to call me at (952) 906-7423. We look forward to being of continued service to you.

Sincerely,

Westwood Professional Services

Thomas Braman
Senior Environmental Scientist

SUNRAY SOLAR
PHASE I ENVIRONMENTAL SITE ASSESSMENT

FOR:
Sunray Energy, LLC
Solar Energy Generating System
SEGS I and II
35100 Santa Fe Street,
Daggett, California 92327

PREPARED FOR:
Centaurus Renewable Energy, LLC

PREPARED BY:
Westwood Professional Services, Inc.
7699 Anagram Drive
Eden Prairie, Minnesota 55344

Westwood Project Number: 0006575.01

November 6, 2015

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1.0 EXECUTIVE SUMMARY

Centaurus Renewable Energy, LLC (Centaurus / USER) retained Westwood Professional Services (Westwood) to prepare this Phase I Environmental Site Assessment (Phase I ESA) for the Cogentrix Sunray Energy, LLC Solar Energy Generating System (SEGS) I & II facility. The facility is located at 35100 Santa Fe Street, Daggett, San Bernardino County, California (Subject Property) (See Exhibit 1). The approximately 333 acre Subject Property is developed as a concentrated solar energy generation facility utilizing parabolic trough technology to convert radiation from the sun to produce steam for electricity generation using specialized oil products as a heat transfer fluid (HTF). There are two HTFs used on the Subject Property. In SEGS I, the north solar array, Chevron Heat Transfer Oil (Chevron HT or a similar HTF which is called Caloria® HTF is used. In SEGS II, the south solar array, Therminol® HTF is used. SEGS I is in the process of being decommissioned. The solar array of SEGS II continues to be used to produce electricity.

The purpose of this Phase I ESA report is to provide due diligence investigation for purchase and financing of the Subject Property.

Known documentation that is available to the USER is compiled in the Cogentrix Sabertooth dataroom. It contains numerous reports and studies including previous Phase I and II documents prepared by others for the Subject Property. Specifically, it includes a Phase I ESA prepared in 2008 by Tetra Tech, Inc. (TTEC); A Phase II ESA prepared in 2008 by Northgate Environmental Management (Northgate); and a Phase I ESA prepared in February 2015 by MWH Americas, Inc. (MWH).

The Subject Property was used for agricultural production as part of the Van Dyke Ranch, which was settled in 1901. It later became the Cool Water Ranch before being sold to Southern California Edison (SCE). The Subject Property was leased to LUZ Engineering Corporation (LUZ) and developed and operated as the SEGS I & II facility in 1985. LUZ eventually went into bankruptcy and Daggett Leasing Corporation (DLC) acquired the Subject Property. Eric Wills, the principal owner of DLC, changed the name to Sunray Energy. Land was later purchased from SCE. Cogentrix purchased the Subject Property in 2009.

This Phase I ESA identified the following Recognized Environmental Conditions (RECs) in connection with the Subject Property.

ID	Source of REC	Location	Note
REC 1	Caloria HTF use area	SEGS I	Numerous reported and de minimis releases of Caloria HTF were observed and reported.
REC 2	Caloria HTF contaminated soil stockpile	Northeast of SEGS I	Temporary stockpile of soil contaminated with Caloria HTF until it can be spread in the SEGS I Caloria land treatment unit (LTU).
REC 3	Sifting/storage area for lead	East of SEGS I	Fragments of broken mirrors containing lead based paint are separated from soil by sifting and stored.

	based paint on mirrors		
REC 4	Unpermitted Caloria HTF LTU	Between SEGS I and SEGS II (east)	An unpermitted Caloria HTF LTU was used.
REC 5	Caloria HTF Tank Fire	Center of SEGS I	A Caloria HTF storage tank fire occurred in February-1999. Caloria HTF contamination was subsequently detected at 35-feet below ground surface.
REC 6	Therminol HTF use area	SEGS II	Numerous reported and de minimis releases of Therminol HTF.
REC 7	Therminol HTF contaminated soil stockpile	Southwest of SEGS II	Temporary stockpile of soil contaminated with Therminol HTF until it can be spread in the SEGS II LTU.
REC 8	Fueling area with above ground storage tanks (ASTs)	East of SEGS II	Gasoline and diesel ASTs are used to fuel equipment on the Subject Property.
REC 9	Evaporation pond 1 (north)	Southeast corner of the Subject Property	The liner in the north evaporation pond is torn. Metals and salts have accumulated and are concentrated under the evaporation pond liner. Concentrations of salt were detected by MWH in soil samples above the background concentrations.

Numerous de minimis releases of HTF were reported in previous reports found in the Sabertooth data room and observed during the field reconnaissance for this Phase I within the SEGS I and II areas designated as RECs 1 and 6. These releases are being cleaned up as they are encountered. There is daily monitoring of equipment which provides prompt identification of a release so it can be contained and properly treated. De minimis conditions were observed at the equipment staging area identified as I on Exhibit 2.

The RECs identified above are currently being further assessed with soil borings in a Westwood Phase II ESA and additional due diligence activities. The current Westwood Phase II ESA consists of exploratory soil borings to address each of the RECs identified above. Additional due diligence activities that will be conducted or has recently been conducted and will consist of ongoing file review as data is uploaded into Cogentrix's Sabertooth internet data base, interviews with Cogentrix's environmental staff, and interviews with the California Lahontan Regional Water Quality Board.

Based on the information presented in this Phase I ESA additional Phase II ESA or due diligence activities beyond what are currently being conducted is not recommended or needed at this time.

This Phase I ESA was conducted in accordance with Westwood Professional Services approved scope of work agreed to by the USER. This was a limited inquiry, and additional work would be necessary to identify all potential environmental issues at the Subject Property. Third parties may review this information at their sole risk and expense.

2.0 INTRODUCTION

Centaurus Renewable Energy, LLC (Centaurus) (USER) retained Westwood Professional Services (Westwood) to prepare this Phase I ESA for the Cogentrix Sunray Energy, LLC SEGS I and II property located at 35100 Santa Fe Street, Daggett, California (Subject Property). The Subject Property is a solar energy generation facility utilizing a specialized HTF to convert radiation from the sun to produce steam for electricity generation.

The Subject Property was used for agricultural purposes prior to development as a solar electric generating facility. SEGS I began operating in 1983 and SEGS II began operating in 1985. The Subject Property was originally part of the Van Dyke Ranch which was settled in 1901 and later became the Cool Water Ranch before being sold to Southern California Edison (SCE). LUZ Engineering Corporation (LUZ), the original developer of SEGS I and II, leased the Subject Property from SCE. LUZ eventually went into bankruptcy and the Subject Property was acquired by Daggett Leasing Corporation (DLC). Eric Wills, the principal owner of DLC, later changed the Subject Property's name to Sunray Energy In addition, land was purchased from SCE. Cogentrix purchased the Subject Property in 2009. Previous Phase I and Phase II investigations have been completed for the Subject Property by others and their reports and findings are available to the USER in digital form in the Cogentrix Sabertooth data room.

2.1 Purpose

The purpose of this Phase I ESA report is to provide due diligence investigation for purchase and financing of the Subject Property.

Westwood's work for this Phase I ESA conforms to the general requirements of the American Society for Testing and Materials (ASTM) Practice E 1527-13 Standard Practice for environmental site assessments: Phase I ESA Process and 40 CFR § 312 Subp. C, All Appropriate Inquiries (AAI) standards and practices. The purpose of this standard practice is to define good commercial and customary practice for conducting a Phase I ESA of a parcel of commercial real estate with respect to the range of contaminants within the scope of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and petroleum products. This ESA is intended to evaluate the presence or likely presence of hazardous substances or petroleum products at the property resulting from a release or material threat of a release to the land surface, subsurface strata, surface water, or groundwater.

The presence or likely presence of hazardous substances or petroleum products at the property can be classified as a recognized environmental condition (REC), historical recognized environmental condition (HREC), or controlled recognized environmental condition (CREC).

RECs are defined by ASTM E1527-13 as follows:

The presence or likely presence of any hazardous substances or petroleum products in, on, or at: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

An HREC is defined by ASTM E1527-13 as follows:

A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.

A CREC is defined by ASTM E1527-13 as follows:

A REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.

The ESA is not intended to address de minimis conditions; i.e., a condition that do not represent a threat to human health or the environment, or would not be subject to enforcement action if brought to the attention of a regulatory agency.

2.2 Scope of Services

Centaurus retained Westwood Professional Services, Inc. to conduct a Phase I ESA. The USER of the Phase I ESA defined the Subject Property by address for Westwood. Westwood performed the Phase I ESA according to ASTM Practice E1527-13 to determine if the Subject Property is known to contain an existing release, past release, or a material threat of a release of hazardous substances or petroleum products into structures or into the ground, groundwater, or surface water. The Phase I ESA process does not require sampling, which may verify or evaluate the extent of suspected environmental impacts. If recommended, a Phase II ESA will aid in confirming the presence or lack of environmental impacts. The study was performed in accordance with Westwood Professional Services proposal, and considered the following:

Records Review– Westwood obtained and reviewed available records to identify RECs in connection with the Subject Property. Availability of records information varies from information source to information source, including government jurisdictions. The ASTM standard identifies record information from standard sources and the USER. The

Environmental Professional is required to review only record information that is reasonably ascertainable or practically reviewable. Westwood researched the operations of the Subject Property back to 1939 or to the Subject Property's earliest development, whichever was earlier.

Subject Property Reconnaissance– Westwood performed a Subject Property reconnaissance to visually observe RECs in connection with the Subject Property during one or more Subject Property visit(s). Westwood observed structures on the Subject Property to the extent that the view of such structures was not obstructed by adjacent buildings, or other obstacles. Limitations are noted within the Phase I ESA Report.

The Subject Property and the exterior of its structures were observed. The interiors of structures on the Subject Property, including accessible common areas were observed to the extent that such interiors were readily viewed from public areas and through open doors.

Interviews– Westwood conducted landowner interviews to obtain additional information indicating RECs in connection with the Subject Property. Westwood also conducted interviews with state and/or local government officials, including representatives of agencies such as the Department of Health, Fire Department, Planning Department, Building Permit Department, and/or Local Utility Departments.

Report– Westwood prepared this Phase I ESA report to generally follow the recommended report format of ASTM Practice E1527-13. This Phase I ESA report includes a scope of services, findings, opinions, and conclusions, which are supported by documentation collected during the assessment.

2.3 Significant Assumptions

Landowner contact information, boundaries of the Subject Property, and information pertaining to lands to be developed for the Subject Property were provided to Westwood by the USER. Westwood assumes that all information supplied is true and accurate. Westwood assumed the boundaries of the Subject Property are accurate based information supplied by the USER. The identification of geologic or geotechnical hazards was beyond the scope of this project.

2.4 USER Reliance

Westwood's findings and opinions in this Phase I ESA are exclusively for the use of the USER and its assignees. Westwood will not distribute or publish the Phase I ESA report without the consent of the USER, except as required by law or court order. The USER retained Westwood to perform the Phase I ESA and no other party may rely on the Phase I ESA report without Westwood's written consent. The findings and opinions contained herein are limited to use by the USER. Westwood's services for this project have been performed in a manner consistent with normal standards of the profession. No other warranty or guarantee, expressed or implied, is made.

3.0 SUBJECT PROPERTY DESCIPTION

3.1 Location and Legal Descriptions

The Subject Property is located at address 35100 Santa Fe Street, Daggett, San Bernardino County, California 92327. It is approximately 1.4 miles north of Interstate 40 and adjacent to Sunray Lane. It is located in parts of Sections 13 and 24; Township 9N; approximately 34.863562°,-116.826486° and covers approximately 333 acres (Exhibit 1).

3.2 Subject Property Features and Operations

The Subject Property is an operating industrial concentrated solar power generating facility. Subject Property reconnaissance photographs are in Appendix D. The Subject Property solar facility has two primary solar arrays on approximately 333 acres of land, SEGS I and II. SEGS I is the northern solar array and had a name plate rating of 14.7 megawatts. SEGS II is the southern array and has a name plate rating of 30 megawatts. The Subject Property boundaries are shown on Exhibit 2.

SEGS I consists of a solar array currently being decommissioned, an active power block, cooling towers, and a soil LTU. An approximately 3,240 square foot administration building is located at the SEGS I Power Block. Additional trailer offices are located southeast of the administration building.

SEGS II consists of an active solar array, inactive power block and cooling tower, and an LTU along the southern border. Between SEGS I and II is an area utilized for pipe fabrication (including pipe and pipe insulation storage), decommissioned power block component storage, and refuse wood and glass tube piles. Along the east-southeast border is the equipment yard and in the southeastern corner of the facility are the one inactive and two active evaporation ponds.

The facility uses parabolic mirrored troughs that focus the sun's energy on a glass encapsulated stainless steel tube containing HTF. The heated HTF is currently pumped through the SEGS II array tubes to the SEGS I Power Block where the HTF is used to generate steam. The steam is used to power a turbine generator.

Two HTFs have been used at the Subject Property. The HTF stored at SEGS I, in the north array, is Caloria, a de-waxed paraffinic petroleum distillate. The HTF used at SEGS II, the south array, is Therminol, a eutectic mixture of biphenyl and diphenyl oxide. Therminol HTF can contain small concentrations of benzene.

After SEGS II experienced a turbine failure on June 16, 2014, a Therminol HTF pipe header was created linking the SEGS II array to the SEGS I Power Block in order to provide heated HTF to the steam generator at SEGS I. The operations at the SEGS II Power Block operations ceased as of the date of the turbine failure, with the exception of the

reverse osmosis (RO) and Therminol HTF pumps. The Caloria HTF network from the SEGS I solar array was therefore disconnected from the SEGS I power block to accommodate the Therminol HTF connection to the SEGS II array. The Caloria HTF is being evacuated from the pipes and the SEGS I array is being dismantled.

3.3 Hydrogeological and Topographical Conditions

The Subject Property is not located within 3/4 mile of a 100-year or 500-year flood zone. The Mojave River is located approximately 1.25 miles to the north. Wetlands were shown on the National Wetlands Inventory within 3/4 mile north of the Subject Property.

The Subject Property lies within the Mojave Valley in the western Mojave Desert of the Mojave Desert geologic province. The Calico Mountains and the Calico Fault are located north and east of the Subject Property, and the Newberry Mountains and the Lenwood Fault are located to the south. The underlying geology consists of extensive successions of undifferentiated Holocene alluvial deposits (Bortugno and Spittler, 1986). Near-surface sedimentary materials consist of intermixed sands, silts, clays, and localized gravels and cobbles. Layers of caliche (calcium carbonate partially-cemented sediments) are typical throughout the area at shallower depths. The caliche is formed by infiltrating rainfall dissolving salts near the ground surface, and then depositing the salt at the depth of maximum infiltration. The low rainfall and high evapotranspiration rate result in caliche layers in near surface soils (Northwood, 2008).

The Calico Mountains are highly colored bright green sedimentary and dark reddish brown volcanic rocks of Tertiary age. From 1882 to 1896 the area was mined for its high grade, low-tonnage silver deposits, and then until 1907 for borax (Sharp, 1972). Water well drillers' reports for water production wells installed at the Subject Property indicate that the geology to depths of approximately 400-feet below ground surface consists of an interlayered sequence of medium to coarse sand, fine sand, silt, and clay with localized gravel and cobbles. Clay layers of five- to 10-foot thickness are described in several of the logs (Northwood, 2008).

The Subject Property is located within the Lower Mojave River Valley hydrogeologic groundwater basin, a 430-square-mile alluvial basin drained by the Mojave River through alluvial materials. Drainage is entirely internal with no discharge to the ocean. Reported well yields in the Lower Mojave River Valley ranged from 560 to 1,700 gallons per minute (DWR, 1975). Saline deposits within the sediments of the basin limit local groundwater uses (Northwood, 2008).

Protection of groundwater quality in the area is under the authority of the Regional Water Quality Control Board — Lahontan District (RWQCB). Information obtained through the RWQCB indicates the presence of approximately 12 groundwater production wells and approximately 10 groundwater monitoring wells in the vicinity of the Subject Property. The production wells are used to supply the nearby Solar Two facility and the NRG Cool Water Generating Station, and for agricultural purposes (Northwood, 2008).

Groundwater resources in the area are managed by the Mojave Water Agency (MWA). The MWA has several monitoring wells within the general area of the Subject Property. The MWA maintains records of groundwater irrigation and industrial production wells near the Subject Property. Groundwater beneath the Subject Property flows north to northeast towards the Mojave River (Northwood, 2008).

Five groundwater production wells on the Subject Property supply process water. The depth to groundwater within these wells under pumping conditions is approximately 150-feet. Production well depths range from 300 to 400-feet. According to records, groundwater use at the Subject Property from 2013 to 2014 averaged 284.52 acre-feet per year, and ranged from 190 to 379.03 acre-feet per year.

According to EDR, the Subject Property has an elevation of approximately 1,945-feet above sea level. The topography is generally flat with a slight upward slope to the south and a slight downward slope to the east. Stormwater flows east toward Sunray Lane.

3.4 Current Uses of Subject Property

The current use of the Subject Property is a working industrial concentrated solar power electricity generating facility.

3.5 Structures, Roads, and Improvements

Structures on the Subject Property include the SEGS I and SEGS II power blocks which are centrally located within the arrays. The SEGS I power block and cooling tower are active and the SEGS II power block and cooling towers are inactive. Sunray Lane is the paved primary road and there are numerous dirt access roads around and throughout the solar arrays. Other improvements include two solar arrays. SEGS I array is inactive and being dismantled, and SEGS II array is active. There is a centralized office in SEGS I and other offices in trailers, a material warehouse and a maintenance shop and storage areas, a fueling area for equipment, two active evaporation ponds, and two LTUs.

3.6 Current Uses of Adjoining Properties

Current uses of adjoining properties include: areas of undeveloped land, farmland to the north and east, Santa Fe Road to the south and the NRG Cool Water electrical generating station to the west.

4.0 INFORMATION PROVIDED BY USER

4.1 Title Records

Title information was made available by EDR for the MWH Phase I ESA which is located in the Cogentrix Sabertooth data room. No other indications of environmental liens or activity or use limitations were identified by the USER.

4.2 Environmental Liens and Activity and Use Limitations

The USER indicated that, to their knowledge, there are no known environmental liens or activity and use limitation associated with the Subject Property or cleanup.

4.3 Valuation Reduction for Environmental Issues

The USER indicated that the remediation of known contamination will be factored into the transaction.

5.0 RECORDS REVIEW

5.1 Sources of Environmental Records

Environmental Data Resources, Inc. (EDR) provided regulatory record sources listed in Sections 8.1.1 through 8.2.2 of the ASTM Standard. The EDR DataMap Environmental Atlas is included in Appendix B. The records review identified records of known sites located within the ASTM minimum search distances from the Subject Property. EDR also provided Westwood with certain supplemental environmental database records that surpass the ASTM minimum standards government database lists. Any facilities identified by Westwood within the immediate vicinity of the Subject Property are discussed in the appropriate database section. The ASTM prescribed search radius for each database searched for records by EDR, the number of listings located on each database searched, and their appropriate locations with respect to the Subject Property, are summarized in the following table. The listings are located as shown in the EDR report. Refer to the EDR report in Appendix B for a detailed description of each database that is searched in their evaluation, and the date of the last revision for each sources searched by EDR.

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		1	0	0	0	NR	1
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		1	0	0	NR	NR	1
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	1	NR	NR	1
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		1	0	1	0	NR	2
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	1	NR	NR	1
Federal RCRA generators list								
RCRA-LQG	0.250		1	0	NR	NR	NR	1
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		1	0	0	NR	NR	1
US INST CONTROL	0.500		1	0	0	NR	NR	1
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP	16	NR	NR	NR	NR	NR	16
State- and tribal - equivalent NPL								
CA RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
CA ENVIROSTOR	1.000		1	0	0	0	NR	1
State and tribal landfill and/or solid waste disposal site lists								
CA SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
CA LUST	0.500		1	0	0	NR	NR	1

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CA SLIC	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
CA UST	0.250		1	0	NR	NR	NR	1
CA AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
CA VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
CA SWRCY	0.500		0	0	0	NR	NR	0
CA HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
CA WMUDS/SWAT	0.500	1	0	0	1	NR	NR	2
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
CA HIST Cal-Sites	1.000		0	0	0	0	NR	0
CA SCH	0.250		0	0	NR	NR	NR	0
CA Toxic Pits	1.000		0	0	0	0	NR	0
CA CDL	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST	0.250		0	0	NR	NR	NR	0
CA HIST UST	0.250		4	0	NR	NR	NR	4
CA SWEEPS UST	0.250		2	0	NR	NR	NR	2
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
CA LIENS	TP		NR	NR	NR	NR	NR	0
CA DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CA CHMIRS	TP	14	NR	NR	NR	NR	NR	14
CA LDS	TP	1	NR	NR	NR	NR	NR	1

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CA MCS	TP		NR	NR	NR	NR	NR	0
CA SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		1	0	0	0	NR	1
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP	1	NR	NR	NR	NR	NR	1
RAATS	TP		NR	NR	NR	NR	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
CA NPDES	TP	2	NR	NR	NR	NR	NR	2
CA UIC	TP		NR	NR	NR	NR	NR	0
CA Cortese	0.500		0	0	0	NR	NR	0
CA HIST CORTESE	0.500		1	0	0	NR	NR	1
CA CUPA Listings	0.250		0	0	NR	NR	NR	0
NY MANIFEST	0.250		1	0	NR	NR	NR	1
CA Notify 65	1.000		0	0	0	0	NR	0
CA DRYCLEANERS	0.250		0	0	NR	NR	NR	0
CA WIP	0.250		0	0	NR	NR	NR	0
CA ENF	TP	1	NR	NR	NR	NR	NR	1
CA San Bern. Co. Permit	0.250	1	0	0	NR	NR	NR	1
CA HAZNET	TP	3	NR	NR	NR	NR	NR	3
CA EMI	TP	1	NR	NR	NR	NR	NR	1
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
CA WDS	TP	2	NR	NR	NR	NR	NR	2
CA PROC	0.500		0	0	0	NR	NR	0
CA HWT	0.250		0	0	NR	NR	NR	0
CA HWP	1.000		1	0	0	0	NR	1
CA MWMP	0.250		0	0	NR	NR	NR	0
CA Financial Assurance	TP		NR	NR	NR	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP	1	NR	NR	NR	NR	NR	1
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250		0	0	NR	NR	NR	0
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
CA RGA LUST	TP		NR	NR	NR	NR	NR	0
CA RGA LF	TP		NR	NR	NR	NR	NR	0
- Totals -		44	21	0	4	0	0	65

NOTES:
TP = Target Property
NR = Not Requested at this Search Distance
Sites may be listed in more than one database

5.2 Historical Use Information for the Subject Property

The Subject Property was used for agricultural production before it was developed as a solar electric generating facility. Based on review previous reports and sources, the Subject Property was vacant, undeveloped land prior to 1952. Aerial photographs appear to show that grading occurred in the north and southeastern portions of the Subject Property where SEGS I and the evaporation ponds are located. The Subject Property appears fully developed in the 1995 aerial photograph. SEGS I began operating in 1983 and SEGS II began operating in 1985. According to the Phase I ESA prepared by TTEC in November 2008, the Subject Property was originally part of the Van Dyke Ranch which was settled in 1901 and later became the Cool Water Ranch before being sold to SCE. LUZ, the original developer of SEGS I and II, leased the project Subject Property from SCE. LUZ eventually went into bankruptcy and the Subject Property was acquired by DLC. Eric Wills, the principal owner of DLC, later changed the Subject Property's name to Sunray Energy. In addition, land was purchased from SCE. The dates when these changes in ownership occurred are unknown. Cogentrix purchased the Subject Property in 2009.

5.2.1 Topographic Maps

Three historical topographic maps of the Subject Property and surrounding area (1956, 1971 and 983) were reviewed. The referenced topographic maps are provided as Appendix C.

The 1956 USGS Daggett Quad map shows the Subject Property as vacant land. The Atchison, Topeka, and Santa Fe Railway are depicted where present-day Santa Fe Street is located. A gravel pit is located adjacent and south of the railway. Route 66 is shown south of the Subject Property beyond the railway. A pipeline is depicted further south of the Subject Property south of Route 66. The Mojave River is labeled in the area north of the Subject Property and is depicted as a muddy area. Small clustered structures in the town of Yermo are depicted further north of the Subject Property beyond the Mojave River. The Union Pacific Railroad is located north of the Subject Property alongside the town of Yermo. The Marine Corps Supply Center in the Yermo area is depicted west of the Subject Property. The Marine Corps Supply Center in the Minneola area is depicted southeast of the Subject Property adjacent to Santa Fe Street where the present-day Barstow Daggett County Airport is located. A private transmission line traversing in the southwest and northeast directions is depicted east of the Subject Property.

The 1971 USGS Minneola Quad map shows the Subject Property and surrounding similar to the 1956 topographic map. A borrow pit is depicted where the gravel pit was shown in the 1956 map. Interstate 40 is depicted further south of the Subject Property beyond present-day Route 66. Another borrow pit is labeled southeast of the Subject Property south of Interstate 40. The pipeline depicted further south of the Subject Property south of Route 66 is still labeled on this topographic map. The private transmission line depicted in the 1956 topographic map is still depicted on this topographic map. Present-day Hidden Springs Road is shown east of the Subject Property.

In the 1983 USGS Daggett Quad, the Subject Property appears undeveloped. Streets surrounding the Subject Property are visible. A circular solar field with a labeled tower is shown northwest of the Subject Property. A gravel pit is labeled west of the Subject Property, south of the circular solar field. A pond structure, towers, a power plant, wells, and tanks are indicated west of the Subject Property where the present-day NRG Cool Water facility is located. The Marine Corps Supply Center in the Yermo area is depicted northwest of the Subject Property. The Marine Corps Supply Center in the Minneola area is located southeast of the Subject Property as shown in the 1956 topographic map is now labeled as the Barstow Daggett County Airport. The Mojave River located north of the Subject Property is depicted as a wet. A waterway and Interstate 15 are depicted north of the Subject Property beyond the town of Yermo. The private transmission line is shown east of the Subject Property. Borrow pits are depicted south of the Subject Property alongside Santa Fe Street and Interstate 40.

5.2.2 Aerial Photographs

Westwood obtained historical aerial photographs associated with the Subject Property from EDR. Years of photographs received include 1952, 1953 1963, 1973, 1983, 1989, 1995, 2005, 2010, 2012, covering 60 years. These aerial photographs are included in Appendix C.

In the 1952 aerial photograph, the earliest record of the Subject Property reviewed, the Subject Property and surrounding areas were primarily vacant and with portions used for agriculture west and northeast. A footprint of present-day Yermo Road located north of the Subject Property is visible, as do the transmission lines located to the southeast.

In the 1953 aerial photograph, a broader view of the Subject Property and surrounding area are visible. No significant change is visible. There was agricultural land northeast and west and undeveloped land over most of the Subject Property and to the north and south.

In the 1963 aerial photograph, the north portion of the Subject Property where present-day SEGS I is located appears to be undeveloped, while the east and west portions where present-day SEGS II is located appear have minor vegetative changes and may have been used for agriculture. Graded areas still appear east of the Subject Property. Additional graded areas appear southeast of the Subject Property near where the present-day evaporation ponds are located. The footprint of the private transmission line identified in the topographic maps located southeast of the Subject Property is apparent in this photograph.

Water damage is visible to the 1973 aerial photograph. The Subject Property and the immediate vicinity appear similar in comparison to the 1963 aerial photograph. Graded areas still appear in the northern and southeastern areas. A larger graded area is apparent in the southeast area of the Subject Property, east of the private transmission line.

In the 1983 aerial photograph, the Subject Property and the immediate area appear vacant. Graded areas are still visible northeast of the Subject Property. A circular solar field is depicted northwest of the Subject Property.

In the 1989 aerial photograph, the Subject Property is fully developed. Additional farmed land is visible surrounding the areas, some with center pivot irrigation systems visible north and southwest of the Subject Property. The circular solar field depicted in the 1983 topographic map is visible northwest of the Subject Property. An excavated area is visible between the evaporation ponds and the highway to the south. It appears to be the coal slag disposal site associated with the NRG Cool Water electrical generating facility.

In the 1995 aerial photograph, the Subject Property the same as it did in 1989. The SEGS I and SEGS II Power Blocks and solar array are apparent at the Subject Property. Large tanks at the Subject Property are visible north of the SEGS I Power Block. The SEGS II

cooling towers at the Subject Property are apparent further south of the SEGS II Power Block. The evaporation ponds in the southeast corner of the Subject Property are also apparent. Present-day Sunray Lane between the Subject Property solar arrays and evaporation ponds is also visible. The circular solar field located northwest of the Subject Property is still visible. Agricultural fields with center pivot irrigation remain visible north and southwest of the Site. A rectangular agricultural area is visible adjacent to and west of the Subject Property's SEGS I solar array. The apparent coal slag disposal site between the highway and the evaporation ponds appears filled in, abandoned and fenced.

In the 2005 aerial photograph, the Subject Property appears similar in comparison to the 1995 aerial photograph with the exception that the two large tanks north of the SEGS I Power Block visible in the 1995 photograph are no longer present. The circular solar field located northwest of the Subject Property is still apparent. The agricultural fields with center pivot irrigation located north and southwest of the Subject Property that were visible in the 1995 aerial photograph no longer appear vegetated. The rectangular graded area west of the Subject Property still appears in this aerial photograph.

In the 2009 aerial photograph, the Subject Property and surrounding areas appear similar in comparison to the 2005 aerial photograph. A larger center pivot irrigation system agricultural field appears off the Subject Property, east of Sunray Lane.

In the 2010 aerial photograph, the Subject Property and surrounding areas appear similar to the previous aerial photograph. The circular solar field located northwest of the Subject Property no longer exists.

In the 2012 aerial photograph, the Subject Property and surrounding areas appear similar to the previous aerial photograph. An unidentified rectangular structure appears in the Subject Property's SEGS II solar array.

5.2.3 Building Permits

Westwood reviewed the county website for available building records for the Subject Property and no records of past building inspections were obtained.

5.2.4 Sanborn® Fire Insurance Maps

EDR, owner of the Sanborn Company, searched their collection of fire insurance maps and determined map coverage is not available for the Subject Property (See Appendix B).

5.2.5 City Directories

EDR historical city directory records (EDR City Directory Image Report), which includes the following business directory listings were provided for the Subject Property with the address of the Subject Property, at 35100 Santa Fe Street. (See Appendix B).

Date	Name of Facility in Listing
2010	Daggett Leasing Corp.; Electric Co. Pacific Gas & Electric Co.; Gas Co. Pacific Gas & Electric Co.; Pacific Gas & Electric
2005, 2000	Daggett Leasing Corp.; Pacific Gas & Electric
1995	Daggett Leasing Corp.

Additional listings for this address were not provided.

There was no listing in the business directories for the property NRG Cool Water facility was located southwest of the Subject Property.

The following business listings were provided for nearby addresses along Santa Fe Street, located southwest of the Subject Property:

35596 Santa Fe Street

Date	Name of Facility in Listing
2005; 2000	Desert Market; U Haul Co. Independent Dealers
1995; 1990	Desert Market
1985; 1980	Scott's Market

37110 Santa Fe Street

Date	Name of Facility in Listing
2000	Sandia National Laboratories

36588 Santa Fe Street

Date	Name of Facility in Listing
1990	Price Transportation

35680 Santa Fe Street

Date	Name of Facility in Listing
1975	Tri-Chem Liquid Embroidery

5.3 Historical Use Information for Adjoining Properties

Westwood utilized historic aerial photographs and reports, when provided, to determine the past use of the adjacent properties

According to the aerial photos, maps, and the Phase I ESA prepared by TTEC in November 2008, adjoining properties have been historically used for agriculture or were left vacant. The 1956 topographic map indicates the presence of Marine Corps supply centers in the areas of Yermo and Minneola, located northwest and southeast of the Subject Property, respectively. A circular solar facility located northwest of the Subject Property appears in the 1983 historical topographic and aerials reviewed. According to Google Earth and TTEC's 2008 Phase I ESA, this property was SCE's Solar One Experimental Power Plant. Based on the historical aerial photograph from 2010 and Google Earth, this circular solar facility is no longer present. The NRG Cool Water electrical generating station is located west of the Subject Property. According to the Comprehensive Environmental Assessment (CEA) report prepared by HSI Geotrans (HSI) in 1997 and TTEC's 2008 Phase I ESA, historically, a coal slag disposal site associated with the NRG Cool Water electrical generating facility was located south of the evaporation ponds. This disposal facility was closed and capped, and now four groundwater monitoring wells are used to monitor potential leakage. During the Subject Property visit, this area was observed to be fenced off and monitoring wells were observed in the northwest corner of this property. Based on the 1963 aerial photograph, a dark circular area was historically located in this fenced off area.

6.0 SUBJECT PROPERTY RECONNAISSANCE

On July 28, 29 and August 5, 2015, an Environmental Scientist from Westwood conducted Subject Property reconnaissance of the Subject Property. It included review of the elements listed in Section 9 of the ASTM Standard. The objective of the Subject Property reconnaissance is to obtain information indicating the likelihood of identifying RECs in connection with the Subject Property. The following observations were visually observed and recorded. Photographs from the Subject Property reconnaissance are included in Appendix D.

6.1 Methods and Limiting Conditions

Westwood reviewed publicly available aerial photography prior to conducting the Subject Property reconnaissance to identify areas of special concern. The Subject Property was viewed and accessed by vehicle on public and private roads and by pedestrian survey on foot.

6.2 Use of Prior Environmental Assessments

This Phase I ESA is an update of previous Phase I ESAs conducted by MWH in April, 2015 and TTEC in 2008. This Phase I ESA also contains applicable information from a previous Focused Subsurface Investigation Summary Report dated June 26, 2015 by MWH. These reports are available to the USER in the Sabertooth data room. The Sabertooth data room was created by Cogentrix as a central repository for past project

information and data storage to facilitate review for the USER. The database contains numerous reports and studies including previous Phase I and II documents.

6.3 General Description of Structures

There are numerous buildings in the Subject Property. Buildings and other structures are summarized in each of the sections below:

The SEGS I array is located in the northern portion of the Subject Property and consists of the Administration Building, three trailer offices, the SEGS I Power Block, a HTF Storage Area, east and west solar arrays, cooling towers, and Caloria LTU. The Administration Building is the main office building for the Subject Property. There are four offices, a conference room, and a control room within the Administration Building. Basements, trenches, sumps, or pits were not observed within the administration building. The administration building is fully air conditioned. Fire alarms, fire suppression devices, and security systems are in place. Three office trailers are located southeast of the Administration Building. A gated and secured transformer compound is located just outside of the Administration Building. Stains were not observed in the transformer compound. A septic tank is located south of the Administration Building.

The SEGS I Power Block area consists of ASTs, piping, pumps, concrete pits, and compressed gas cylinders. Caloria HTF was used at the SEGS I Power Block prior to June 16, 2014. However, due to a turbine failure at SEGS II on June 16, 2014, the oil piping system from SEGS 2 was reconfigured to connect to the SEGS I Power Block in order to provide heated HTF to the steam generator at SEGS I with the Therminol HTF used at SEGS II. The infrastructure at the SEGS I Power Block is located on thick concrete pads. Containers for oil leaks were observed beneath piping at the power block. A 20,093-gallon demineralized water AST is located in the middle of the power block. An air compressor is located in the central portion of the SEGS I Power Block. De minimis oil staining (less than 0.5-feet by 0.5-feet in size) was observed on the concrete pad beneath the air compressor. A 55-gallon drum for oil/water mix waste was observed near the air compressor on top of plastic spill containment. A three-sided corrugated metal enclosure for water treatment chemical storage, a flammables storage cabinet, and lube oil for pumps is located in the central portion of the power block. Steam condensate drains to the condensate pit are located in the southern portion of the SEGS I Power Block. The condensate flows to a vault within the condensate pit and then gets pumped to the east and west evaporation ponds located on the southeast corner of the Subject Property. The condensate pit appeared dry and in good condition. A steam generator is located in the central portion of the SEGS I Power Block. The concrete in this area appeared intact. A 2-foot wide by 5-feet long by 1-foot deep soil area stained by Caloria HTF was observed below recently replaced pipe headers located northwest of the SEGS I Power Block. At the time of the Subject Property visit, portions of the soil had been excavated and staged within the HTF Storage Area located north of the SEGS I Power Block. These soils were uncovered and being staged in this area prior to transfer to the SEGS I LTU for treatment. In addition, a 2-foot by 2-feet oil stain was observed on the concrete support below HTF pipes north of the SEGS I Power Block. The concrete below appeared intact.

The HTF Storage Area (or Fire Pit Area) consists of a 30,000-gallon V100 AST and a 10,080-gallon vertical AST within a concrete containment berm. Several drip pans beneath the piping in the concrete containment berm were observed filled with oily water. The concrete in this area appeared intact. Closed drains are located in the concrete containment berm. An additional, empty 24,000-gallon vertical supply AST for the V100 AST is located on unpaved ground adjacent to the V100 AST. The 24,000-gallon vertical supply AST is marked with a "Closed" sign dated April 1, 2012. Additionally, a 500-gallon mobile evacuation trailer used for draining oil from the SEGS I Solar array is stored adjacent to the V100 AST on a separate concrete pad with a berm. The ASTs in the HTF Storage Area are used for storing Caloria HTF. The concrete in the area appeared intact. The entire HTF Storage Area is contained within an 8-feet high dirt containment berm. Odors were not detected in the HTF Storage Area.

The HTF Storage Area is also the same location where an explosion and fire occurred from the former tanks in February, 1999. Wooden stakes were observed to be scattered across the ground of the HTF Storage area. The stakes mark the location where borings were previously advanced under the direction of MWH for their Focused Subsurface Investigation.

A Heptane Ullage Flare was observed north of the HTF Storage Area. Rust staining 2-feet by 2-feet in size was observed on the concrete pad beneath the Heptane Ullage Flare at SEGS I. The concrete pad appeared intact. A one square foot hand dug excavation was observed under the piping where condensate dripping was observed. The Subject Property contacts indicated that this soil was put in the LTU 1. A 55-gallon drum for heptane/water mix hazardous waste was observed near the flare on a wooden pallet. A 1,000-gallon solar array relief AST within concrete containment for the SEGS I solar array relief AST was observed across from the flare and adjacent to the east and west solar arrays. The containment appeared clean and in good condition.

The Cooling Towers for SEGS I are located in the southeastern corner of the SEGS I area. A transformer, a 4,000-gallon sulfuric acid tank with concrete containment, and a 270-gallon potassium hydroxide solution tank with concrete containment are located west of the cooling towers. Staining was not observed on the concrete pad below the cooling tower power transformer. The inside of the concrete containment below the sulfuric acid tank appeared dry with some white precipitate staining. A divided concrete containment area is located adjacent to the sulfuric acid tank containment. The potassium hydroxide solution tank is located on the east end of this concrete containment area. The containment area below the potassium hydroxide solution AST appeared clean and in good condition. There is no tank located on the west end of the containment and the concrete appeared intact. An emergency fire pump with a diesel AST inside concrete containment is located adjacent to the cooling towers. The fire pump is located inside an enclosure on a concrete pad. The concrete below the fire pump appeared intact. The containment below the diesel AST adjacent to the fire pump enclosure appeared clean and in good condition. The cooling towers are located east of and adjacent to the fire pump. Two 10-gallon buckets of oxidizer

were observed on the east end of the cooling towers inside a spill pallet. A production well is also located on the east end of the cooling towers. The production well is used to irrigate the LTU located on the east end of SEGS I, adjacent to the east Solar array.

The SEGS I Solar arrays cover approximately 73 acres of the Subject Property and the solar array piping contains Caloria HTF. At the time of the Subject Property visit, several Caloria HTF -stained areas within the solar arrays that were previously identified by Subject Property personnel had been excavated and transported to the LTU for treatment. Excavated areas observed ranged from 1-foot to 4-feet in depth, length, and width. Some remaining Caloria HTF -stained areas below the excavated areas were observed in the solar arrays. According to the Subject Property contact, these remaining areas were in the process of being addressed.

The SEGS I LTU is located on the east end of the SEGS I area and is used for storage and treatment of soil impacted with Caloria HTF. HTF-impacted soil is staged in the area north of the LTU, is screened for glass and debris, and then placed in the LTU for treatment. The glass and debris is stored on bare ground for later shipment off the property as hazardous waste. The pile is uncovered and there is no secondary containment preventing the pile to be spread around. A shed for storing microbes for treatment of HTF-impacted soil in the LTU is located north of the LTU. The size of the HTF impacted stockpile appeared to be about 15,000 cubic yards. Subject Property contacts indicated that stockpile had grown in size because of the increased remediation efforts in the SEGs I array field. The LTU was expanded in area to the south per the WDR permit to handle more impacted soils. Currently the amount of soil exceeds the permitted 7,170 cubic yard permitted limit.

South of SEGS I and east of the SEGS I cooling tower is an area that was formerly a LTU. Soils were excavated from the fire pit area and placed in this new, unpermitted LTU that was attempted to be amended to the WDR permit. Wooden stakes marking soil borings advanced under the direction of MWH were observed in this LTU area. The soils appeared clean with no odors. Debris from the remnant LTU sprinkler system was present in the surface soils. The LTU was sampled and reported in the quarterly monitoring reports to the Lahontan Regional Water Quality Board. However, the LTU was never formerly amended to the WDR permit.

The SEGS II Area is located in the southern portion of the Subject Property and consists of a control room, power block, solar arrays (north, south, east, and west), cooling towers, a material laydown storage area, a material warehouse, maintenance shop, fueling area, and the Therminol LTU. All operations at SEGS II, with the exception of the reverse osmosis (RO) and Therminol HTF pumps operation, have ceased since the turbine failed on June 16, 2014. Since then, the Therminol oil piping system from SEGS II has been reconfigured to connect to the SEGS I Power Block in order to provide heated Therminol HTF to the steam generator at SEGS I. A chemical injection building is located north of the control room. Chemical storage of steam treatment formulation and a biocide was observed on the outdoor concrete pad adjacent to the chemical injection building. The outdoor concrete pad was observed to be clean and in good condition. Water stains were observed on the

concrete floor of the chemical injection building. A 10-gallon drum of caustic was observed in the corner of the chemical injection building.

The HTF used at SEGS II is Therminol HTF. Excavated areas where Therminol HTF had stained the soil were observed below piping located northeast of the SEGS II Power Block. The majority of the power block is on concrete pads and within a concrete containment berm. A 55,000-gallon AST containing Therminol HTF is located within the SEGS II Power Block inside concrete containment. The containment was observed to be clean and in good condition. A mobile evacuation trailer is parked at SEGS II on a concrete pad with a berm adjacent to the location of the Therminol AST. Two 55-gallon drums of charcoal for the venting system were also observed on the pad. Stains were not observed on the concrete pad. An emergency generator is located northeast of the power block on a concrete pad. Rust staining, approximately 4-feet long, was observed on the concrete pad below the generator. The concrete below the generator appeared to be intact. A 475-gallon sulfuric acid tank and a 680-gallon sodium hydroxide tank are located on the west edge of the power block, both within concrete containments. At the time of the Subject Property visit, the containment areas appeared clean and in good condition. Drums of oil filters and anion and cation exchange resin beads were observed adjacent to the containment areas. A 75,000-gallon demineralized water tank is located by the steam generators in the north portion of the SEGS II Power Block. The turbine that failed on June 16, 2014 is located on the south end of the SEGS II Power Block. Transformers within concrete containment were also observed in this area of the SEGS II Power Block. At the time of the Subject Property visit, the containment appeared clean and in good condition.

A water treatment or RO Building on a concrete pad is located west of the steam generators and adjacent to the demineralized water tank. Plastic 55-gallon drums of anti-scalant were observed inside the building. Water was observed inside the building on the concrete pad.

Two drains are located at the SEGS II Power Block, one for the steam condensate and one near the turbine. Liquid captured from both drains lead to a pump located north of the control room. The liquid is pumped to the east and west evaporation ponds located on the southeast corner of the Subject Property.

A 20,000-gallon hazardous waste oil AST within a gravel and soil berm is located on the southwest corner of the SEGS II Power Block. This AST was formerly used for collecting oily water collected at the SEGS I and II Power Blocks. However, the facility has stopped this process and now oily water is collected in 55-gallon drums. This AST is kept for emergency purposes. Oil-stained soil was not observed within the containment area.

Trailers and containers used for parts and equipment storage are located south of the SEGS II Power Block. One trailer was formerly used as a glass shop until 2001/2002. Scrap metal and glass tubes were observed behind these trailers. Another trailer is used as a machine shop. Several 5-gallon buckets of lubricants, aerosols, and enamels were observed

inside the machine shop trailer. A septic tank is located just outside of the machine shop trailer.

The SEGS II Cooling Towers are located in the southwest corner of the Subject Property near the south east solar array. Two production wells for the LTU are located on the east and south sides of the cooling tower area. An elevated potassium hydroxide solution tank is located within concrete containment east of the cooling towers. Patching of the coating in the concrete containment was observed. A 4,000-gallon tank formerly containing sulfuric acid located adjacent to the potassium hydroxide tank was labeled as "triple rinsed" and closed on September 30, 2014. White precipitate was observed inside the concrete containment below the former sulfuric acid tank. The Subject Property contacts indicated the white precipitate was blowdown from the cooling towers. Concrete in the area appeared to be intact. A diesel tank for a fire pump at the SEGS II cooling towers on the northwest corner was observed inside concrete containment. The concrete was observed to be clean and in good condition.

The SEGS II solar arrays cover approximately 142 acres of the Subject Property and the piping contains Therminol HTF. A Therminol HTF odor was detected outdoors in the solar arrays at SEGS II. The LTU located on the south end of SEGS II and east of the SEGS II cooling towers is used for storage and treatment of soil impacted with Therminol HTF. Therminol HTF impacted soil is staged in an area east of the LTU and placed in the LTU for treatment. Some remaining oil stained areas were observed in the solar array. According to the Subject Property contact, these areas were already in the process of being addressed.

An unknown larger stockpile (approximately 2,000 cubic yards) was observed north of the SEGS II cooling towers. At first the Subject Property contacts were not aware what this stockpile contained or if it was clean treated soil taken off of the nearby LTU. Later, the Subject Property contacts determined that the larger stockpile was Therminol HTF impacted. On the Subject Property visit a week later, Westwood observed that these soils were being placed in the LTU for spreading.

A Hazardous Waste Storage Area is located on a concrete pad with a berm on the west end of a strip of land between SEGS I and SEGS II. Two storage containers are located on the concrete pad. Empty drums for oil and containers for rags were observed in the north storage container on the concrete pad. Storage of waste fluorescent lamps and spent batteries was observed inside the south container. In addition, new fluorescent lamps, concrete mix, paints, and bonding adhesive were observed inside this storage container. An aerosol can puncture and a drum for punctured aerosol cans was observed on the northwest corner outside of the south storage container. A container for used battery recycling and a pallet for electronic waste were observed on the southwest corner of the concrete pad. Flammable storage cabinets containing paints, epoxies, and coatings are located outside of the other storage container. Empty drums were observed adjacent to the west side of the concrete pad. Another concrete pad with a berm is located north of the storage containers. This pad is used for storing bins of broken mirrors collected from the solar arrays. The

concrete pad was observed to be clean and in good condition. Out of service, empty poly tanks were observed north of the Hazardous Waste Storage Area.

A Welding Shop for repairing parts is located east of the hazardous waste storage area and in the middle of the Subject Property between SEGS I and SEGS II. Material storage of glass tubes and piping was observed outside of the welding shop. A tented storage area is located beside the Welding Shop. Boxes and a bucket of empty aerosol cans beside a flammables storage cabinet were observed in this area. Spray paint, cutting fluid, brake parts, cleaner, Zinc compound, and compressor oil were observed inside the flammables storage cabinet. Several 5-gallon buckets of masonry stucco brick paint were also observed on a pallet in the tented storage area. Additional outside parts storage was observed on the concrete just outside of the tented storage area. A shed containing miscellaneous parts is also located outside of the tented storage area. Primers were observed inside the shed. Another tented storage area for new glass tubes is located south of the shed.

A fenced Material Laydown and Storage Area, a Material Warehouse, a Maintenance Shop, an Equipment Staging Area, and a Fueling Area are located east of SEGS II.

The Material Laydown and Storage Area is fenced and is used for storage of broken and damaged equipment. Storage of 55-gallon drums of oil, charcoal product, and herbicide are located east of the material laydown and storage area on concrete bermed areas. A concrete pit to capture oil overflow is located in the corner of the oil product storage area. This area was clean and in good condition. Oil drum racks are located on opposite sides of the fence at the entrance to the Material Laydown and Storage Area. The concrete in this area appeared intact.

The Maintenance Shop is located southeast of the material laydown and storage area. Containers for empty aerosol cans and oil absorbent were observed. Flammable storage cabinets containing cutting fluid, brake fluid, and rust preventative were observed inside the maintenance shop. The concrete floor was observed to be dusty but intact. Drums for waste oil filters and spill kits were also observed outside of the machine shop. Equipment was observed parked and stored outside of the machine shop. Concrete areas appeared to have oil staining less than 1-foot by 1-foot in area and cracking less than 1-foot long. A used-oil AST within concrete containment is located behind the maintenance shop. The containment was observed to be clean and in good condition. Miscellaneous parts storage was observed in a covered area behind the maintenance shop. Compressed air tanks were also observed in this area.

A Material Warehouse used for parts and equipment storage is located west of the maintenance shop. Flammable storage cabinets containing paints, lubricants, starting fluid, brushable ceramic, and contact cleaner were observed in the southeast corner of the material warehouse. Germicide bleach and streak-free glass cleaner was observed on shelves. A storage shed for miscellaneous parts is located south of the maintenance shop.

A Fueling Area with one diesel AST and one unleaded gasoline fuel tank within a concrete containment berm is located further south of the maintenance shop. The concrete appeared to be intact. Equipment vehicles used at the facility are parked on the unpaved area south of the fueling area. These vehicles were formerly parked in an equipment staging area adjacent to the SEGS II south solar array. Excavated areas where soil was removed due to motor oil staining were observed in this area. Broken asphalt was also observed in this area. Subject Property contacts indicated the soil from this area was taken for disposal at a thermal treatment facility. After thermal treatment the soils were brought back to the Subject Property and placed in the clean soil stockpile located on the other side of the fence east of the Caloria LTU.

6.4 Potable Water Supply

Potable water comes from the production wells located on the Subject Property.

6.5 Sewage Disposal System

The Subject Property generates sanitary wastewater from lavatories and sinks. Sanitary wastewater is discharged to septic tanks at SEGS I and SEGS II. Three septic tanks are serviced by Burns Septic and Sewer.

6.6 Hazardous Substances and Petroleum Products

The Subject Property is permitted as a large quantity generator of hazardous wastes under EPA ID CAL000344479. Hazardous and universal wastes at the Subject Property include the following:

Used lead batteries
Used HTF filters
Used charcoal
Impacted HTF soil/debris
HTF-impacted insulation
Used aerosol cans
Oily rags
Broken mirror glass
Used oil
Oil/water mix
Heptane/water mix

In general, 55-gallon drums were observed in satellite areas for hazardous waste storage at various locations at the Subject Property. The Subject Property has a designated Hazardous Waste Storage Area located between SEGS I and SEGS II on a concrete pad with a berm. Materials in this area are discussed in previous sections.

Safety procedures are in place for handling HTF spills to soil at the Subject Property. The Subject Property is permitted to store and treat-HTF-impacted soil from SEGS I and SEGS II within the LTUs under RVVQCB Order No.'s 6-96-160 and 6-96-160A1 and Waste Discharge ID (VVDID) 6B36455001. They are designated as Class II LTUs and are sampled on a semi-annual basis. The results are reported in the corresponding quarterly groundwater monitoring reports.

6.7 Storage Tanks

The following storage tanks were reported at the Subject Property during the Subject Property reconnaissance. Active aboveground storage tanks at the Subject Property include the following:

LOCATION	TANK DESCRIPTION	VOLUME (gals
SEGS I Power Block	Caloria HTF	30,000
	HTF Red Storage Tank	10,080
	Solar Array Pressure Relief Tank	1,000
	Aqueous film-forming foam (AFFF)	1,500
SEGS I Cooling Tower	Diesel Fuel Tank	300
	Sulfuric Acid	4,000
	Potassium Hydroxide	300
SEGS II Power Block	Therminol HTF	55,000
	Day Tank Waste	20,000
	Sulfuric Acid	475
	Sodium Hydroxide	685
	Solar Array Pressure Relief Tank	1,000
SEGS II Cooling Tower	Diesel Fuel	282
	Sulfuric Acid	4,000 (Triple rinsed and closed on 9/30/14)
	Potassium Hydroxide	300 (Recently closed)
Maintenance Shop	Used Oil Tank	300
Fueling Area	Diesel Fuel	1,000
	Gasoline	1,000
	Gasoline	500

The tanks listed above were all observed within secondary containment. The secondary containment areas were generally observed to be clean and in good condition. The Subject Property has a Spill Prevention Countermeasures and Control (SPCC) Plan as required by Title 40 of the Code of Federal Regulation, Part 112, for its bulk oil storage tanks. The SPCC Plan was prepared in March, 2010 and updated on August 20, 2014.

6.8 Odors

A pungent odor emanated from some of the recent Therminol HTF remediation excavations currently in progress. No other noxious and/or pungent odors on the Subject Property were detected by Westwood during the Subject Property reconnaissance.

6.9 Pools of Liquid

No pools of liquid likely to contain hazardous substances or petroleum products on the Subject Property were observed by Westwood during the Subject Property reconnaissance.

6.10 Drums

See Section 6.3.

6.11 Electrical or Hydraulic Equipment

Utilities and services provided to the Subject Property include the following:

- Electricity:Southern California Edison
- Natural Gas:Southern California Gas Company
- Wastewater:Septic Tank serviced by Burns Septic & Sewer
- Solid Waste:Burrtec

The Subject Property generates electricity via the SEGS II solar arrays and SEGS I power block. Electrical lines connect to the power block. High volatage transmission lines owned by Southern California Edison cross the Property between the SEGS II west solar array and the evaporation ponds. No pole-mounted electrical transformers or underground hydraulic equipment were observed on the Subject Property during the Subject Property reconnaissance.

6.12 Exterior Observations

The Subject Property is entirely occupied by the electric generating plant. Most of the property is covered by sand and gravel with gravel roads to reduce dust. An asphalt paved road enters the Property on the east side to the Administration Office located in the SEGS I Power Block area. Some desert vegetation exists in the high voltage transmission line corridor between SEGS II and the evaporation ponds. There is very little vegetation on the property except for a small garden near the offices. The Property is flat with minor slopes down elevation to the northeast.

6.12.1 Pits, Ponds, or Lagoons

Three evaporation ponds (north, east, and west, Exhibit 2) are located on the southeastern corner of the Subject Property, adjacent to and east of Sunray Lane. These ponds are used to collect wastewater generated from SEGS I and SEGS II. The larger North Pond is 11.5 acres in size, and the East and West Ponds are 4.5 acres each. The North Pond is not in operation. At the time of the Subject Property visit, the liner in the north pond was observed to be torn, the pond was dry, and white salty looking deposits on the soil were

observed in the pond area. The east and west ponds were in operation. Wastewater and white salt deposits on the soil were observed in both the east and west ponds. The liner in the east and west ponds appeared to be intact. Birds were observed in the east pond. Three monitoring wells are located on the north, east, and south sides of the evaporation pond area. Sumps and access boxes are located along the edges separating the ponds. The sump to the east pond was opened and observed to not contain water.

6.12.2 Stained Soil or Pavement

HTF or fuel stained soil was observed in numerous areas during the Subject Property reconnaissance. The stained soil came from spills or leaks in the solar arrays as well as equipment leaks from parked or decommissioned equipment and vehicles located south and southwest of the maintenance garage. Cogentrix Subject Property personnel were actively remediating these areas during the reconnaissance. Soil from the array and Power Block areas were actively being excavated and placed in their respective stockpiles. Subject Property personnel indicated additional excavation is planned for the stained soils in the former equipment staging area adjacent to the SEGS II south solar array and also located west and southwest of the maintenance garage.

6.12.3 Stressed Vegetation

No areas of chemically stressed vegetation were observed by Westwood on the Subject Property.

6.12.4 Possible Fill Material or Buried Solid Waste

Evidence of buried waste (soil settling, partially buried other wastes) were not observed during Subject Property reconnaissance. The origin and composition of all the bermed areas appears to be native soil.

6.12.5 Solid Waste and Unidentified Substance Containers

Solid waste from the offices is placed in dumpsters located on the Subject Property. No other surface solid waste disposal, including unidentified substance containers, was observed by Westwood on the Subject Property.

6.12.6 Wastewater

The Subject Property generates wastewater from the SEGS I and II Power Blocks. The Subject Property is permitted under California Regional Water Quality Control Board Order No. 6- 96-160A1, WDID 6B36455001, to discharge wastewater generated at the SEGS I and SEGS II Power Blocks to the evaporation ponds.

6.12.7 Wells

There are five groundwater production wells at the Subject Property (depicted on Exhibit 2). They are located at the SEGS 1 Power Block, SEGS 1 Cooling Towers, SEGS 2 Power Block, and SEGS 2 Cooling Towers (2 wells). In addition, three groundwater monitoring wells MW-1A, MW-3A, and MW-4A are located north and east of the evaporation ponds.

According to information from previous environmental reports, the Subject Property had 4 other monitoring wells located around the evaporation ponds. Monitoring wells MW-1 through MW-4 were installed by Dale Hinkle in July 1986. Declining water levels had severely impacted the effectiveness of the groundwater wells to detect potential leakage from the evaporation ponds. The original wells were properly abandoned in November 2001 and subsequently replaced with the existing wells. According to the quarterly report, groundwater in MW-1A, MW-3A, and MW-4A measured between 165 and 171-feet below ground surface on September 25, 2014.

6.12.8 Septic Systems

Two septic tanks were observed on the Subject Property by each of the office buildings in the Power Block area. There is another septic system/tank south of the SEGS II Power Block area.

6.13 Interior Observations

See Section 6.3.

6.13.1 Heating and Cooling System

See Section 6.3.

6.13.2 Stains or Corrosion

See Section 6.3.

6.13.3 Drains and Sumps

See Section 6.3.

6.14 Adjoining Property Observations

The Land use in the area is mixed agricultural and industrial. Farmland exists north and east of the Subject Property. NRG Cool Water (an electrical generating station located at 37000 Santa Fe Road) and its associated evaporating ponds are located west. A fenced off area was observed south of the evaporation ponds with a monitoring well located in the northwest corner of this property.

7.0 INTERVIEWS

7.1 Landowners

According to information supplied to Westwood, the Subject Property is currently owned by Cogentrix. The Subject Property is primarily used for electric generation. A Phase I ESA USER Questionnaire was provided to and completed by John Collins, Richard Neff, Cheryl Sawyer, and Francisco Ruelas as the USER's representatives of the Subject Property. The results of the interview can be found above in the Subject Property Reconnaissance section.

7.2 Key Subject Property Managers

Cogentrix personnel interviewed for the Subject Property included:

Name	Title	Note
John Collins	Vice President, M&A and Development	
Richard Neff	Senior Vice President – Environment, Health & Safety	
Francisco Ruelas	Environmental, Health and Safety Coordinator, Cogentrix	With the facility since 2001
Cheryl Sawyer	Manager, Environmental, Health and Safety, Cogentrix.	With the Company since 1988
Additional on-site personnel interviewed included		
Bob Lawrence	Maintenance Manager	With the facility for 18 years
Brad Bergman	Facility Manager	

7.3 Occupants

The facility is operated 24-hours per day and seven days per week by Cogentrix Subject Property personnel.

7.4 Local Government Officials

Joe Morris, from the city of the Daggett Volunteer Fire Department, was interviewed by phone for information regarding the Subject Property on 8-11-15. They oversee fire calls in the area surrounding the Subject Property. Joe was not aware of any environmental conditions regarding the Subject Property other than the 1999 Caloria HTF tank fire. Joe indicated that he had no knowledge of any recent incidents indicative of an environmental condition associated with or near the Subject Property. He had no additional information regarding the Subject Property. No other local government officials were interviewed about the Subject Property.

John Stuede, case manager for the Subject Property with the California Lahontan Regional Water Quality Control Board, was contacted on July 1, 2015. He indicated that all previous environmental issues, spills etc. have been taken care of and historical files are located in either the Victorville or Sacramento offices. His files go back to 2013 and have been uploaded into the California State Waterboards GeoTracker internet site. Mr. Stuede indicated the MWH is currently working on a closure plan for the evaporation ponds. He does not know of any outstanding issues with the LTUs or the recent reportable (greater than 42 gallons) spills at the Subject Property.

8.0 LIMITATIONS, DEVIATIONS, AND DATA GAPS

Westwood based the findings and conclusions of this Phase I ESA on the procedures described in ASTM Standard E1527-13, information and observations collected during those procedures, and Westwood's interpretation of that information. The findings of this Phase I ESA are limited to the specific Subject Property described in this report, and by the accuracy and completeness of information provided by others.

A Phase I ESA does not entirely eliminate uncertainty regarding the potential for RECs in connection with the Subject Property. Performance of ASTM Standard E1527-13 is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs in connection with the Subject Property within reasonable limits of time and cost. For this Phase I ESA, Westwood applied the degree of care and skill ordinarily exercised under similar conditions by reputable members of the environmental profession within the Subject Property. No warranty or guarantee, expressed or implied, is made.

Several caveats are inherent in conducting this or any other environmental due diligence examination:

1. It is difficult to predict which, if any, identified potential problems will become actual problems in the future. Federal and state regulations continually change as do the enforcement priorities of the applicable government agencies involved.
2. There is always the possibility that sources of future environmental liability have yet to manifest themselves to the point where they are reasonably identifiable through an external investigation such as the one conducted for this assessment.
3. The results of Westwood's investigation represent the applications of a variety of technical disciplines to material facts and conditions associated with the Subject Property. Many of these facts and conditions are subject to change over time. Therefore, the findings and opinions expressed within this document must be viewed in this context.
4. Westwood is not responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed.
5. Properties adjoining the Subject Property were only unobtrusively and visually inspected. Westwood cannot be held responsible for identifying conditions on adjoining properties that were not conspicuous at the time of the Subject Property reconnaissance.

Westwood did not make intentional deviations, exceptions, or deletions from ASTM Standard E1527-13 in conducting this Phase I ESA. However, the following limiting conditions were encountered:

1. Historic information sources were not readily available for intervals of five years or less since the time of the first developed land use.

The following information is not contained in the ASTM Standard E 1527-05 and is not included in this Phase I ESA report:

- Asbestos Containing Building Materials

- Wetlands
- Industrial Hygiene
- Radon
- Regulatory Compliance
- Health and Safety
- Lead-Based Paint
- Cultural and Historic Resources
- Ecological Resources
- Lead in Drinking Water
- Indoor Air Quality
- Endangered Species
- Biological Agents
- High Voltage Power Lines
- Mold

This Phase I ESA does not include any testing or sampling of materials (e.g., soil, water, air, or building materials). Cemeteries are excluded from this assessment. The identified limitations and data gaps did not affect the Environmental Professional's ability to render opinions regarding conditions indicative of a release or threatened release.

9.0 FINDINGS

Westwood's findings identify known or suspect RECs, HRECs, CRECS and de minimis conditions. De minimis conditions generally do not present a threat to human health or the environment and generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not RECs. Use of the Subject Property for residential farmsteads, cultivated crops, and livestock are generally considered de minimis conditions.

Westwood makes the following findings on this Phase I ESA based from the evaluation:

1. 1 Federal NPL site
2. 1 Federal CERCLIS
3. 1 Federal CERC NFRAP
4. 2 Federal CORRACTS
5. 1 Federal RCRA-TSDF
6. 1 Federal RCRA-LQG generator
7. 1 US Eng Controls
8. 1 US Inst Control
9. 16 Federal ERNS

10. 1 CA Envirostor
11. 1 CA LUST
12. 1 CA UST
13. 2 CA WMUDS/SWATUST
14. 4 CA Hist UST
15. 2 CA SWEEPS UST
16. 14 CA CHMIRS
17. 1 CA LDS
18. 1 CONSENT
19. 1 FINDS
20. 2 CA NPDES
21. 1 CA Hist CORTESE
22. 1 NY MANIFEST
23. 1 CA ENF
24. 1 CA San Bern. Co. Permit
25. 3 CA HAZNET
26. 1 CA EMI
27. 2 CA WDS
28. 1 CA HWP
29. 1 US AIRS
30. Caloria HTF releases
31. Caloria-contaminated soil stockpile
32. Unpermited Caloria LTU
33. Mirrors containing lead paint or coating known to be hazardous
34. Caloria storage tank fire
35. Therminol HTF release
36. Therminol-contaminated soil stockpile
37. Fueling area with ASTs
38. Evaporation ponds for site process water.

10.0 OPINIONS

10.1 Identified Sites of Environmental Concern

EDR identified records of listed sites of potential concern occurring within one mile of the Subject Property as indicated in the report contained in Appendix B. Of these, the following findings were of note and are discussed in the paragraphs below:

10.1.1 Subject Property

The Subject Property address was identified in 12 databases in the EDR Report as listed below.

Site Name	Property Database
35100 Santa Fe Street	California Hazardous Material Incident Reporting (CHMIRS); Emergency Response Notification System (ERNS); CA Waste Discharge System (CA WDS); FINDS; US Aerometric Information Retrieval System (AIRS); CA Emissions (EMI);
Sunray Energy, Inc.	CA HAZNET
35100 Santa Fe POB 373	ERNS
SEGS I & II Daggett	CA Waste Discharge System (CA WDS)
Daggett SEGS I & II	CA CHMIRS; CA WDS
Sunray Energy — SEGS I & II	Facility Index System/Facility Registry System (FINDS); US AIRS
Daggett Leasing Corp.	CA EMI; CA CHMIRS
Sunray LLC	CA National Pollutant Discharge Elimination System (NPDES); CA San Bernardino County Permit
35100 Santa Fe Solar Electric	CA CHMIRS
2A South Field	CA CHMIRS
SEGS I Solar Field	CA CHMIRS
35100 Santa Fe St. SEGS 2 — 8R	CA CHMIRS
Daggett Leasing	CA CHMIRS
SEGS I & II — Three Surface Impoundments	CA CHMIRS; CA Land Disposal Sites (CA LDS); CA Enforcement (CA ENF); CA Waste Management Unit Database System (VVMUDS/SVVAT)

The Subject Property's address is listed multiple times in the CHMIRS database for the following hazardous material incidents:

- April 8, 1994 — 80-gallon Caloria HTF spill from a structure fire.
- June 3, 1994— 150-gallon Therminol HTF spill caused by flex hose failure.
- June 20, 1994— 900-gallon Chevron HTF (Caloria) spill caused by failure of heat collection element weld flange.
- February 2, 1995 — 25-gallon oil spill due to valve failure.

- February 10, 1995 — 100-gallon transfer oil spill due to gasket equipment failure.
- March 3, 1995— 15-gallon Chevron HTF (Caloria) spill reported due to a heat collection pipe element weld failure.
- March 14, 1995— 100-gallon Therminol HTF spill due to set of isolation valves being left open allowing fluid to spill to ground.
- March 18, 1995 — 30-gallon HTF spill due to failure of a relief valve;
- September 19, 1995- 200-gallon Chevron transfer oil (Caloria) spill.
- March 3, 1996 — 50- to 75-gallon Caloria HTF spill due to a flex hose failure.
- December 13, 1997— Unreported amount of Therminol HTF spilled due to equipment failure.
- January 16, 1999— 300-gallon Therminol HTF spill caused by improper valve lineup resulting in a tank overflow to soil.
- March 27, 2002 - 100-gallon oil spill resulting from equipment failure.
- November 26, 2010— Unreported quantity of Therminol HTF release into a containment area caused by gasket on bypass valve failing.
- March 6, 2014 — 200-gallon mineral oil spill due to a mechanical failure; the caller reported that the Site was handling ongoing cleanup and that no waterways were impacted.
- January 1, 2015— 100-gallon Therminol HTF spill caused by one employee leaving several valves in the open position while another employee, not knowing the status of the valves, pressurized the system. Employees used the evacuation "evac" trailer to recover the released substance. It was unknown as to how much of the release was recovered. No waterways were impacted and the staff was in the process of conducting an internal investigation to determine the extent of the release and a more thorough cleanup.

The Subject Property's address is listed in the HAZNET database for hazardous waste manifests from 2009 through 2013 for the following waste categories:

- Impacted soil from site clean-up;
- Waste oil and mixed oil;
- Unspecified oil-containing waste;
- Other inorganic solid waste;
- Unspecified aqueous solution;
- Other organic solids; and
- Laboratory waste chemicals.

The Subject Property is listed in ERNS database for the following emergencies:

- March 8, 1994 — 100-gallon Caloria HTF spill from failure of the solar collector assembly flange and a fire ensuing.
- September 24, 2014— 100-gallon oil spill to land.

- June 2, 1994 -150-gallon Therminol HTF spill to soil caused by flex hose failure.
- June 19, 1994— 900-gallon HTF spill caused by failure of heat collection element weld flange.
- February 9, 1996— Unknown amount of oil spilled to soil due to valve failure on solar header.
- March 9, 1996 — Leak from a flex hose.
- December 13, 1997 — Therminol HTF spill to soil due to flange failure caused by frozen solar field.
- January 16, 1999— 300-gallon Therminol HTF spill caused by improper valve lineup resulting in a tank overflow to soil.
- March 27, 2002— 100-gallon Chevron HT oil (Caloria) spill to soil caused by failure of heat collection element weld; August 12, 2011- 200-gallon Caloria HTF spill to soil due to valve that was not fully closed.
- September 4, 2013— 150-gallon Chevron HT oil (Caloria) spill to soil due to a tube separation (i.e. equipment failure) at SEGS I.
- March 6, 2014 — 200-gallon Chevron HT oil (Caloria) spill to soil; cause was not reported. September 24, 2014— 100-gallon oil spill to soil due to equipment failure.

The Subject Property is listed in the WDS database as a facility with a continuous or seasonal discharge that is under Waste Discharge Requirements. The non-contact cooling water is categorized as designated/influent or solid wastes that pose a significant threat to water quality due to high concentrations of contaminants of concern (those specifically for cooling towers are total dissolved solids, hardness, chlorides and other inorganic salts. Manageable hazardous wastes (e.g., inorganic salts and heavy metals) are also included in this category. The threat to water quality is described as moderate where a violation could potentially have a major adverse impact on receiving biota, cause aesthetic impairment to a significant human population, or render unusable a potential domestic or municipal water supply. Aesthetic impairment would include nuisance from a waste treatment facility. The complexity of the facility is listed as Category B, any facility having a physical, chemical, or biological waste treatment system, or any Class II or III disposal site, or facility without treatment systems that are complex. The Site is also listed in the WMUDS/SWAT database with the same description.

The Subject Property is listed in the WDS database as posing a minor threat to water quality whereby a violation of an RWQCB order could cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Its complexity is listed as Category C for facilities having no waste treatment systems.

The Subject Property is also listed in the FINDS database with facility information and "pointers" to other sources that contain more detail:

- Aerometric Information Retrieval System (AIRS), a repository for information regarding airborne pollution in the United States;

- United States Emission & Generation Resource Database (EGRID), a database that contains data on emissions and resource mix for every power plant and company that generates electricity in the United States;
- San Bernardino County Permit database as a large quantity generator of hazardous wastes with the current permit expiring December 31, 2015;
- Aboveground Petroleum Storage Act (APSA) program for 10,001 to 100,000-gallon capacity, and under the Hazardous Materials program for having in inventory between 31 to 50 chemicals;
- LDS database as a land disposal site; and,
- ENF database for a staff enforcement letter dated October 16, 2014 indicating that spill reports be submitted to the Lahontan Regional Water Quality Control Board (RWQCB) for discharge incidents from October 5 and 12, 2014, respectively. Based on information from the RWQCB's Geotracker website, it appears these spill reports were submitted to the Lahontan RWQCB as requested.

The Subject Property is also listed in the following additional databases:

- AIRS for a compliance inspection with no date reported. The status of the inspection was listed as "In Compliance";
- EMI database for air emissions reported to the Mojave Desert Air Quality Management District from 1993 to 2012; and,
- NPDES database as being covered under General Permit CAS000001 for stormwater under Waste Discharge ID 6B36IO22476.

10.1.2 Surrounding and Adjacent Sites

The surrounding and adjacent sites were identified in the EDR Report as listed below are either considered plotted sites (those sites that could be located by the given address and are identified on the EDR Report Overview Map) or orphan sites (sites with insufficient address information such that they can only be identified within the zip code, city or county of the Subject Property). The proximities of the plotted and orphan sites to the Subject Property, along with the geologic characteristics of the area, could have implications relative to potential environmental impacts at the Subject Property.

The EDR search identified 11 plotted sites within a 1-mile radius of the Subject Property. The EDR search identified one orphan site. The sites with known or potential environmental impacts were too far away to have impacted the Subject Property; were located at a lower elevation than the Subject Property and thus not likely to impact the Subject Property; or had been remediated and were not likely to pose a threat to the Subject Property. The plotted sites are discussed in further detail below.

The Barstow Marine Corps Logistics Base, located within ½- mile west of the Subject Property at an equal or higher elevation, is identified in the National Priorities List (NPL) database as a facility identified for priority cleanup under the Superfund Program. This site is also listed in the following environmental databases:

- Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) — System that contains data on potentially hazardous waste sites;
- Corrective Action (CORRACTS) — List of handlers with Resource Conservation and Recovery Act (RCRA) corrective action activity;
- US Engineering Controls (US ENG CONTROLS)- Listing of sites with engineering controls in place;
- US Institutional Control (US Inst. Control)- Listing of sites with institutional controls in place;
- CA ENVIROSTOR- Department of Toxic Substances Control (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database that identifies sites that have known contamination or sites for which there may be reasons to investigate further;
- Record of Decision (ROD) — ROD documents mandate a permanent remedy at an NPL; CA Permitted Hazardous Waste (CA HWP) — Detailed information on permitted hazardous waste facilities and corrective action cleanups tracked in EnviroStor.

This facility is currently on the NPL for trichloroethylene (TCE) affecting the groundwater pathway. The facility is in the Mojave Desert and adjacent to the Mojave River. A portion of the base, the 1,568-acre Nebo Area, has been used for maintenance, repair, and rebuilding of supplies and equipment for the Marine Corps since 1942. Solvent wastes, including TCE were generated in substantial quantities in the Nebo Area facility, as well as in the Yermo Area, 6 miles east of Nebo. Barstow Marine Corps Logistics Base is participating in the Installation Restoration Program (IRP), established in 1978. Under this program, the Department of Defense seeks to identify, investigate, and clean up contamination from hazardous materials. Based on analytical tests conducted in 1984 and 1985 as part of the IRP, and by the United States Geological Survey, monitoring wells at both Nebo and Yermo are impacted with TCE. Public wells within 3 miles of the base supply drinking water to an estimated 28,700 residents of the city of Barstow and outlying areas. An activated carbon system for treating impacted drinking water wells at Yermo has been operating since November 21, 1989. This facility is a large quantity generator of hazardous wastes and has received several notices of violations (NOVs) from 1987 to 1998 for general requirements related to generator, transfer, storage, and disposal (TSD) and land disposal. The facility has also received NOVs related to TSD closure/post-closure and groundwater monitoring.

The following engineering controls for impacted groundwater have been mandated at this facility: air sparging, carbon adsorption, containment, discharge, disposal, extraction, infiltration basin/trench, monitoring, natural attenuation, well head treatment. In addition for soil, the engineering controls of monitoring and soil vapor extraction (in-situ), and capping of soil were mandated.

Cool Water Generating is located within 0.5 miles southwest of the Subject Property at a lower elevation, is listed in the Leaking Underground Storage Tank (LUST) and the California Historical CORTESE (CA HIST CORTESE) databases for a leaking underground storage tank incidents for diesel contamination in soil. The case has been completed and closed as of October 23, 1989. EPTC Cool water with address listed as 37000 E Santa Fe St. is listed in the RCRA-TSDF, CERC-NFRAP, CORRACTS, RCRA-SQG, and CA WMUDS/SWAT.

10.1.3 Orphan Sites

EDR has identified one orphan site, EDR ID 105960473: as Dagget Airport. (Barstow/Dagget Airport). Orphan sites are those for which accurate location information is missing or incomplete. A review of the information identified this site approximately one mile east of the Subject Property.

10.2 Recognized Environmental Conditions

The term *recognized environmental conditions* means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of release of any hazardous substances or petroleum products into structures on the Subject Property or into the ground, groundwater, or surface water of the Subject Property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies.

The following RECs were identified in this Phase I ESA related the Subject Property.

REC 1: Caloria HTF Use Area throughout SEGS I

Evidence of Caloria HTF releases to soil was observed throughout the SEGS I Power Block and solar array. At the time of the Subject Property visit, most of these areas were excavated or in the process of being excavated. The excavated soils were removed or going to be removed for treatment in the LTU at SEGS I. Excavated areas observed ranged from 1-foot to 4-feet in depth, length, and width. Some remaining Caloria HTF -stained areas below the excavated areas were observed in the solar arrays. According to the Subject Property contact, these areas are still intended to be further excavated.

REC 2: Caloria HTF Contaminated Soil Stockpile

An approximately 15,000 cubic yard soil Caloria HTF contaminated stockpile had accumulated and is located on the north side of the SEGS I LTU. The stockpile is within the LTU however, it was not covered or bermed to prevent rainwater from infiltrating through the stockpile or run off the stockpile.

REC 3: Sifting/Storage Area for Lead Based Paint on Broken Mirrors

Broken mirrors and other debris are screened out of the soil at a station located just south of the stockpile in the SEGS I LTU. Some broken mirrors contain lead based paint and have been tested to be hazardous waste. The Subject Property contacts indicated that the mirror glass debris pile is loaded into a dumpster and taken off the Subject Property and disposed as hazardous waste. The broken mirror pile is uncovered and there is no secondary containment preventing the pile to be spread around.

REC 4: Unpermitted Caloria HTF LTU

An area of temporary soil storage for surficial soils removed from the Fire Pit area following the 1999 fire was discovered by Subject Property contacts east of the SEGS I cooling towers. Documentation has not been found regarding this soil removal and its placement in the area east of the SEGS I Cooling Towers. MWH review of GeoTrans historical monitoring reports indicated that between 2004 and 2014, total petroleum hydrocarbons (TPH) as Caloria HTF concentrations in samples collected from 1 to 5-feet below ground surface in the area east of the SEGS I cooling towers have ranged from non-detectable to 995 mg/kg (4th quarter 2006 at 3-feet below ground surface). According to the Subject Property contacts, GeoTrans had sampled the area east of the SEGS I cooling towers following the February 1999 fire. However, no older reports prior to the fourth quarter of 2004 were available for review. MWH has recently confirmed the presence of Caloria HTF impacted soil as documented in their June, 2015 Focused Subsurface Investigation Summary Report. The report indicated TPH was detected in soil boring samples within this area greater than the 100 mg/kg cleanup standard for the Subject Property and up to 5-feet below ground surface but no deeper than 10-feet below ground surface.

REC 5: Caloria HTF Tank Fire February, 1999

Based on the 2008 Phase I ESA prepared by TTEC, the SEGS I HTF Storage Area was the location of a catastrophic tank explosion, HTF release, heptane release, toluene release, and fire that occurred in February 1999. According to the Subject Property contacts, most of the spilled oil was consumed in the associated fire and remedial activities had been undertaken. However, validation results or closure documentation could not be provided. TTEC recommended that groundwater samples from the production well at the SEGS I Power Block be collected and analyzed.

According to TTEC's subsequent 2008 Phase II ESA, soil borings were advanced in the SEGS I Fire Remediation Area and concentrations of TPH-cc were detected above the 100 mg/kg cleanup limit. The extent was not defined. Also, very low levels of toluene (0.65 µg/l were detected in one groundwater sample that was obtained from the production well located in the SEGS I Power Block.

According to MWH's Focused Subsurface Investigation Summary Report, Caloria HTF impacted soils were detected in soil boring samples at concentrations greater than the 100 mg/kg compliance cleanup standards for the Subject Property. The soil contamination

reached to depths of up to 35-feet below ground surface and the areal extent was contained within the HTF storage area berm. Deeper soil borings were advanced under the direction of MWH in July. Information provided in the Cogentrix Sabertooth data room indicated that the contamination did not extend deeper than 40-feet.

REC 6: TherminolHTF use Area throughout SEGS II

Evidence of Therminol HTF releases to soil was observed throughout the SEGS II Power Block and Solar array. At the time of the Subject Property visit, most of these areas were excavated or in the process of being excavated. The excavated soils were removed or going to be removed for treatment in the Therminol LTU at SEGS II. Excavated areas observed ranged from 1-foot to 4-feet in depth, length, and width. Some remaining HTF -stained areas below the excavated areas were observed in the solar arrays. According to the Subject Property contact, these areas are still intended to be further excavated.

REC 7: Therminol HTF Contaminated Soil Stockpile

An unknown approximately 2,000 cubic yard stockpile had accumulated and is located north of the SEGS II cooling towers. The stockpile is not within the LTU and, it was not covered or bermed to prevent rainwater from infiltrating through the stockpile or run off the stockpile. On the second visit the following week, the stockpiled soils were being removed from this area and spread in the LTU.

REC 8: Fueling Area with Gasoline / Diesel ASTs

A fueling area containing gasoline and diesel fuel tanks are located on the east side of the Subject Property south of the garages. The use of the area since the 1980s to fuel Subject Property vehicles may be an area prone to numerous de minimis spills or releases into the subsurface.

REC 9 Evaporation Pond 1 (North)

The north evaporation pond which is not being used has a torn liner. Evaporative salts that accumulated from past use of the pond were observed and present in the soils in the pond area. A limited Phase II Investigation was performed by MWH in the north pond area in 2009. Concentrations of salt were detected in soil samples above the background concentrations. This information was presented to the Lahontan Regional Water Quality Board in a pond closure plan dated 2013. The closure plan was not approved because the salt deposits are above the natural background concentrations in the area. Additional testing was recommended by the Water Quality Board to assess if the elevated salts in the clay liner is naturally occurring from the source area.

10.3Historical Recognized Environmental Conditions

Historical RECs (HRECs) are those that were or would have been considered to be RECs in the past, but because of additional information or a change in conditions, may no longer be considered an REC.

No HRECs were identified in this Phase I ESA related the Subject Property.

10.4Controlled Historical Recognized Environmental Conditions

A Controlled REC (CRECs) is a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)."

No CRECs were identified in this Phase I ESA related the Subject Property.

10.5*De Minimis* Conditions

A *de minimis* condition is one that generally does not pose a threat to human health or the environment and that would generally not trigger an enforcement action if brought to the attention of an applicable regulatory agency.

Numerous de minimis releases of HTF were reported in previous reports found in the Sabertooth data room and observed during the field reconnaissance for this Phase I within the SEGS I and II areas designated as RECs 1 and 6. These releases are being cleaned up as they are encountered. There is daily monitoring of equipment which provides prompt identification of a release so it can be contained and properly treated. De minimis conditions were observed at the equipment staging area identified as I on Exhibit 2.

10.6Additional Items

No additional items of environmental note were identified in this Phase I ESA concerning the Subject Property.

11.0 CONCLUSIONS AND RECOMMENDATIONS

This Phase I has been prepared consistent with the scope and limitations of ASTM Standard E1527-13 and the contract with the USER. This Phase I ESA has revealed evidence of RECs associated with the Subject Property.

No HRECs or CRECs were identified on the Subject Property.

Nine RECS were identified and discussed in this report. They encompass some of the several RECS that were identified in the Phase I ESAs by MWH in February 2015, and TTEC in December 2008. Previous investigations and reports are found in the Sabertooth data room. These areas will be considered RECS until they meet the definition of HRECs or CRECs in ASTM E1527-13.

ID	Source of REC	Location	Note
REC 1	Caloria HTF use area	SEGS I	Numerous reported and de minimis releases of Caloria HTF were observed and reported.
REC 2	Caloria HTF contaminated soil stockpile	Northeast of SEGS I	Temporary stockpile of soil contaminated with Caloria HTF until it can be spread in the SEGS I Caloria LTU.
REC 3	Sifting/storage area for lead based paint on mirrors	East of SEGS I	Fragments of broken mirrors containing lead based paint are separated from soil by sifting and stored.
REC 4	Unpermitted Caloria HTF LTU	Between SEGS I and SEGS II (east)	An unpermitted Caloria HTF LTU was used.
REC 5	Caloria HTF Tank Fire	Center of SEGS I	A Caloria HTF storage tank fire occurred in 2-1999. Caloria HTF contamination was detected at 35-feet below ground surface.
REC 6	Therminol HTF use area	SEGS II	Numerous reported and de minimis releases of Therminol HTF.
REC 7	Therminol HTF contaminated soil stockpile	Southwest of SEGS II	Temporary stockpile of soil contaminated with Therminol HTF until it can be spread in the SEGS II LTU.
REC 8	Fueling area with above ground storage tanks (ASTs)	East of SEGS II	Gasoline and diesel ASTs are used to fuel equipment on the Subject Property.
REC 9	Evaporation pond 1 (north)	Southeast corner of the Subject Property	The liner in the north evaporation pond is torn. Metals and salts have accumulated and are concentrated under the evaporation pond liner. Concentrations of salt were detected by MWH in soil samples above the background concentrations.

The following de minimis or other conditions were observed on the Subject Property. They generally do not present a threat to human health or the environment but could be improved by using best management practices.

Numerous non-reportable releases of HTF were documented in previous reports found in the Sabertooth data room.Staining from such releases was observed during the field reconnaissance for this Phase I within the SEGS I and II areas designated as RECs 1 and 6. These releases are curently being cleaned up as they are encountered. There is currently daily monitoring of solar

array equipment that provides prompt identification of a release so it can be contained and properly treated. De minimis conditions were observed at the equipment staging area identified as I on Exhibit 2.

The RECs identified above warrant additional investigation and are currently being assessed with soil borings in a Westwood Phase II ESA and additional due diligence activities. The Westwood Phase II ESA consists of exploratory soil borings to address each of the RECs identified above. Additional due diligence activities that will be conducted or have recently been conducted will consist of:

- Ongoing file review as data is uploaded into Cogentrix's Sabertooth internet data base
- Interviews with Cogentrix's environmental staff, and
- Interviews with the California Lahontan Regional Water Quality Board.

12.0 REFERENCES

ASTM International. 2013. ASTM Practice E Practice E 1527-13. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

Bortugno, E.J. and T.E. Spittler. 1986. Geologic Map of the San Bernardino Quadrangle, California Department of Conservation, Mines and Geology Map Number 3A.

EDR (Environmental Data Resources Inc.) 2015. http://www.edrnet.com.

U.S. Environmental Protection Agency. 2005. 40 CFR Part 312. Standards and Practices for All Appropriate Inquiries; Final Rule.

USGS (U.S. Geological Survey). 1974. National Hydrography Dataset, http://nhd.usgs.gov.

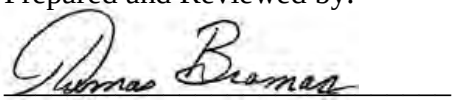
13.0 ENVIRONMENTAL PROFESSIONAL STATEMENT AND QUALIFICATIONS

We declare that, to the best of our knowledge and belief, we meet the definition of Environmental Professionals as defined in 40 CFR Part 312.10. We have the specific qualifications, education, training, and experience to assess the nature and histories of properties in conformance with the standards and practices set forth in 40 CFR Part 312. Resumes are available upon request.

Table 13.1: Qualifications of Environmental Professionals

Name	Degrees	Years of Experience	Licenses and Certifications	Role on Project
Tom Braman	BS, Biology	25	WDC	Report, Exhibit Preparation, Peer Review Quality Assurance
Kate Kleiter	MS, Geology BS Geophysics	27	PG	Subject Property Reconnaissance, Report and Exhibit Preparation
Eric Hansen	BS, Geo-Engineering BS, Geology	28	PE, PG	Peer Review Quality Assurance

Prepared and Reviewed by:



Tom Braman
Senior Environmental Scientist

Kathryn J. Kleiter
Senior Environmental Scientist

EXHIBIT ONE
Subject Property Location

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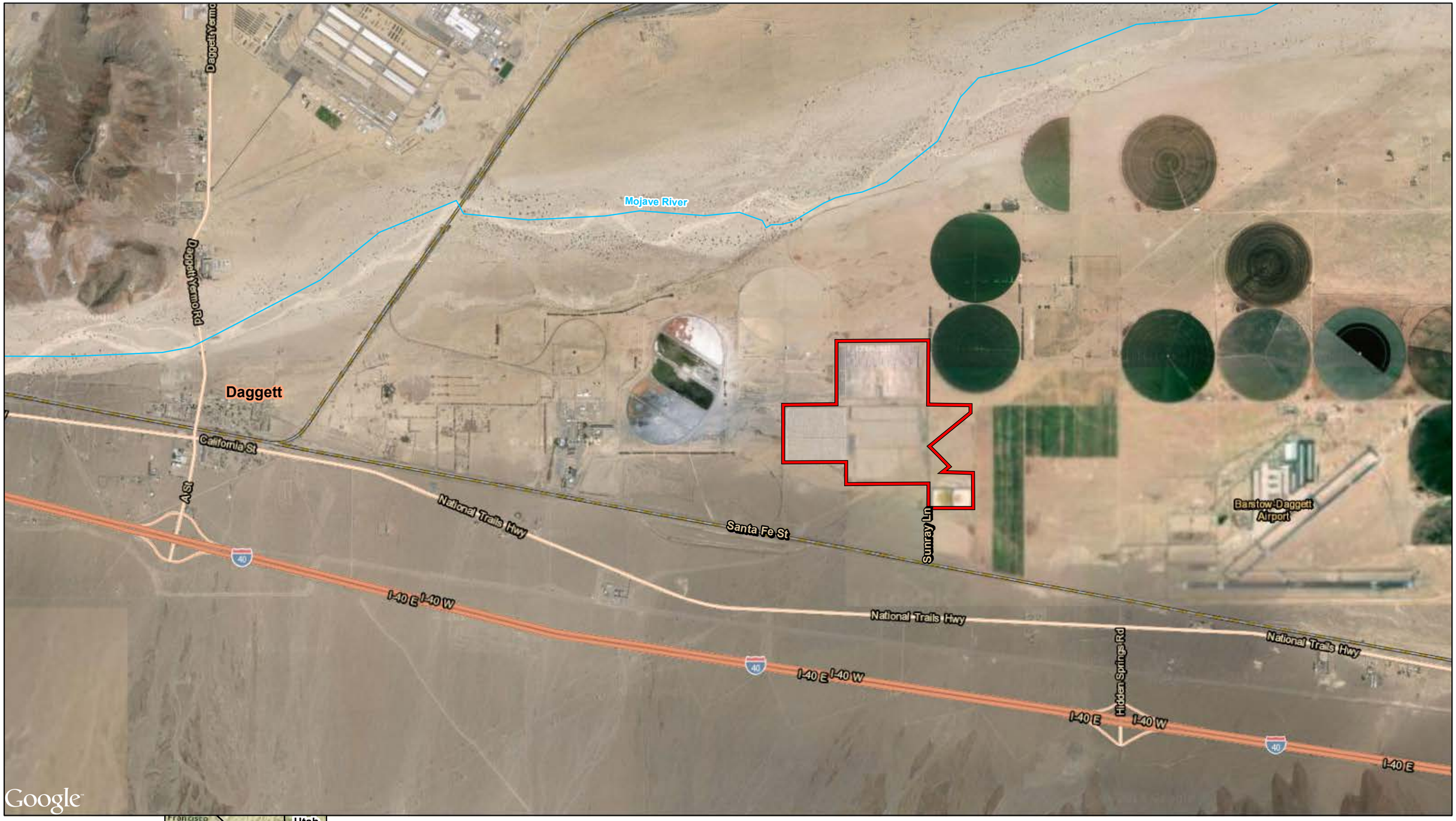

Data Source(s): Westwood (2015); Google Imagery (Accessed 2015); ESRI World Transportation (Accessed 2015)

Westwood
Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

Legend

- River
- Project Boundary

N

0 Feet 2,500

Cogentrix - Sunray Energy LLC

Daggett, San Bernardino County, California

Subject Property Location Map

EXHIBIT 1

Map Document: P:\0006575.00\GIS\Phase I Exhibits\SR LocationMap Ex01 150824.mxd 8/24/2015 10:43:35 AM

EXHIBIT TWO
Subject Property Map

Map Document: P:\0006575.00\GIS\Phase I_Exhibits\SR_Phase I_Ex02B_150824.mxd 8/24/2015 10:40:39 AM

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REC 1
Caloria HTF Use Area

REC 2
Caloria Contaminated Soil Stockpile

REC 3
Sifting/Storage area for Lead based paint on mirrors

REC 5
Caloria Tank Fire (February 1999)

SEGS I

Therminol Pipe Header

SEGS I
Land Treatment Unit

REC 4
Caloria Unpermitted Land Treatment Unit

REC 6
Therminol HTF Use Area

SEGS II

REC 8
Fueling Area with Gasoline/Diesel ASTs

REC 7
Therminol contaminated soil stockpile

SEGS II
Land Treatment Unit

REC 9
Evaporation Pond 1 (North)

Transmission Lines

Transmission Lines

Transmission Lines

Sunray Ln

Santa Fe St

ID	Industrial Area
A	SEGS 1 Office & Power Block
B	Office
C	Welding Shop & Remediation Tents
D	SEGS 1 Cooling Towers
E	Less Than 90 Day Hazardous Waste Storage Area
F	Material Laydown & Storage Area
G	Material Warehouse
H	Maintenance Shop
I	Equipment Staging Area
J	SEGS 2 Power Block
K	SEGS 2 Cooling Towers
L	Evaporation Pond 2 (West)
M	Evaporation Pond 3 (East)

Data Source(s): Westwood (2015); Google Imagery (Accessed 2015); ESRI World Transportation

Westwood
Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

Legend

- Project Boundary
- LTU Samples 6/30/2015
- Tetratech Borings 2009
- Selected Spills Remediated Or In Progress
- MWH Borings 2013
- MWH Borings 2015
- Production Wells
- Monitoring Wells

Cogentrix - Sunray Energy LLC

Daggett, San Bernardino County, California

N

0 525 Feet

Subject Property Map

EXHIBIT 2

APPENDIX A
Questionnaires

Fire Department interview

August 11, 2015

Re: Interview Request for Phase I ESA, Sunray project Daggett, CA

Tom Braman called Beryl Bell general manager / book keeper and manager.

We are requesting information for the preparation of a Phase I Environmental Site Assessment in connection with the environmental review record for the +300 acre Cogentrix Sunray Energy LLC SEGS I and II facility at 35100 Santa Fe Road in Daggett, San Bernardino County, CA.

Please provide the following information:

1. Are you aware of the project facility?

   Yes. Had knowledge of the area for a long time.

2. Are you aware of any USTs at or near the project site?
   a. None known

2. Are you aware of any hazardous-material responses or other environmental concerns in the project area?

Not known.

3. What station will provide service to this location?
   a. They could serve if called. They are first responders

4. Are you aware of any fire response calls to the facility at this location?
   a. Not known.

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPERTY OWNER/MANAGER QUESTIONNAIRE

PARCEL INFORMATION

Project Name:	Sunray
Project Number:	6575
Property/Landowner Name:	Sunray Energy 2, LLC
Address:	35100 Santa Fe Street, Daggett, CA 92327
Legal Description:	APN: 0516-341-14-0-000
Acres:	~332.98
Interviewer:	Westwood Professional Services Westwood Interviewer Attn: KK, Westwood Phone: _____,
Interviewee: Cheryl Sawyer	Corporate EHS oversight of the facility. (Owner? Yes/No; Manager? Yes/No; Other?)
Phone:	757 238 2037
Date:	August 17, 2015

1. How long have you lived on, owned, operated or managed the property? **Sunray was purchased by Cogentrix in 2009. Corporate oversight of the facility began at that time.**

2. What is the property primarily used for (agriculture, ranching, other)? **Electric Generation**

3. Provide a brief description of how the property was used in the past (include dates of uses, etc.). **No first-hand knowledge. Previous Phase I investigations list the prior use as agriculture.**

4. Do you know of hazardous materials or hazardous substances that are present or once were present at the property? If YES, can you describe them and provide location(s)? **Yes. Please refer to the information provided in the Sabertooth data room under Business Emergency Contingency Plan.**

5. Are you aware of any chemical or petroleum product spills on the property (oil, gas, diesel, herbicides, pesticides, other farm chemicals. etc.) recently or in the past? If YES, what kind, how much, when did it happen, and where (locations)? **Yes. Please refer to the information provided in the Sabertooth data room under spill reports.**

6. Are you aware of any hazardous material releases on the property (like lead-based paint spills, asbestos, etc.) recently or in the past? If YES, what kind, how much, when did it happen, and where (locations)? **Yes…previous Phase Ones note a sulfuric acid spill cleanup under the Water Board's jurisdiction prior to Cogentrix ownership, and numerous HTF spills. Please refer to the information in the Sabertooth data room.**

7. Do you know if any hazardous substance or petroleum products, tires, automotive batteries, or any other waste materials have been dumped above ground, buried and/or burned on the property? If YES, what has occurred, where, and when? **No first-hand knowledge. Previous Phase I investigations discuss an HTF fire in 1999; please refer to the data room for details.**

8. Do you know of any environmental cleanups that have taken place on the property? If YES, can you describe them? **Yes. Sunray has been continually remediating HFT contacted soil throughout Cogentrix's ownership of the facility. Previous Phase I investigation reference similar activities that precede Cogentrix's ownership. Please refer to the Sabertooth data room for details.**

9. Are you aware of any private water supply wells or irrigation wells currently located on your property? If yes, please provide the number of wells (if known) and a description of the well location(s) that includes the Property Identification Number (PIN) for the applicable parcel where the well is located, and a general description of where within the parcel the well is located (For example: 100 feet north of the existing house in the northwest corner of Parcel No.___). **Yes. There are 5 wells at the facility: One West of SEGS I Power Block, One East of SEGS I Cooling Tower, One East of SEGS II Power Block and two at the SEGS II Cooling Tower, one to the East and one to the South.**

10. Are you aware of any above ground storage tanks on the property? If YES, what do they contain, how big are they, where are they located, and when were they at the property? (This includes gas or diesel storage tanks). **Yes. Data submitted under separate cover.**

11. Are you aware of any underground storage tanks or septic tanks on the property? If YES, what do they contain, how big are they, where are they located and when were they at the property? **Not aware of any underground storage tanks on the property.**

12. Are you aware of any environmental liens that are filed or recorded against the property under federal, state, local or tribal law? If YES, can you describe them? **Not aware of any liens.**

13. Are you aware of any activity or use limitations or restrictions on the property (such as engineering controls, institutional controls, etc.) which are or were filed or recorded under federal, state, local, or tribal law? (Activity and use limitations are legal or physical restrictions or limitations that affect access or use of a site. They can be restrictions of record on titles, zoning restrictions, easements, covenants, or physical barriers that reduce potential exposure to hazardous substances or petroleum products.) If YES, can you describe them? **Not aware of any use limitations or restrictions.**

14. Do you have any other knowledge or experience with the property that may be pertinent to the environmental condition of the property? **No.**

15. Are there other people available that might know more about the land use history and environmental condition of the property? **Francisco Ruelas, Cheryl Sawyer and John Collins**

16. Are you aware of any oil wells on your property, or oil and gas leases? **No.**

17. Other comments? **None.**

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPERTY OWNER/MANAGER QUESTIONNAIRE

PARCEL INFORMATION

Project Name:	Sunray
Project Number:	6575
Property/Landowner Name:	Sunray Energy 2, LLC
Address:	35100 Santa Fe Street, Daggett, CA 92327
Legal Description:	APN: 0516-341-14-0-000
Acres:	~332.98
Interviewer:	Westwood Professional Services Westwood Interviewer Attn: KK, Westwood Phone: _____,
Interviewee: C. Richard Neff	Corporate EHS oversight of the facility. (Owner? Yes/No; Manager? Yes/No; Other?)
Phone:	704-672-2818
Date:	August 14, 2015

1. How long have you lived on, owned, operated or managed the property? **Sunray was purchased by Cogentrix in 2009. Corporate oversight of the facility began at that time.**

2. What is the property primarily used for (agriculture, ranching, other)? **Electric Generation**

3. Provide a brief description of how the property was used in the past (include dates of uses, etc.). **No first-hand knowledge. Previous Phase I investigations list the prior use as agriculture.**

4. Do you know of hazardous materials or hazardous substances that are present or once were present at the property? If YES, can you describe them and provide location(s)? **Yes. Please refer to the information provided in the Sabertooth data room under Business Emergency Contingency Plan.**

5. Are you aware of any chemical or petroleum product spills on the property (oil, gas, diesel, herbicides, pesticides, other farm chemicals. etc.) recently or in the past? If YES, what kind, how much, when did it happen, and where (locations)? **Yes. Please refer to the information provided in the Sabertooth data room under spill reports.**

6. Are you aware of any hazardous material releases on the property (like lead-based paint spills, asbestos, etc.) recently or in the past? If YES, what kind, how much, when did it happen, and where (locations)? **Yes for Heat Transfer Fluid (HTF) only. Please refer to the information in the Sabertooth data room.**

7. Do you know if any hazardous substance or petroleum products, tires, automotive batteries, or any other waste materials have been dumped above ground, buried and/or burned on the property? If YES, what has occurred, where, and when? **No first-hand knowledge. Previous Phase I investigations discuss an HTF fire; please refer to the data room for details.**

8. Do you know of any environmental cleanups that have taken place on the property? If YES, can you describe them? **Yes. Sunray has been continually remediating HFT contacted soil throughout Cogentrix's ownership of the facility. Previous Phase I investigation reference similar activities that precede Cogentrix's ownership. Please refer to the Sabertooth data room for details.**

9. Are you aware of any private water supply wells or irrigation wells currently located on your property? If yes, please provide the number of wells (if known) and a description of the well location(s) that includes the Property Identification Number (PIN) for the applicable parcel where the well is located, and a general description of where within the parcel the well is located (For example: 100 feet north of the existing house in the northwest corner of Parcel No.___). **Yes. There are 5 wells at the facility: One West of SEGS I Power Block, One East of SEGS I Cooling Tower, One East of SEGS II Power Block and two at the SEGS II Cooling Tower, one to the East and one to the South. Please see the information provided in the Sabertooth data room.**

10. Are you aware of any above ground storage tanks on the property? If YES, what do they contain, how big are they, where are they located, and when were they at the property? (This includes gas or diesel storage tanks). **Yes. Please refer to the Sabertooth data room for details.**

11. Are you aware of any underground storage tanks or septic tanks on the property? If YES, what do they contain, how big are they, where are they located and when were they at the property? **Not aware of any underground storage tanks on the property.**

12. Are you aware of any environmental liens that are filed or recorded against the property under federal, state, local or tribal law? If YES, can you describe them? **Not aware of any liens.**

13. Are you aware of any activity or use limitations or restrictions on the property (such as engineering controls, institutional controls, etc.) which are or were filed or recorded under federal, state, local, or tribal law? (Activity and use limitations are legal or physical restrictions or limitations that affect access or use of a site. They can be restrictions of record on titles, zoning restrictions, easements, covenants, or physical barriers that reduce potential exposure to hazardous substances or petroleum products.) If YES, can you describe them? **Not aware of any use limitations or restrictions.**

14. Do you have any other knowledge or experience with the property that may be pertinent to the environmental condition of the property? **No.**

15. Are there other people available that might know more about the land use history and environmental condition of the property? **Francisco Ruelas, Cheryl Sawyer and John Collins**

16. Are you aware of any oil wells on your property, or oil and gas leases? **No.**

17. Other comments? **None.**

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPERTY OWNER/MANAGER QUESTIONNAIRE

PARCEL INFORMATION

Project Name:	Sunray
Project Number:	6575
Property/Landowner Name:	Sunray Energy 2, LLC
Address:	35100 Santa Fe Street, Daggett, CA 92327
Legal Description:	APN: 0516-341-14-0-000
Acres:	~332.98
Interviewer:	Westwood Professional Services Westwood Interviewer Attn: KK, Westwood Phone: _____,
Interviewee: Francisco Ruelas	(Owner? Yes/No; Manager? Yes/No; Other?)
Phone:	760-254-3381 ext.2180
Date:	August 13, 2015

1. How long have you lived on, owned, operated or managed the property? I have worked at Sunray since September 30th, 2001

2. What is the property primarily used for (agriculture, ranching, other)? Electric Generation

3. Provide a brief description of how the property was used in the past (include dates of uses, etc.). As per our previous Phase I, the site was used for agricultural purposes. Then the property has been used for electric generation since 1984.

4. Do you know of hazardous materials or hazardous substances that are present or once were present at the property? If YES, can you describe them and provide location(s)? Please see the information provided in the Sabertooth data room under Business Emergency Contingency Plan.

5. Are you aware of any chemical or petroleum product spills on the property (oil, gas, diesel, herbicides, pesticides, other farm chemicals. etc.) recently or in the past? If YES, what kind, how much, when did it happen, and where (locations)? Please see the information provided in the Sabertooth data room under spill reports.

6. Are you aware of any hazardous material releases on the property (like lead-based paint spills, asbestos, etc.) recently or in the past? If YES, what kind, how much, when did it happen, and where (locations)? Please see the information provided in the Sabertooth data room.

7. Do you know if any hazardous substance or petroleum products, tires, automotive batteries, or any other waste materials have been dumped above ground, buried and/or burned on the property? If YES, what has occurred, where, and when? Please see the information provided in the Sabertooth data room.

8. Do you know of any environmental cleanups that have taken place on the property? If YES, can you describe them? As per our Phase I one cleanup occurred after the purchase of Segs I and II from Luz by DLC, and another after Cogentrix purchased Sunray. We (Sunray) continue to cleanup spills that occur at the site from daily operational process. Please see the information provided in the Sabertooth data room.

9. Are you aware of any private water supply wells or irrigation wells currently located on your property? If yes, please provide the number of wells (if known) and a description of the well location(s) that includes the Property Identification Number (PIN) for the applicable parcel where the well is located, and a general description of where within the parcel the well is located (For example: 100 feet north of the existing house in the northwest corner of Parcel No.___). We have five wells at the facility: One West of SEGS I Power Block, One East of SEGS I Cooling Tower, One West of SEGS II Power Block and two at the SEGS II Cooling Tower, one to the East and one to the South. Please see the information provided in the Sabertooth data room.

10. Are you aware of any above ground storage tanks on the property? If YES, what do they contain, how big are they, where are they located, and when were they at the property? (This includes gas or diesel storage tanks) Already emailed.

11. Are you aware of any underground storage tanks or septic tanks on the property? If YES, what do they contain, how big are they, where are they located and when were they at the property? I am not aware of any underground storage tanks on the property. I believe there are 3-septic tanks on the property. Please see the information provided in the Sabertooth data room.

12. Are you aware of any environmental liens that are filed or recorded against the property under federal, state, local or tribal law? If YES, can you describe them? No

13. Are you aware of any activity or use limitations or restrictions on the property (such as engineering controls, institutional controls, etc.) which are or were filed or recorded under federal, state, local, or tribal law? (Activity and use limitations are legal or physical restrictions or limitations that affect access or use of a site. They can be restrictions of record on titles, zoning restrictions, easements, covenants, or physical barriers that reduce potential exposure to hazardous substances or petroleum products.) If YES, can you describe them? Do not know.

14. Do you have any other knowledge or experience with the property that may be pertinent to the environmental condition of the property? No

15. Are there other people available that might know more about the land use history and environmental condition of the property? Rick Neff, Cheryl Sawyer and John Collins

16. Are you aware of any oil wells on your property, or oil and gas leases? No

17. Other comments? None

APPENDIX B
EDR Report,
Sanborn Fire Insurance Map,
City Directory

Sunray
35100 Santa Fe Street
Daggett, CA 92327

Inquiry Number: 4377373.2s
August 10, 2015

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

35100 SANTA FE STREET
DAGGETT, CA 92327

COORDINATES

Latitude (North):	34.8653000 - 34° 51' 55.08''
Longitude (West):	116.8257000 - 116° 49' 32.52''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	515931.6
UTM Y (Meters):	3857922.2
Elevation:	1945 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5619556 MINNEOLA, CA
Version Date:	2012
North Map:	5619580 YERMO, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20120429
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
35100 SANTA FE STREET
DAGGETT, CA 92327

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	SUNRAY ENERGY LLC	35100 SANTA FE ST	CA HAZNET		TP
A2		35100 SANTA FE ST SO	CA CHMIRS		TP
A3	SUN RAY ENERGY - SEG	35100 SANTA FE RD	US AIRS		TP
A4	SUN RAY ENERGY - SEG	35100 SANTA FE RD	FINDS		TP
A5	SUNRAY ENERGY INC	35100 SANTA FE ST	CA HAZNET		TP
A6		35100 SANTA FE STREE	CA CHMIRS		TP
A7	SUNRAY ENERGY INC	35100 SANTA FE ST	CA NPDES, CA CHMIRS, CA San Bern. Co. Permit		TP
A8		35100 SANTA FE ST (S	CA CHMIRS		TP
A9	SEGS I & II - DAGGET	35100 SANTE FE RD	CA WDS		TP
A10		35100 SANTA FE ST.	CA CHMIRS		TP
A11	DAGGETT LEASING CORP	35100 SANTA FE STREE	CA NPDES		TP
A12		35100 SANTE FE ST	ERNS		TP
A13		35100 SANTE FE ST	ERNS		TP
A14		35100 SANTE FE ST	ERNS		TP
A15		35100 SANTE FE ST	ERNS		TP
A16		35100 SANTE FE ST	ERNS		TP
A17	SUNRAY ENERGY INC	35100 SANTA FE ST	CA HAZNET		TP
A18		35100 SANTA FE ST	CA CHMIRS		TP
A19	DAGGETT LEASING CORP	35100 SANTA FE STREE	CA EMI		TP
A20		35100 SANTE FE ST	ERNS		TP
A21		35100 SANTE FE ST	ERNS		TP
A22		35100 SANTE FE ST	ERNS		TP
A23		35100 SANTA FE POB 3	ERNS		TP
A24		35100 SANTA FE POB 3	ERNS		TP
A25		35100 SANTA FE	ERNS		TP
A26		35100 SANTA FE ST.	ERNS		TP
A27		35100 SANTE FE ST	ERNS		TP
A28		35100 SANTA FE	ERNS		TP
A29		35100 SANTE FE ST	ERNS		TP
A30		35100 SANTA FE POB 3	ERNS		TP
A31		SEGS 1 SOLAR FIELD 3	CA CHMIRS		TP
A32		2A SOUTH FIELD, 3510	CA CHMIRS		TP
A33		DAGGETT LEASING CORP	CA CHMIRS		TP
A34		35100 SANTA FE ST SE	CA CHMIRS		TP
A35	DAGGETT SEGS I & II	35100 SANTA FE ST	CA CHMIRS, CA WDS		TP
A36	SEGS I & II - THREE	35100 SANTE FE RD	CA CHMIRS, CA LDS, CA ENF, CA WMUDS/SWAT		TP
A37		DAGGETT LEASING 3510	CA CHMIRS		TP
A38		35100 SANTA FE STREE	CA CHMIRS		TP
Reg	BARSTOW MARINE CORPS	MARINE CORPS LOGIS B	NPL, CERCLIS, CORRACTS, RCRA-LQG, US ENG CONTROLS,	Same	1 ft.

MAPPED SITES SUMMARY

Target Property Address:
35100 SANTA FE STREET
DAGGETT, CA 92327

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
B39	COOL WATER GENERATIN	37072 E. SANTA FE RO	CA HIST UST	Lower	1 ft.
B40	SOLAR ONE GENERATING	E. SANTA FE ROAD	CA HIST UST	Lower	1 ft.
B41	COOLWATER GENERATING	37000 SAN FE ST	CA UST	Lower	1 ft.
B42	COOL WATER GENERATIN	37072 E SANTA FE RD	CA SWEEPS UST	Lower	1 ft.
B43	COOLWATER COAL GAS P	37072 E SANTA FE RD	CA SWEEPS UST	Lower	1 ft.
B44	COOLWATER GENERATING	37072 SANTA FE RD E	CA HIST CORTESE, CA LUST	Lower	1 ft.
B45	COOL WATER GENERATIN	PO BOX 337	CA HIST UST	Lower	1 ft.
B46	COOL WATER COAL GASI	37072 E. SANTA FE RO	CA HIST UST	Lower	1 ft.
C47	EPTC COOLWATER	37000 SANTA FE RD.	RCRA-TSDF, CERC-NFRAP, CORRACTS, RCRA-SQG	Higher	2267, 0.429, SW
C48	COOLWATER GENERATING	37000 E SANTA FE ST	CA WMUDS/SWAT	Higher	2267, 0.429, SW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
SUNRAY ENERGY LLC 35100 SANTA FE ST DAGGETT, CA 92327	CA HAZNET GEPAID: CAL000344479	N/A
35100 SANTA FE ST SO 35100 SANTA FE ST SO DAGGETT, CA 92327	CA CHMIRS OES Incident Number: 772	N/A
SUN RAY ENERGY - SEG 35100 SANTA FE RD DAGGETT, CA 92327	US AIRS EPA plant ID:: 110001168986	N/A
SUN RAY ENERGY - SEG 35100 SANTA FE RD DAGGETT, CA 92327	FINDS Registry ID:: 110001168986	N/A
SUNRAY ENERGY INC 35100 SANTA FE ST DAGGETT, CA 92327	CA HAZNET GEPAID: CAL000110392	N/A
35100 SANTA FE STREE 35100 SANTA FE STREE DAGGETT, CA 92327	CA CHMIRS OES Incident Number: 07892	N/A
SUNRAY ENERGY INC 35100 SANTA FE ST DAGGETT, CA 92327	CA NPDES Facility Status: Active CA CHMIRS OES Incident Number: 13-5525 OES Incident Number: 09659 OES Incident Number: 7-5117 OES Incident Number: 1-4791 OES Incident Number: 4-5662 **Additional key fields are available in the Map Findings section* CA San Bern. Co. Permit Facility Status: ACTIVE Facility Status: INACTIVE Facility Id: FA0006101	N/A
35100 SANTA FE ST (S 35100 SANTA FE ST (S DAGGETT, CA 92327	CA CHMIRS OES Incident Number: 10-7107	N/A

EXECUTIVE SUMMARY

SEGS I & II - DAGGET 35100 SANTE FE RD DAGGETT, CA 92327	CA WDS Facility Status: A Facility Id: 6B364550001	N/A
35100 SANTA FE ST. 35100 SANTA FE ST. DAGGETT, CA 92327	CA CHMIRS OES Incident Number: 9-0239 OES Incident Number: 7-2217	N/A
DAGGETT LEASING CORP 35100 SANTA FE STREE DAGGETT, CA 92327	CA NPDES	N/A
35100 SANTE FE ST 35100 SANTE FE ST DAGGETT, CA 92327	ERNS EDR ID:: 1096343	N/A
35100 SANTE FE ST 35100 SANTE FE ST DAGGETT, CA 92327	ERNS EDR ID:: 1075913	N/A
35100 SANTE FE ST 35100 SANTE FE ST DAGGETT, CA 92327	ERNS EDR ID:: 1098107	N/A
35100 SANTE FE ST 35100 SANTE FE ST DAGGETT, CA 92327	ERNS EDR ID:: 985715	N/A
35100 SANTE FE ST 35100 SANTE FE ST DAGGETT, CA 92327	ERNS EDR ID:: 1097442	N/A
SUNRAY ENERGY INC 35100 SANTA FE ST DAGGETT, CA 92327	CA HAZNET GEPAID: CAP000200188	N/A
35100 SANTA FE ST 35100 SANTA FE ST DAGGETT, CA 92327	CA CHMIRS OES Incident Number: 4-1381	N/A
DAGGETT LEASING CORP 35100 SANTA FE STREE DAGGETT, CA 92311	CA EMI Facility Id: 24802009 Facility Id: 24800899	N/A

35100 SANTE FE ST 35100 SANTE FE ST DAGGETT, CA 92327	ERNS EDR ID:: 1059162	N/A
35100 SANTE FE ST 35100 SANTE FE ST DAGGETT, CA 0	ERNS EDR ID:: 597821	N/A
35100 SANTE FE ST 35100 SANTE FE ST DAGGETT, CA 92327	ERNS EDR ID:: 1105500	N/A
35100 SANTA FE POB 3 35100 SANTA FE POB 3 DAGGETT, CA 92327	ERNS EDR ID:: 00369366	N/A
35100 SANTA FE POB 3 35100 SANTA FE POB 3 DAGGETT, CA 92327	ERNS EDR ID:: 479251	N/A
35100 SANTA FE 35100 SANTA FE DAGGETT, CA 92327	ERNS EDR ID:: 482748	N/A
35100 SANTA FE ST. 35100 SANTA FE ST. DAGGETT, CA	ERNS EDR ID:: 622394	N/A
35100 SANTE FE ST 35100 SANTE FE ST DAGGETT, CA 92327	ERNS EDR ID:: 607648	N/A
35100 SANTA FE 35100 SANTA FE DAGGETT, CA 92327	ERNS EDR ID:: 00379582	N/A
35100 SANTE FE ST 35100 SANTE FE ST DAGGETT, CA 92327	ERNS EDR ID:: 000561871	N/A
35100 SANTA FE POB 3 35100 SANTA FE POB 3 DAGGETT, CA 92327	ERNS EDR ID:: 00380955	N/A

EXECUTIVE SUMMARY

SEGS 1 SOLAR FIELD 3 SEGS 1 SOLAR FIELD 3 DAGGETT, CA 92327	CA CHMIRS OES Incident Number: 06948	N/A
2A SOUTH FIELD, 3510 2A SOUTH FIELD, 3510 DAGGETT, CA	CA CHMIRS OES Incident Number: 7-4931	N/A
DAGGETT LEASING CORP DAGGETT LEASING CORP DAGGETT, CA 92327	CA CHMIRS OES Incident Number: 528	N/A
35100 SANTA FE ST SE 35100 SANTA FE ST SE DAGGETT, CA 92327	CA CHMIRS OES Incident Number: 07326	N/A
DAGGETT SEGS I & II 35100 SANTA FE ST DAGGETT, CA 92327	CA CHMIRS OES Incident Number: 07504 CA WDS Facility Status: A Facility Id: 6B36I010399	N/A
SEGS I & II - THREE 35100 SANTE FE RD DAGGETT, CA 92327	CA CHMIRS OES Incident Number: 15-0218 OES Incident Number: 06733 CA LDS Global Id: L10001994035 Status: Open CA ENF Status: Historical Status: Active Facility Id: 256224 CA WMUDS/SWAT	N/A
DAGGETT LEASING 3510 DAGGETT LEASING 3510 DAGGETT, CA 92327	CA CHMIRS OES Incident Number: 670	N/A
35100 SANTA FE STREE 35100 SANTA FE STREE DAGGETT, CA 92327	CA CHMIRS OES Incident Number: 10103 OES Incident Number: 2-1685	N/A

EXECUTIVE SUMMARY

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing

Federal RCRA generators list

RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System

State- and tribal - equivalent NPL

CA RESPONSE ---------- State Response Sites

State and tribal landfill and/or solid waste disposal site lists

CA SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

CA SLIC ---------- Statewide SLIC Cases
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

CA AST ---------- Aboveground Petroleum Storage Tank Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land
FEMA UST ---------- Underground Storage Tank Listing

State and tribal voluntary cleanup sites

CA VCP ---------- Voluntary Cleanup Program Properties
INDIAN VCP ---------- Voluntary Cleanup Priority Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

EXECUTIVE SUMMARY

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
ODI ..... Open Dump Inventory
CA SWRCY ..... Recycler Database
CA HAULERS ..... Registered Waste Tire Haulers Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL ..... Clandestine Drug Labs
CA HIST Cal-Sites ..... Historical Calsites Database
CA SCH ..... School Property Evaluation Program
CA Toxic Pits ..... Toxic Pits Cleanup Act Sites
CA CDL ..... Clandestine Drug Labs
US HIST CDL ..... National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CA FID UST ..... Facility Inventory Database

Local Land Records

LIENS 2 ..... CERCLA Lien Information
CA LIENS ..... Environmental Liens Listing
CA DEED ..... Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ..... Hazardous Materials Information Reporting System
CA MCS ..... Military Cleanup Sites Listing
CA SPILLS 90 ..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ..... RCRA - Non Generators / No Longer Regulated
DOT OPS ..... Incident and Accident Data
DOD ..... Department of Defense Sites
FUDS ..... Formerly Used Defense Sites
CONSENT ..... Superfund (CERCLA) Consent Decrees
UMTRA ..... Uranium Mill Tailings Sites
US MINES ..... Mines Master Index File
TRIS ..... Toxic Chemical Release Inventory System
TSCA ..... Toxic Substances Control Act
FTTS ..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS ..... FIFRA/TSCA Tracking System Administrative Case Listing
SSTS ..... Section 7 Tracking Systems
ICIS ..... Integrated Compliance Information System
PADS ..... PCB Activity Database System
MLTS ..... Material Licensing Tracking System
RADINFO ..... Radiation Information Database
RMP ..... Risk Management Plans
CA BOND EXP. PLAN ..... Bond Expenditure Plan

EXECUTIVE SUMMARY

CA UIC ---------- UIC Listing
CA Cortese ---------- "Cortese" Hazardous Waste & Substances Sites List
CA CUPA Listings ---------- CUPA Resources List
CA Notify 65 ---------- Proposition 65 Records
CA DRYCLEANERS ---------- Cleaner Facilities
CA WIP ---------- Well Investigation Program Case List
INDIAN RESERV ---------- Indian Reservations
SCRD DRYCLEANERS ---------- State Coalition for Remediation of Drycleaners Listing
CA PROC ---------- Certified Processors Database
CA HWT ---------- Registered Hazardous Waste Transporter Database
CA MWMP ---------- Medical Waste Management Program Listing
CA Financial Assurance ---------- Financial Assurance Information Listing
LEAD SMELTERS ---------- Lead Smelter Sites
EPA WATCH LIST ---------- EPA WATCH LIST
US FIN ASSUR ---------- Financial Assurance Information
COAL ASH EPA ---------- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---------- PCB Transformer Registration Database
COAL ASH DOE ---------- Steam-Electric Plant Operation Data
2020 COR ACTION ---------- 2020 Corrective Action Program List
PRP ---------- Potentially Responsible Parties

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---------- EDR Proprietary Manufactured Gas Plants
EDR US Hist Auto Stat ---------- EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners ---------- EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

CA RGA LUST ---------- Recovered Government Archive Leaking Underground Storage Tank
CA RGA LF ---------- Recovered Government Archive Solid Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: Also known as Superfund, the National Priority List database is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund program. The source of this database is the U.S. EPA.

A review of the NPL list, as provided by EDR, and dated 03/26/2015 has revealed that there is 1 NPL site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	*MARINE CORPS LOGIS B*	*0 - 1/8 (0.000 mi.)*	*0*	*68*

Federal CERCLIS list

CERCLIS: The Comprehensive Environmental Response, Compensation and Liability Information System contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

A review of the CERCLIS list, as provided by EDR, and dated 10/25/2013 has revealed that there is 1 CERCLIS site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	*MARINE CORPS LOGIS B*	*0 - 1/8 (0.000 mi.)*	*0*	*68*

Federal CERCLIS NFRAP site List

CERC-NFRAP: Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

A review of the CERC-NFRAP list, as provided by EDR, and dated 10/25/2013 has revealed that there is 1 CERC-NFRAP site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
EPTC COOLWATER	*37000 SANTA FE RD.*	*SW 1/4 - 1/2 (0.429 mi.)*	*C47*	*139*

EXECUTIVE SUMMARY

Federal RCRA CORRACTS facilities list

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 03/10/2015 has revealed that there are 2 CORRACTS sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	*MARINE CORPS LOGIS B*	*0 - 1/8 (0.000 mi.)*	*0*	*68*
EPTC COOLWATER	*37000 SANTA FE RD.*	*SW 1/4 - 1/2 (0.429 mi.)*	*C47*	*139*

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRA-TSDF list, as provided by EDR, and dated 03/10/2015 has revealed that there is 1 RCRA-TSDF site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
EPTC COOLWATER	*37000 SANTA FE RD.*	*SW 1/4 - 1/2 (0.429 mi.)*	*C47*	*139*

Federal RCRA generators list

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 03/10/2015 has revealed that there is 1 RCRA-LQG site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	*MARINE CORPS LOGIS B*	*0 - 1/8 (0.000 mi.)*	*0*	*68*

Federal institutional controls / engineering controls registries

US ENG CONTROLS: A listing of sites with engineering controls in place.

A review of the US ENG CONTROLS list, as provided by EDR, and dated 03/16/2015 has revealed that there is 1 US ENG CONTROLS site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	***MARINE CORPS LOGIS B***	***0 - 1/8 (0.000 mi.)***	***0***	***68***

US INST CONTROL: A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

A review of the US INST CONTROL list, as provided by EDR, and dated 03/16/2015 has revealed that there is 1 US INST CONTROL site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	***MARINE CORPS LOGIS B***	***0 - 1/8 (0.000 mi.)***	***0***	***68***

State- and tribal - equivalent CERCLIS

CA ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the CA ENVIROSTOR list, as provided by EDR, and dated 05/04/2015 has revealed that there is 1 CA ENVIROSTOR site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	***MARINE CORPS LOGIS B***	***0 - 1/8 (0.000 mi.)***	***0***	***68***
Status: Refer: Other Agency				
Facility Id: 80001276				

State and tribal leaking storage tank lists

CA LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the CA LUST list, as provided by EDR, and dated 06/15/2015 has revealed that there is 1

CA LUST site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
COOLWATER GENERATING	***37072 SANTA FE RD E***	***0 - 1/8 (0.000 mi.)***	***B44***	***135***
Status: Case Closed Status: Completed - Case Closed Global Id: T0607100667 Close Date: 10/23/1989				

State and tribal registered storage tank lists

CA UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the CA UST list, as provided by EDR, and dated 06/15/2015 has revealed that there is 1 CA UST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
COOLWATER GENERATING Facility Id: 87014400	37000 SAN FE ST	0 - 1/8 (0.000 mi.)	B41	133

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

CA WMUDS/SWAT: The Waste Management Unit Database System is used for program tracking and inventory of waste management units. The source is the State Water Resources Control Board.

A review of the CA WMUDS/SWAT list, as provided by EDR, and dated 04/01/2000 has revealed that there is 1 CA WMUDS/SWAT site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
COOLWATER GENERATING	37000 E SANTA FE ST	SW 1/4 - 1/2 (0.429 mi.)	C48	146

Local Lists of Registered Storage Tanks

CA HIST UST: Historical UST Registered Database.

A review of the CA HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 4 CA HIST UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
COOL WATER GENERATIN Facility Id: 00000066314	37072 E. SANTA FE RO	0 - 1/8 (0.000 mi.)	B39	131
SOLAR ONE GENERATING Facility Id: 00000066329	E. SANTA FE ROAD	0 - 1/8 (0.000 mi.)	B40	133

Lower Elevation	Address	Direction / Distance	Map ID	Page
COOL WATER GENERATIN Facility Id: 00000060016	PO BOX 337	0 - 1/8 (0.000 mi.)	B45	137
COOL WATER COAL GASI Facility Id: 00000058855	37072 E. SANTA FE RO	0 - 1/8 (0.000 mi.)	B46	137

CA SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the CA SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 2 CA SWEEPS UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
COOL WATER GENERATIN Status: A Tank Status: A Comp Number: 66314	37072 E SANTA FE RD	0 - 1/8 (0.000 mi.)	B42	133
COOLWATER COAL GAS P Status: A Tank Status: A Comp Number: 58855	37072 E SANTA FE RD	0 - 1/8 (0.000 mi.)	B43	134

Other Ascertainable Records

ROD: Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid the cleanup.

A review of the ROD list, as provided by EDR, and dated 11/25/2013 has revealed that there is 1 ROD site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	***MARINE CORPS LOGIS B***	***0 - 1/8 (0.000 mi.)***	***0***	***68***

CA HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

A review of the CA HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there is 1 CA HIST CORTESE site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
COOLWATER GENERATING Reg Id: 6B3600079T	***37072 SANTA FE RD E***	***0 - 1/8 (0.000 mi.)***	***B44***	***135***

NY MANIFEST: Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

A review of the NY MANIFEST list, as provided by EDR, has revealed that there is 1 NY MANIFEST site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	***MARINE CORPS LOGIS B***	***0 - 1/8 (0.000 mi.)***	***0***	***68***

CA HWP: Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

A review of the CA HWP list, as provided by EDR, and dated 05/26/2015 has revealed that there is 1 CA HWP site within approximately 1 mile of the target property.

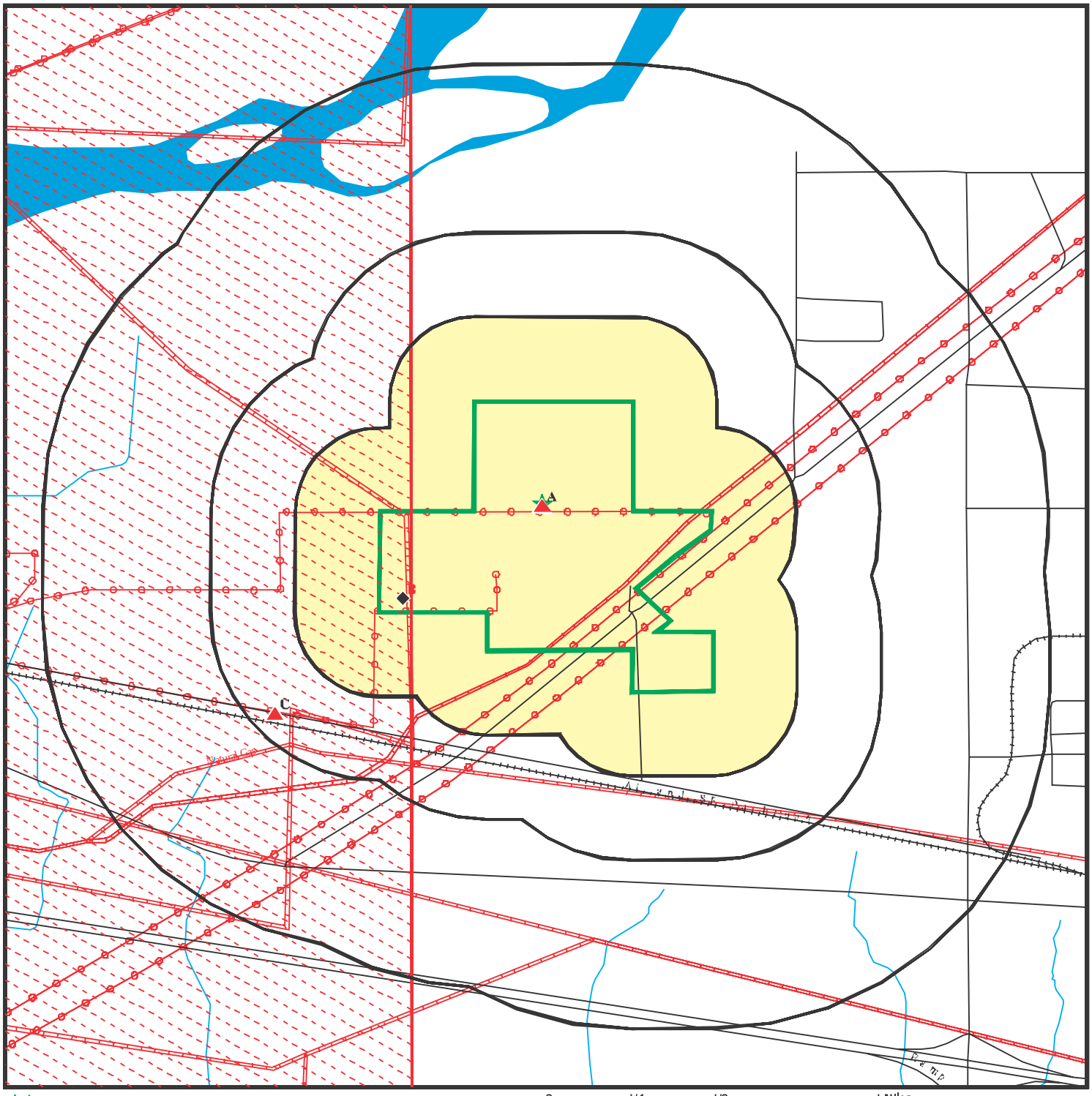
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	***MARINE CORPS LOGIS B***	***0 - 1/8 (0.000 mi.)***	***0***	***68***
EPA Id: CA8170024261				
Cleanup Status: PROTECTIVE FILER				

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 1 records.

Site Name	Database(s)
DAGGET AIRPORT	CA BOND EXP. PLAN

OVERVIEW MAP - 4377373.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

Pipelines

100-year flood zone

500-year flood zone

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Sunray	CLIENT: Westwood Professional Services
ADDRESS: 35100 Santa Fe Street Daggett CA 92327	CONTACT: Tom Braman INQUIRY #: 4377373.2s
LAT/LONG: 34.8653 / 116.8257	DATE: August 10, 2015 9:02 am

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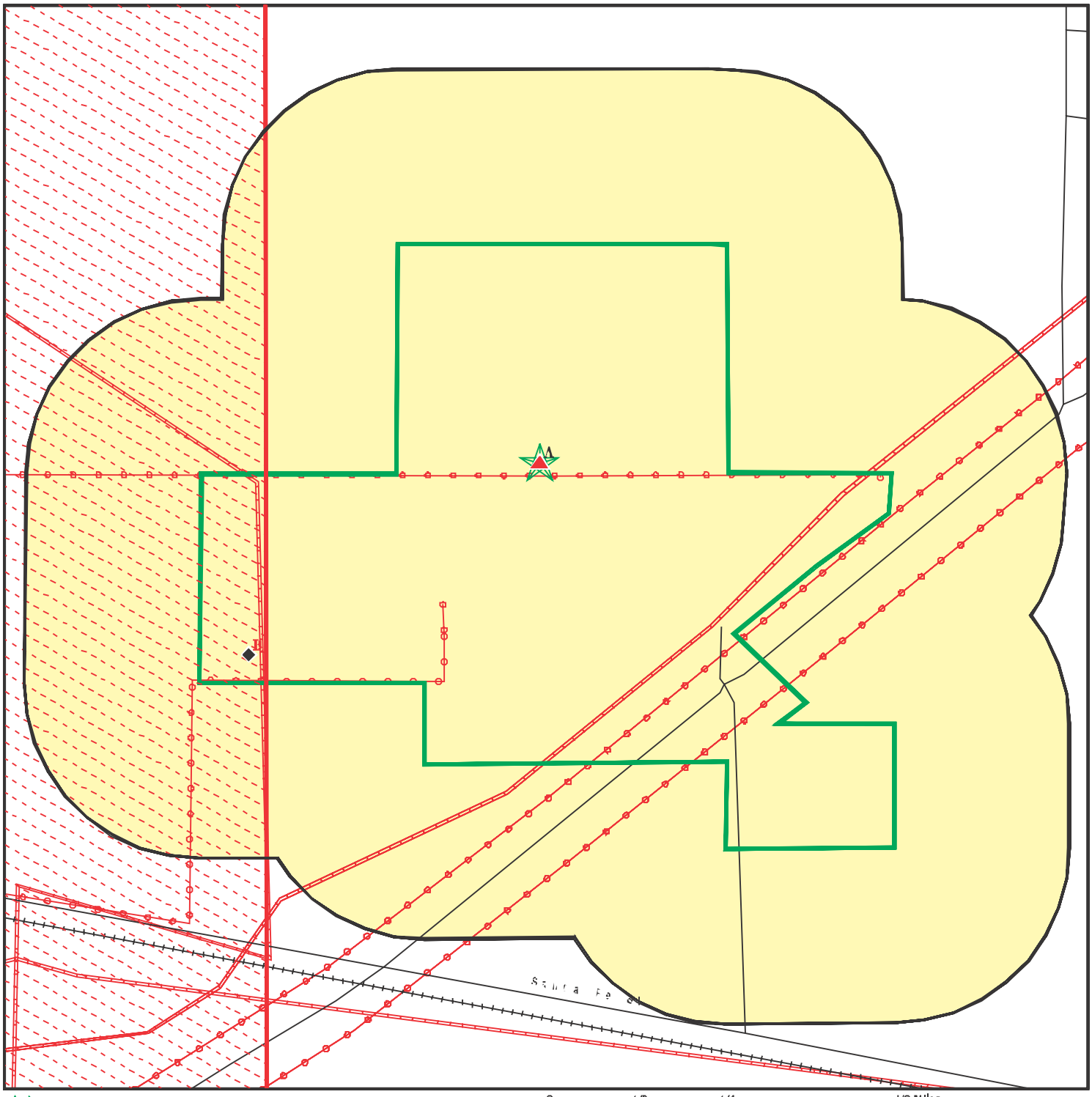
DETAIL MAP - 4377373.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Pipelines
- 100-year flood zone
- 500-year flood zone
- Areas of Concern

0 1/8 1/4 1/2 Miles

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Sunray	CLIENT: Westwood Professional Services
ADDRESS: 35100 Santa Fe Street Daggett CA 92327	CONTACT: Tom Braman
LAT/LONG: 34.8653 / 116.8257	INQUIRY #: 4377373.2s
	DATE: August 10, 2015 9:03 am

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		1	0	0	0	NR	1
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		1	0	0	NR	NR	1
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	1	NR	NR	1
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		1	0	1	0	NR	2
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	1	NR	NR	1
Federal RCRA generators list								
RCRA-LQG	0.250		1	0	NR	NR	NR	1
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		1	0	0	NR	NR	1
US INST CONTROL	0.500		1	0	0	NR	NR	1
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP	16	NR	NR	NR	NR	NR	16
State- and tribal - equivalent NPL								
CA RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
CA ENVIROSTOR	1.000		1	0	0	0	NR	1
State and tribal landfill and/or solid waste disposal site lists								
CA SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
CA LUST	0.500		1	0	0	NR	NR	1

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CA SLIC	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
CA UST	0.250		1	0	NR	NR	NR	1
CA AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
CA VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
CA SWRCY	0.500		0	0	0	NR	NR	0
CA HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
CA WMUDS/SWAT	0.500	1	0	0	1	NR	NR	2
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
CA HIST Cal-Sites	1.000		0	0	0	0	NR	0
CA SCH	0.250		0	0	NR	NR	NR	0
CA Toxic Pits	1.000		0	0	0	0	NR	0
CA CDL	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST	0.250		0	0	NR	NR	NR	0
CA HIST UST	0.250		4	0	NR	NR	NR	4
CA SWEEPS UST	0.250		2	0	NR	NR	NR	2
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
CA LIENS	TP		NR	NR	NR	NR	NR	0
CA DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CA CHMIRS	TP	14	NR	NR	NR	NR	NR	14
CA LDS	TP	1	NR	NR	NR	NR	NR	1

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CA MCS	TP		NR	NR	NR	NR	NR	0
CA SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		1	0	0	0	NR	1
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP	1	NR	NR	NR	NR	NR	1
RAATS	TP		NR	NR	NR	NR	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
CA NPDES	TP	2	NR	NR	NR	NR	NR	2
CA UIC	TP		NR	NR	NR	NR	NR	0
CA Cortese	0.500		0	0	0	NR	NR	0
CA HIST CORTESE	0.500		1	0	0	NR	NR	1
CA CUPA Listings	0.250		0	0	NR	NR	NR	0
NY MANIFEST	0.250		1	0	NR	NR	NR	1
CA Notify 65	1.000		0	0	0	0	NR	0
CA DRYCLEANERS	0.250		0	0	NR	NR	NR	0
CA WIP	0.250		0	0	NR	NR	NR	0
CA ENF	TP	1	NR	NR	NR	NR	NR	1
CA San Bern. Co. Permit	0.250	1	0	0	NR	NR	NR	1
CA HAZNET	TP	3	NR	NR	NR	NR	NR	3
CA EMI	TP	1	NR	NR	NR	NR	NR	1
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
CA WDS	TP	2	NR	NR	NR	NR	NR	2
CA PROC	0.500		0	0	0	NR	NR	0
CA HWT	0.250		0	0	NR	NR	NR	0
CA HWP	1.000		1	0	0	0	NR	1
CA MWMP	0.250		0	0	NR	NR	NR	0
CA Financial Assurance	TP		NR	NR	NR	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP	1	NR	NR	NR	NR	NR	1
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250		0	0	NR	NR	NR	0
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
CA RGA LUST	TP		NR	NR	NR	NR	NR	0
CA RGA LF	TP		NR	NR	NR	NR	NR	0
- Totals --		44	21	0	4	0	0	67

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
Target
Property

SUNRAY ENERGY LLC
35100 SANTA FE ST
DAGGETT, CA 92327

CA HAZNET **S113156519**
N/A

Site 1 of 38 in cluster A

Actual:
1945 ft.

HAZNET:

envid:	S113156519
Year:	2013
GEPAID:	CAL000344479
Contact:	FRANCISCO RUELAS
Telephone:	7602543381
Mailing Name:	Not reported
Mailing Address:	PO BOX 338
Mailing City,St,Zip:	DAGGETT, CA 923270338
Gen County:	San Bernardino
TSD EPA ID:	CAD982444481
TSD County:	San Bernardino
Waste Category:	Not reported
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.015
Facility County:	Not reported

envid:	S113156519
Year:	2013
GEPAID:	CAL000344479
Contact:	FRANCISCO RUELAS
Telephone:	7602543381
Mailing Name:	Not reported
Mailing Address:	PO BOX 338
Mailing City,St,Zip:	DAGGETT, CA 923270338
Gen County:	San Bernardino
TSD EPA ID:	CAD982444481
TSD County:	San Bernardino
Waste Category:	Not reported
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	1.1775
Facility County:	Not reported

envid:	S113156519
Year:	2013
GEPAID:	CAL000344479
Contact:	FRANCISCO RUELAS
Telephone:	7602543381
Mailing Name:	Not reported
Mailing Address:	PO BOX 338
Mailing City,St,Zip:	DAGGETT, CA 923270338
Gen County:	San Bernardino
TSD EPA ID:	CAD982444481
TSD County:	San Bernardino
Waste Category:	Not reported
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	3.6362
Facility County:	Not reported

envid:	S113156519

SUNRAY ENERGY LLC (Continued) **S113156519**

Year:	2013
GEPAID:	CAL000344479
Contact:	FRANCISCO RUELAS
Telephone:	7602543381
Mailing Name:	Not reported
Mailing Address:	PO BOX 338
Mailing City,St,Zip:	DAGGETT, CA 923270338
Gen County:	San Bernardino
TSD EPA ID:	CAD982444481
TSD County:	San Bernardino
Waste Category:	Not reported
Disposal Method:	Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	0.225
Facility County:	Not reported

envid:	S113156519
Year:	2013
GEPAID:	CAL000344479
Contact:	FRANCISCO RUELAS
Telephone:	7602543381
Mailing Name:	Not reported
Mailing Address:	PO BOX 338
Mailing City,St,Zip:	DAGGETT, CA 923270338
Gen County:	San Bernardino
TSD EPA ID:	NVT330010000
TSD County:	99
Waste Category:	Not reported
Disposal Method:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	40
Facility County:	Not reported

Click this hyperlink while viewing on your computer to access
25 additional CA_HAZNET: record(s) in the EDR Site Report.

A2 **CA CHMIRS** **S106389585**
Target Property **35100 SANTA FE ST SOLAR ELECTRIC GENERATING SYSTSEM 1 (SEGS)** **N/A**
DAGGETT, CA 92327

Site 2 of 38 in cluster A

Actual: 1945 ft.

CHMIRS:

OES Incident Number:	772
OES notification:	Not reported
OES Date:	6/20/1994
OES Time:	09:40:58 AM
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported

(Continued) **S106389585**

Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	daggett
Containment:	Not reported
What Happened:	Not reported
Type:	PETROLEUM
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1994
Agency:	daggett leasing corp
Incident Date:	1700/19june94
Admin Agency:	Not reported
Amount:	approx 900 gals
Contained:	NO
Site Type:	OTHER
E Date:	Not reported
Substance:	chervon heat transfer fluid -ht
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	heat collection element weld flange failed causing leak in system and spill to ground

A3 **SUN RAY ENERGY - SEGS I & II** **US AIRS** **1005519101**
Target **35100 SANTA FE RD** **N/A**
Property **DAGGETT, CA 92327**

Site 3 of 38 in cluster A

Actual:
1945 ft.

AIRS (AFS):

Compliance and Violation Data Major Sources:

EPA plant ID:	110001168986
Plant name:	SUN RAY ENERGY - SEGS I & II
Plant address:	35100 SANTA FE RD DAGGETT, CA 92327
County:	SAN BERNARDINO
Region code:	09
Dunn & Bradst #:	Not reported
Air quality cntrl region:	024
Sic code:	4911
Sic code desc:	ELECTRIC SERVICES
North Am. industrial classf:	325991
NAIC code description:	Custom Compounding of Purchased Resins
Default compliance status:	IN COMPLIANCE - INSPECTION
Default classification:	ACTUAL OR POTENTIAL EMISSIONS ARE ABOVE THE APPLICABLE MAJOR SOURCE THRESHOLDS
Govt facility:	ALL OTHER FACILITIES NOT OWNED OR OPERATED BY A FEDERAL, STATE, OR LOCAL GOVERNMENT
Current HPV:	Not reported

A4 **SUN RAY ENERGY - SEGS I & II** **FINDS** **1016058427**
Target **35100 SANTA FE RD** **N/A**
Property **DAGGETT, CA 92327**

Site 4 of 38 in cluster A

Actual:
1945 ft.

FINDS:

Registry ID: 110001168986

Environmental Interest/Information System

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

US Emissions & Generation Resource Database (EGRID) contains data on emissions and resource mix for virtually every power plant and company that generates electricity in the United States.

ELECTRIC GENERATOR

AIR MAJOR

SUN RAY ENERGY - SEGS I & II (Continued) **1016058427**

CRITERIA AND HAZARDOUS AIR POLLUTANT INVENTORY

GREENHOUSE GAS REPORTER

A5 **SUNRAY ENERGY INC** **CA HAZNET** **S113062649**
Target **35100 SANTA FE ST** **N/A**
Property **DAGGETT, CA 92327**

Site 5 of 38 in cluster A

Actual:
1945 ft.

HAZNET:

envid:	S113062649
Year:	2010
GEPAID:	CAL000110392
Contact:	FRANCISCO RUELAS
Telephone:	7602543381
Mailing Name:	Not reported
Mailing Address:	PO BOX 338
Mailing City,St,Zip:	DAGGETT, CA 923270338
Gen County:	Not reported
TSD EPA ID:	NVT330010000
TSD County:	Not reported
Waste Category:	Contaminated soil from site clean-up
Disposal Method:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	23.6
Facility County:	San Bernardino

envid:	S113062649
Year:	2009
GEPAID:	CAL000110392
Contact:	FRANCISCO RUELAS
Telephone:	7602543381
Mailing Name:	Not reported
Mailing Address:	PO BOX 338
Mailing City,St,Zip:	DAGGETT, CA 923270338
Gen County:	Not reported
TSD EPA ID:	CAT080013352
TSD County:	Not reported
Waste Category:	Waste oil and mixed oil
Disposal Method:	Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	19
Facility County:	San Bernardino

envid:	S113062649
Year:	2009
GEPAID:	CAL000110392
Contact:	FRANCISCO RUELAS
Telephone:	7602543381
Mailing Name:	Not reported
Mailing Address:	PO BOX 338
Mailing City,St,Zip:	DAGGETT, CA 923270338
Gen County:	Not reported
TSD EPA ID:	NVT330010000
TSD County:	Not reported
Waste Category:	Contaminated soil from site clean-up

SUNRAY ENERGY INC (Continued) **S113062649**

Disposal Method:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	23.6
Facility County:	San Bernardino
envid:	S113062649
Year:	2009
GEPAID:	CAL000110392
Contact:	FRANCISCO RUELAS
Telephone:	7602543381
Mailing Name:	Not reported
Mailing Address:	PO BOX 338
Mailing City,St,Zip:	DAGGETT, CA 923270338
Gen County:	Not reported
TSD EPA ID:	NVT330010000
TSD County:	Not reported
Waste Category:	Not reported
Disposal Method:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	25.284
Facility County:	San Bernardino
envid:	S113062649
Year:	2009
GEPAID:	CAL000110392
Contact:	FRANCISCO RUELAS
Telephone:	7602543381
Mailing Name:	Not reported
Mailing Address:	PO BOX 338
Mailing City,St,Zip:	DAGGETT, CA 923270338
Gen County:	Not reported
TSD EPA ID:	CAT080013352
TSD County:	Not reported
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	8.34
Facility County:	San Bernardino

Click this hyperlink while viewing on your computer to access
17 additional CA_HAZNET: record(s) in the EDR Site Report.

A6 **CA CHMIRS** **S106390619**
Target Property **35100 SANTA FE STREET DAGGET LEASING CORPORATION AT THE SEGS** **N/A**
DAGGETT, CA 92327

Site 6 of 38 in cluster A

Actual: 1945 ft.

CHMIRS:

OES Incident Number:	07892
OES notification:	Not reported
OES Date:	4/18/1995
OES Time:	08:42:06 AM
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported

(Continued) **S106390619**

Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	daggett personnel
Containment:	Not reported
What Happened:	Not reported
Type:	PETROLEUM
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1995
Agency:	daggett leasing corp
Incident Date:	0820/18apr95
Admin Agency:	Not reported
Amount:	30 gallons
Contained:	NO
Site Type:	OTHER
E Date:	Not reported
Substance:	heat transfer oil ht
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	failure of a relief valve

A7 **SUNRAY ENERGY INC** **CA NPDES S103989872**
Target **35100 SANTA FE ST** **CA CHMIRS N/A**
Property **DAGGETT, CA 92327** **CA San Bern. Co. Permit**

Site 7 of 38 in cluster A

Actual:
1945 ft.

NPDES:

Npdes Number:	Not reported
Facility Status:	Not reported
Agency Id:	Not reported
Region:	6B
Regulatory Measure Id:	401601
Order No:	Not reported
Regulatory Measure Type:	Industrial
Place Id:	Not reported
WDID:	6B36I022476
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Not reported
Discharge Address:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
RECEIVED DATE:	01/06/2010
PROCESSED DATE:	01/14/2010
STATUS CODE NAME:	Active
STATUS DATE:	01/14/2010
PLACE SIZE:	333
PLACE SIZE UNIT:	Acres
FACILITY CONTACT NAME:	Francisco Ruelas
FACILITY CONTACT TITLE:	EHS Coordinator
FACILITY CONTACT PHONE:	760-254-3381
FACILITY CONTACT PHONE EXT:	2180
FACILITY CONTACT EMAIL:	FranciscoRuelas@Cogentrix.com
OPERATOR NAME:	Sunray LLC
OPERATOR ADDRESS:	PO Box 338
OPERATOR CITY:	Daggett
OPERATOR STATE:	California
OPERATOR ZIP:	92327
OPERATOR CONTACT NAME:	Brad Bergman
OPERATOR CONTACT TITLE:	General Manager
OPERATOR CONTACT PHONE:	760-254-3381
OPERATOR CONTACT PHONE EXT:	2120
OPERATOR CONTACT EMAIL:	BradBergman@Cogentrix.com
OPERATOR TYPE:	Private Business
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	California
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	760-577-9932
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	N
RECEIVING WATER NAME:	Mojave River
CERTIFIER NAME:	Brad Bergman
CERTIFIER TITLE:	General Manager
CERTIFICATION DATE:	30-MAR-15
PRIMARY SIC:	4911-Electric Services
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported

Npdes Number:	CAS000001
Facility Status:	Active
Agency Id:	0
Region:	6B
Regulatory Measure Id:	401601
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	6B36I022476
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	01/14/2010
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Sunray LLC
Discharge Address:	PO Box 338
Discharge City:	Daggett
Discharge State:	California
Discharge Zip:	92327
RECEIVED DATE:	Not reported
PROCESSED DATE:	Not reported
STATUS CODE NAME:	Not reported
STATUS DATE:	Not reported
PLACE SIZE:	Not reported
PLACE SIZE UNIT:	Not reported
FACILITY CONTACT NAME:	Not reported
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	Not reported
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	Not reported
OPERATOR NAME:	Not reported
OPERATOR ADDRESS:	Not reported
OPERATOR CITY:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

OPERATOR STATE:	Not reported
OPERATOR ZIP:	Not reported
OPERATOR CONTACT NAME:	Not reported
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	Not reported
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	Not reported
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	Not reported
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	Not reported
RECEIVING WATER NAME:	Not reported
CERTIFIER NAME:	Not reported
CERTIFIER TITLE:	Not reported
CERTIFICATION DATE:	Not reported
PRIMARY SIC:	Not reported
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported

CHMIRS:

OES Incident Number:	13-5525
OES notification:	09/04/2013
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Other
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Gal(s)
Other:	Not reported
Date/Time:	810
Year:	2013
Agency:	Sunrey Energy
Incident Date:	9/4/2013
Admin Agency:	San Bernardino County Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Caloria (Mineral Oil / Chevron HT)
Quantity Released:	150
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Caller states substance was released due to tube failure. Caller states substance released to a soil area in a solar field. Caller states clean-up is in progress.

SUNRAY ENERGY INC (Continued) **S103989872**

OES Incident Number:	09659
OES notification:	Not reported
OES Date:	8/21/1995
OES Time:	12:31:24 PM
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	dagget leasing corp.
Containment:	Not reported
What Happened:	Not reported
Type:	PETROLEUM
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1995
Agency:	dagget leasing corp
Incident Date:	1220 21AUG95
Admin Agency:	Not reported
Amount:	no spill-fire only
Contained:	NO
Site Type:	OTHER
E Date:	Not reported
Substance:	chevron heat transfer oil
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	some type of heat transfer pump oil transfer that allowed the release of the fluid that caught fire. no release, fire has been extinguished by on site fire dept.
OES Incident Number:	7-5117
OES notification:	12/26/1997
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1997
Agency:	DAGGETT LEASING
Incident Date:	12/26/199712:00:00 AM
Admin Agency:	San Bernardino County Health Department

SUNRAY ENERGY INC (Continued) **S103989872**

Amount:	Not reported
Contained:	Yes
Site Type:	Industrial Plant
E Date:	Not reported
Substance:	THERMINOL
Gallons:	50
Unknown:	0
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	FLANGE FAILURE CAUSED THE RELEASE.
OES Incident Number:	1-4791
OES notification:	08/12/2011
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Other

SUNRAY ENERGY INC (Continued) **S103989872**

Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Gal(s)
Other:	Not reported
Date/Time:	719
Year:	2011
Agency:	Sun Ray Energy
Incident Date:	8/12/2011
Admin Agency:	San Bernardino County Health Department
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Coolant
Quantity Released:	200
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	The substance spilled from a valve after a maintenance operation.
OES Incident Number:	4-5662
OES notification:	10/05/2014
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Merchant/Business
Cleanup By:	No
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Type:	PETROLEUM
Measure:	Gal(s)
Other:	Not reported
Date/Time:	815
Year:	2014
Agency:	Sunray
Incident Date:	10/5/2014
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Chevron, Heat Transfer Fluid, Caloria
Quantity Released:	200
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	No
#2 Pipeline:	No
#3 Pipeline:	No
#1 Vessel >= 300 Tons:	No
#2 Vessel >= 300 Tons:	No
#3 Vessel >= 300 Tons:	No
Evacs:	No
Injuries:	Mechanical
Fatals:	No
Comments:	Not reported
Description:	RP states that a tube failure caused the release. Cleanup is in progress.
OES Incident Number:	4-5810
OES notification:	10/12/2014
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**

SUNRAY ENERGY INC (Continued) **S103989872**

Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Other
Cleanup By:	No
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Type:	PETROLEUM
Measure:	Gal(s)
Other:	Not reported
Date/Time:	2045
Year:	2014
Agency:	Sunray Energy
Incident Date:	10/12/2014
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Chevron Heat Transfer Fluid aka Caloria
Quantity Released:	1500
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	No
#2 Pipeline:	No
#3 Pipeline:	No
#1 Vessel >= 300 Tons:	No

SUNRAY ENERGY INC (Continued) **S103989872**

#2 Vessel >= 300 Tons:	No
#3 Vessel >= 300 Tons:	No
Evacs:	No
Injuries:	Mechanical
Fatals:	No
Comments:	Not reported
Description:	Per the caller a mechanical tube failure caused the spill.
OES Incident Number:	4-5422
OES notification:	09/24/2014
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Other
Cleanup By:	No
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Type:	PETROLEUM
Measure:	Gal(s)
Other:	Not reported
Date/Time:	1100
Year:	2014
Agency:	SunRay Energy Inc
Incident Date:	9/24/2014
Admin Agency:	Not reported
Amount:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Heat Transfer Fluid
Quantity Released:	100
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	No
#2 Pipeline:	No
#3 Pipeline:	No
#1 Vessel >= 300 Tons:	No
#2 Vessel >= 300 Tons:	No
#3 Vessel >= 300 Tons:	No
Evacs:	No
Injuries:	Mechanical
Fatals:	No
Comments:	Not reported
Description:	Mechanical failure of a valve caused this to the soil. The release was within a solar field. No waterways were affected.
OES Incident Number:	15-0215
OES notification:	01/12/2015
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	None

SUNRAY ENERGY INC (Continued) **S103989872**

Spill Site:	Other
Cleanup By:	On-Site Personnel
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Type:	CHEMICAL
Measure:	Gal(s)
Other:	Not reported
Date/Time:	1440
Year:	2015
Agency:	SunRay Energy
Incident Date:	2015-01-12 00:00:00
Admin Agency:	San Bernardino County Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	None
E Date:	Not reported
Substance:	Therminal Heat Transfer Fluid
Quantity Released:	100
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	No
#2 Pipeline:	No
#3 Pipeline:	No
#1 Vessel >= 300 Tons:	No
#2 Vessel >= 300 Tons:	No
#3 Vessel >= 300 Tons:	No
Evacs:	No
Injuries:	No
Fatals:	No
Comments:	Not reported
Description:	Caller states human error caused the release of the substance onto soil near a power block (outside of the building). The incident involved one employee leaving several valves in the system in the open position while another employee, not knowing the status of the valves, pressurized the system causing the release. The employees immediately began to use an "evac trailer" to recover the released substance. It is unknown how much of the release has been recovered. The location of the release is in the Mojave Desert. No waterways were impacted. The staff is conducting an internal investigation to determine the extent of the release and a more thorough clean-up.
OES Incident Number:	10535
OES notification:	Not reported
OES Date:	10/17/1995
OES Time:	07:58:35 AM

SUNRAY ENERGY INC (Continued) **S103989872**

Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	daggett personnel
Containment:	Not reported
What Happened:	Not reported
Type:	CHEMICAL
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1995
Agency:	daggett leasing
Incident Date:	1010 16oct95
Admin Agency:	Not reported
Amount:	75 gals
Contained:	NO
Site Type:	IND PLT
E Date:	Not reported
Substance:	therminol vt-1
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	drain valve failed allowing heat exchanger to release onto bare soil.
OES Incident Number:	12700
OES notification:	Not reported
OES Date:	3/9/1996
OES Time:	01:20:24 PM
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	daggett leasing corp
Containment:	Not reported
What Happened:	Not reported
Type:	PETROLEUM
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1996
Agency:	daggett leasing corp
Incident Date:	1215 09Mar96
Admin Agency:	Not reported
Amount:	50-75 gals
Contained:	NO
Site Type:	OTHER
E Date:	Not reported
Substance:	caloria chevron heat transfer fluid
Unknown:	Not reported

SUNRAY ENERGY INC (Continued) **S103989872**

Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	flex hose failure.
OES Incident Number:	10-7362
OES notification:	12/08/2010
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Utilities/Substation
Cleanup By:	Contractor
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Bbl.(s)
Other:	Not reported
Date/Time:	200

SUNRAY ENERGY INC (Continued) **S103989872**

Year:	2010
Agency:	Sunray Energy
Incident Date:	12/8/2010
Admin Agency:	San Bernardino County Health Department
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Mineral oil
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Mechanical failure caused this release to soil only

San Bern. Co. Permit:

Region:	SAN BERNARDINO
Facility ID:	FA0006101
Owner:	COGENTRIX LLC
Permit Number:	PT0003850
Permit Category:	LARGE QUANTITY GENERATOR
Facility Status:	ACTIVE
Expiration Date:	12/31/2015

Region:	SAN BERNARDINO
Facility ID:	FA0006101
Owner:	COGENTRIX LLC
Permit Number:	PT0021878
Permit Category:	APSA 10,001-100,000 GAL FAC CAPACITY
Facility Status:	ACTIVE
Expiration Date:	12/31/2015

Region:	SAN BERNARDINO
Facility ID:	FA0006101
Owner:	COGENTRIX LLC
Permit Number:	PT0003849
Permit Category:	HAZARDOUS MATERIALS 31-50 CHEMICALS
Facility Status:	ACTIVE
Expiration Date:	12/31/2015

Region:	SAN BERNARDINO
Facility ID:	FA0006101
Owner:	COGENTRIX LLC
Permit Number:	PT0021779

SUNRAY ENERGY INC (Continued) **S103989872**

Permit Category: EPCRA FACILITY
Facility Status: INACTIVE
Expiration Date: 12/31/2013

A8 **CA CHMIRS** **S110982783**
Target Property **35100 SANTA FE ST (SUNRAY ENERGY PLANT)** **N/A**
DAGGETT, CA 92327

Site 8 of 38 in cluster A

Actual: 1945 ft.

CHMIRS:

OES Incident Number:	10-7107
OES notification:	11/26/2010
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Utilities/Substation
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Gal(s)
Other:	Not reported
Date/Time:	400
Year:	2010
Agency:	Sunray Energy
Incident Date:	11/26/2010
Admin Agency:	San Bernardino County Health Department
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported

(Continued) **S110982783**

E Date:	Not reported
Substance:	Therminol; heat transfer fluid, synthetic
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Gasket on bypass valve failed causing release, material affected the ground and flowed into a containment area, RP is handling containment and clean up.

A9 **SEGS I & II - DAGGETT** **CA WDS** **S105255589**
Target **35100 SANTE FE RD** **N/A**
Property **DAGGETT, CA 92327**

Site 9 of 38 in cluster A

Actual:
1945 ft.

WDS:

Facility ID:	South Lahontan 364550001
Facility Type:	Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	Not reported
Subregion:	0
Facility Telephone:	7602543381
Facility Contact:	CHRIS MILLNER
Agency Name:	SUNRAY ENERGY INC
Agency Address:	PO BOX 338
Agency City,St,Zip:	DAGGETT 92327
Agency Contact:	ERIC WILLS
Agency Telephone:	7602543381
Agency Type:	Private
SIC Code:	4961
SIC Code 2:	Not reported
Primary Waste Type:	Designated/Influent or Solid Wastes that pose a significant threat to water quality because of their high concentrations (E.G., BOD, Hardness, TRF, Chloride). 'Manageable' hazardous wastes (E.G., inorganic salts and heavy metals) are included in this category.
Primary Waste:	NONCON
Waste Type2:	Not reported
Waste2:	Cooling Water: Noncontact

SEGS I & II - DAGGETT (Continued) **S105255589**

Primary Waste Type:	Designated/Influent or Solid Wastes that pose a significant threat to water quality because of their high concentrations (E.G., BOD, Hardness, TRF, Chloride). 'Manageable' hazardous wastes (E.G., inorganic salts and heavy metals) are included in this category.
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	No reclamation requirements associated with this facility.
POTW:	The facility is not a POTW.
Treat To Water:	Moderate Threat to Water Quality. A violation could have a major adverse impact on receiving biota, can cause aesthetic impairment to a significant human population, or render unusable a potential domestic or municipal water supply. Awsthetic impairment would include nuisance from a waste treatment facility.
Complexity:	Category B - Any facility having a physical, chemical, or biological waste treatment system (except for septic systems with subsurface disposal), or any Class II or III disposal site, or facilities without treatment systems that are complex, such as marinas with petroleum products, solid wastes, and sewage pump out facilities.

A10 **CA CHMIRS** **S105650710**
Target Property **35100 SANTA FE ST.** **N/A**
DAGGETT, CA 92327

Site 10 of 38 in cluster A

Actual: 1945 ft.

CHMIRS:

OES Incident Number:	9-0239
OES notification:	01/18/1999
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported

(Continued) **S105650710**

Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Responsible Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1999
Agency:	Sun Ray Energy
Incident Date:	1/16/199912:00:00 AM
Admin Agency:	San Bernardino County Health Department
Amount:	Not reported
Contained:	Yes
Site Type:	Industrial Plant
E Date:	Not reported
Substance:	Therminol VP-1
Gallons:	300
Unknown:	0
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Improper valve lineup resulted in a tank overflow. All 300 gallons went to the soil. Cleanup is nearly completed.
OES Incident Number:	7-2217
OES notification:	06/02/1997
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported

(Continued) **S105650710**

Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1997
Agency:	Daggett Lease Inc.
Incident Date:	6/2/199712:00:00 AM
Admin Agency:	San Bernardino County Health Department
Amount:	Not reported
Contained:	Yes
Site Type:	Utilities/Substation
E Date:	Not reported
Substance:	heat transfer oil
Gallons:	210
Unknown:	0
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	contorl valve failed and collection system overflowed. at the solor power plant

A11
Target
Property

DAGGETT LEASING CORP LUZ SOLAR
35100 SANTA FE STREET
DAGGETT, CA 92327

CA NPDES **S117698563**
N/A

Site 11 of 38 in cluster A

Actual:
1945 ft.

NPDES:

Npdes Number:	Not reported
Facility Status:	Not reported
Agency Id:	Not reported
Region:	6B
Regulatory Measure Id:	279546
Order No:	Not reported
Regulatory Measure Type:	Industrial
Place Id:	Not reported
WDID:	6B36I008014
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Not reported
Discharge Address:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
RECEIVED DATE:	05/09/2008
PROCESSED DATE:	01/14/1993
STATUS CODE NAME:	Terminated
STATUS DATE:	01/14/1993
PLACE SIZE:	190
PLACE SIZE UNIT:	Acres
FACILITY CONTACT NAME:	Edward W Luton
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	760-254-3381
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	Not reported
OPERATOR NAME:	Daggett Leasing Corp
OPERATOR ADDRESS:	PO Box 373
OPERATOR CITY:	Daggett
OPERATOR STATE:	California
OPERATOR ZIP:	92327
OPERATOR CONTACT NAME:	Edward W Luton
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	760-254-3381
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	Private Business
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	California
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	760-254-3381
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported

DAGGETT LEASING CORP LUZ SOLAR (Continued) **S117698563**

CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	Not reported
RECEIVING WATER NAME:	Mojave River
CERTIFIER NAME:	Not reported
CERTIFIER TITLE:	Not reported
CERTIFICATION DATE:	Not reported
PRIMARY SIC:	4911-Electric Services
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported

A12 **ERNS** **2014096343**
Target Property **35100 SANTE FE ST** **N/A**
DAGGETT, CA 92327

Site 12 of 38 in cluster A

Actual: 1945 ft.

~~Click this hyperlink~~ while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A13 **ERNS** **2014075913**
Target Property **35100 SANTE FE ST** **N/A**
DAGGETT, CA 92327

Site 13 of 38 in cluster A

Actual: 1945 ft.

~~Click this hyperlink~~ while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A14 **ERNS** **2014098107**
Target Property **35100 SANTE FE ST** **N/A**
DAGGETT, CA 92327

Site 14 of 38 in cluster A

Actual: 1945 ft.

~~Click this hyperlink~~ while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A15 **ERNS** **2011985715**
Target Property **35100 SANTE FE ST** **N/A**
DAGGETT, CA 92327

Site 15 of 38 in cluster A

Actual: 1945 ft.

~~Click this hyperlink~~ while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A16 **ERNS** **2014097442**
Target Property **35100 SANTE FE ST** **N/A**
DAGGETT, CA 92327

Site 16 of 38 in cluster A

Actual: 1945 ft.

~~Click this hyperlink~~ while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A17 **SUNRAY ENERGY INC** **CA HAZNET** **S113468546**
Target Property **35100 SANTA FE ST** **N/A**
DAGGETT, CA 92327

Site 17 of 38 in cluster A

Actual: 1945 ft.

HAZNET:

envid:	S113468546
Year:	2010
GEPAID:	CAP000200188
Contact:	ROBERT LAWRENCE
Telephone:	7602543383
Mailing Name:	Not reported
Mailing Address:	PO BOX 338
Mailing City,St,Zip:	DAGGETT, CA 92327
Gen County:	Not reported
TSD EPA ID:	AZR000501510
TSD County:	Not reported
Waste Category:	Other inorganic solid waste
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.25
Facility County:	San Bernardino

envid:	S113468546
Year:	2010
GEPAID:	CAP000200188
Contact:	ROBERT LAWRENCE
Telephone:	7602543383
Mailing Name:	Not reported
Mailing Address:	PO BOX 338
Mailing City,St,Zip:	DAGGETT, CA 92327
Gen County:	Not reported
TSD EPA ID:	AZR000501510
TSD County:	Not reported
Waste Category:	Unspecified aqueous solution
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.924
Facility County:	San Bernardino

SUNRAY ENERGY INC (Continued) **S113468546**

envid:	S113468546
Year:	2010
GEPAID:	CAP000200188
Contact:	ROBERT LAWRENCE
Telephone:	7602543383
Mailing Name:	Not reported
Mailing Address:	PO BOX 338
Mailing City,St,Zip:	DAGGETT, CA 92327
Gen County:	Not reported
TSD EPA ID:	AZR000501510
TSD County:	Not reported
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.2
Facility County:	San Bernardino

envid:	S113468546
Year:	2010
GEPAID:	CAP000200188
Contact:	ROBERT LAWRENCE
Telephone:	7602543383
Mailing Name:	Not reported
Mailing Address:	PO BOX 338
Mailing City,St,Zip:	DAGGETT, CA 92327
Gen County:	Not reported
TSD EPA ID:	AZR000501510
TSD County:	Not reported
Waste Category:	Waste oil and mixed oil
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.19
Facility County:	San Bernardino

A18 **CA CHMIRS** **S116777938**
Target Property **35100 SANTA FE ST** **N/A**
DAGGETT, CA 92327

Site 18 of 38 in cluster A

Actual: 1945 ft.

CHMIRS:

OES Incident Number:	4-1381
OES notification:	03/06/2014
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported

(Continued) **S116777938**

Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Other
Cleanup By:	No
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Type:	PETROLEUM
Measure:	Gal(s)
Other:	Not reported
Date/Time:	1200
Year:	2014
Agency:	Sunray Energy
Incident Date:	3/6/2014
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Mineral Oil
Quantity Released:	200
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	No
#2 Pipeline:	No
#3 Pipeline:	No
#1 Vessel >= 300 Tons:	No
#2 Vessel >= 300 Tons:	No
#3 Vessel >= 300 Tons:	No
Evacs:	No
Injuries:	Not reported
Fatals:	No
Comments:	Not reported
Description:	Caller states a mechanical failure occurred resulting in the release of 200 gallons of mineral oil onto dirt, the RP company is handling the clean up and it is on going, no waterways were impacted.

A19 **DAGGETT LEASING CORP** **CA EMI** **1006093859**
Target **35100 SANTA FE STREET** **N/A**
Property **DAGGETT, CA 92311**

Site 19 of 38 in cluster A

Actual:
1945 ft.

EMI:

Year:	1993
County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	7
Reactive Organic Gases Tons/Yr:	6
Carbon Monoxide Emissions Tons/Yr:	31
NOX - Oxides of Nitrogen Tons/Yr:	13
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	53
Part. Matter 10 Micrometers & Smllr Tons/Yr:	53

Year:	1995
County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	7
Reactive Organic Gases Tons/Yr:	6
Carbon Monoxide Emissions Tons/Yr:	31
NOX - Oxides of Nitrogen Tons/Yr:	13
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	53
Part. Matter 10 Micrometers & Smllr Tons/Yr:	53

Year:	1996
County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	7
Reactive Organic Gases Tons/Yr:	6
Carbon Monoxide Emissions Tons/Yr:	31
NOX - Oxides of Nitrogen Tons/Yr:	13
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	53
Part. Matter 10 Micrometers & Smllr Tons/Yr:	53

Year:	1997

DAGGETT LEASING CORP (Continued) **1006093859**

County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	7
Reactive Organic Gases Tons/Yr:	6
Carbon Monoxide Emissions Tons/Yr:	31
NOX - Oxides of Nitrogen Tons/Yr:	13
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	53
Part. Matter 10 Micrometers & Smllr Tons/Yr:	53

Year:	1998
County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	7
Reactive Organic Gases Tons/Yr:	6
Carbon Monoxide Emissions Tons/Yr:	31
NOX - Oxides of Nitrogen Tons/Yr:	13
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	53
Part. Matter 10 Micrometers & Smllr Tons/Yr:	53

Year:	1999
County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	7
Reactive Organic Gases Tons/Yr:	6
Carbon Monoxide Emissions Tons/Yr:	31
NOX - Oxides of Nitrogen Tons/Yr:	13
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	53
Part. Matter 10 Micrometers & Smllr Tons/Yr:	53

Year:	2000
County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD

DAGGETT LEASING CORP (Continued) **1006093859**

Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	7
Reactive Organic Gases Tons/Yr:	6
Carbon Monoxide Emissions Tons/Yr:	31
NOX - Oxides of Nitrogen Tons/Yr:	13
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	53
Part. Matter 10 Micrometers & Smllr Tons/Yr:	53

Year:	2001
County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	7
Reactive Organic Gases Tons/Yr:	6
Carbon Monoxide Emissions Tons/Yr:	31
NOX - Oxides of Nitrogen Tons/Yr:	13
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	53
Part. Matter 10 Micrometers & Smllr Tons/Yr:	53

Year:	2002
County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	7
Reactive Organic Gases Tons/Yr:	6
Carbon Monoxide Emissions Tons/Yr:	31
NOX - Oxides of Nitrogen Tons/Yr:	13
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	53
Part. Matter 10 Micrometers & Smllr Tons/Yr:	53

Year:	2003
County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	7
Reactive Organic Gases Tons/Yr:	6
Carbon Monoxide Emissions Tons/Yr:	31
NOX - Oxides of Nitrogen Tons/Yr:	13

DAGGETT LEASING CORP (Continued) **1006093859**

SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	53
Part. Matter 10 Micrometers & Smllr Tons/Yr:	53
Year:	2004
County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	6.7
Reactive Organic Gases Tons/Yr:	6.30053
Carbon Monoxide Emissions Tons/Yr:	31.2
NOX - Oxides of Nitrogen Tons/Yr:	13
SOX - Oxides of Sulphur Tons/Yr:	0.1
Particulate Matter Tons/Yr:	53.4
Part. Matter 10 Micrometers & Smllr Tons/Yr:	53.22354
Year:	2005
County Code:	36
Air Basin:	MD
Facility ID:	24802009
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.9526066
Reactive Organic Gases Tons/Yr:	.47974263003
Carbon Monoxide Emissions Tons/Yr:	7.2152894
NOX - Oxides of Nitrogen Tons/Yr:	12.0962324
SOX - Oxides of Sulphur Tons/Yr:	.0526378
Particulate Matter Tons/Yr:	.6582376
Part. Matter 10 Micrometers & Smllr Tons/Yr:	.6580591864
Year:	2005
County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.2681234
Reactive Organic Gases Tons/Yr:	.12218556878
Carbon Monoxide Emissions Tons/Yr:	.4509127
NOX - Oxides of Nitrogen Tons/Yr:	2.2460826
SOX - Oxides of Sulphur Tons/Yr:	.0141088
Particulate Matter Tons/Yr:	.0718143
Part. Matter 10 Micrometers & Smllr Tons/Yr:	.0716287488
Year:	2006
County Code:	36

DAGGETT LEASING CORP (Continued) **1006093859**

Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.2681234
Reactive Organic Gases Tons/Yr:	.12218556878
Carbon Monoxide Emissions Tons/Yr:	.4509127
NOX - Oxides of Nitrogen Tons/Yr:	2.2460826
SOX - Oxides of Sulphur Tons/Yr:	.0141088
Particulate Matter Tons/Yr:	.0718143
Part. Matter 10 Micrometers & Smllr Tons/Yr:	.0716287488

Year:	2007
County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.2681234
Reactive Organic Gases Tons/Yr:	.12218556878
Carbon Monoxide Emissions Tons/Yr:	.4509127
NOX - Oxides of Nitrogen Tons/Yr:	2.2460826
SOX - Oxides of Sulphur Tons/Yr:	.0141088
Particulate Matter Tons/Yr:	.0718143
Part. Matter 10 Micrometers & Smllr Tons/Yr:	.0716287488

Year:	2007
County Code:	36
Air Basin:	MD
Facility ID:	24802009
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.9526066
Reactive Organic Gases Tons/Yr:	.47974263003
Carbon Monoxide Emissions Tons/Yr:	7.2152894
NOX - Oxides of Nitrogen Tons/Yr:	12.0962324
SOX - Oxides of Sulphur Tons/Yr:	.0526378
Particulate Matter Tons/Yr:	.6582376
Part. Matter 10 Micrometers & Smllr Tons/Yr:	.6580591864

Year:	2008
County Code:	36
Air Basin:	MD
Facility ID:	24802009
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Y

DAGGETT LEASING CORP (Continued) **1006093859**

Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.9526066
Reactive Organic Gases Tons/Yr:	.47974263003
Carbon Monoxide Emissions Tons/Yr:	7.2152894
NOX - Oxides of Nitrogen Tons/Yr:	12.0962324
SOX - Oxides of Sulphur Tons/Yr:	.0526378
Particulate Matter Tons/Yr:	.6582376
Part. Matter 10 Micrometers & Smllr Tons/Yr:	.6580591864

Year:	2008
County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.2681234
Reactive Organic Gases Tons/Yr:	.12218556878
Carbon Monoxide Emissions Tons/Yr:	.4509127
NOX - Oxides of Nitrogen Tons/Yr:	2.2460826
SOX - Oxides of Sulphur Tons/Yr:	.0141088
Particulate Matter Tons/Yr:	.0718143
Part. Matter 10 Micrometers & Smllr Tons/Yr:	.0716287488

Year:	2009
County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.26812340000000001
Reactive Organic Gases Tons/Yr:	0.12218556878
Carbon Monoxide Emissions Tons/Yr:	0.4509127
NOX - Oxides of Nitrogen Tons/Yr:	2.2460825999999998
SOX - Oxides of Sulphur Tons/Yr:	1.4108799999999999E-2
Particulate Matter Tons/Yr:	7.1814299999999998E-2
Part. Matter 10 Micrometers & Smllr Tons/Yr:	7.1628748800000003E-2

Year:	2009
County Code:	36
Air Basin:	MD
Facility ID:	24802009
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.95260659999999997
Reactive Organic Gases Tons/Yr:	0.47974263003000001
Carbon Monoxide Emissions Tons/Yr:	7.2152893999999996
NOX - Oxides of Nitrogen Tons/Yr:	12.0962324
SOX - Oxides of Sulphur Tons/Yr:	5.2637799999999998E-2

DAGGETT LEASING CORP (Continued) **1006093859**

Particulate Matter Tons/Yr:	0.65823759999999998
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.65805918640000005
Year:	2010
County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.26812340000000001
Reactive Organic Gases Tons/Yr:	0.12218556878
Carbon Monoxide Emissions Tons/Yr:	0.4509127
NOX - Oxides of Nitrogen Tons/Yr:	2.2460825999999998
SOX - Oxides of Sulphur Tons/Yr:	1.4108799999999999E-2
Particulate Matter Tons/Yr:	7.1814299999999998E-2
Part. Matter 10 Micrometers & Smllr Tons/Yr:	7.1628748800000003E-2
Year:	2010
County Code:	36
Air Basin:	MD
Facility ID:	24802009
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.95260659999999997
Reactive Organic Gases Tons/Yr:	0.47974263003000001
Carbon Monoxide Emissions Tons/Yr:	7.2152893999999996
NOX - Oxides of Nitrogen Tons/Yr:	12.0962324
SOX - Oxides of Sulphur Tons/Yr:	5.2637799999999998E-2
Particulate Matter Tons/Yr:	0.65823759999999998
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.65805918640000005
Year:	2011
County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.2681234
Reactive Organic Gases Tons/Yr:	0.12218556878
Carbon Monoxide Emissions Tons/Yr:	0.4509127
NOX - Oxides of Nitrogen Tons/Yr:	2.2460826
SOX - Oxides of Sulphur Tons/Yr:	0.0141088
Particulate Matter Tons/Yr:	0.0718143
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.0716287488
Year:	2011
County Code:	36
Air Basin:	MD

DAGGETT LEASING CORP (Continued) **1006093859**

Facility ID:	24802009
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.9526066
Reactive Organic Gases Tons/Yr:	0.47974263003
Carbon Monoxide Emissions Tons/Yr:	7.2152894
NOX - Oxides of Nitrogen Tons/Yr:	12.0962324
SOX - Oxides of Sulphur Tons/Yr:	0.0526378
Particulate Matter Tons/Yr:	0.6582376
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.6580591864

Year:	2012
County Code:	36
Air Basin:	MD
Facility ID:	24802009
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.9526066
Reactive Organic Gases Tons/Yr:	0.47974263003
Carbon Monoxide Emissions Tons/Yr:	7.2152894
NOX - Oxides of Nitrogen Tons/Yr:	12.0962324
SOX - Oxides of Sulphur Tons/Yr:	0.0526378
Particulate Matter Tons/Yr:	0.6582376
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.6580591864

Year:	2012
County Code:	36
Air Basin:	MD
Facility ID:	24800899
Air District Name:	MOJ
SIC Code:	4911
Air District Name:	MOJAVE DESERT AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.2681234
Reactive Organic Gases Tons/Yr:	0.12218556878
Carbon Monoxide Emissions Tons/Yr:	0.4509127
NOX - Oxides of Nitrogen Tons/Yr:	2.2460826
SOX - Oxides of Sulphur Tons/Yr:	0.0141088
Particulate Matter Tons/Yr:	0.0718143
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.0716287488

A20 **ERNS** **2013059162**
Target Property **35100 SANTE FE ST** **N/A**
DAGGETT, CA 92327

Site 20 of 38 in cluster A

Actual: 1945 ft.

~~Click this hyperlink~~ while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A21 **ERNS** **2002597821**
Target Property **35100 SANTE FE ST** **N/A**
DAGGETT, CA 0

Site 21 of 38 in cluster A

Actual: 1945 ft.

~~Click this hyperlink~~ while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A22 **ERNS** **2015105500**
Target Property **35100 SANTE FE ST** **N/A**
DAGGETT, CA 92327

Site 22 of 38 in cluster A

Actual: 1945 ft.

~~Click this hyperlink~~ while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A23 **ERNS** **94369366**
Target Property **35100 SANTA FE POB 373** **N/A**
DAGGETT, CA 92327

Site 23 of 38 in cluster A

Actual: 1945 ft.

~~Click this hyperlink~~ while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A24 **ERNS** **96479251**
Target Property **35100 SANTA FE POB 373** **N/A**
DAGGETT, CA 92327

Site 24 of 38 in cluster A

Actual: 1945 ft.

~~Click this hyperlink~~ while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A25 **ERNS** **96482748**
Target Property **35100 SANTA FE** **N/A**
DAGGETT, CA 92327

Site 25 of 38 in cluster A

Actual: 1945 ft.

~~Click this hyperlink~~ while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A26 **ERNS** **99622394**
Target Property **35100 SANTA FE ST.** **N/A**
DAGGETT, CA

Site 26 of 38 in cluster A

Actual: 1945 ft.

~~Click this hyperlink~~ while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A27 **ERNS** **99607648**
Target Property **35100 SANTE FE ST** **N/A**
DAGGETT, CA 92327

Site 27 of 38 in cluster A

Actual: 1945 ft.

~~Click this hyperlink~~ while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A28 **ERNS** **94379582**
Target Property **35100 SANTA FE** **N/A**
DAGGETT, CA 92327

Site 28 of 38 in cluster A

Actual: 1945 ft.

~~Click this hyperlink~~ while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A29 **ERNS** **97415619**
Target Property **35100 SANTE FE ST** **N/A**
DAGGETT, CA 92327

Site 29 of 38 in cluster A

Actual: 1945 ft.

~~Click this hyperlink~~ while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A30 **ERNS** **94380955**
Target Property **35100 SANTA FE POB 373** **N/A**
DAGGETT, CA 92327

Site 30 of 38 in cluster A

Actual: 1945 ft.

~~Click this hyperlink~~ while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A31 **CA CHMIRS** **S105641747**
Target Property **SEGS 1 SOLAR FIELD 35100 SANTA FE STREET** **N/A**
DAGGETT, CA 92327

Site 31 of 38 in cluster A

Actual: 1945 ft.

CHMIRS:

OES Incident Number:	06948
OES notification:	Not reported
OES Date:	2/23/1995
OES Time:	05:34:50 PM

(Continued) **S105641747**

Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	DAGGETT LEASING
Containment:	Not reported
What Happened:	Not reported
Type:	PETROLEUM
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1995
Agency:	DAGGETT LEASING CORP SEGS 1
Incident Date:	0930 2/23/95
Admin Agency:	Not reported
Amount:	25 GAL
Contained:	NO
Site Type:	IND PLT
E Date:	Not reported
Substance:	OIL
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported

(Continued) **S105641747**

Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	VALVE FAILURE

A32 **CA CHMIRS** **S105648109**
Target Property **2A SOUTH FIELD, 35100 SANTA FE ST** **N/A**
DAGGETT, CA

Site 32 of 38 in cluster A

Actual: 1945 ft.

CHMIRS:

OES Incident Number:	7-4931
OES notification:	12/13/1997
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1997
Agency:	DAGGETT LEASING
Incident Date:	12/13/199712:00:00 AM
Admin Agency:	San Bernardino County Health Department
Amount:	Not reported

(Continued) **S105648109**

Contained:	Yes
Site Type:	Industrial Plant
E Date:	Not reported
Substance:	THERMINOL
Gallons:	70
Unknown:	0
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	EQUIPMENT FAILURE CAUSED SPILL.

A33 **CA CHMIRS** **S105635454**
Target Property **DAGGETT LEASING CORP 35100 SANTA FE ST** **N/A**
DAGGETT, CA 92327

Site 33 of 38 in cluster A

Actual: 1945 ft.

CHMIRS:

OES Incident Number:	528
OES notification:	Not reported
OES Date:	6/3/1994
OES Time:	12:46:00 PM
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported

(Continued) **S105635454**

Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	daggett leasing
Containment:	Not reported
What Happened:	Not reported
Type:	OTHER
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1994
Agency:	daggett leasing
Incident Date:	0800/02june94
Admin Agency:	Not reported
Amount:	approx 150 gals
Contained:	NO
Site Type:	OTHER
E Date:	Not reported
Substance:	therminol vp-1
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	flex hose failure caused release of heat transfer fluid to spill to ground

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A34 **CA CHMIRS** **S105641377**
Target Property **35100 SANTA FE ST SEGS 2 - 8R** **N/A**
DAGGETT, CA 92327

Site 34 of 38 in cluster A

Actual: 1945 ft.

CHMIRS:

OES Incident Number:	07326
OES notification:	Not reported
OES Date:	3/14/1995
OES Time:	12:22:23 PM
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported

(Continued) **S105641377**

Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	daggett leasing
Containment:	Not reported
What Happened:	Not reported
Type:	OTHER
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1995
Agency:	daggett leasing corp
Incident Date:	1145/14mar95
Admin Agency:	Not reported
Amount:	100 gals
Contained:	NO
Site Type:	OTHER
E Date:	Not reported
Substance:	therminol
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	set of isolation valves opened allowing fluid to spill to ground

A35 **DAGGETT SEGS I & II** **CA CHMIRS S105641205**
Target **35100 SANTA FE ST** **CA WDS N/A**
Property **DAGGETT, CA 92327**

Site 35 of 38 in cluster A

Actual:
1945 ft.

CHMIRS:

OES Incident Number:	07504
OES notification:	Not reported
OES Date:	3/24/1995
OES Time:	11:42:42 AM
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	daggett personnel
Containment:	Not reported
What Happened:	Not reported
Type:	PETROLEUM
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1995
Agency:	daggett leasing corp SEGS1
Incident Date:	1050/24mar95
Admin Agency:	Not reported
Amount:	15 gals
Contained:	NO
Site Type:	OTHER
E Date:	Not reported
Substance:	chevron heat transfer oil HT
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported

DAGGETT SEGS I & II (Continued) **S105641205**

Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	heat collection pipe element weld failure at solar production plant

WDS:

Facility ID:	South Lahontan 36I010399
Facility Type:	Other - Does not fall into the category of Municipal/Domestic, Industrial, Agricultural or Solid Waste (Class I, II or III)
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion:	0
Facility Telephone:	Not reported
Facility Contact:	CHRISTOPHER MILLNER
Agency Name:	DAGGETT LEASING CORP
Agency Address:	PO BOX 338
Agency City,St,Zip:	DAGGETT 92327
Agency Contact:	CHRISTOPHER MILLNER
Agency Telephone:	7602543881
Agency Type:	Private
SIC Code:	4911
SIC Code 2:	Not reported
Primary Waste Type:	Not reported
Primary Waste:	Not reported
Waste Type2:	Not reported
Waste2:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	Not reported
POTW:	Not reported
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity:	Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as

DAGGETT SEGS I & II (Continued) **S105641205**

dairy waste ponds.

A36 Target Property **SEGS I & II - THREE SURFACE IMPOUNDMENTS & LAND TREATMENT UN**
35100 SANTE FE RD
DAGGETT, CA 92327

CA CHMIRS **S101612545**
CA LDS **N/A**
CA ENF
CA WMUDS/SWAT

Site 36 of 38 in cluster A

Actual: 1945 ft.

CHMIRS:

OES Incident Number:	15-0218
OES notification:	01/12/2015
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Other
Cleanup By:	Unknown
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Type:	PETROLEUM
Measure:	Gal(s)
Other:	Not reported
Date/Time:	1440
Year:	2015
Agency:	NRC
Incident Date:	2015-01-12 00:00:00
Admin Agency:	San Bernardino County Fire Department
Amount:	Not reported
Contained:	Yes

SEGS I & II - THREE SURFACE IMPOUNDMENTS & LAND TREATMENT UN (Continued) **S101612545**

Site Type:	Not reported
E Date:	Not reported
Substance:	Therminal BP
Quantity Released:	100
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	No
#2 Pipeline:	No
#3 Pipeline:	No
#1 Vessel >= 300 Tons:	No
#2 Vessel >= 300 Tons:	No
#3 Vessel >= 300 Tons:	No
Evacs:	No
Injuries:	No
Fatals:	No
Comments:	Not reported
Description:	Per NRC Fax: Caller is reporting that due to valves being left open there was a discharge of approximately 100 gallons of therminal BP to the ground. REMEDIAL ACTIONS, Vacuumed the free standing oil.
OES Incident Number:	06733
OES notification:	Not reported
OES Date:	2/10/1995
OES Time:	01:26:30 PM
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES

SEGS I & II - THREE SURFACE IMPOUNDMENTS & LAND TREATMENT UN (Continued) **S101612545**

Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	daggett leasing
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1995
Agency:	daggett leasing
Incident Date:	2/10/95 1240
Admin Agency:	Not reported
Amount:	100 gal
Contained:	NO
Site Type:	Not reported
E Date:	Not reported
Substance:	transfer oil
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	equipment failure (Gasket)

LDS:

Global Id:	L10001994035
Latitude:	34.85832
Longitude:	-116.8196
Case Type:	Land Disposal Site
Status:	Open
Status Date:	01/01/1965
Lead Agency:	LAHONTAN RWQCB (REGION 6V)
Caseworker:	Not reported
Local Agency:	Not reported
RB Case Number:	6B364550001
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Not reported
EDR Link ID:	L10001994035
Potential Contaminants of Concern:	Not reported
Site History:	Not reported

SEGS I & II - THREE SURFACE IMPOUNDMENTS & LAND TREATMENT UN (Continued) **S101612545**

Click here to access the California GeoTracker records for this facility:

ENF:

Region:	6B
Facility Id:	256224
Agency Name:	Sunray Energy Inc
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	Not reported
Place Longitude:	Not reported
SIC Code 1:	4961
SIC Desc 1:	Steam and Air-Conditioning Supply
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.114
Threat To Water Quality:	2
Complexity:	B
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Cooling water: Noncontact
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	LFNONOPER
Program Category1:	LNDISP
Program Category2:	LNDISP
# Of Programs:	1
WDID:	6B364550001
Reg Measure Id:	147581
Reg Measure Type:	WDR
Region:	6B
Order #:	96-160
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	5000
Status:	Active
Status Date:	02/06/2014
Effective Date:	11/08/1996
Expiration/Review Date:	11/08/2020
Termination Date:	Not reported

SEGS I & II - THREE SURFACE IMPOUNDMENTS & LAND TREATMENT UN (Continued) **S101612545**

WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	59 - Land Disposal Site not paying tipping fee
Direction/Voice:	Passive
Enforcement Id(EID):	398744
Region:	6B
Order / Resolution Number:	Not reported
Enforcement Action Type:	Staff Enforcement Letter
Effective Date:	10/16/2014
Adoption/Issuance Date:	10/16/2014
Achieve Date:	Not reported
Termination Date:	10/22/2014
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	SEL 10/16/2014 for Sunray Energy Inc
Description:	Submit spill reports for 10/5 and 10/12 discharge incidents. Reports are due 10/15 and 10/22, respectively.
Program:	LFNONOPER
Latest Milestone Completion Date:	10/22/2014
# Of Programs1:	1
Total Assessment Amount:	0.00
Initial Assessed Amount:	0.00
Liability $ Amount:	0.00
Project $ Amount:	0.00
Liability $ Paid:	0.00
Project $ Completed:	0.00
Total $ Paid/Completed Amount:	0.00

WMUDS/SWAT:

Edit Date:	Not reported
Complexity:	Category B - Any facility having a physical, chemical, or biological waste treatment system (except for septic systems with subsurface disposal), or any Class II or III disposal site, or facilities without treatment systems that are complex, such as marinas with petroleum products, solid wastes, and sewage pump out facilities.
Primary Waste:	NONCON
Primary Waste Type:	Designated/Influent or Solid Wastes that pose a significant threat to water quality because of their high concentrations (E.G., BOD, Hardness, TRF, Chloride). 'Manageable' hazardous wastes (E.G., inorganic salts and heavy metals) are included in this category.
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Base Meridian:	Not reported
NPID:	Not reported
Tonnage:	0
Regional Board ID:	Not reported
Municipal Solid Waste:	False
Superorder:	False
Open To Public:	False
Waste List:	False

SEGS I & II - THREE SURFACE IMPOUNDMENTS & LAND TREATMENT UN (Continued) **S101612545**

Agency Type:	Private
Agency Name:	SUNRAY ENERGY INC
Agency Department:	Not reported
Agency Address:	35100 SANTA FE ST
Agency City,St,Zip:	DAGGETT CA 92327
Agency Contact:	ERIC WILLS
Agency Telephone:	7602543381
Land Owner Name:	Not reported
Land Owner Address:	Not reported
Land Owner City,St,Zip:	Not reported
Land Owner Contact:	Not reported
Land Owner Phone:	Not reported
Region:	6V
Facility Type:	Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Description:	Not reported
Facility Telephone:	Not reported
SWAT Facility Name:	Not reported
Primary SIC:	4961
Secondary SIC:	Not reported
Comments:	Not reported
Last Facility Editors:	Not reported
Waste Discharge System:	True
Solid Waste Assessment Test Program:	False
Toxic Pits Cleanup Act Program:	False
Resource Conservation Recovery Act:	False
Department of Defence:	False
Solid Waste Assessment Test Program:	Not reported
Threat to Water Quality:	Moderate Threat to Water Quality. A violation could have a major adverse impact on receiving biota, can cause aesthetic impairment to a significant human population, or render unusable a potential domestic or municipal water supply. Awsthetic impairment would include nuisance from a waste treatment facility.
Sub Chapter 15:	True
Regional Board Project Officer:	JJK
Number of WMUDS at Facility:	1
Section Range:	Not reported
RCRA Facility:	No
Waste Discharge Requirements:	A
Self-Monitoring Rept. Frequency:	Quarterly Submittal
Waste Discharge System ID:	6B364550001
Solid Waste Information ID:	Not reported

A37 **CA CHMIRS** **S105636278**
Target Property **DAGGETT LEASING 35100 SANTA FE**
DAGGETT, CA 92327 **N/A**

Site 37 of 38 in cluster A

Actual: 1945 ft.

CHMIRS:

OES Incident Number:	670
OES notification:	Not reported
OES Date:	4/8/1994
OES Time:	02:58:40 PM

(Continued) **S105636278**

Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	private contractor and discharger
Containment:	Not reported
What Happened:	Not reported
Type:	PETROLEUM
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1994
Agency:	daggett leasing
Incident Date:	040894 1234
Admin Agency:	Not reported
Amount:	80 gallons
Contained:	NO
Site Type:	IND PLT
E Date:	Not reported
Substance:	caloria heat transfer oil
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported

(Continued) **S105636278**

Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Structure fire

A38 **CA CHMIRS** **S105639127**
Target Property **35100 SANTA FE STREET** **N/A**
DAGGETT, CA 92327

Site 38 of 38 in cluster A

Actual: 1945 ft.

CHMIRS:

OES Incident Number:	10103
OES notification:	Not reported
OES Date:	9/19/1995
OES Time:	07:30:35 AM
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Discharger
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1995
Agency:	Daggett Leasing Corp
Incident Date:	9/19/95 1725
Admin Agency:	Not reported
Amount:	200 gallons

(Continued) **S105639127**

Contained:	NO
Site Type:	Not reported
E Date:	Not reported
Substance:	chevron transfer oil hp
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	flange failure
OES Incident Number:	2-1685
OES notification:	03/27/2002
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Reporting Party
Containment:	Not reported

(Continued) **S105639127**

What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	2002
Agency:	Sunray Energy
Incident Date:	3/27/200212:00:00 AM
Admin Agency:	San Bernardino County Health Department
Amount:	Not reported
Contained:	Yes
Site Type:	Industrial Plant
E Date:	Not reported
Substance:	oil
Gallons:	100
Unknown:	0
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Equipment failure caused the spill.

NPL Region
< 1/8
1 ft.

BARSTOW MARINE CORPS LOGISTICS BASE
MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311

NPL 1000389921
CERCLIS CA8170024261
CORRACTS
RCRA-LQG
US ENG CONTROLS
US INST CONTROL
ROD
RAATS
NY MANIFEST
CA HAZNET
CA ENVIROSTOR
CA HWP

NPL:

EPA ID:	CA8170024261
Cerclis ID:	0902790
EPA Region:	9
Federal:	F
Final Date:	1989-11-21 00:00:00
Site Score:	37.93

Category Details:

NPL Status:	Currently on the Final NPL
Category Description:	Depth To Aquifer-> 10 And <= 25 Feet

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Category Value: 18

NPL Status: Currently on the Final NPL
Category Description: Distance To Nearest Population-> 0 And <= 1/4 Mile
Category Value: 10

Site Details:
Site Name: BARSTOW MARINE CORPS LOGISTICS BASE
Site Status: Final
Site Zip: 92311
Site City: BARSTOW
Site State: CA
Federal Site: Yes
Site County: SAN BERNARDINO
EPA Region: 09
Date Proposed: 07/14/89
Date Deleted: Not reported
Date Finalized: 11/21/89

Substance Details:
NPL Status: Currently on the Final NPL
Substance ID: Not reported
Substance: Not reported
CAS #: Not reported
Pathway: Not reported
Scoring: Not reported

NPL Status: Currently on the Final NPL
Substance ID: U228
Substance: TRICHLOROETHYLENE (TCE)
CAS #: 79-01-6
Pathway: GROUND WATER PATHWAY
Scoring: 4

Summary Details:

Conditions at proposal July 14, 1989): The Barstow Marine Corps Logistics Base is in San Bernardino County, California. It is in the Mojave Desert and adjacent to the Mojave River. A portion of the base, the 1,568-acre Nebo Area, is approximately 1 mile east of the City of Barstow. It has been used for maintenance, repair, and rebuilding of supplies and equipment for the Marine Corps since 1942. Solvent wastes, including trichloroethylene TCE), were apparently generated in substantial quantities in the Nebo Area facility. Due to the lack of records, the quantities of solvents used, stored, and discharged on-site are unknown. The same activities were conducted at the 1,681-acre Yermo Area, 6 miles east of Nebo.Barstow Marine Corps Logistics Base is participating in the Installation Restoration Program IRP), established in 1978. Under this program, the Department of Defense seeks to identify, investigate, and clean up contamination from ha ardous materials. Monitoring wells at both Nebo and Yermo are contaminated with TCE, according to tests conducted in 1984-85 as part of IRP studies and by the U.S. Geological Survey. Public wells within 3 miles of ha ardous substances at the basesupply drinking water to an estimated 28,700 residents of the city of Barstow and outlying areas. The Marine Corps has completed an initial assessment/site inspection and is planning a remedial investigation/feasibility study to determinethe type and extent of contamination and identify alternatives for remedial action at both the Nebo

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

and Yermo areas. An activated carbon system for treating contaminated drinking water wells at Yermo is scheduled to be installed in July 1989.Status November 21, 1989): The activated carbon system is now operating.

Site Status Details:

NPL Status:	Final
Proposed Date:	07/14/1989
Final Date:	11/21/1989
Deleted Date:	Not reported

Narratives Details:

NPL Name:	BARSTOW MARINE CORPS LOGISTICS BASE
City:	BARSTOW
State:	CA

CERCLIS:

Site ID:	0902790
EPA ID:	CA8170024261
Facility County:	SAN BERNARDINO
Short Name:	BARSTOW MARINE CORPS LOGI
Congressional District:	8
IFMS ID:	09Q4
SMSA Number:	6780
USGC Hydro Unit:	18090208
Federal Facility:	Federal Facility
DMNSN Number:	5687.00000
Site Orphan Flag:	N
RCRA ID:	Not reported
USGS Quadrangle:	Not reported
Site Init By Prog:	Not reported
NFRAP Flag:	Not reported
Parent ID:	Not reported
RST Code:	Not reported
EPA Region:	09
Classification:	Not reported
Site Settings Code:	SU
NPL Status:	Currently on the Final NPL
DMNSN Unit Code:	ACRE
RBRAC Code:	Not reported
RResp Fed Agency Code:	USNV
Non NPL Status:	Not reported
Non NPL Status Date:	/ /
Site Fips Code:	06071
CC Concurrence Date:	/ /
CC Concurrence FY:	Not reported
Alias EPA ID:	Not reported
Site FUDS Flag:	Not reported

CERCLIS Site Contact Name(s):

Contact ID:	9270408.00000
Contact Name:	Phillip Ramsey
Contact Tel:	(415) 972-3006
Contact Title:	Remedial Project Manager (RPM)
Contact Email:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Contact ID: 13003854.00000
Contact Name: Leslie Ramirez
Contact Tel: (415) 972-3978
Contact Title: Site Assessment Manager (SAM)
Contact Email: Not reported

Contact ID: 13003858.00000
Contact Name: Sharon Murray
Contact Tel: (415) 972-4250
Contact Title: Site Assessment Manager (SAM)
Contact Email: Not reported

Contact ID: 13004003.00000
Contact Name: Carl Brickner
Contact Tel: Not reported
Contact Title: Site Assessment Manager (SAM)
Contact Email: Not reported

Contact ID: 9270865.00000
Contact Name: Mary Aycock
Contact Tel: (415) 972-3289
Contact Title: Remedial Project Manager (RPM)
Contact Email: Not reported

CERCLIS Site Alias Name(s):
Alias ID: 101
Alias Name: MARINE CORPS LOGISTICS BASE- NEBO
Alias Address: PUBLIC WORKS CTR BLDG 198
BARSTOW, CA 92311
Alias ID: 201
Alias Name: BARSTOW USMC LOGISTICS BASE-NEBO
Alias Address: Not reported
CA
Alias ID: 301
Alias Name: MARINE CORPS LOGISTICS BASE BARSTOW
Alias Address: Not reported
CA
Alias ID: 401
Alias Name: MARINE CORPS LOGISTICS BASE BARSTOW
Alias Address: Not reported
CA
Alias ID: 402
Alias Name: BARSTOW MARINE CORPS LOGISTICS BASE
Alias Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
Alias ID: 9270176
Alias Name: BARSTOW NATIONAL TRAINING CENTER
Alias Address: T9N R1E S16 SW1/4
BARSTOW DAGGET AIRPORT, CA 85350
Alias ID: 9270177
Alias Name: MCLB BARSTOW
Alias Address: 3 MILES EAST OF BARSTOW ON I40
BARSTOW, CA 96058
Alias ID: 201
Alias ID: 301
Alias ID: 401
Alias ID: 9270177

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Alias Comments: PREVIOUS EPA ID# AZD 981 416 977PREVIOUS EPA ID# AZD 981 416 977PREVIOUS EPA ID# AZD 981 416 977THIS IS A DUPLICATE FF DOCKET LISTING.

Site Description: The Marine Corps Logistics Base (MCLB) Barstow is in San Bernardino County, California, in the central Mojave Desert approximately 135 miles northeast of Los Angeles. The Base consists of two areas: Nebo Main Base, which includes the Rifle Range, and the Yermo Annex. The Nebo Main Base (1,569 acres) is 3 1/2 miles east of Barstow and is intersected by Interstate 40. The Rifle Range (2,338 acres) is south and adjacent to the Nebo Main Base. The Yermo Annex (1,680 acres) is 7 miles east of Barstow and adjacent to Interstate 15. Other surrounding communities include Yermo to the northeast and Daggett to the east. The Mojave River transects the Base in an east-west direction. MCLB Barstow was established in 1942 at Nebo Main Base as a Marine Corps Depot of Supplies, which is a staging area for supplies and equipment for Marine Corps forces deployed in the Pacific during World War II. By 1943, the Marine Corps Depot of Supplies began providing logistical support to Marine Corps commands throughout the western United States and the Pacific. Yermo Annex was acquired in 1946 because Nebo Main Base operations outgrew escalating mission requirements. In 1961, a 10-acre central repair shop was built to provide additional vehicle repair and rebuilding capabilities. The Rifle Range was acquired in the mid-1950s for shooting practice and continues to serve the same function today with minimal changes. Until the early 1960s, MCLB Barstow's major industrial operations were conducted at Nebo Main Base; in the early 1960s, the major industrial operations were relocated to Yermo Annex. The hazardous waste generation and disposal operations associated with these industrial activities began at Yermo at this same time. Operations at MCLB Barstow have included maintaining, issuing, and shipping materials held in the Marine Corps Store Distribution System. During its 50-year period of operation, MCLB has generated industrial waste such as waste oil, fuel, solvent, paint residue, grease, hydraulic fluid, battery acid, various gases, and other components, including some that are sources of low-level radiation. Additional waste generated included pesticides, herbicides, polychlorinated biphenyls (PCBs), calcium hypochlorite, and sodium hypochlorite. In the early years, some of these wastes were disposed of in landfills, burn trenches, and other areas located throughout the Nebo Main Base, Yermo Annex, and the Rifle Range. The Navy conducted a series of studies to determine the presence of contamination in soil and groundwater at the Base. An initial assessment study (IAS) was conducted at MCLB Barstow in 1983 to evaluate past practices of hazardous waste handling, storage, and disposal, and to identify areas representing a potential threat to environment or human health; the IAS identified 33 potentially contaminated sites. Confirmation studies were conducted between 1984 and 1986 at 11 of the sites considered to pose potential threat to the environment. In November 1989, MCLB Barstow was added to the National Priorities List (NPL). Operable Unit 1 (OU1): OU1 includes groundwater and vadose zone contamination zone contamination underlying the Yermo Annex. The Remedial Investigation (RI) identified one large volatile organic compound (VOC) plume emanating from several sources including Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Areas of Concern (CAOCs) 16, 15/17, 23, 26, and 35. A Record of Decision (ROD) was issued in April 1998 that addressed both OU1 and OU2. OU2: OU2 includes groundwater and vadose zone contamination underlying the Nebo Main Base. The RI identified two discrete plumes: the Nebo north plume, believed to have originated from Warehouse 2; and the Nebo South plume, which originated from CAOC 6. A ROD was issued in April 1998 that addressed both OU1 and OU2. In 1992, trichloroethene (TCE) concentrations above drinking water standards were detected in groundwater samples from an off-base private residence well within the 1996 off-base plume boundary. A CERCLA emergency removal action was

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

conducted to remove the well from service and connect the residence to MCLB water supply system as stated in the OUs 1 and 2 ROD and the Action Memorandum. The Lower Mojave hydrologic sub-unit, which includes the Barstow sub-basin, is classified as a source of drinking water (i.e., Class I Aquifer) in the Water Quality Control Plan for the Lahontan Region (Basin Plan). Groundwater is the sole source of drinking water in this area and its quality may have been impacted since at least 1952. Both the Yermo Annex and Nebo Main Base have evidence of solvent-contaminated groundwater. The Nebo Main Base currently receives its drinking water through a pipeline from the City of Barstow, which obtains water from groundwater wells in the Mojave River Drainage Basin, upgradient from MCLB. Currently, the Nebo South groundwater plume area is vacant with exception of a small covered area used to house the Air Sparging/Soil Vapor Extraction (AS/SVE) system-related components. The areas immediately surrounding MCLB are basically undeveloped except for some small-scale, older commercial developments along Highway 66 west of the main entrance to the Nebo Main Base. Future plans in the immediate vicinity indicate five main land uses: - Rural-urban (low-density residential); - Open space/recreation; - Agricultural; - Industrial; - Commercial. The area west of the main entrance to the Nebo Main Base where Interstate 40, Route 66, and the Burlington Northern Santa Fe (BNSF) railroad lines converge is slated for industrial development per the City of Barstow and San Bernardino County. Other than this, MCLB has no plans in the near future for any development other than to further Marine Corps mission. A Final Record of Decision (ROD) addressing OU 2 was completed in September of 2006. OU3: The four CAOCs included in OU3 are: CAOC 18 - Sludge Disposal Area; CAOC 20 - Second Hazardous and Low-Level Radiological Area; CAOC 23 - Landfill Area; and CAOC 34 - PCB Storage Area. The OU3 CAOCs are within the Yermo Annex. CAOC 18 is north of 12th Street and east of Building 573, on the eastern side of the Yermo Annex. From 1961 to the late 1970s miscellaneous industrial wastes from the Central Repair Division were reportedly discharged directly to the ground of an unlined channel that runs through the middle of CAOC 18. Sludge from the clean, paint, and lubrication shops were reportedly disposed of on the ground just east of the current radar test area. CAOC 20 is on the eastern side of the Yermo Annex. It includes a low-level radiological waste disposal well capped by a concrete pad and surrounded by a chain-link fence, and 31 uncapped nonradioactive waste disposal wells. The wells are approximately 30 feet deep and 4 feet in diameter. CAOC 23 is an irregular L-shaped area located at the south to southeast corner of the Yermo Annex and comprises an area of approximately 60 acres. Historical records for CAOC 23 indicate that between 1946 and 1980 it was operated as a storage area for waste and rollback equipment (equipment and materials returned from World War II and the Korean and Vietnam conflicts) and for disposal of solid waste and some hazardous liquid waste. CAOC 34 is located on the eastern side of the Yermo Annex adjacent to the western side of the MCLB Effluent Disposal Pond. The basins at the former PCB Storage Area were originally used to receive and store domestic sludge from the former MCLB Domestic Wastewater Treatment Facility (DWTF). However, the basins were drained in 1978 and subsequently used as temporary staging area for inactive electrical transformers, drums of oil contaminated with PCB compounds, and PCB-contaminated sludge. In 1994, the basins were excavated and demolished in a removal action at the site. A new MCLB industrial wastewater treatment and recycling facility (IWTRF) was constructed in 1995 at the former basin locations. During the IWTRF construction, a concrete pad was poured directly over the filled basin excavations. A ROD was completed in June 1997 addressing both OU3 and OU4. OU4: The four CAOCs included in OU4 are: CAOC 2 - Pesticide Storage and Washout Area; CAOC 5 - Chemical Storage Area; CAOC 9 - Fuel Disposal Area; and CAOC 11 - Fuel Burn Area. The OU4 CAOCs are within the Nebo Main Base. CAOC 2 is located on the north side of the

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Nebo Main Base. It covers about 1.8 acres of relatively flat terrain within the 100-year floodplain boundary of the Mojave River. The facility has been used as an herbicide and pesticide container storage and rinsing area since the early 1950s. Until about 1970, the rinsing operations were conducted at the northern and southern concrete wash pads. In the 1970s, use of the northern wash pad was discontinued and an underground storage tank (UST) was installed to collect rinse water. The tank was abandoned in 1984 and removed in 1992. The Pesticide Storage and Washout Area is currently an active MCLB facility used for equipment storage and repair and other operations associated with MCLB yard maintenance. CAOC 5 is located in the southeastern portion of the Nebo Main Base. The CAOC includes three lots, Lot 351, 352, and 357, which encompass a total area of about 50 acres. The Nebo Main Base was selected as the west coast collection point for the decommissioning of DDT at military facilities throughout the west. From 1967 to 1976, DDT received from these facilities was stored with rollback equipment and hazardous chemicals in the Lot 351. In fiscal year 1975/1976, the Navy arranged for the disposal of approximately 300 tons of the accumulated material. During the process of removal, an estimated one ton of material was spilled onto the ground at Lot 351. In 1978, an effort was made to clean up the contaminated areas by removing the top six inches of soil and replacing it with clean fill. The actual extent of the remediated area(s) is unknown. CAOC 9 encompasses a small, unpaved area (approximately 150 by 250 feet) in the southwest corner of Nebo Main Base. The CAOC is bisected by part of an unlined drainage channel, Channel F, which is not considered part of the Fuel Disposal Area. In the 1950s, waste fuel and oil generated by vehicle maintenance operations were reportedly discharged into the segment of Channel F. Migration of the waste from that point was influenced by the slope of existing drainage and surface-water runoff from the wash to the south. Eventually, the wastes ended up in the area now designated as the Fuel Disposal Area. CAOC 11 is in the southwest corner of the Nebo Main Base. The area investigated measures approximately 240 by 680 feet. The Fuel Burn Area was used from the early 1940s to the 1960s for the burning of waste fuels and oils generated in the Repair Division shops. Waste diesel, gasoline, and oil were collected in common tanks that were hauled to the Fuel Burn Area for combustion. Waste oils were primarily recycled after the 1960s. A ROD was completed in June 1997 that addressed both OU3 and OU4. OU5: OU5 is comprised of the soil contamination at sixteen sites (CAOCs 15/17, 19, 21, 22, 24, 26, 27, 28, 29, 30, 31, 32, 35, and 36) at the Yermo Annex for which no pre-RI analytical data were available. CAOC 15, the Oil Storage/Spillage and Industrial Wastewater Treatment Plant (IWTP) Areas is in the northern part of the Yermo Annex. Defueling operations took place in this area, where an estimated 4,000 drums of waste oil from decommissioned vehicles and new lubricating oil were stored. CAOC 17 includes the Industrial Wastewater Overflow area and all surface impoundments of the Yermo IWTP. CAOCs 15 and 17 were investigated as one site because they are adjacent to each other and represent common source release mechanisms. The combined size of CAOCs 15 and17 is 13 acres. CAOC 19, the First Hazardous and Low-Level Radiological Area, is located near the center of the Yermo Annex. The CAOC consists of approximately 10,000 square feet on which low-level radiation equipment and hazardous materials were stored from the early 1950s to the 1960s. CAOC 21, the Industrial Waste Disposal Area, is located on a flat, open unpaved area at the eastern perimeter of the Yermo Annex. The CAOC was reportedly used for a variety of waste operations between 1946 and 1980. A UST in the western portion of CAOC 21 was removed in June 1992. CAOC 22, the Domestic Wastewater Disposal Area, is in the southeastern portion of the Yermo Annex. The site consists of three unlined percolation ponds that were used for disposal of treated wastewater (both domestic and industrial wastes) at the Yermo Annex between 1952 and 1958 and treated domestic wastewater thereafter. CAOC 24,

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the Tracked Vehicle Test Area, is located in the southwestern portion of the Yermo Annex. The traced vehicle test area was used to test drive various types of tracked vehicles. Waste oils and industrial wastewaters were sprayed onto the surface of the track area to control the wind erosion of the sandy subgrade, to suppress dust, and to help form the vehicle test track. CAOC 26, the Building 533 Waste Disposal Area, is in the west-central portion of Yermo Annex. From the late 1950s to the late 1970s, industrial waste generated from the preservation and packaging operations was discharged to the ground west of Building 533. UST T-533 (the French Drain) was removed in 1992. The excavated soils were later taken off-site for disposal. CAOC 27, the Building 436 Fuel Storage Area, encompasses approximately 1.5 acres in the north-central portion of the Yermo Annex. Four USTs were located in this CAOC; three of these UST have been removed. CAOC 28, the West Lot, Dust Control Area, is in the northwestern quadrant of the Yermo Annex. Various storage activities took place at CAOC 28 between 1965 and 1978. The site was used for storage, maintenance-related activities, and railroad-related activities. In addition, wastewater and waste oil were applied at this CAOC to suppress dust. CAOC 30, the Locomotive Repair Shop Disposal Area, encompasses approximately 1 acre in the northwest portion of Yermo Annex. The site contains the present location of the Locomotive Repair Shop (Building 628) and also contained the former Repair Shop (now defunct Building 479). CAOC 31 is the North Vehicle Test Track Road, located in the north-central portion of Yermo Annex. CAOC 31 consists of approximately 6,500 linear feet of unpaved test track to which waste oil and industrial wastewater effluent were applied to alleviate the dust problem associated with this site. CAOC 32, the Preservation and Packaging Storage Area, is in the north-central portion of the Yermo Annex, and comprises approximately 1.5 acres. The CAOC encompasses Building 203 (the Preservation Shop) and the perimeter, a drum storage area, an operating steam wash rack, a sump and associated piping, and the former location of an excavated UST. The area west of Building 203 was reportedly used to store drums containing hazardous materials. CAOC 36, the Proposed Paint Combat Vehicle Maintenance Shop, is in the eastern portion of the Yermo Annex. Reportedly, heavy equipment and/or drums have been stored at the site from the mid-1960s to 1991. A ROD was completed in January 1998 that addressed both OU5 and OU6. OU6: OU6 is comprised of the soil contamination at eleven sites (CAOCs 1, 3, 4, 6, 7, 8, 12, 13, 14, and the Riparian Fringe Habitat) at the Nebo Main Annex for which no pre-RI analytical data were available. CAOC 1, the Landfill North of the Golf Course, is in the northern portion of the Nebo Main Base. Most of the site is within the 100-year floodplain of the Mojave River. The site encompasses approximately 18 acres including a reported sludge disposal area. From the late 1940s to the mid-1970s the site was used as a landfill for disposal of road construction debris, concrete, asphalt, and other materials to prevent CAOC 3, the Wastewater Disposal Area, is in the northern portion of the Nebo Main Base. The site was constructed in 1942 and treated both industrial and domestic wastes until 1974. When industrial wastewater treatment facilities were constructed in 1974, industrial waste discharges to the Nebo Main Base sanitary facilities were phased out. CAOC 4, the Old Trap and Skeet Range Areas, is in the northeastern quadrant of the Nebo Main Base. The site was used to store wooden containers of calcium hypochlorite. In 1950, the calcium hypochlorite was in the process of being disposed of in the gully when a violent chemical reaction occurred and produced a large cloud of chlorine gas. This incident forced the evacuation of MCLB Barstow and the city of Daggett. Some of the calcium hypochlorite that would have remained in trace quantities would have decomposed due to the period dousing of the area with water. CAOC 6, the original Trash Landfill, is located in the eastern portion of the Nebo Main Base. The site reportedly was used between 1946 and 1952 for disposing of approximately 20,000 cubic yards of

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

lumber, building materials, empty paint cans, and other general trash. In addition, CAOC 6 was used for storing approximately 80 tons of various formulations of DDT and other unknown materials. CAOC 8 is the Building 197 Wastewater Disposal Area. Activities inside this machine shop building included plumbing, machining, and machine cleaning operations. Cleaning operations in Building 197 reportedly generated industrial wastes consisting of acid solutions, solvents, alkaline cleaners, and detergents. An estimated 2,000 gallons of hazardous waste were reportedly discharged to the ground at CAOC 8 between 1959 and 1975. CAOC 12, the Radiator Cleaning Chemical Disposal Area, is in the southern portion of the Nebo Main Base. The site was reportedly used for disposing radiator cleaning materials between 1943 and 1947. A UST used for storing waste fuel and oil was removed in 1992. CAOC 13, the Preservation and Packaging Storage Area, is in the southern portion of the Nebo Main Base. The area maintained a storage building for paints, thinners, and other solvents at CAOC 13 prior to its destruction in a fire in 1957. The only remains of the former storage building are an 800-square-foot slab of concrete and perimeter foundation. The CAOC includes the former building area and approximately 400 square feet of surrounding soil. CAOC 14 consists of three main stormwater drainage channels that constitute the Nebo Main Base surface drainage system and four outfalls that discharge into the Mojave River. Between the mid-1940s and 1974, industrial wastes from cleaning and plating operations in Buildings 2, 27, 50, and 53 were discharged through area drains, culverts, and ditches to the banks of the Mojave River. The Riparian Fringe Habitat is located on the Nebo Main Base. It is a long, narrow, roughly L-shaped corridor approximately 5,000 by 250 feet. This is a heterogeneous habitat with a high diversity of plant and animal life compared to other areas of MCLB Barstow. The habitat has been significantly disturbed by flood control practices, frequent grading activities associated with various nearby industrial operations, and the artificial storm water drainage channels from the Nebo Main Base and Golf Course. A ROD was completed in January 1998 that addressed both OU5 and OU6.

CERCLIS Assessment History:

Action Code:	001
Action:	DISCOVERY
Date Started:	/ /
Date Completed:	11/01/80
Priority Level:	Not reported
Operable Unit:	SITEWIDE
Primary Responsibility:	Federal Facilities
Planning Status:	Not reported
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code:	001
Action:	PRELIMINARY ASSESSMENT
Date Started:	01/01/86
Date Completed:	05/01/86
Priority Level:	Higher priority for further assessment
Operable Unit:	SITEWIDE
Primary Responsibility:	Federal Facilities
Planning Status:	Not reported
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: SITE INSPECTION
Date Started: / /
Date Completed: 06/01/86
Priority Level: Higher priority for further assessment
Operable Unit: SITEWIDE
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: HAZARD RANKING SYSTEM PACKAGE
Date Started: / /
Date Completed: 07/14/89
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: PROPOSAL TO NATIONAL PRIORITIES LIST
Date Started: / /
Date Completed: 07/14/89
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: FINAL LISTING ON NATIONAL PRIORITIES LIST
Date Started: / /
Date Completed: 11/21/89
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Action Code: 001
Action: INTERAGENCY AGREEMENT NEGOTIATIONS
Date Started: 04/01/90
Date Completed: 09/28/90
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: FEDERAL INTERAGENCY AGREEMENT
Date Started: 09/28/90
Date Completed: 09/28/90
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: FEDERAL FACILITY REMOVAL
Date Started: 11/24/92
Date Completed: 06/14/93
Priority Level: Stabilized
Operable Unit: SITEWIDE
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: FEDERAL FACILITY REMOVAL
Date Started: 07/19/93
Date Completed: 08/18/93
Priority Level: Cleaned up
Operable Unit: SITEWIDE
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Time Critical
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 003
Action: FEDERAL FACILITY REMOVAL
Date Started: 07/18/94
Date Completed: 08/23/94

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Priority Level:	Partially Cleaned up
Operable Unit:	SITEWIDE
Primary Responsibility:	Federal Facilities
Planning Status:	Primary
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code:	004
Action:	FEDERAL FACILITY REMOVAL
Date Started:	08/22/94
Date Completed:	08/26/94
Priority Level:	Partially Cleaned up
Operable Unit:	SITEWIDE
Primary Responsibility:	Federal Facilities
Planning Status:	Primary
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code:	005
Action:	FEDERAL FACILITY REMOVAL
Date Started:	07/21/95
Date Completed:	08/04/95
Priority Level:	Stabilized
Operable Unit:	SITEWIDE
Primary Responsibility:	Federal Facilities
Planning Status:	Primary
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code:	007
Action:	FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started:	09/28/90
Date Completed:	06/03/97
Priority Level:	Not reported
Operable Unit:	LANDFILL OU 4 (TRACKED AT OU3)
Primary Responsibility:	Federal Facilities
Planning Status:	Not reported
Urgency Indicator:	Not reported
Action Anomaly:	Other Start and Completion Anomaly

For detailed financial records, contact EDR for a Site Report.:

Action Code:	002
Action:	FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started:	09/28/90
Date Completed:	06/03/97
Priority Level:	Not reported
Operable Unit:	LANDFILL OU 3
Primary Responsibility:	Federal Facilities

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 007
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 06/03/97
Priority Level: Not reported
Operable Unit: LANDFILL OU 4 (TRACKED AT OU3)
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Other Start and Completion Anomaly

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 06/03/97
Priority Level: Not reported
Operable Unit: LANDFILL OU 3
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 007
Action: FEDERAL FACILITY REMOVAL
Date Started: 07/22/97
Date Completed: 08/21/97
Priority Level: Cleaned up
Operable Unit: SOIL OU 5
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Time Critical
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 009
Action: FEDERAL FACILITY REMOVAL
Date Started: 07/22/97
Date Completed: 08/21/97
Priority Level: Not reported
Operable Unit: SOIL OU 6 (TRACKED AT OU5)
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Other Start and Completion Anomaly

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

For detailed financial records, contact EDR for a Site Report.:

Action Code:	003
Action:	FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started:	09/28/90
Date Completed:	01/23/98
Priority Level:	Not reported
Operable Unit:	SOIL OU 5
Primary Responsibility:	Federal Facilities
Planning Status:	Primary
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code:	008
Action:	FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started:	09/28/90
Date Completed:	01/23/98
Priority Level:	Not reported
Operable Unit:	SOIL OU 6 (TRACKED AT OU5)
Primary Responsibility:	Federal Facilities
Planning Status:	Not reported
Urgency Indicator:	Not reported
Action Anomaly:	Other Start and Completion Anomaly

For detailed financial records, contact EDR for a Site Report.:

Action Code:	008
Action:	RECORD OF DECISION
Date Started:	/ /
Date Completed:	01/23/98
Priority Level:	Not reported
Operable Unit:	SOIL OU 6 (TRACKED AT OU5)
Primary Responsibility:	Federal Facilities
Planning Status:	Not reported
Urgency Indicator:	Not reported
Action Anomaly:	Other Start and Completion Anomaly

For detailed financial records, contact EDR for a Site Report.:

Action Code:	003
Action:	RECORD OF DECISION
Date Started:	/ /
Date Completed:	01/23/98
Priority Level:	Not reported
Operable Unit:	SOIL OU 5
Primary Responsibility:	Federal Facilities
Planning Status:	Primary
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Action Code: 002
Action: FEDERAL FACILITY REMEDIAL DESIGN
Date Started: 09/03/97
Date Completed: 04/07/98
Priority Level: Not reported
Operable Unit: LANDFILL OU 3
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 007
Action: FEDERAL FACILITY REMEDIAL DESIGN
Date Started: 09/30/97
Date Completed: 04/07/98
Priority Level: Not reported
Operable Unit: LANDFILL OU 4 (TRACKED AT OU3)
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Other Start and Completion Anomaly

For detailed financial records, contact EDR for a Site Report.:

Action Code: 006
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/28/90
Date Completed: 04/22/98
Priority Level: Not reported
Operable Unit: GW OU 2 (TRACKED AT OU1)
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Other Start and Completion Anomaly

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/28/90
Date Completed: 04/22/98
Priority Level: Not reported
Operable Unit: GROUNDWATER OU 1
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 006
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 04/22/98

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Priority Level: Not reported
Operable Unit: GW OU 2 (TRACKED AT OU1)
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Other Start and Completion Anomaly

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 04/22/98
Priority Level: Not reported
Operable Unit: GROUNDWATER OU 1
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 008
Action: FEDERAL FACILITY REMOVAL
Date Started: 10/27/95
Date Completed: 04/23/98
Priority Level: Partially Cleaned up
Operable Unit: GW OU 2 (TRACKED AT OU1)
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Other Start and Completion Anomaly

For detailed financial records, contact EDR for a Site Report.:

Action Code: 006
Action: FEDERAL FACILITY REMOVAL
Date Started: 10/27/95
Date Completed: 04/23/98
Priority Level: Partially Cleaned up
Operable Unit: GROUNDWATER OU 1
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 006
Action: FEDERAL FACILITY REMEDIAL DESIGN
Date Started: 04/23/98
Date Completed: 04/23/98
Priority Level: Not reported
Operable Unit: GW OU 2 (TRACKED AT OU1)
Primary Responsibility: Federal Facilities

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Other Start and Completion Anomaly

For detailed financial records, contact EDR for a Site Report.:

Action Code: 008
Action: FEDERAL FACILITY REMEDIAL DESIGN
Date Started: 09/18/98
Date Completed: 01/18/99
Priority Level: Not reported
Operable Unit: SOIL OU 6 (TRACKED AT OU5)
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Other Start and Completion Anomaly

For detailed financial records, contact EDR for a Site Report.:

Action Code: 003
Action: FEDERAL FACILITY REMEDIAL DESIGN
Date Started: 09/18/98
Date Completed: 01/18/99
Priority Level: Not reported
Operable Unit: SOIL OU 5
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 007
Action: FEDERAL FACILITY REMEDIAL ACTION
Date Started: 09/27/98
Date Completed: 08/28/00
Priority Level: Not reported
Operable Unit: LANDFILL OU 4 (TRACKED AT OU3)
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Long Term Action
Action Anomaly: Other Start and Completion Anomaly

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: FEDERAL FACILITY REMEDIAL ACTION
Date Started: 09/27/98
Date Completed: 08/28/00
Priority Level: Not reported
Operable Unit: LANDFILL OU 3
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Long Term Action
Action Anomaly: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

For detailed financial records, contact EDR for a Site Report.:

Action Code:	008
Action:	FEDERAL FACILITY REMEDIAL ACTION
Date Started:	05/21/99
Date Completed:	06/10/02
Priority Level:	Not reported
Operable Unit:	SOIL OU 6 (TRACKED AT OU5)
Primary Responsibility:	Federal Facilities
Planning Status:	Not reported
Urgency Indicator:	Long Term Action
Action Anomaly:	Other Start and Completion Anomaly

For detailed financial records, contact EDR for a Site Report.:

Action Code:	003
Action:	FEDERAL FACILITY REMEDIAL ACTION
Date Started:	05/21/99
Date Completed:	06/10/02
Priority Level:	Not reported
Operable Unit:	SOIL OU 5
Primary Responsibility:	Federal Facilities
Planning Status:	Primary
Urgency Indicator:	Long Term Action
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code:	001
Action:	FEDERAL FACILITY REMEDIAL DESIGN
Date Started:	11/25/98
Date Completed:	07/29/02
Priority Level:	Not reported
Operable Unit:	GROUNDWATER OU 1
Primary Responsibility:	Federal Facilities
Planning Status:	Primary
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code:	001
Action:	FEDERAL FACILITY FIVE YEAR REVIEW
Date Started:	02/01/03
Date Completed:	04/09/03
Priority Level:	Not reported
Operable Unit:	SITEWIDE
Primary Responsibility:	Federal Facilities
Planning Status:	Not reported
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code:	006

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Action:	FEDERAL FACILITY REMEDIAL ACTION
Date Started:	04/23/98
Date Completed:	09/28/06
Priority Level:	Not reported
Operable Unit:	GW OU 2 (TRACKED AT OU1)
Primary Responsibility:	Federal Facilities
Planning Status:	Not reported
Urgency Indicator:	Long Term Action
Action Anomaly:	Other Start and Completion Anomaly

For detailed financial records, contact EDR for a Site Report.:

Action Code:	001
Action:	FEDERAL FACILITY REMEDIAL ACTION
Date Started:	04/23/98
Date Completed:	09/28/06
Priority Level:	Not reported
Operable Unit:	GROUNDWATER OU 1
Primary Responsibility:	Federal Facilities
Planning Status:	Primary
Urgency Indicator:	Long Term Action
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code:	009
Action:	RECORD OF DECISION
Date Started:	/ /
Date Completed:	09/28/06
Priority Level:	Not reported
Operable Unit:	GW OU 2 (TRACKED AT OU1)
Primary Responsibility:	Federal Facilities
Planning Status:	Not reported
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code:	002
Action:	FEDERAL FACILITY FIVE YEAR REVIEW
Date Started:	/ /
Date Completed:	05/27/08
Priority Level:	Not reported
Operable Unit:	SITEWIDE
Primary Responsibility:	Federal Facilities
Planning Status:	Not reported
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code:	003
Action:	FEDERAL FACILITY FIVE YEAR REVIEW
Date Started:	/ /
Date Completed:	02/20/13

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 005
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/28/90
Date Completed: / /
Priority Level: Not reported
Operable Unit: BASEWIDE FINAL OU7
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: OPERATIONS AND MAINTENANCE
Date Started: 08/28/00
Date Completed: / /
Priority Level: Not reported
Operable Unit: LANDFILL OU 4 (TRACKED AT OU3)
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 003
Action: OPERATIONS AND MAINTENANCE
Date Started: 06/10/02
Date Completed: / /
Priority Level: Not reported
Operable Unit: SOIL OU 6 (TRACKED AT OU5)
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: OPERATIONS AND MAINTENANCE
Date Started: 09/28/06
Date Completed: / /
Priority Level: Not reported
Operable Unit: GROUNDWATER OU 1
Primary Responsibility: Federal Facilities
Planning Status: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Federal Register Details:
Fed Register Date: 11/21/89
Fed Register Volume: 54
Page Number: 48184

Fed Register Date: 07/14/89
Fed Register Volume: 54
Page Number: 29820

Click this hyperlink while viewing on your computer to access
95 additional US CERCLIS Financial: record(s) in the EDR Site Report.

CORRACTS:

EPA ID: CA8170024261
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19941209
Action: CA075HI - CA Prioritization, Facility or area was assigned a high corrective action priority
NAICS Code(s): 92811
National Security
Original schedule date: Not reported
Schedule end date: Not reported

RCRA-LQG:
Date form received by agency: 02/28/2008
Facility name: MCLB, BARSTOW B170
Facility address: BOX 110170, BLDG, 196
BARSTOW, CA 92311
EPA ID: CA8170024261
Mailing address: COMMANDING OFFICER (B570)
MCLB BARSTOW, BOX 110170
BARSTOW, CA 92311
Contact: FREEZY R SMALLS
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: (760) 559-7507
Contact email: FREEZY.SMALLS@USMC.MIL
EPA Region: 09
Land type: Federal
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name:	ENZOR, KENNETH, COL, USMC
Owner/operator address:	Not reported
	Not reported
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Federal
Owner/Operator Type:	Operator
Owner/Op start date:	06/26/2006
Owner/Op end date:	Not reported

Owner/operator name:	UNITED STATES MARINE CORPS
Owner/operator address:	BOX 110170
	BARSTOW, CA 92311
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Federal
Owner/Operator Type:	Owner
Owner/Op start date:	07/01/1942
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Universal Waste Summary:

Waste type:	Batteries
Accumulated waste on-site:	Yes
Generated waste on-site:	Not reported

Waste type:	Lamps
Accumulated waste on-site:	Yes
Generated waste on-site:	Not reported

Waste type:	Pesticides
Accumulated waste on-site:	Yes
Generated waste on-site:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Waste type: Thermostats
Accumulated waste on-site: Yes
Generated waste on-site: Not reported

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D011
. Waste name: SILVER

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Historical Generators:
Date form received by agency: 01/25/2006
Site name: MARINE CORPS LOGISTICS BASE, BARSTOW
Classification: Large Quantity Generator

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D005
. Waste name: BARIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D011
. Waste name: SILVER

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Date form received by agency: 02/04/2004
Site name: MARINE CORPS LOGISTICS BASE, BARSTOW
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D011
. Waste name: SILVER

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: U165
. Waste name: NAPHTHALENE

. Waste code: U188
. Waste name: PHENOL

. Waste code: U239
. Waste name: BENZENE, DIMETHYL- (I,T) (OR) XYLENE (I)

Date form received by agency: 01/31/2002
Site name: MARINE CORPS LOGISTICS BASE, BARSTOW
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D006
. Waste name: CADMIUM

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D011
. Waste name: SILVER

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

. Waste code: D040
. Waste name: TRICHLORETHYLENE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: U044
. Waste name: CHLOROFORM (OR) METHANE, TRICHLORO-

. Waste code: U052
. Waste name: CRESOL (CRESYLIC ACID) (OR) PHENOL, METHYL-

. Waste code: U188
. Waste name: PHENOL

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

. Waste code: U210
. Waste name: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE

. Waste code: U220
. Waste name: BENZENE, METHYL- (OR) TOLUENE

Date form received by agency: 10/12/2000
Site name: MCLB, BARSTOW, NEBO
Classification: Large Quantity Generator

Date form received by agency: 04/15/1999
Site name: NEBO, MCLB, BARSTOW, CA
Classification: Large Quantity Generator

Date form received by agency: 09/01/1996
Site name: USMC BARSTOW LOGISTICS BASE NEBO
Classification: Large Quantity Generator

Date form received by agency: 03/28/1996
Site name: NEBO ANNEX, MCLB, BARSTOW, CA
Classification: Large Quantity Generator

Date form received by agency: 03/24/1994
Site name: USMC MCLB BARSTOW NEBO ANNEX
Classification: Large Quantity Generator

Date form received by agency: 04/09/1992
Site name: MARINE CORPS LOGISTICS BASE -
Classification: Large Quantity Generator

Date form received by agency: 08/18/1980
Site name: USMC BARSTOW LOGISTICS BASE NEBO
Classification: Large Quantity Generator

Corrective Action Summary:
Event date: 05/01/1986
Event: CA029SF

Event date: 05/01/1986
Event: CA049PA

Event date: 06/01/1986
Event: CA049SI

Event date: 12/09/1994
Event: CA Prioritization, Facility or area was assigned a high corrective action priority.

Facility Has Received Notices of Violations:
Regulation violated: F - 262.30-34.C
Area of violation: Generators - General
Date violation determined: 12/03/1998
Date achieved compliance: 02/27/1999
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/20/1999

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.30-34.C
Area of violation: Generators - General
Date violation determined: 12/03/1998
Date achieved compliance: 02/27/1999
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: 01/15/1999
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.40-43.D
Area of violation: Generators - General
Date violation determined: 12/02/1998
Date achieved compliance: 02/27/1999
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/20/1999
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.40-43.D
Area of violation: Generators - General
Date violation determined: 12/02/1998
Date achieved compliance: 02/27/1999
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: 01/15/1999
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.170-177.I
Area of violation: TSD - General
Date violation determined: 01/27/1994
Date achieved compliance: 02/23/1994
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/27/1994
Enf. disposition status: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.170-177.I
Area of violation: TSD - General
Date violation determined: 01/27/1994
Date achieved compliance: 02/23/1994
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 01/27/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 1600
Final penalty amount: 1600
Paid penalty amount: 1600

Regulation violated: F - 262.40-43.D
Area of violation: Generators - General
Date violation determined: 12/07/1992
Date achieved compliance: 12/13/1993
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/07/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 12/07/1992
Date achieved compliance: 12/13/1993
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 02/25/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 2100
Final penalty amount: 2100
Paid penalty amount: 2100

Regulation violated: F - 264.170-177.I
Area of violation: TSD - General
Date violation determined: 12/07/1992
Date achieved compliance: 02/23/1994
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 02/25/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Enforcement lead agency: State
Proposed penalty amount: 2100
Final penalty amount: 2100
Paid penalty amount: 2100

Regulation violated: F - 262.40-43.D
Area of violation: Generators - General
Date violation determined: 12/07/1992
Date achieved compliance: 12/13/1993
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 02/25/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 2100
Final penalty amount: 2100
Paid penalty amount: 2100

Regulation violated: F - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 12/07/1992
Date achieved compliance: 12/13/1993
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/07/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 264.170-177.I
Area of violation: TSD - General
Date violation determined: 12/07/1992
Date achieved compliance: 02/23/1994
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/07/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.30-34.C
Area of violation: Generators - General
Date violation determined: 06/25/1992
Date achieved compliance: 08/27/1992
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 07/27/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 08/26/1991
Date achieved compliance: 05/13/1992
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/05/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 08/26/1991
Date achieved compliance: 05/13/1992
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/05/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.30-34.C
Area of violation: Generators - General
Date violation determined: 08/26/1991
Date achieved compliance: 05/13/1992
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/05/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 08/26/1991
Date achieved compliance: 05/13/1992
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/05/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60
Area of violation: Generators - General
Date violation determined: 08/26/1991
Date achieved compliance: 05/13/1992
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/05/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 05/02/1990
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 05/02/1990
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 05/02/1990
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 05/02/1990
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/25/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/25/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Area of violation: TSD - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/25/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 03/09/1989

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/25/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/25/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/25/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 03/09/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/07/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/15/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/07/1989
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/15/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: STATE TO EPA ADMINISTRATIVE REFERRAL

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Enforcement action date: 04/08/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 08/29/1991
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement action date: 04/08/1988

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement action date: 04/08/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement action date: 04/08/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement action date: 04/08/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 08/29/1991
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 04/06/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement action date: 04/08/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 08/29/1991
Violation lead agency: EPA
Enforcement action: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement action date: 04/08/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 06/12/1995
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 09/28/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 08/29/1991
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 12/07/1987
Date achieved compliance: 10/24/1990
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 06/12/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: Local

Evaluation date: 12/03/1998
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 02/27/1999
Evaluation lead agency: EPA

Evaluation date: 12/13/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 02/23/1994
Evaluation lead agency: State

Evaluation date: 10/21/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 02/23/1994
Evaluation lead agency: State

Evaluation date: 10/21/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Area of violation: Generators - General
Date achieved compliance: 12/13/1993
Evaluation lead agency: State

Evaluation date: 05/21/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 08/27/1992
Evaluation lead agency: EPA Contractor/Grantee

Evaluation date: 05/07/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 05/13/1992
Evaluation lead agency: EPA

Evaluation date: 05/07/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 05/13/1992
Evaluation lead agency: EPA

Evaluation date: 05/07/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 05/13/1992
Evaluation lead agency: EPA

Evaluation date: 05/02/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

Evaluation date: 05/02/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

Evaluation date: 05/02/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

Evaluation date: 03/09/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

Evaluation date: 03/09/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Evaluation date: 03/09/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

Evaluation date: 03/09/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD IS-Ground-Water Monitoring
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

Evaluation date: 03/07/1989
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: TSD - General
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

Evaluation date: 12/07/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

Evaluation date: 12/07/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 10/24/1990
Evaluation lead agency: EPA

Evaluation date: 12/07/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 10/24/1990
Evaluation lead agency: EPA

Evaluation date: 12/07/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 08/29/1991
Evaluation lead agency: EPA

Evaluation date: 12/07/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD IS-Ground-Water Monitoring
Date achieved compliance: 10/24/1990
Evaluation lead agency: EPA

Evaluation date: 12/07/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 06/12/1995
Evaluation lead agency: EPA

US ENG CONTROLS:
EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Actual Date: 06/30/1998
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater
Engineering Control: Air Sparging
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater
Engineering Control: Carbon Adsorption
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater
Engineering Control: Discharge
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater
Engineering Control: Disposal
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 001
Action Name: RECORD OF DECISION

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater
Engineering Control: Extraction
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater
Engineering Control: Infiltration basin/trench
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Soil
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 01
Contaminated Media : Soil
Engineering Control: Soil Vapor Extraction (in-situ)
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 03

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Contaminated Media : Soil
Engineering Control: No Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 03
Contaminated Media : Soil
Engineering Control: No Further Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 03
Contaminated Media : Solid Waste
Engineering Control: Cap
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 03
Contaminated Media : Solid Waste
Engineering Control: Consolidate
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 03
Contaminated Media : Solid Waste
Engineering Control: Disposal
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 03
Contaminated Media : Solid Waste
Engineering Control: Excavation

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 03
Contaminated Media : Solid Waste
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 03
Contaminated Media : Solid Waste
Engineering Control: Surface Drainage Control
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 003
Action Name: RECORD OF DECISION
Action Completion date: 01/23/1998
Operable Unit: 05
Contaminated Media : Groundwater
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 003
Action Name: RECORD OF DECISION
Action Completion date: 01/23/1998
Operable Unit: 05
Contaminated Media : Soil
Engineering Control: Cap
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 003
Action Name: RECORD OF DECISION
Action Completion date: 01/23/1998
Operable Unit: 05
Contaminated Media : Soil
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Latitude: Not reported
Longitude: Not reported

Action ID: 003
Action Name: RECORD OF DECISION
Action Completion date: 01/23/1998
Operable Unit: 05
Contaminated Media : Soil
Engineering Control: No Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Air Sparging
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Carbon Adsorption
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Containment, (N.O.S.)
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Discharge
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Disposal
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Extraction
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Infiltration basin/trench
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Natural Attenuation
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 006
Action Name: RECORD OF DECISION

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Engineering Control: Well Head Treatment
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Soil
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 006
Action Name: RECORD OF DECISION
Action Completion date: 04/22/1998
Operable Unit: 02
Contaminated Media : Soil
Engineering Control: Soil Vapor Extraction (in-situ)
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 007
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 04
Contaminated Media : Soil
Engineering Control: No Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 007
Action Name: RECORD OF DECISION
Action Completion date: 06/03/1997
Operable Unit: 04
Contaminated Media : Soil
Engineering Control: No Further Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 008
Action Name: RECORD OF DECISION
Action Completion date: 01/23/1998
Operable Unit: 06

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Contaminated Media : Groundwater
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 008
Action Name: RECORD OF DECISION
Action Completion date: 01/23/1998
Operable Unit: 06
Contaminated Media : Soil
Engineering Control: Cap
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 008
Action Name: RECORD OF DECISION
Action Completion date: 01/23/1998
Operable Unit: 06
Contaminated Media : Soil
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 008
Action Name: RECORD OF DECISION
Action Completion date: 01/23/1998
Operable Unit: 06
Contaminated Media : Soil
Engineering Control: No Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

US INST CONTROL:
EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Access Restriction
Actual Date: 06/30/1998
Complet. Date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater
Contact Name : Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Groundwater use/well drilling regulation
Actual Date: 06/30/1998
Complet. Date: 04/22/1998
Operable Unit: 01
Contaminated Media : Groundwater
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Base use plan change
Actual Date: 06/30/1997
Complet. Date: 06/03/1997
Operable Unit: 03
Contaminated Media : Solid Waste
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Institutional Controls, (N.O.S.)
Actual Date: 06/30/1997
Complet. Date: 06/03/1997
Operable Unit: 03
Contaminated Media : Solid Waste
Contact Name : Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Base use plan change
Actual Date: 03/31/1998
Complet. Date: 01/23/1998
Operable Unit: 05
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Land Use Restriction
Actual Date: 03/31/1998
Complet. Date: 01/23/1998
Operable Unit: 05
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Access Restriction
Actual Date: 06/30/1998
Complet. Date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Contact Name : Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Groundwater use/well drilling regulation
Actual Date: 06/30/1998
Complet. Date: 04/22/1998
Operable Unit: 02
Contaminated Media : Groundwater
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Base use plan change
Actual Date: 03/31/1998
Complet. Date: 01/23/1998
Operable Unit: 06
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: CA8170024261
Site ID: 0902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Action Name: RECORD OF DECISION
Address: MARINE CORPS LOGIS BASE- NEBO
BARSTOW, CA 92311
EPA Region: 09
County: SAN BERNARDINO
Event Code: Not reported
Inst. Control: Land Use Restriction
Actual Date: 03/31/1998
Complet. Date: 01/23/1998
Operable Unit: 06
Contaminated Media : Soil
Contact Name : Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

ROD:
Full-text of USEPA Record of Decision(s) is available from EDR.

NY MANIFEST:
EPA ID: CA8170024261
Country: USA
Location Address 1: MARINE CORP LOGISTICS BASE
Location Address 2: Not reported
Location City: BLDG 226 BARSTOW
Location State: CA
Location Zip Code: 92311
Location Zip Code 4: Not reported

Mailing Info:
Name: UNITED STATES MILITARY-DPDO BARSTOW
Contact: UNITED STATES MILITARY-DPDO BARSTOW
Address: MARINE CORP LOGISTICS BASE
City/State/Zip: BLDG 226 BARSTOW, CA 92311
Country: USA
Phone: 805-277-2209

Manifest:

Document ID: NYA1236222
Manifest Status: Completed after the designated time period for a TSDF to get a copy to the DEC
Trans1 State ID: 3B34024
Trans2 State ID: TRL74224-
Generator Ship Date: 04/23/1985
Trans1 Recv Date: 04/23/1985
Trans2 Recv Date: 04/24/1985
TSD Site Recv Date: 05/20/1985
Part A Recv Date: 06/03/1985
Part B Recv Date: 06/03/1985
Generator EPA ID: CA8170024261
Trans1 EPA ID: GAD042097261
Trans2 EPA ID: GAD042097261
TSDF ID: NYD000632372
Waste Code: D003 - NON-LISTED REACTIVE WASTES
Quantity: 09027
Units: P - Pounds
Number of Containers: 024
Container Type: DM - Metal drums, barrels
Handling Method: T Chemical, physical, or biological treatment.
Specific Gravity: 100
Year: 1985

Document ID: NYG3237228
Manifest Status: Not reported
Trans1 State ID: AD62852NY
Trans2 State ID: Not reported
Generator Ship Date: 07/01/2002

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Trans1 Recv Date:	07/01/2002
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	07/17/2002
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	CA8170024261
Trans1 EPA ID:	NYD982792814
Trans2 EPA ID:	Not reported
TSDF ID:	NYD000632372
Waste Code:	D001 - NON-LISTED IGNITABLE WASTES
Quantity:	00005
Units:	P - Pounds
Number of Containers:	001
Container Type:	CY - Cylinders
Handling Method:	T Chemical, physical, or biological treatment.
Specific Gravity:	01.00
Waste Code:	D001 - NON-LISTED IGNITABLE WASTES
Quantity:	00750
Units:	P - Pounds
Number of Containers:	007
Container Type:	CY - Cylinders
Handling Method:	B Incineration, heat recovery, burning.
Specific Gravity:	01.00
Year:	2002

HAZNET:

envid:	1000389921
Year:	2013
GEPAID:	CA8170024261
Contact:	Freezy Smalls
Telephone:	7605784648
Mailing Name:	Not reported
Mailing Address:	PO BOX 110570
Mailing City,St,Zip:	BARSTOW, CA 923110000
Gen County:	San Bernardino
TSD EPA ID:	CAD008364432
TSD County:	Los Angeles
Waste Category:	Not reported
Disposal Method:	Fuel Blending Prior To Energy Recovery At Another Site
Tons:	0.0955
Facility County:	Not reported

envid:	1000389921
Year:	2013
GEPAID:	CA8170024261
Contact:	Freezy Smalls
Telephone:	7605784648
Mailing Name:	Not reported
Mailing Address:	PO BOX 110570
Mailing City,St,Zip:	BARSTOW, CA 923110000
Gen County:	San Bernardino
TSD EPA ID:	NVT330010000
TSD County:	99
Waste Category:	Not reported
Disposal Method:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	0.008

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Facility County: Not reported

envid: 1000389921
Year: 2013
GEPAID: CA8170024261
Contact: Freezy Smalls
Telephone: 7605784648
Mailing Name: Not reported
Mailing Address: PO BOX 110570
Mailing City,St,Zip: BARSTOW, CA 923110000
Gen County: San Bernardino
TSD EPA ID: CAD008364432
TSD County: Los Angeles
Waste Category: Not reported
Disposal Method: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.017
Facility County: Not reported

envid: 1000389921
Year: 2013
GEPAID: CA8170024261
Contact: Freezy Smalls
Telephone: 7605784648
Mailing Name: Not reported
Mailing Address: PO BOX 110570
Mailing City,St,Zip: BARSTOW, CA 923110000
Gen County: San Bernardino
TSD EPA ID: CAD008364432
TSD County: Los Angeles
Waste Category: Not reported
Disposal Method: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.0225
Facility County: Not reported

envid: 1000389921
Year: 2013
GEPAID: CA8170024261
Contact: Freezy Smalls
Telephone: 7605784648
Mailing Name: Not reported
Mailing Address: PO BOX 110570
Mailing City,St,Zip: BARSTOW, CA 923110000
Gen County: San Bernardino
TSD EPA ID: CAD008364432
TSD County: Los Angeles
Waste Category: Not reported
Disposal Method: Fuel Blending Prior To Energy Recovery At Another Site
Tons: 0.001
Facility County: Not reported

~~Click this hyperlink~~ while viewing on your computer to access
2352 additional CA_HAZNET: record(s) in the EDR Site Report.

ENVIROSTOR:
Facility ID: 80001276

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Status: Refer: Other Agency
Status Date: 12/30/2010
Site Code: Not reported
Site Type: Tiered Permit
Site Type Detailed: Tiered Permit
Acres: 0
NPL: YES
Regulatory Agencies: SMBRP, RWQCB 6V - Lahontan, US EPA
Lead Agency: US EPA
Program Manager: Sue Hakim
Supervisor: Robert Senga
Division Branch: Cleanup Cypress
Assembly: 33
Senate: 16
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 34.87609
Longitude: -116.9536
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CA8170024261
Alias Type: EPA Identification Number
Alias Name: 80001276
Alias Type: Envirostor ID Number
Alias Name: 36970001
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Other Instrument
Completed Date: 09/28/1990
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

HWP:
EPA Id: CA8170024261
Cleanup Status: PROTECTIVE FILER
Latitude: 34.87609
Longitude: -116.9536
Facility Type: Historical - Non-Operating
Facility Size: Not reported
Team: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Supervisor: Not reported
Site Code: Not reported
Assembly District: 33
Senate District: 16
Public Information Officer: Not reported

Activities:
EPA Id: CA8170024261
Facility Type: Historical - Non-Operating
Unit Names: TANKSTR1
Event Description: Protective Filer Status - PROTECTIVE FILER (RECEIVED)
Actual Date: 01/01/1995

EPA Id: CA8170024261
Facility Type: Historical - Non-Operating
Unit Names: TANKSTR1
Event Description: Protective Filer Status - PROTECTIVE FILER (APPROVED)
Actual Date: 01/01/1995

B39 **COOL WATER GENERATING STATION** **CA HIST UST** **U001574738**
37072 E. SANTA FE ROAD **N/A**
< 1/8 **DAGGETT, CA 92327**
1 ft.

Site 1 of 8 in cluster B

Relative:
Lower

Actual:
1944 ft.

HIST UST:
Region: STATE
Facility ID: 00000066314
Facility Type: Other
Other Type: ELECTRIC UTILITY
Contact Name: ROMAN AGUILAR
Telephone: 6192542921
Owner Name: SOUTHERN CALIFORNIA EDISON COM
Owner Address: 2244 WALNUT GROVE AVENUE
Owner City,St,Zip: ROSEMEAD, CA 91770
Total Tanks: 0009

Tank Num: 001
Container Num: 527
Year Installed: Not reported
Tank Capacity: 00000000
Tank Used for: WASTE
Type of Fuel: 5
Container Construction Thickness: X
Leak Detection: None

Tank Num: 002
Container Num: 433
Year Installed: Not reported
Tank Capacity: 00000000
Tank Used for: WASTE
Type of Fuel: 1
Container Construction Thickness: X
Leak Detection: None

Tank Num: 003
Container Num: 476

COOL WATER GENERATING STATION (Continued) **U001574738**

Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	X
Leak Detection:	None
Tank Num:	004
Container Num:	477
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	PRODUCT
Type of Fuel:	06
Container Construction Thickness:	Not reported
Leak Detection:	None
Tank Num:	005
Container Num:	478
Year Installed:	Not reported
Tank Capacity:	00000300
Tank Used for:	WASTE
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	None
Tank Num:	006
Container Num:	479
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	WASTE
Type of Fuel:	06
Container Construction Thickness:	Not reported
Leak Detection:	None
Tank Num:	007
Container Num:	480
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	None
Tank Num:	008
Container Num:	481
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	None
Tank Num:	009
Container Num:	482
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	WASTE

COOL WATER GENERATING STATION (Continued) **U001574738**

Type of Fuel: 06
Container Construction Thickness: Not reported
Leak Detection: None

B40 **SOLAR ONE GENERATING STATION** **CA HIST UST** **U001574745**
E. SANTA FE ROAD **N/A**
< 1/8 **DAGGETT, CA 92327**
1 ft.

Site 2 of 8 in cluster B

Relative: Lower

Actual: 1944 ft.

HIST UST:
Region: STATE
Facility ID: 00000066329
Facility Type: Other
Other Type: ELECTRIC UTILITY
Contact Name: A.Z. KOVACH
Telephone: 8183021801
Owner Name: SOUTHERN CALIFORNIA EDISON COM
Owner Address: 2244 WALNUT GROVE AVENUE
Owner City,St,Zip: ROSEMEAD, CA 91770
Total Tanks: 0001

Tank Num: 001
Container Num: 475
Year Installed: Not reported
Tank Capacity: 00000000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: X
Leak Detection: None

B41 **COOLWATER GENERATING STA** **CA UST** **U004050748**
37000 SAN FE ST **N/A**
< 1/8 **DAGGETT, CA 92327**
1 ft.

Site 3 of 8 in cluster B

Relative: Lower

Actual: 1944 ft.

UST:
Facility ID: 87014400
Permitting Agency: SAN BERNARDINO COUNTY
Latitude: 34.863455
Longitude: -116.8579

B42 **COOL WATER GENERATING STATION** **CA SWEEPS UST** **S106924899**
37072 E SANTA FE RD **N/A**
< 1/8 **DAGGETT, CA 92327**
1 ft.

Site 4 of 8 in cluster B

Relative: Lower

Actual: 1944 ft.

SWEEPS UST:
Status: Active
Comp Number: 66314
Number: 9
Board Of Equalization: Not reported
Referral Date: 08-28-91

COOL WATER GENERATING STATION (Continued) **S106924899**

Action Date:	08-28-91
Created Date:	02-29-88
Owner Tank Id:	433
SWRCB Tank Id:	36-000-066314-000001
Tank Status:	A
Capacity:	1
Active Date:	07-08-88
Tank Use:	M.V. FUEL
STG:	P
Content:	REG UNLEADED
Number Of Tanks:	1

B43 **COOLWATER COAL GAS PLANT** **CA SWEEPS UST** **S106924901**
37072 E SANTA FE RD **N/A**
< 1/8 **DAGGETT, CA 92327**
1 ft.

Site 5 of 8 in cluster B

Relative:
Lower

Actual:
1944 ft.

SWEEPS UST:

Status:	Active
Comp Number:	58855
Number:	1
Board Of Equalization:	44-021272
Referral Date:	08-28-91
Action Date:	08-28-91
Created Date:	02-29-88
Owner Tank Id:	(405)
SWRCB Tank Id:	36-000-058855-000002
Tank Status:	A
Capacity:	10000
Active Date:	07-01-85
Tank Use:	M.V. FUEL
STG:	P
Content:	DIESEL
Number Of Tanks:	1

Status:	Not reported
Comp Number:	58855
Number:	Not reported
Board Of Equalization:	44-021272
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Owner Tank Id:	Not reported
SWRCB Tank Id:	36-000-058855-000001
Tank Status:	Not reported
Capacity:	10000
Active Date:	Not reported
Tank Use:	M.V. FUEL
STG:	PRODUCT
Content:	REG UNLEADED
Number Of Tanks:	1

B44 **COOLWATER GENERATING** **CA HIST CORTESE S102428348**
37072 SANTA FE RD E **CA LUST N/A**
< 1/8 **DAGGETT, CA 92327**
1 ft.

Site 6 of 8 in cluster B

Relative:
Lower

Actual:
1944 ft.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	36
Reg By:	LTNKA
Reg Id:	6B3600079T

LUST:

Region:	STATE
Global Id:	T0607100667
Latitude:	34.8456653
Longitude:	-116.7768058
Case Type:	Not reported
Status:	Completed - Case Closed
Status Date:	10/23/1989
Lead Agency:	Not reported
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	6B3600079T
LOC Case Number:	Not reported
File Location:	Local Agency
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Diesel
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0607100667
Contact Type:	Regional Board Caseworker
Contact Name:	JEHIEL CASS
Organization Name:	LAHONTAN RWQCB (REGION 6V)
Address:	14440 CIVIC DRIVE, SUITE 200
City:	VICTORVILLE
Email:	jcass@waterboards.ca.gov
Phone Number:	7602412434

Status History:

Global Id:	T0607100667
Status:	Completed - Case Closed
Status Date:	10/23/1989
Global Id:	T0607100667
Status:	Open - Case Begin Date
Status Date:	11/17/1987
Global Id:	T0607100667
Status:	Open - Site Assessment
Status Date:	11/17/1987

Regulatory Activities:

Global Id:	T0607100667
Action Type:	Other

COOLWATER GENERATING (Continued) **S102428348**

Date: 11/17/1987
Action: Leak Reported

Global Id: T0607100667
Action Type: ENFORCEMENT
Date: 06/03/1993
Action: * Historical Enforcement

LUST Region 6V:

Region:	6V
Case Number:	6B3600079T
Leak Record:	11/24/1987
Report Date:	11/17/1987
Reported By Address:	Not reported
Responsible Party:	SCE
Operator:	SOUTHERN CA EDISON
Cross Street:	Not reported
Local Agency:	36000L
Regional Board:	6V
Chemical:	Diesel
Case Type:	Soil only
Funding:	Not reported
Enforce Type:	EF
How Found:	Tank Closure
How Stopped:	Not reported
Cause of Leak:	UNK
Leak Source:	UNK
Global ID:	T0607100667
Stop Date:	Not reported
Leak Confirm:	Not reported
Submit Workplan:	Not reported
Prelim Assess:	Not reported
Pollution Char:	11/17/1987
Remed Plan:	Not reported
Remed Action:	Not reported
Monitoring:	Not reported
Close Date:	10/23/1989
Discovered:	Not reported
Enforce Date:	6/3/1993
Review Date:	3/28/1989
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
MTBE class:	*
Max MTBE Grnd Wtr:	Not reported
Max MTBE Soil:	Not reported
MTBE Counts:	0
MTBE Fuel:	0
MTBE Tested:	NRQ
Organization Name:	Not reported
Status:	Case Closed
Contact:	Not reported
Interim Action:	Not reported
Pilot Program:	LUST
Lat/Long:	34.8456653 / -116.7768058
Staff Initials:	KD
Local Agency Staff:	RR1

COOLWATER GENERATING (Continued) **S102428348**

Lead Agency:	Local Agency
Summary:	RESEARCHING
Basin Number:	LOWER MOJAVE RIVER V
Beneficial:	Not reported
Priority:	Not reported
UST Cleanup Fund ID:	Not reported
Suspended:	Not reported
Local Case Number:	90175
Amount:	Not reported
Abate Method:	Not reported
Water System:	Not reported
Well Name:	Not reported
Distance:	6262.66084
Wst Disch Reqrmnt Global ID:	Not reported
Wst Disch Reqrmnt Name:	Not reported

B45 **COOL WATER GENERATING STATION** **CA HIST UST** **U001574737**
PO BOX 337 **N/A**
< 1/8 **DAGGETT, CA 92327**
1 ft.

Site 7 of 8 in cluster B

Relative: **Lower**

Actual: **1944 ft.**

HIST UST:

Region:	STATE
Facility ID:	00000060016
Facility Type:	Not reported
Other Type:	Not reported
Contact Name:	ROMAN AGUILAR
Telephone:	6192542921
Owner Name:	SOUTHERN CALIFORNIA EDISON COM
Owner Address:	2244 WALNUT GROVE AVENUE
Owner City,St,Zip:	ROSEMEAD, CA 91770
Total Tanks:	0001
Tank Num:	001
Container Num:	397
Year Installed:	1977
Tank Capacity:	00005200
Tank Used for:	WASTE
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	Visual

B46 **COOL WATER COAL GASIFICATION** **CA HIST UST** **U001574736**
37072 E. SANTA FE ROAD **N/A**
< 1/8 **DAGGETT, CA 92327**
1 ft.

Site 8 of 8 in cluster B

Relative: **Lower**

Actual: **1944 ft.**

HIST UST:

Region:	STATE
Facility ID:	00000058855
Facility Type:	Other
Other Type:	ELECTRIC
Contact Name:	Not reported
Telephone:	6192542992

COOL WATER COAL GASIFICATION (Continued) **U001574736**

Owner Name:	COOL WATER COAL GASIFICATION
Owner Address:	37072 E. SANTA FE ROAD
Owner City,St,Zip:	DAGGETT, CA 92327
Total Tanks:	0008
Tank Num:	001
Container Num:	(398)
Year Installed:	Not reported
Tank Capacity:	00007500
Tank Used for:	WASTE
Type of Fuel:	Not reported
Container Construction Thickness:	14
Leak Detection:	None
Tank Num:	002
Container Num:	(399)
Year Installed:	Not reported
Tank Capacity:	00005000
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL
Container Construction Thickness:	12
Leak Detection:	None
Tank Num:	003
Container Num:	(400)
Year Installed:	Not reported
Tank Capacity:	00004000
Tank Used for:	WASTE
Type of Fuel:	Not reported
Container Construction Thickness:	12
Leak Detection:	None
Tank Num:	004
Container Num:	(401)
Year Installed:	Not reported
Tank Capacity:	00005500
Tank Used for:	WASTE
Type of Fuel:	Not reported
Container Construction Thickness:	12
Leak Detection:	None
Tank Num:	005
Container Num:	(402)
Year Installed:	1983
Tank Capacity:	00200000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	18
Leak Detection:	None
Tank Num:	006
Container Num:	(404)
Year Installed:	1982
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	Not reported

COOL WATER COAL GASIFICATION (Continued) **U001574736**

Leak Detection: None

Tank Num: 007
Container Num: (405)
Year Installed: 1982
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Container Construction Thickness: Not reported
Leak Detection: None

Tank Num: 008
Container Num: (403)
Year Installed: Not reported
Tank Capacity: 00015000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: 12
Leak Detection: None

C47 **EPTC COOLWATER** **RCRA-TSDF** **1015732611**
SW **37000 SANTA FE RD.** **CERC-NFRAP** **CAD000630905**
1/4-1/2 **DAGGETT, CA 92327** **CORRACTS**
0.429 mi. **RCRA-SQG**
2267 ft. **Site 1 of 2 in cluster C**

Relative:
Higher

Actual:
1984 ft.

RCRA-TSDF:
Date form received by agency: 03/04/1999
Facility name: EPTC COOLWATER
Site name: COOL WATER GEN. STA.
Facility address: 37000 SANTA FE RD.
DAGGETT, CA 92327
EPA ID: CAD000630905
Mailing address: 2244 WALNUT GROVE AVE ROOM 405
ROSEMEAD, CA 91770
Contact: KATHRYN VANDERSLICE
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: (626) 302-9320
Contact email: Not reported
EPA Region: 09
Land type: Private
Classification: TSDF
Description: Handler is engaged in the treatment, storage or disposal of hazardous waste

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No

EPTC COOLWATER (Continued) **1015732611**

Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 10/20/1998
Site name: EPTC COOLWATER
Classification: Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D008
. Waste name: LEAD

. Waste code: D018
. Waste name: BENZENE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE,

EPTC COOLWATER (Continued) **1015732611**

2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Date form received by agency: 09/01/1996
Site name: EPTC COOLWATER
Classification: Large Quantity Generator

Date form received by agency: 02/27/1996
Site name: SOUTHERN CALIFORNIA EDISON
Classification: Large Quantity Generator

Date form received by agency: 03/29/1994
Site name: COOL WATER GENERATOR ST.
Classification: Large Quantity Generator

Date form received by agency: 03/28/1990
Site name: SO. CALIF. EDISON COOL WATER GENE
Classification: Large Quantity Generator

Corrective Action Summary:
Event date: 09/30/1995
Event: CA029

Facility Has Received Notices of Violations:
Regulation violated: FR - 264.190-201.J
Area of violation: TSD - General
Date violation determined: 09/23/1993
Date achieved compliance: 02/01/1995
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 02/01/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 326640
Paid penalty amount: 326640

Regulation violated: FR - 264.190-201.J
Area of violation: TSD - General
Date violation determined: 09/23/1993
Date achieved compliance: 02/01/1995
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/23/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A

EPTC COOLWATER (Continued) **1015732611**

Area of violation: Generators - General
Date violation determined: 09/23/1993
Date achieved compliance: 02/01/1995
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/23/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 09/23/1993
Date achieved compliance: 02/01/1995
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 02/01/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 326640
Paid penalty amount: 326640

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 03/27/1986
Date achieved compliance: 01/14/1992
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 03/26/1986
Date achieved compliance: 02/01/1995
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General

EPTC COOLWATER (Continued) **1015732611**

Date violation determined: 12/19/1985
Date achieved compliance: 12/26/1985
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/12/1985
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 09/25/1985
Date achieved compliance: 10/17/1985
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/01/1985
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 10/31/1984
Date achieved compliance: 11/16/1984
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/31/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 06/29/1984
Date achieved compliance: 10/04/1985
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 09/23/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE

EPTC COOLWATER (Continued) **1015732611**

Area of violation: TSD - General
Date achieved compliance: 02/01/1995
Evaluation lead agency: State

Evaluation date: 09/23/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 02/01/1995
Evaluation lead agency: State

Evaluation date: 01/14/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/27/1986
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Generators - General
Date achieved compliance: 01/14/1992
Evaluation lead agency: EPA

Evaluation date: 03/26/1986
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Generators - General
Date achieved compliance: 02/01/1995
Evaluation lead agency: State

Evaluation date: 12/19/1985
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Generators - General
Date achieved compliance: 12/26/1985
Evaluation lead agency: State

Evaluation date: 09/25/1985
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/25/1985
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 10/17/1985
Evaluation lead agency: State

Evaluation date: 07/12/1985
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: EPA

Evaluation date: 04/17/1985
Evaluation: GROUNDWATER MONITORING EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

EPTC COOLWATER (Continued) **1015732611**

Evaluation date: 10/31/1984
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 11/16/1984
Evaluation lead agency: State

Evaluation date: 10/31/1984
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/29/1984
Evaluation: GROUNDWATER MONITORING EVALUATION
Area of violation: Generators - General
Date achieved compliance: 10/04/1985
Evaluation lead agency: State

CERC-NFRAP:
Site ID: 0900943
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Contact Details:
Contact Sequence ID: 13289146.00000
Person ID: 13003854.00000

Contact Sequence ID: 13294741.00000
Person ID: 13003858.00000

Contact Sequence ID: 13300599.00000
Person ID: 13004003.00000

CERCLIS-NFRAP Assessment History:
Action: DISCOVERY
Date Started: / /
Date Completed: 08/01/80
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: 03/01/85
Date Completed: 08/01/85
Priority Level: Low priority for further assessment

Action: ARCHIVE SITE
Date Started: / /
Date Completed: 09/01/88
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: / /
Date Completed: 09/01/88
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

CORRACTS:

EPTC COOLWATER (Continued) **1015732611**

EPA ID: CAD000630905
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19950930
Action: CA029
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

C48 **COOLWATER GENERATING STATION** **CA WMUDS/SWAT** **S103866748**
SW **37000 E SANTA FE ST** **N/A**
1/4-1/2 **DAGGETT CA, CA 92327**
0.429 mi.
2267 ft. **Site 2 of 2 in cluster C**

Relative:
Higher

Actual:
1984 ft.

WMUDS/SWAT:
Edit Date: Not reported
Complexity: Category B - Any facility having a physical, chemical, or biological waste treatment system (except for septic systems with subsurface disposal), or any Class II or III disposal site, or facilities without treatment systems that are complex, such as marinas with petroleum products, solid wastes, and sewage pump out facilities.
Primary Waste: NONCON
Primary Waste Type: Designated/Influent or Solid Wastes that pose a significant threat to water quality because of their high concentrations (E.G., BOD, Hardness, TRF, Chloride). 'Manageable' hazardous wastes (E.G., inorganic salts and heavy metals) are included in this category.
Secondary Waste: Not reported
Secondary Waste Type: Not reported
Base Meridian: Not reported
NPID: Not reported
Tonnage: 0
Regional Board ID: Not reported
Municipal Solid Waste: False
Superorder: False
Open To Public: False
Waste List: False
Agency Type: Private
Agency Name: RELIANT ENERGY COOLWATER,LLC
Agency Department: Not reported
Agency Address: 37000 SANTA FE ST
Agency City,St,Zip: DAGGETT CA 92327
Agency Contact: W.R. DUSENBURY
Agency Telephone: 7602545241
Land Owner Name: Not reported
Land Owner Address: Not reported
Land Owner City,St,Zip: Not reported
Land Owner Contact: Not reported
Land Owner Phone: Not reported
Region: 6V
Facility Type: Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.

COOLWATER GENERATING STATION (Continued) **S103866748**

Facility Description:	Not reported
Facility Telephone:	Not reported
SWAT Facility Name:	Not reported
Primary SIC:	4961
Secondary SIC:	Not reported
Comments:	Not reported
Last Facility Editors:	Not reported
Waste Discharge System:	True
Solid Waste Assessment Test Program:	False
Toxic Pits Cleanup Act Program:	False
Resource Conservation Recovery Act:	False
Department of Defence:	False
Solid Waste Assessment Test Program:	Not reported
Threat to Water Quality:	Major Threat to Water Quality. A violation could render unusable a ground water or surface water resource used as a significant drink water supply, require closure of an area used for contact recreation, result in long-term deleterious effects on shell fish spawning or growth areas of aquatic resources, or directly expose the public to toxic substances.
Sub Chapter 15:	True
Regional Board Project Officer:	JJK
Number of WMUDS at Facility:	1
Section Range:	Not reported
RCRA Facility:	Yes
Waste Discharge Requirements:	A
Self-Monitoring Rept. Frequency:	Semiannual Submittal
Waste Discharge System ID:	6B362036002
Solid Waste Information ID:	Not reported

Count: 1 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
DAGGET	S105960473	DAGGET AIRPORT	BARSTOW/DAGGET AIRPORT	92327	CA BOND EXP. PLAN

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 03/26/2015
Date Data Arrived at EDR: 04/08/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 75

Source: EPA
Telephone: N/A
Last EDR Contact: 07/09/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/26/2015
Date Data Arrived at EDR: 04/08/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 75

Source: EPA
Telephone: N/A
Last EDR Contact: 07/09/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/26/2015
Date Data Arrived at EDR: 04/08/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 75

Source: EPA
Telephone: N/A
Last EDR Contact: 07/09/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 03/26/2015
Date Data Arrived at EDR: 04/08/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 07/10/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 03/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 03/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 13

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/18/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 63

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 05/04/2015
Date Data Arrived at EDR: 05/05/2015
Date Made Active in Reports: 05/14/2015
Number of Days to Update: 9

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/04/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 05/04/2015
Date Data Arrived at EDR: 05/05/2015
Date Made Active in Reports: 05/14/2015
Number of Days to Update: 9

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/04/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/18/2015
Date Data Arrived at EDR: 05/20/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 16

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/05/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 48
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/28/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 55
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 03/17/2015
Date Data Arrived at EDR: 05/01/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 52
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 09/30/2014
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 10
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 04/30/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 53
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/08/2015
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 24

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 29

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 19

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 04/30/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 53

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 09/30/2014
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/26/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 27

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 03/17/2015
Date Data Arrived at EDR: 05/01/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 52

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/05/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 48

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/14/2014
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/06/2015
Date Data Arrived at EDR: 05/19/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 34

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/10/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/29/2014
Date Data Arrived at EDR: 10/01/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 36

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 05/04/2015
Date Data Arrived at EDR: 05/05/2015
Date Made Active in Reports: 05/14/2015
Number of Days to Update: 9

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/04/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/23/2015
Date Data Arrived at EDR: 03/24/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 70

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/24/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137
Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39
Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 47
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 05/26/2015
Date Data Arrived at EDR: 05/28/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 8
Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 05/18/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52
Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30
Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 08/04/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Quarterly

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 05/04/2015
Date Data Arrived at EDR: 05/05/2015
Date Made Active in Reports: 05/14/2015
Number of Days to Update: 9

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/04/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/18/2015
Number of Days to Update: 8

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 08/07/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 06/11/2015
Date Data Arrived at EDR: 06/16/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 28

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 06/08/2015
Date Data Arrived at EDR: 06/09/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 35

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 06/09/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 07/28/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 6

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 07/28/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 27

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/04/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/14/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 06/06/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 8

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 07/08/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 46

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/12/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 12/30/2014
Date Data Arrived at EDR: 12/31/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 29

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 06/03/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 110

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 01/29/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/25/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 07/09/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 33

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/17/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/31/2015
Date Data Arrived at EDR: 04/09/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 63

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 06/04/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/07/2015
Date Data Arrived at EDR: 04/09/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/09/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 01/18/2015
Date Data Arrived at EDR: 02/27/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 26

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 06/10/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Biennially

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/18/2015
Date Data Arrived at EDR: 05/20/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 22

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 11/19/2014
Date Data Arrived at EDR: 12/15/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 45

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 06/19/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Varies

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 06/24/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 18

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: No Update Planned

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 02/18/2015
Date Data Arrived at EDR: 02/20/2015
Date Made Active in Reports: 03/12/2015
Number of Days to Update: 20

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Annually

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/01/2015
Date Made Active in Reports: 05/13/2015
Number of Days to Update: 12

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/07/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/19/2014
Number of Days to Update: 35

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 07/17/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 03/25/2014
Date Made Active in Reports: 04/28/2014
Number of Days to Update: 34

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/25/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/14/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/14/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: N/A

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List
The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites
A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EPA WATCH LIST: EPA WATCH LIST
EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/04/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: Quarterly

LEAD SMELTER 1: Lead Smelter Sites
A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 07/07/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Varies

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 27

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

US FIN ASSUR: Financial Assurance Information
All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/09/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/01/2015
Date Made Active in Reports: 05/13/2015
Number of Days to Update: 12

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 07/24/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)
The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/22/2015
Data Release Frequency: Annually

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/12/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/07/2015
Date Data Arrived at EDR: 06/09/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 35
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 06/09/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/18/2015
Date Data Arrived at EDR: 05/22/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 14
Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/18/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Varies

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 07/13/2015
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 20
Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 07/14/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 05/26/2015
Date Data Arrived at EDR: 05/28/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 8

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/28/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners
EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 07/21/2015
Date Data Arrived at EDR: 07/24/2015
Date Made Active in Reports: 08/05/2015
Number of Days to Update: 12

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 08/10/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 07/21/2015
Date Data Arrived at EDR: 07/22/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 12

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 06/05/2015
Date Data Arrived at EDR: 06/09/2015
Date Made Active in Reports: 07/10/2015
Number of Days to Update: 31

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 11/20/2014
Date Data Arrived at EDR: 11/24/2014
Date Made Active in Reports: 01/07/2015
Number of Days to Update: 44

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 07/15/2015
Date Data Arrived at EDR: 07/17/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 17

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/11/2014
Date Data Arrived at EDR: 06/13/2014
Date Made Active in Reports: 07/07/2014
Number of Days to Update: 24

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 06/12/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 05/26/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 13

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 08/03/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 05/19/2015
Date Data Arrived at EDR: 05/22/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 14

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 05/26/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 7

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 08/03/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 07/13/2015
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 20

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 07/06/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 03/11/2015
Date Data Arrived at EDR: 03/13/2015
Date Made Active in Reports: 03/24/2015
Number of Days to Update: 11

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 07/14/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 04/27/2015
Date Data Arrived at EDR: 04/28/2015
Date Made Active in Reports: 05/13/2015
Number of Days to Update: 15

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 08/07/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 05/19/2015
Date Data Arrived at EDR: 06/18/2015
Date Made Active in Reports: 07/22/2015
Number of Days to Update: 34

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 08/07/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/26/2015
Date Data Arrived at EDR: 05/28/2015
Date Made Active in Reports: 06/15/2015
Number of Days to Update: 18

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 05/05/2015
Date Data Arrived at EDR: 05/07/2015
Date Made Active in Reports: 05/20/2015
Number of Days to Update: 13

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 07/20/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 11/24/2014
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/04/2015
Number of Days to Update: 33

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 07/10/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/20/2015
Date Data Arrived at EDR: 07/21/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 13

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 07/21/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 07/20/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/15/2015
Date Data Arrived at EDR: 01/29/2015
Date Made Active in Reports: 03/10/2015
Number of Days to Update: 40

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 07/15/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/02/2015
Date Made Active in Reports: 04/13/2015
Number of Days to Update: 11

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 07/17/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/03/2015
Date Data Arrived at EDR: 05/26/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 16

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 07/27/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 06/03/2015
Date Data Arrived at EDR: 06/04/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 32

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 06/04/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/28/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/15/2015
Number of Days to Update: 17

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/22/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 10/08/2014
Date Data Arrived at EDR: 10/22/2014
Date Made Active in Reports: 12/15/2014
Number of Days to Update: 54

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 07/06/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 05/22/2015
Date Data Arrived at EDR: 05/26/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 10

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 05/22/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 06/01/2015
Date Data Arrived at EDR: 06/03/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 33

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/30/2015
Date Data Arrived at EDR: 07/07/2015
Date Made Active in Reports: 07/16/2015
Number of Days to Update: 9

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites

Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 06/03/2015
Date Data Arrived at EDR: 06/04/2015
Date Made Active in Reports: 07/22/2015
Number of Days to Update: 48

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 05/01/2015
Date Data Arrived at EDR: 05/12/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 24

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/06/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/01/2015
Date Data Arrived at EDR: 05/12/2015
Date Made Active in Reports: 06/08/2015
Number of Days to Update: 27

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 05/01/2015
Date Data Arrived at EDR: 05/12/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 30

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/06/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: Quarterly

PLACER COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 07/01/2015
Date Data Arrived at EDR: 07/07/2015
Date Made Active in Reports: 08/05/2015
Number of Days to Update: 29

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 07/15/2015
Date Data Arrived at EDR: 07/17/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 17

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 07/15/2015
Date Data Arrived at EDR: 07/17/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 17

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 05/07/2015
Date Data Arrived at EDR: 07/24/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 10

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 05/07/2015
Date Data Arrived at EDR: 07/27/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 7

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 06/30/2015
Date Data Arrived at EDR: 07/07/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 7

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 05/12/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2014
Date Data Arrived at EDR: 11/21/2014
Date Made Active in Reports: 12/29/2014
Number of Days to Update: 38

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 06/03/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 08/06/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 08/06/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 10

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 05/22/2015
Date Data Arrived at EDR: 05/26/2015
Date Made Active in Reports: 06/10/2015
Number of Days to Update: 15

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 07/20/2015
Date Data Arrived at EDR: 07/22/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 12

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/15/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 06/10/2015
Date Data Arrived at EDR: 06/16/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 28

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/10/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/22/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 06/10/2015
Date Data Arrived at EDR: 06/16/2015
Date Made Active in Reports: 07/10/2015
Number of Days to Update: 24

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Annually

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 05/07/2015
Date Data Arrived at EDR: 05/12/2015
Date Made Active in Reports: 06/08/2015
Number of Days to Update: 27

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 08/07/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List

CUPA facility listing.

Date of Government Version: 05/22/2015
Date Data Arrived at EDR: 05/26/2015
Date Made Active in Reports: 06/08/2015
Number of Days to Update: 13

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/22/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 06/12/2015
Date Data Arrived at EDR: 06/16/2015
Date Made Active in Reports: 07/10/2015
Number of Days to Update: 24

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/19/2015
Date Data Arrived at EDR: 06/24/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 20

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/10/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 06/19/2015
Date Data Arrived at EDR: 06/30/2015
Date Made Active in Reports: 07/07/2015
Number of Days to Update: 7

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/10/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 06/22/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 18

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/01/2015
Date Data Arrived at EDR: 07/07/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 7

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 06/05/2015
Date Data Arrived at EDR: 06/09/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 27

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 07/13/2015
Date Data Arrived at EDR: 07/28/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 6

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 07/24/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 06/26/2015
Date Data Arrived at EDR: 07/17/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 17

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 07/15/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/18/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 04/27/2015
Date Data Arrived at EDR: 04/29/2015
Date Made Active in Reports: 05/13/2015
Number of Days to Update: 14

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 07/27/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 05/27/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 19

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 07/08/2015
Date Data Arrived at EDR: 07/13/2015
Date Made Active in Reports: 07/22/2015
Number of Days to Update: 9

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 07/06/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 05/18/2015
Date Data Arrived at EDR: 05/19/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 17

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/18/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 04/29/2015
Date Made Active in Reports: 05/29/2015
Number of Days to Update: 30

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 05/01/2015
Date Data Arrived at EDR: 05/06/2015
Date Made Active in Reports: 05/20/2015
Number of Days to Update: 14

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/06/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/21/2014
Date Made Active in Reports: 08/25/2014
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/20/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/19/2015
Date Made Active in Reports: 04/07/2015
Number of Days to Update: 19

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/11/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Telephone: 281-546-1505
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: 800-823-6277
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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Sunray
35100 Stanta Fe Street
Daggett, CA 92327

Inquiry Number: 4377373.3
August 07, 2015

Certified Sanborn® Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

8/07/15

Site Name:
Sunray
35100 Stanta Fe Street
Daggett, CA 92327

Client Name:
Westwood Professional
7699 Anagram Drive
Eden Prairie, MN 55344

EDR Inquiry # 4377373.3

Contact: Tom Braman

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Westwood Professional Services were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Site Name: Sunray
Address: 35100 Stanta Fe Street
City, State, Zip: Daggett, CA 92327
Cross Street:
P.O. # NA
Project: R0006575.00
Certification # 7382-490B-A442

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results
Certification # 7382-490B-A442

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- ✓ Library of Congress
- ✓ University Publications of America
- ✓ EDR Private Collection

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Sunray
35100 Stanta Fe Street
Daggett, CA 92327

Inquiry Number: 4377373.5
August 12, 2015

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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Executive Summary

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City Directory Images

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	*Target Street*	*Cross Street*	*Source*
2010	☑	☐	Haines Criss-Cross Directory
2005	☑	☐	Haines Criss-Cross Directory
2000	☑	☐	Haines Criss-Cross Directory
1995	☑	☐	Haines Criss-Cross Directory
1990	☑	☐	Haines Criss-Cross Directory
1985	☑	☐	Haines Criss-Cross Directory
1980	☑	☐	Haines Criss-Cross Directory
1975	☑	☐	Haines Criss-Cross Directory

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FINDINGS

TARGET PROPERTY STREET

35100 Stanta Fe Street
Daggett, CA 92327

Year	*CD Image*	*Source*
SANTA FE ST		
2010	pg A1	Haines Criss-Cross Directory
2005	pg A2	Haines Criss-Cross Directory
2005	pg A3	Haines Criss-Cross Directory
2000	pg A4	Haines Criss-Cross Directory
2000	pg A5	Haines Criss-Cross Directory
1995	pg A6	Haines Criss-Cross Directory
1990	pg A7	Haines Criss-Cross Directory
1985	pg A8	Haines Criss-Cross Directory
1980	pg A9	Haines Criss-Cross Directory
1975	pg A10	Haines Criss-Cross Directory

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

SANTA FE ST 2010

SANTA FE ST 92327
DAGGETT

35100	♣ ★ DAGGETT LEASING CORP	760-254-3381	
	♣ ★ ELECTRIC CO PAC GAS & ELC CO	760-254-2302	8
	♣ ★ GAS CO PAC GAS & ELC CO	760-254-2302	8
	♣ ★ PAC GAS & ELECTRIC	760-254-2302	8
35258	♣ ● CHAVEZ Louis	760-254-1016	
X	MOJAVE RD		
35262	♣ ● CHAVEZ Louis	OO	3
35267	♣ ● MADRID Alfred	OO	
35286	♣ ● MCCUNE Paula	OO	
35308	♣ ● BASS Gregory	OO	4
	♣ BEGAY Loretta	760-254-3604	7
35318	♣ WOODRUFF Ricky	760-254-6003	8
X	SIERRA WAY		
35368	♣ ● TORRES Froilan	OO	
35378	♣ ● ARRIOLA Lettioa	760-254-2645	+0
35388	♣ ● FOSTER Donald	OO	3
35398	♣ ● VINTUS Brian	OO	3
35422	♣ ● VINTUS Brian	OO	4
X	DAGGETT-YERMO RD		
35482	♣ ● STIRLING Barbara	OO	
X	1ST ST		
35530	♣ ● SEEL Clyde	OO	4
35538	♣ ● STURMAN Eleanor	OO	7
35546	♣ COVEY Raymond E	760-254-2576	
35552	♣ ● MORTON Derinda	OO	7
35554	♣ REEVES Laura	760-254-2017	+0
35590	♣ ● FREEMAN Sharon	OO	5
35596	♣ ★ DESERT MARKET	760-254-2774	
	♣ ★ U-HAUL	760-254-3070	6
X	MILL ST		
35630	♣ ELROD Richard	760-254-3882	3
35664	♣ ● GOLDEN Alan	OO	
X	4TH ST		
35680	♣ HAVERLOCK Justin	760-254-3719	8
35716	♣ ● GOLDEN Alan	OO	4
35724	♣ ● CONATSER Sylvia	OO	
35730	♣ ● CONATSER C E	760-254-2459	
	♣ TIMPANE Robert	760-254-7014	8
35918	♣ PEREZ Daisy	760-254-7031	8
36176	♣ ● PETERSON Julie	OO	4
36266	♣ ● SHAPIRO Erika	OO	6
36588	♣ ● PRICE Donald	OO	

★ 6 BUS 30 RES 2 NEW

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

SANTA FE ST 2005

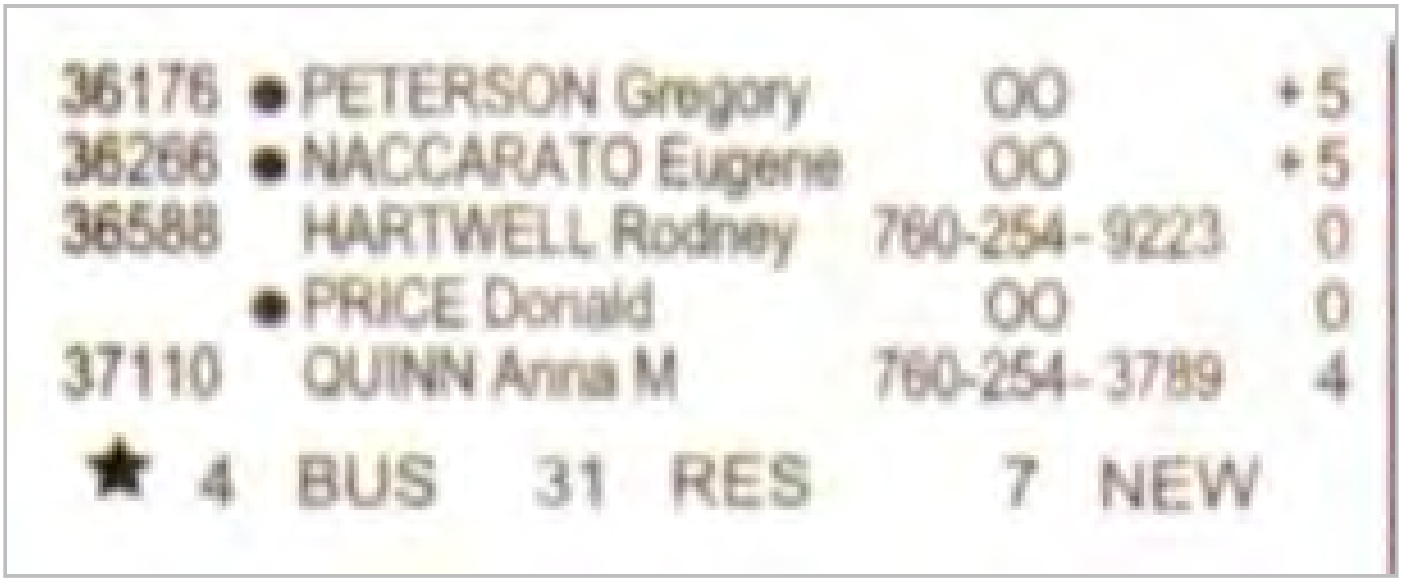
SANTA FE 92327
DAGGETT

WEALTH CODE 1

35100	★	**DAGGETT LEASING CORP**	**760-254-3381**	
	★	**PAC GAS & ELECTRIC**	**760-254-2302**	2
35258	●	CHAVEZ Louis	760-254-1016	7
35262	●	CHAVEZ Louis	OO	3
35267	●	MADRID Alfred	OO	0
35286	●	MCCUNE Paula	OO	0
35308	●	BASS Gregory	OO	+5
		RODRIGUEZ Marshall	760-254-1108	+5
35318		FARNER Ralph E	760-254-3126	
35368	●	TORRES Froilan	OO	0
35378	●	URBAN Bruce	OO	0
35388	●	FOSTER Donald	760-254-2857	
35398	●	VINTUS Brian	OO	3
35422	●	VINTUS Brian	OO	+5
35482	●	STIRLING Barbara	OO	+5
35530	●	SEEL Clyde	760-254-3791	4
35538	●	WALKER Scott	OO	0
35546		COVEY Raymond E	760-254-2576	
35552	●	CAMPBELL Bryan	OO	0
35590	●	ROBBINS Robin	OO	0
35596	★	**DESERT MARKET**	**760-254-2774**	
	★	**U HAUL CO INDEP DEALERS**	**760-254-3070**	9
35630		ELROD Richard	760-254-3882	3
35664	●	GOLDEN Alan	OO	0
35680		LEGLER B	760-254-3944	+5
		ODEM Charles	760-254-3100	4
35716	●	GOLDEN Steve	OO	4
35724	●	CONATSER Sylvia	OO	0
35730	●	CONATSER C E	760-254-2459	
35918		MENDOZA Anthony R	760-254-2470	3

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

SANTA FE ST 2005



36176	●	PETERSON Gregory	OO	+5
36266	●	NACCARATO Eugene	OO	+5
36588		HARTWELL Rodney	760-254-9223	0
	●	PRICE Donald	OO	0
37110		QUINN Anna M	760-254-3789	4

★ 4 BUS 31 RES 7 NEW

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

SANTA FE ST 2000

SANTA FE 92327
DAGGETT

WEALTH CODE 1.0

35100	* DAGGETT LEASING CORPORATION	760-254-3381	4
	* PACIFIC GAS&ELECTRIC	760-254-2302	+0
35198	XXXX	OO	
35258	●CHAVEZ Louis	760-254-1016	7
35267	●MADRID Alfred	OO	+0
35286	●MCCUNE Paula	OO	+0
35308	●SHAW Rebecca	OO	+0
35312	●MOYER Ronald	OO	+0
35318	FARNER Ralph E	760-254-3126	
35368	●TORRES Froilan	OO	+0
35378	●URBAN Bruce	OO	+0
35388	●FOSTER Donald	760-254-2857	
35398	●HAYHURST Michael	OO	+0
35422	●MCKEE David	OO	+0
35426	XXXX	OO	
35462	XXXX	OO	
35482	●WILLIAMS Robert G	760-254-3496	7
35484	XXXX	OO	
35520	●BALDERAS Susie	OO	+0
35530	●MASHBURN Steven	OO	+0
35538	●WALKER Scott	OO	+0
35546	COVEY Raymond E	760-254-2576	

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

SANTA FE ST 2000

SANTA FE 92327 CONT

35552	•CAMPBELL Bryan	OO	+0
35562	XXXX	OO	
35570	•NASSER Ghazi	OO	+0
35590	•ROBBINS Robin	OO	+0
35596	**• DESERT MARKET**	**760-254-2774**	
	• U-HAUL CO INDP DEALERS	**760-254-3070**	**9**
35608	XXXX	OO	
35630	HUNTER James D	760-254-3882	3
35642	XXXX	OO	
35664	•GOLDEN Alan	OO	+0
35674	XXXX	OO	
35680	BROWNLOW H	760-254-3186	
	BROWNLOW P	760-254-3186	
	HENDERSON R	760-254-1174	+0
	YOUNG Lloyd E	760-254-2193	
	YOUNG Norma	760-254-2193	
35716	•GRAHAM Mary	OO	+0
35724	•CONATSER Sylvia	OO	+0
35730	•CONATSER C E	760-254-2459	4
35918	XXXX	OO	
36176	SOMMER Maynard E	760-254-2292	9
	•WEBER John	OO	+0
36234	XXXX	OO	
36266	XXXX	OO	
36299	•ODETTE Norman	OO	+0
36450	•HIETT Harry	OO	+0
36588	FENNER Carl R	760-254-3818	2
	HARTWELL Rodney	760-254-9223	+0
	•PRICE Donald	OO	+0
36862	XXXX	OO	
36864	XXXX	OO	
37000	XXXX	OO	
37072	MOON Winfield Sr	760-254-9104	+0
37110	**• SANDIA NATIONAL LABORATORIES**	**760-254-2067**	**+0**
	• SANDIA NATIONAL LABORATORIES	**760-254-3035**	**+0**
37200	HARTER Ron G	760-254-2855	2

• 6 BUS 52 RES 27 NEW

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

SANTA FE ST 1995

SANTA FE 92327
DAGGETT

WEALTH CODE 1.0

35100	***DAGGETT LSNG CORP**	**254-2813**	4
	***DAGGETT LSNG CORP**	**254-3381**	4
35198	XXXX	00	
35286	XXXX	00	
35308	XXXX	00	
35318	FARNER Ralph E	254-3126	
35378	XXXX	00	
35388	FOSTER Donald	254-2857	
35426	XXXX	00	
35462	XXXX	00	
35484	XXXX	00	
35520	XXXX	00	
35546	COVEY Raymond E	254-2576	
35552	XXXX	00	
35562	XXXX	00	
35596	***DESERT MARKET**	**254-2774**	8
35608	XXXX	00	
35630	HUNTER James D	254-3882	3
35642	XXXX	00	
35664	XXXX	00	
35674	XXXX	00	
35680	BROWNLOW H	254-3186	3
	BROWNLOW P	254-3186	
	YOUNG Lloyd E	254-2193	
	YOUNG Norma	254-2193	
35716	XXXX	00	
35730	CONATSER C E	254-2459	4
35918	QUEZADA Pete	254-3043	4
36176	STRICLER Gordon H	254-2229	9
36234	XXXX	00	
36266	•BREWER E C	254-3654	2
36450	XXXX	00	
36588	FENNER Carl R	254-3818	2
	•PRICE Donald	254-2088	
	•PRICE Ruth	254-2088	
36862	XXXX	00	
36864	XXXX	00	
37200	HARTER Ron G	254-2855	2

* 3 BUS 35 RES 0 NEW

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

SANTA FE ST 1990

SANTA FE 92327
DAGGETT

35198	XXXX	00	
35286	XXXX	00	
35308	XXXX	00	
35318	FARNER Ralph E	254-3126	2
	RILEY Mike L	254-3165	+0
35378	XXXX	00	
35388	FOSTER Donald	254-2857	
35398	TORRES Jerry J	254-2945	8
35426	XXXX	00	
35462	XXXX	00	
35482	WILLIAMS Robert	254-2689	1
35520	XXXX	00	
35530	XXXX	00	
35538	RAMALEY John R	254-2583	+0
35546	COVEY Raymond E	254-2576	
35552	XXXX	00	
35562	XXXX	00	
35596	**★DESERT MARKET**	**254-2774**	8
35608	XXXX	00	
35630	SIMPSON Emmitt	254-2344	7
35642	XXXX	00	
35664	XXXX	00	
35674	RODARTE Rufugio	254-2303	9
35680	ALVEY E	254-2815	6
	YOUNG Lloyd E	254-2193	
35716	XXXX	00	
35730	JACKSON P B	254-2459	
35918	**APARTMENTS**		
	FARRELL Joseph	254-3275	
	FARRELL Mildred	254-3275	
	JENSON Charles	254-2674	+0
	MONTANO Ernesto W	254-2254	
	NEWBERRY B	254-2740	1
	STUBBS Bob	254-2336	+0
	STUBBS Tecla	254-2336	+0
35918			
36154	MITCHELL Glen R	254-2822	8
36176	GORDON Roger W	254-2075	8
	STRICLER Gordon H	254-2229	9
36234	XXXX	00	
36266	LLOYD David L	254-2847	+0
36584	LANGHAM Bobby L	254-2157	+0
36588	PRICE Donald	254-2088	
	PRICE Ruth	254-2088	
	★PRICE TRANSPRTN	**254-2613**	8
36864	SNADOVAL Hilda B	254-2891	+0
	★ 2 BUS 42 RES	8 NEW	

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

SANTA FE ST 1985

SANTA FE 92327
DAGGETT

35198	XXXX	00	
35267	XXXX	00	
35286	XXXX	00	
35308	VOGT ERNEST M	254-3218	+5
35318	FARNER RALPH E	254-3126	2
35378	XXXX	00	
35388	FOSTER DONALD	254-2857	8
35398	COLE D M	254-2657	1
	ROBINSON NEHRU	254-2188	+5
35462	XXXX	00	
35482	WILLIAMS ROBERT	254-2689	1
35520	XXXX	00	
35530	XXXX	00	
35538	WITT A E	254-3249	+5
35546	COVEY RAYMOND E	254-2576	7
35552	LANFAIR IRA C	254-2165	
35562	XXXX	00	
35596	**SCOTTS MKT**	**254-2774**	7
35608	XXXX	00	
35642	XXXX	00	
35664	XXXX	00	
35674	XXXX	00	
35680	HALL H V	254-2119	1
	YOUNG LLOYD E	254-2193	
35716	GOLDEN TODD A	254-2416	3
35730	JACKSON P B	254-2459	6
35918	APARTMENTS		
	CARTER CHARLES	254-2803	4
	CHARLEY BEN	254-3176	3
	COFFMAN EARL	254-3221	+5
	FARRELL JOSEPH	254-3275	+5
	MONTANO ERNESTO W	254-2254	9
	NEWBERRY B	254-2740	1
35918			
36266	XXXX	00	
36588	MCCLAINE CECIL J	254-2265	0
	PEARSON DAVID	254-2018	4
	PRICE DONALD	254-2088	8
36862	GERHART KENNETH A	254-2228	+5
*	1 BUS 36 RES	6 NEW	

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

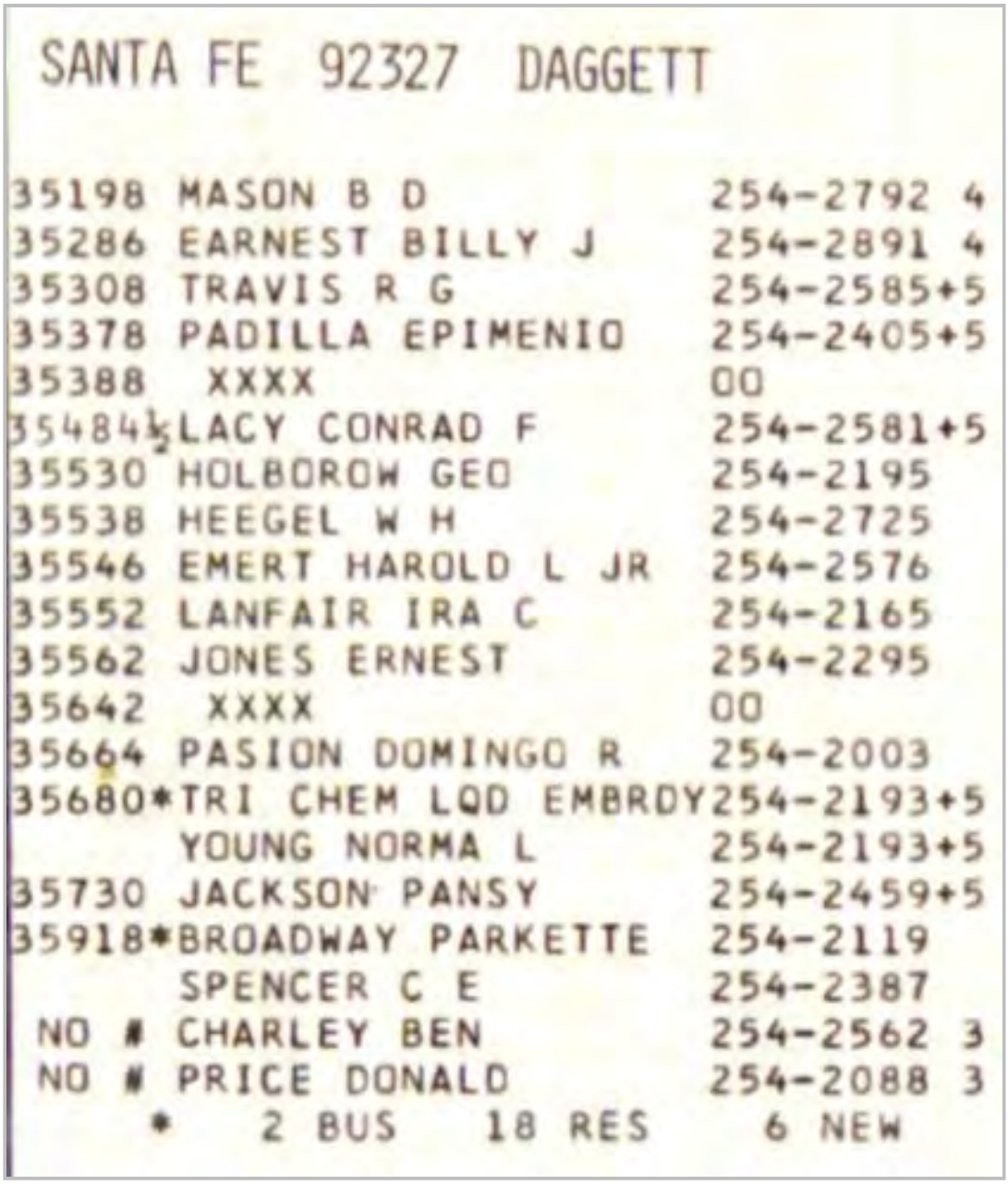
SANTA FE ST 1980

SANTA FE 92327 DAGGETT

35198	XXXX	00	
35267	XXXX	00	
35286	XXXX	00	
35308	SNEDEKER LAWRENCE	254-2025	6
35378	XXXX	00	
35388	FOSTER DONALD	254-2857	8
35492	XXXX	00	
35530	XXXX	00	
35538	XXXX	00	
35546	COVEY RAYMOND E	254-2576	7
35552	LANFAIR IRA C	254-2165	
35562	XXXX	00	
35596 *	**SCOTTS MKT**	**254-2774**	7
35608	ROBISON A	254-2807	+0
35642	XXXX	00	
35664	XXXX	00	
35674	XXXX	00	
35680	WENDELL W C	254-2659	+0
	YOUNG LLOYD E	254-2193	5
35730	JACKSON P B	254-2459	6
35918	MONTANO ERNESTO W	254-2254	9
36176	STRICLER BLAKE	254-2069	+0
36588	MCCLAINE CECIL J	254-2265	+0
	PRICE DON JR	254-2106	8
	PRICE DONALD E	254-2088	8
*	**PRICE TRANSPORTATN**	**254-2088**	7
NO #*	**OWENS CORNING**	**254-2513**	+0
*	3 BUS 24 RES	5 NEW	

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

SANTA FE ST 1975



SANTA FE 92327 DAGGETT

35198	MASON B D	254-2792 4
35286	EARNEST BILLY J	254-2891 4
35308	TRAVIS R G	254-2585+5
35378	PADILLA EPIMENIO	254-2405+5
35388	XXXX	OO
35484½	LACY CONRAD F	254-2581+5
35530	HOLBOROW GEO	254-2195
35538	HEEGEL W H	254-2725
35546	EMERT HAROLD L JR	254-2576
35552	LANFAIR IRA C	254-2165
35562	JONES ERNEST	254-2295
35642	XXXX	OO
35664	PASION DOMINGO R	254-2003
35680*	TRI CHEM LQD EMBRDY	254-2193+5
	YOUNG NORMA L	254-2193+5
35730	JACKSON PANSY	254-2459+5
35918*	BROADWAY PARKETTE	254-2119
	SPENCER C E	254-2387
NO #	CHARLEY BEN	254-2562 3
NO #	PRICE DONALD	254-2088 3

* 2 BUS 18 RES 6 NEW

APPENDIX C
Historic Topographic Maps, and Aerial Photographs

Sunray
35100 Stanta Fe Street
Daggett, CA 92327

Inquiry Number: 4377373.9
August 12, 2015

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

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with any questions or comments.

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Date EDR Searched Historical Sources:

Aerial Photography August 12, 2015

Target Property:

35100 Stanta Fe Street

Daggett, CA 92327

Year	***Scale***	***Details***	***Source***
1952	Aerial Photograph. Scale: 1"=500'	Flight Year: 1952	USGS
1953	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1953	Southwestern
1963	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1963	Mark Hurd
1973	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1973	Teledyne
1983	Aerial Photograph. Scale: 1"=500'	Flight Year: 1983	USGS
1989	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1989	USGS
1995	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1995	USGS/DOQQ
1995	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1995	USGS/DOQQ
1995	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1995	USGS/DOQQ
1995	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1995	USGS/DOQQ
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	USDA/NAIP
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	USDA/NAIP
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	USDA/NAIP
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	USDA/NAIP
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2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	USDA/NAIP
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2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	USDA/NAIP
2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	USDA/NAIP

Year	*Scale*	*Details*	*Source*
2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	USDA/NAIP
2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	USDA/NAIP
2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	USDA/NAIP
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	USDA/NAIP
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	USDA/NAIP
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	USDA/NAIP
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	USDA/NAIP

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EDR

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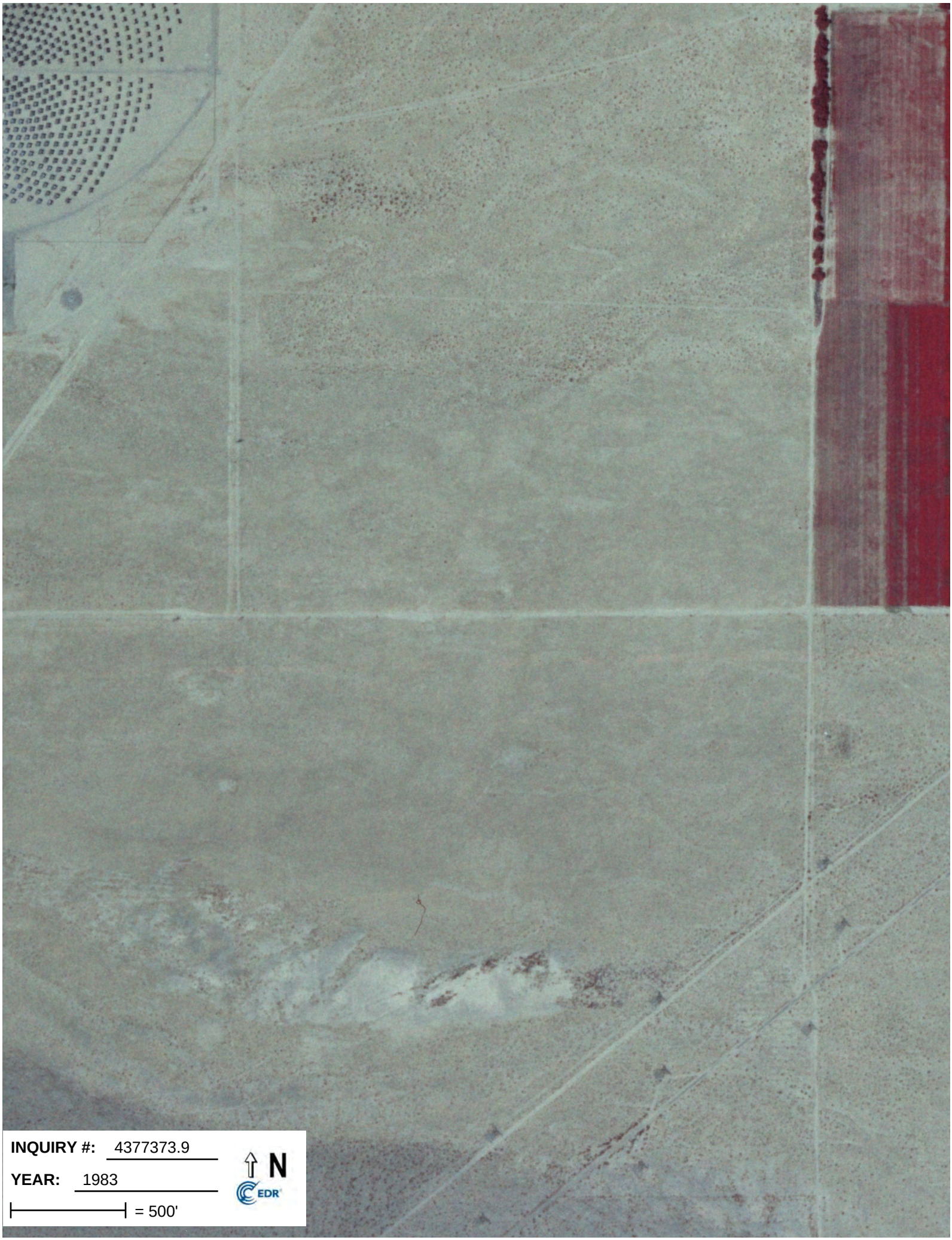
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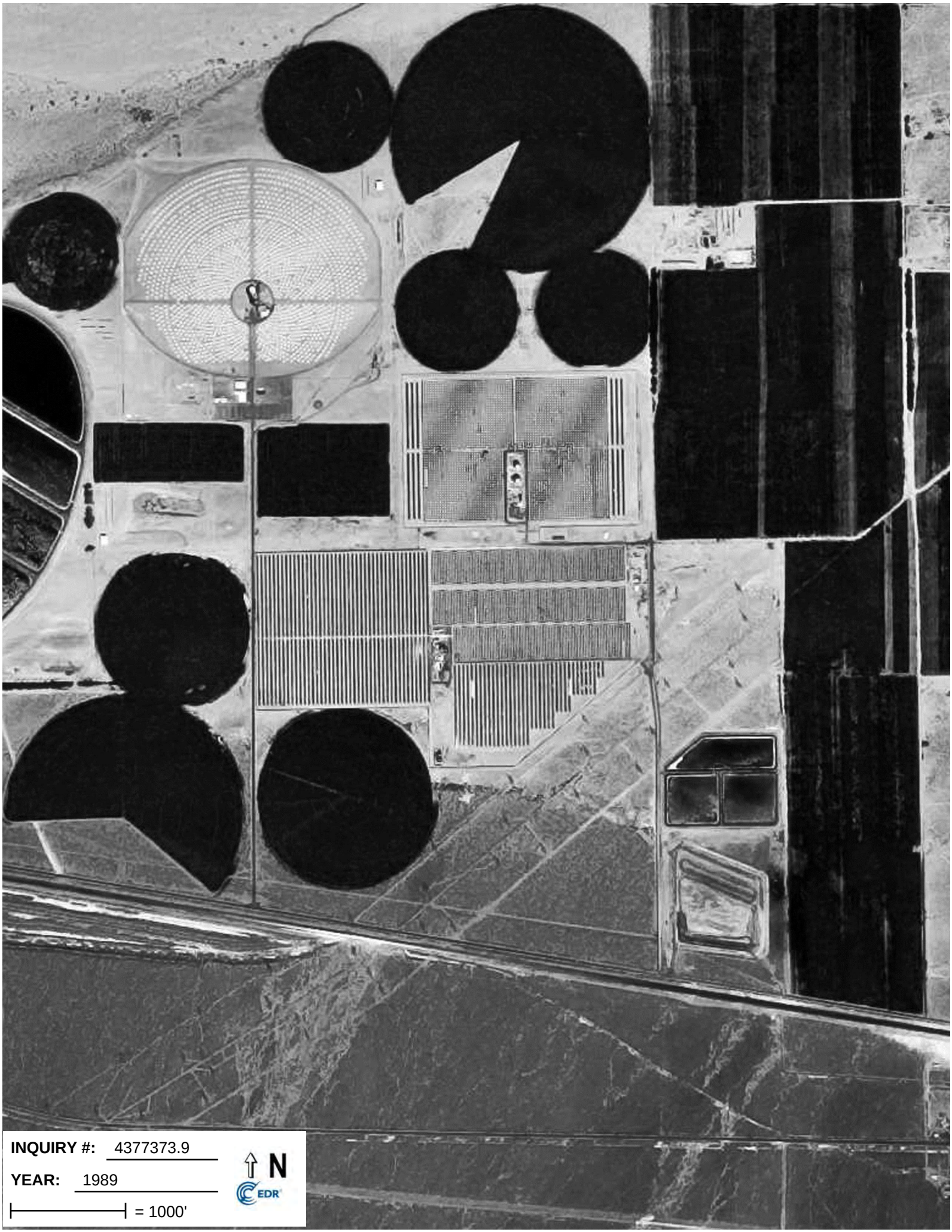
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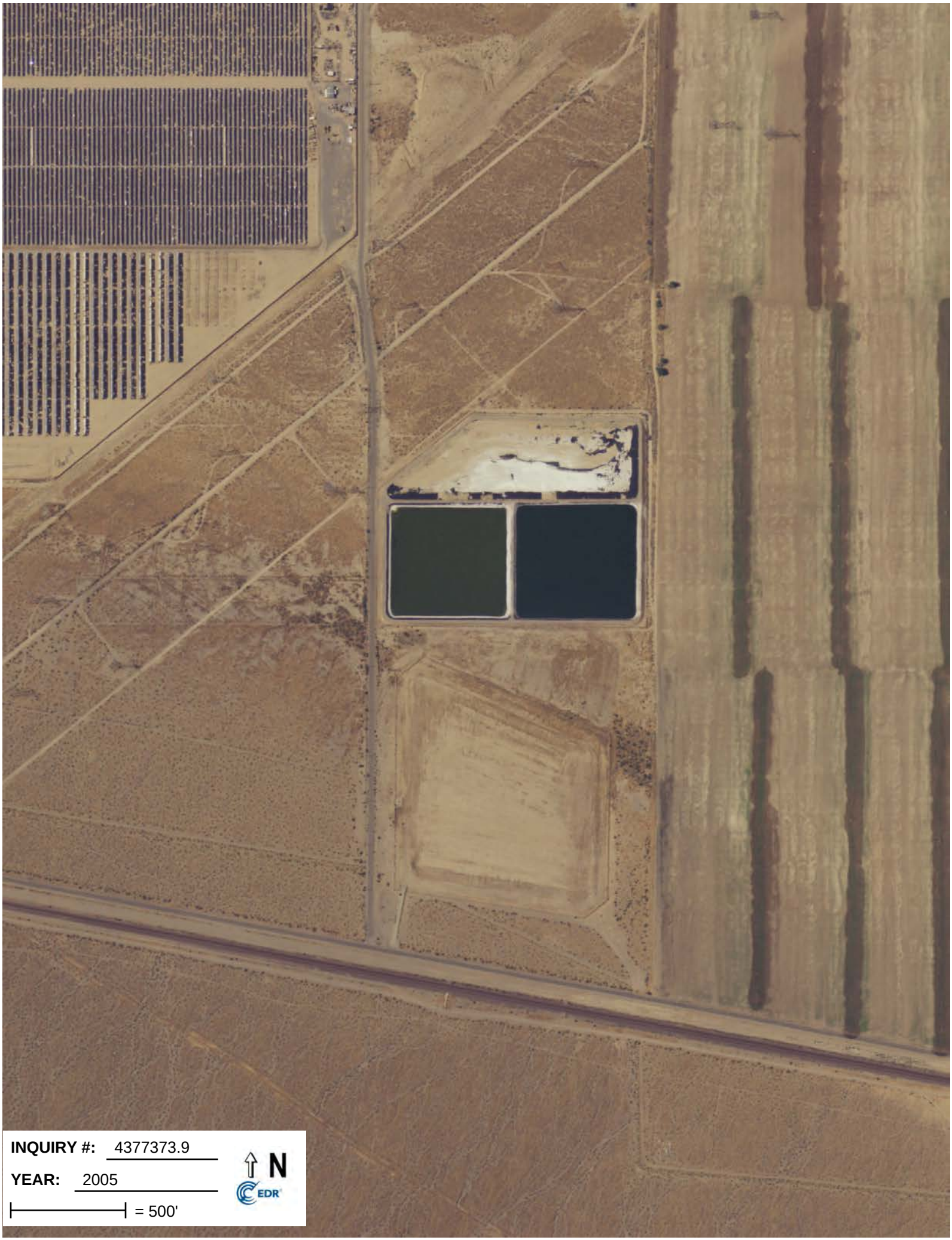
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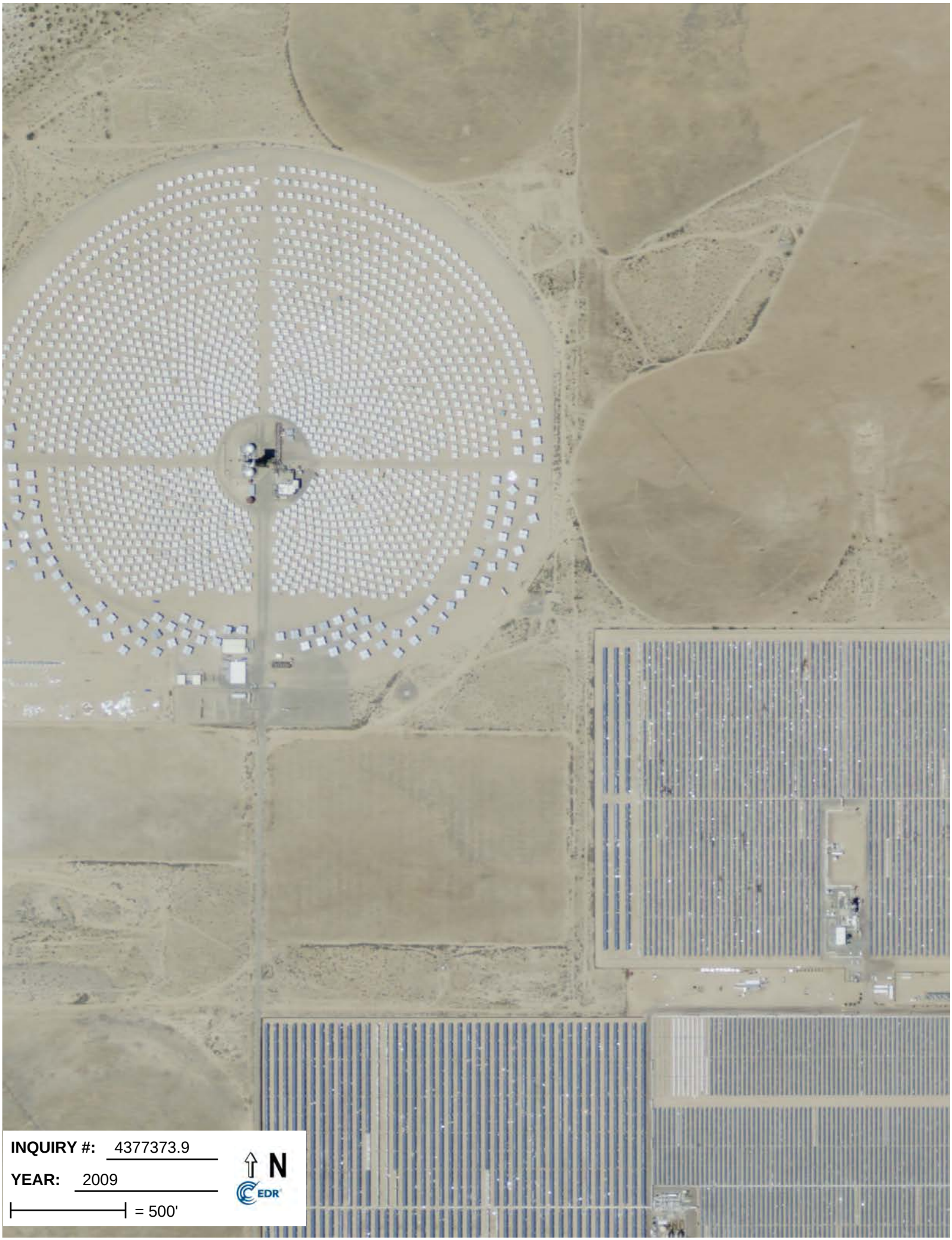
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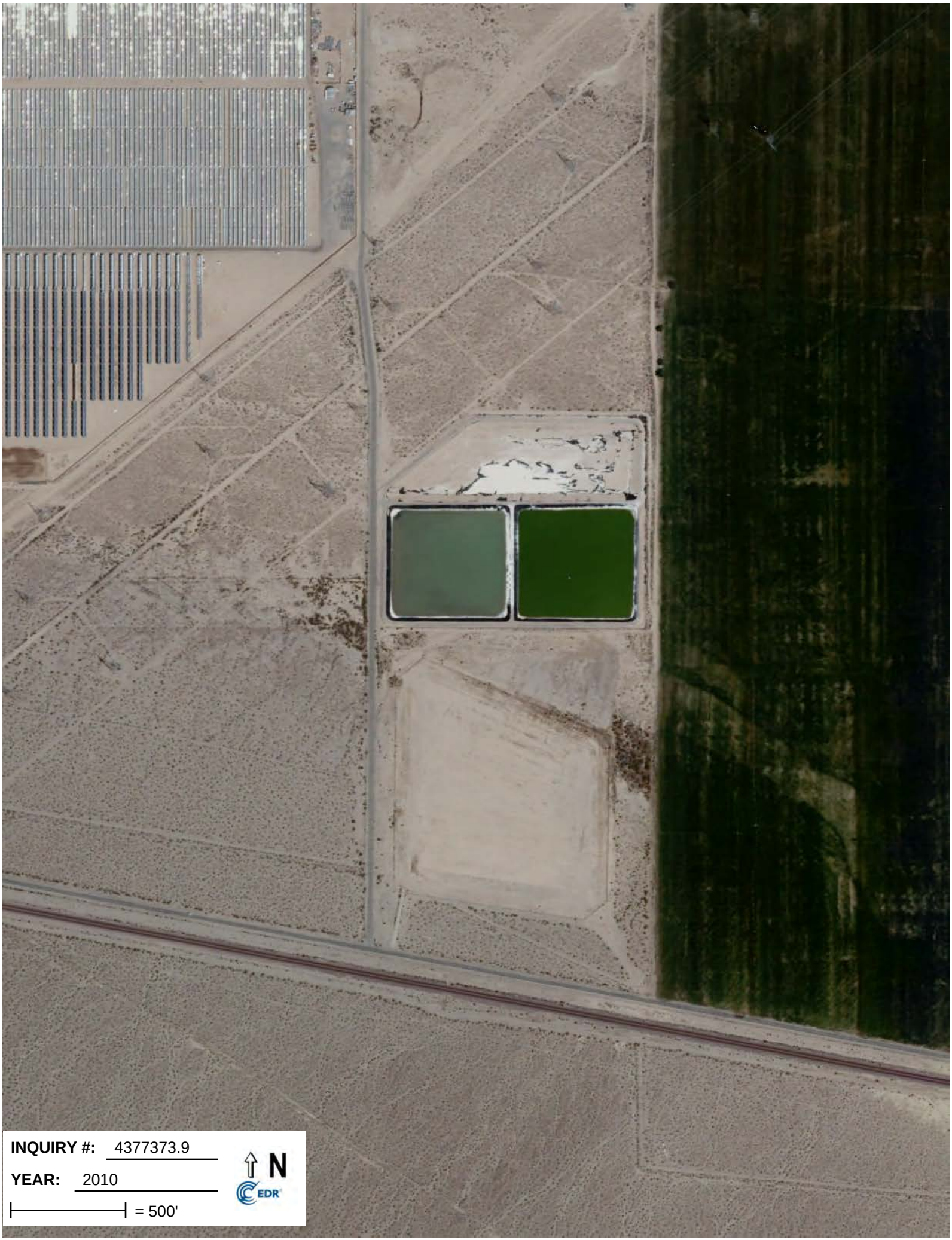
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EDR

INQUIRY #: 4377373.9
YEAR: 2010
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EDR

INQUIRY #: 4377373.9
YEAR: 2012
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EDR

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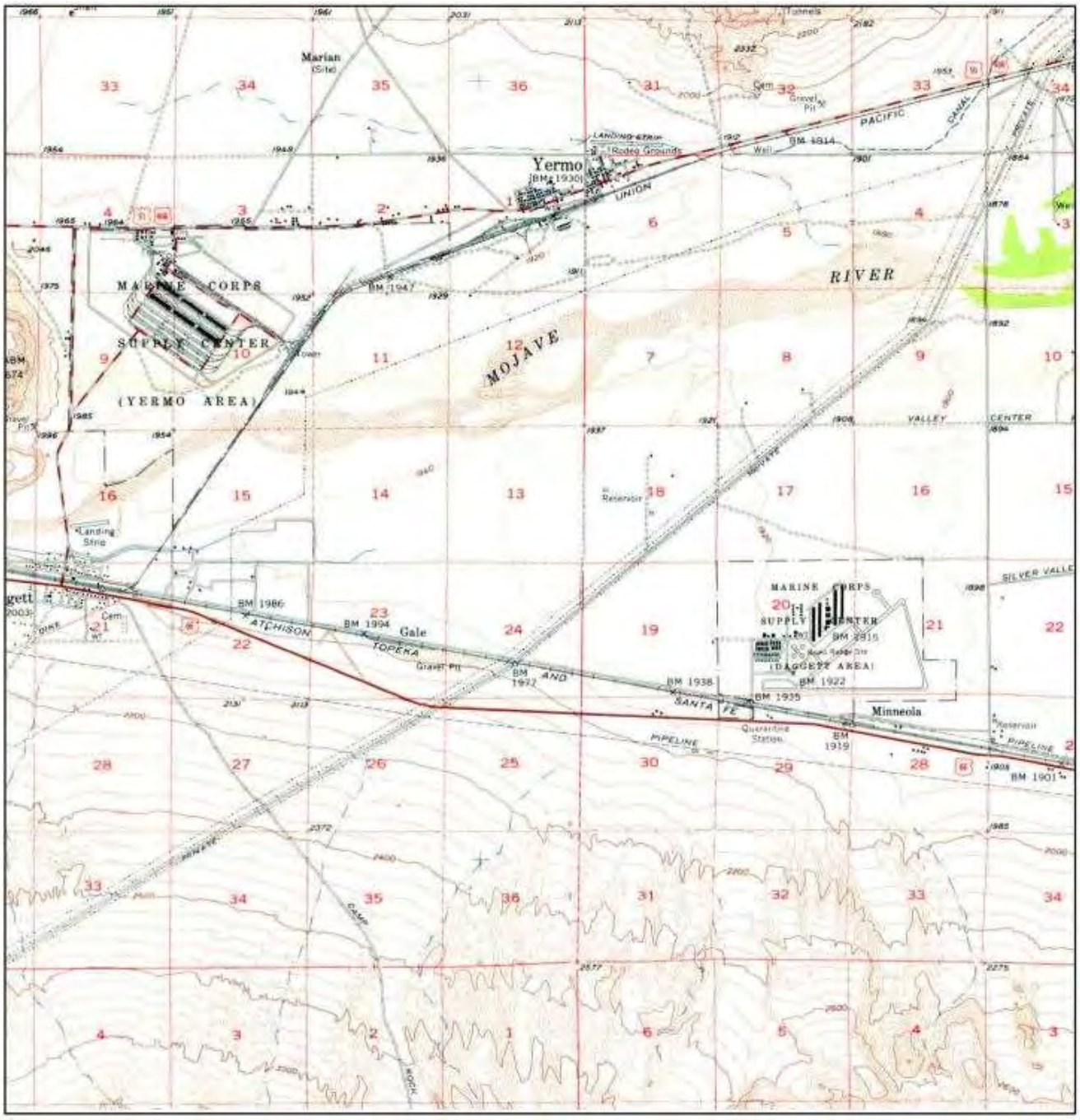
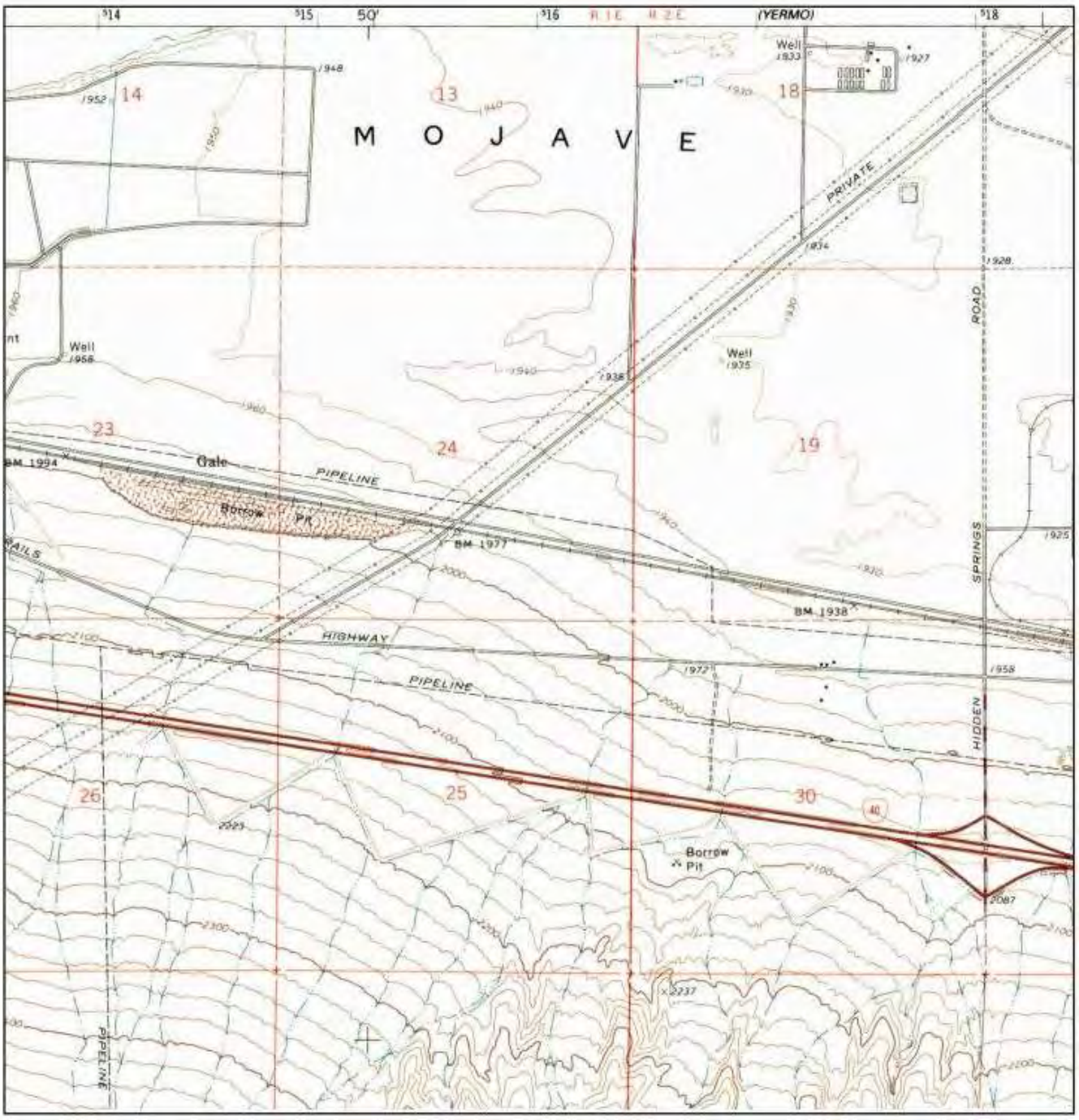
EDR

HISTORICAL TOPOGRAPHIC MAPS



USGS Quad: Daggett
Year: 1956



USGS Quad: Minneola
Year: 1971

USGS Quad: Daggett
Year: 1983

APPENDIX D
Subject Property Photographs

Sunray Solar Site

Photo ID: 1

Attributes	
Comments	Main office at SEGs 1 powerblock
Photo ID	1

Photo ID: 2

Attributes	
Comments	Location of boring S-4
Photo ID	2

Photo ID: 3

Attributes	
Comments	SEGS 1powerblock
Photo ID	3

Photo ID: 4

Attributes	
Comments	Caloria tanks in SEGs 1. Also, location of fire pit.
Photo ID	4

Photo ID: 5

Attributes	
Comments	Firefighting foam AST
Photo ID	5

Photo ID: 6

Attributes	
Comments	Caloria ASTs in fire pit area at SEGs
Photo ID	6

Photo ID: 7

Attributes	
Comments	Boring location S-1 HTF line at SEGs 1 powerblock
Photo ID	7

Photo ID: 8

Attributes	
Comments	ASTs containing caustics for water treatment were removed in 2010 at SEGs 1 powerblock area.
Photo ID	8

Photo ID: 9

Attributes	
Comments	Hazardous waste storage containers.
Photo ID	9

Photo ID: 10

Attributes	
Comments	Drip pans, oil residues drums, in hazardous waste storage container
Photo ID	10

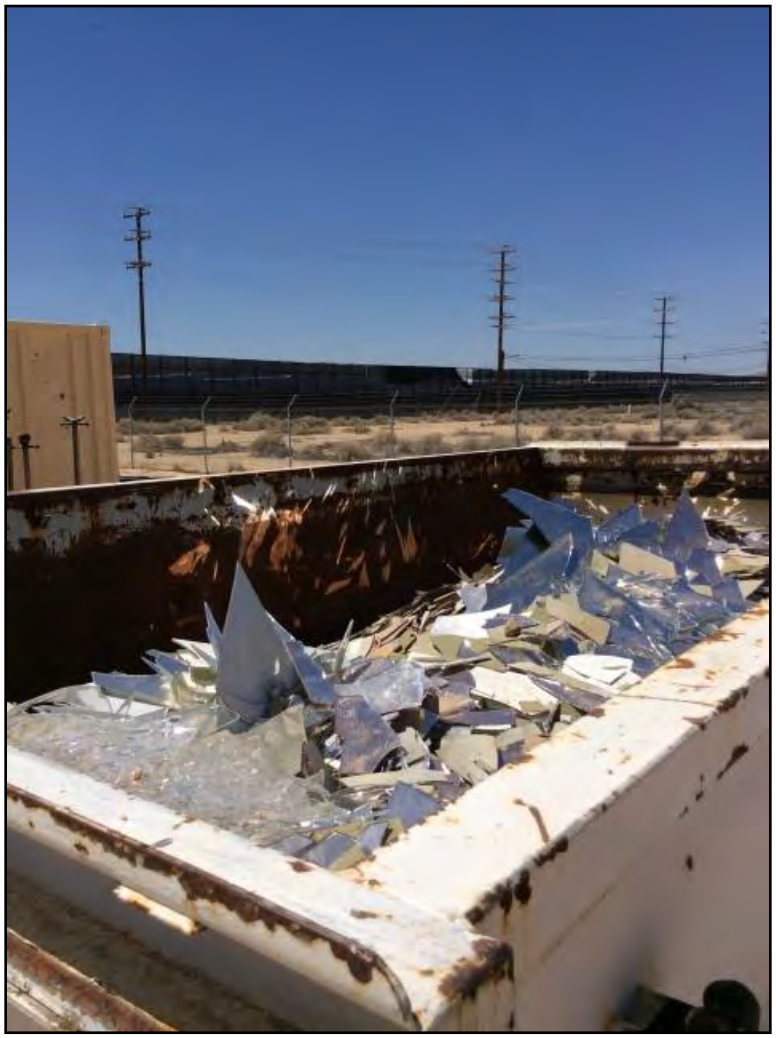
Photo ID: 11

Attributes	
Comments	Drums in hazarous waste storage area
Photo ID	11

Photo ID: 12

Attributes	
Comments	Hazardous waste area. Note battery storage in yellow container. No leaks or spills observed on drip/spill pads. Cracks have been recently sealed.
Photo ID	12

Photo ID: 13



Attributes	
Comments	Storage of mirror glass. The mirror glass has a coating that contains lead. The glass is considered hazadous waste because of TCLP testing above the 5 mg/L limit.
Photo ID	13

Photo ID: 14

Attributes	
Comments	The olive green and faded olive green mirror glass contains the lead that tests above the limits. The white coating does not contain lead.
Photo ID	14

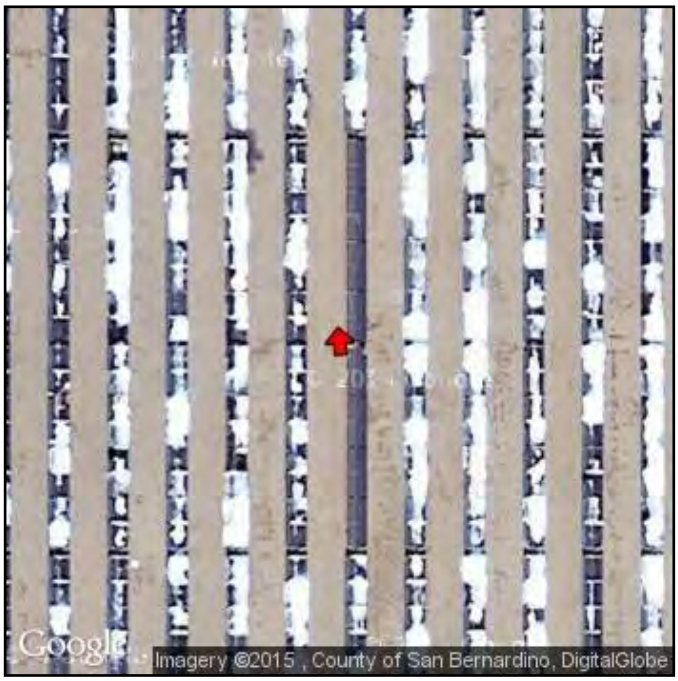
Photo ID: 15

Attributes	
Comments	Header lines at SEGs 1 array field that contains or contained caloria. The SEGs 1 field is no longer in operation. They are currently purging the oil out of the lines with a evacuation pump and storing the oil for recycling in the ASTs located in the fire pit area.
Photo ID	15

Photo ID: 16

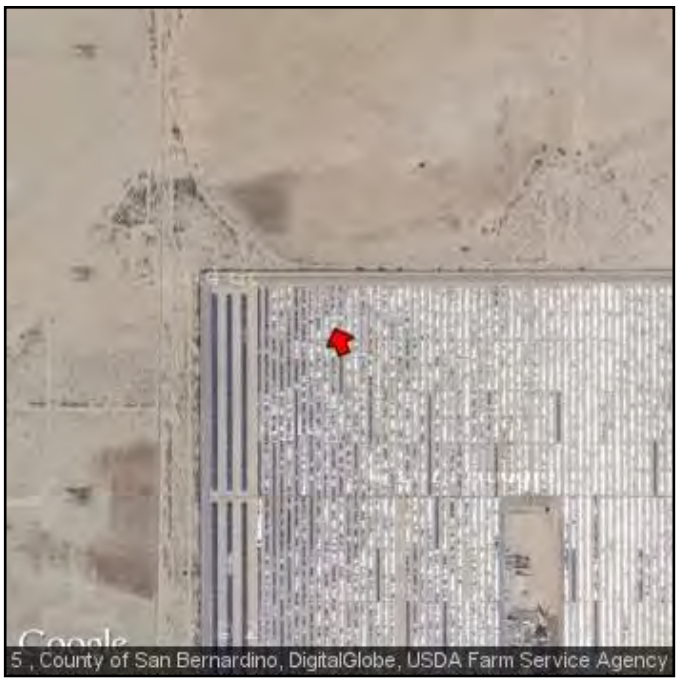
Attributes	
Comments	Note different mirror panels in SEGs 1 array field. White panels do not have lead-based coatings.
Photo ID	16

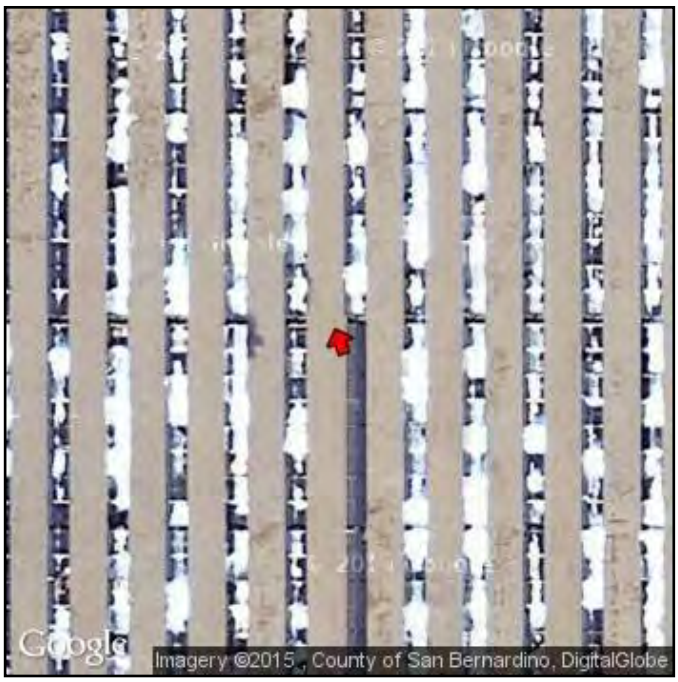
Photo ID: 17



Attributes	
Comments	Active remediation near boring location P-1
Photo ID	17

Photo ID: 18



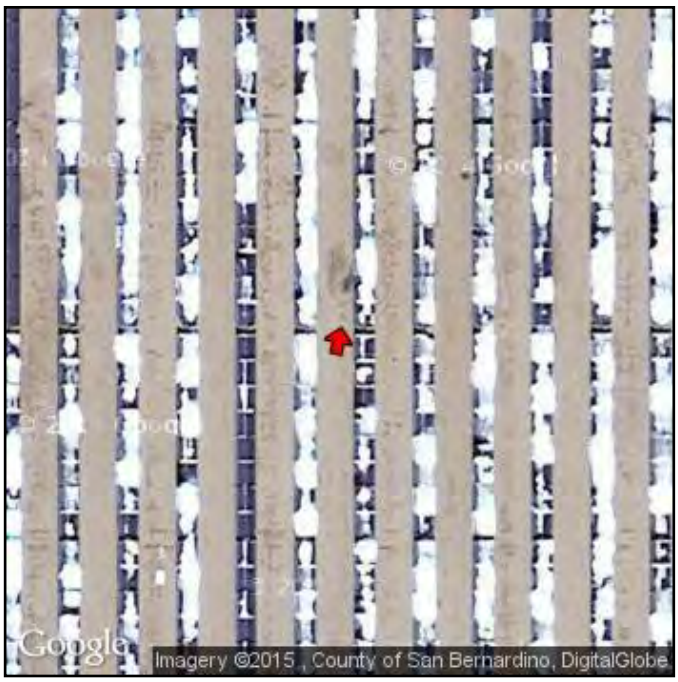


Attributes	
Comments	Active remediation near row 16A at double flex hose near boring P-1
Photo ID	18

Photo ID: 19

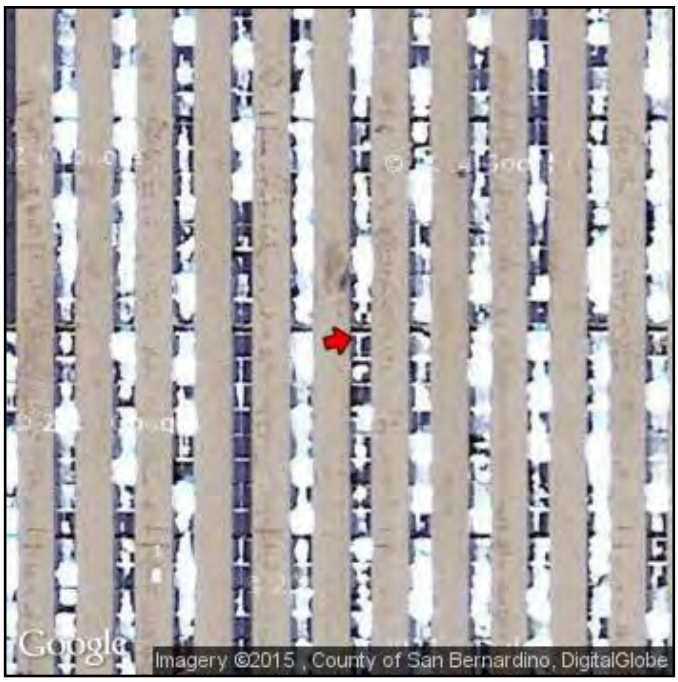
Attributes	
Comments	Double flex hose is were leaks commonly occur
Photo ID	19

Photo ID: 20



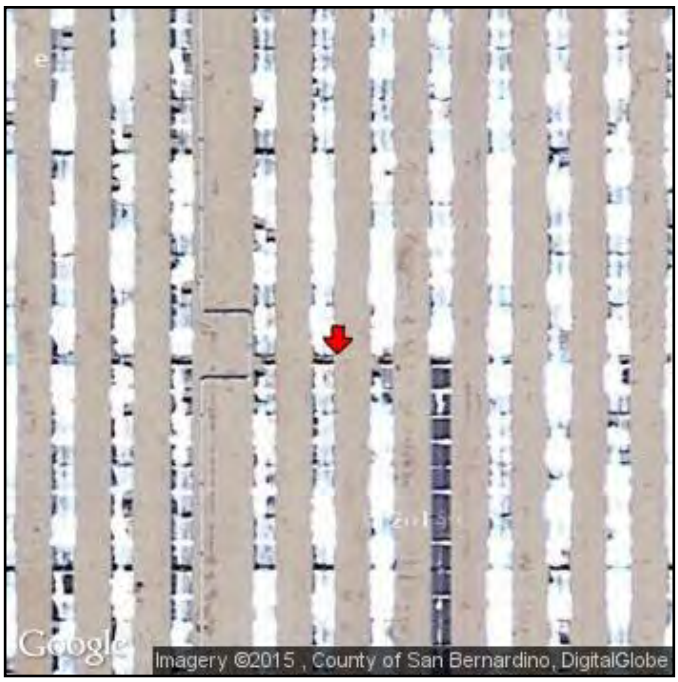
Attributes	
Comments	Spill cleanup at 22C in progress
Photo ID	20

Photo ID: 21



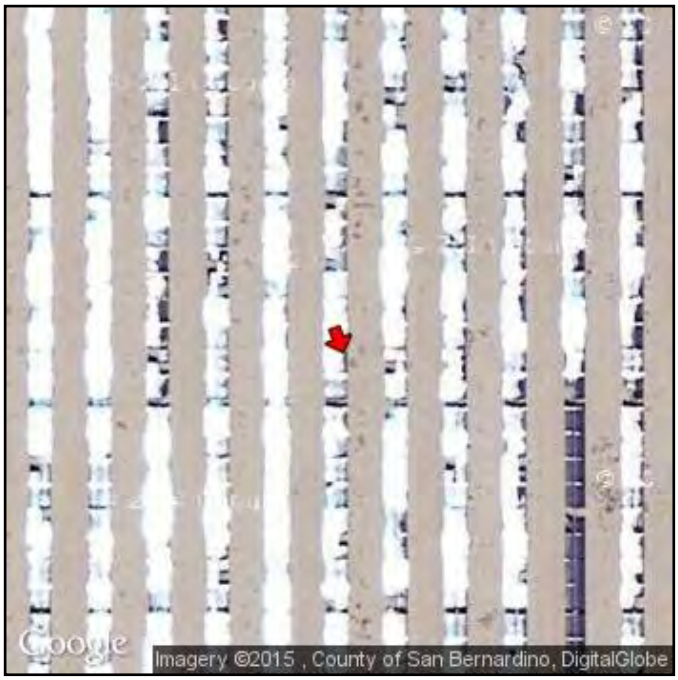
Attributes	
Comments	Spill cleanup at 23B/C completed.
Photo ID	21

Photo ID: 22



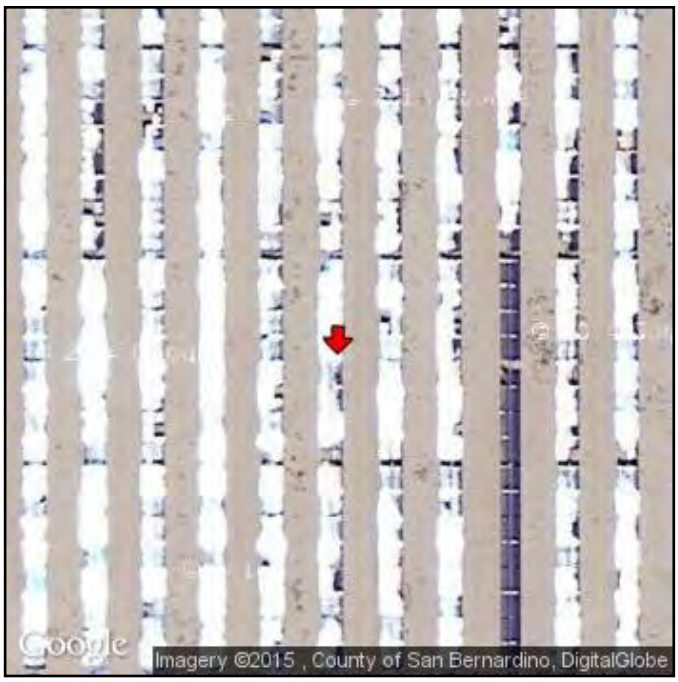
Attributes	
Comments	Boring P-18 location and view of north side of Powerblock 1 in SEGS 1 array field
Photo ID	22

Photo ID: 23



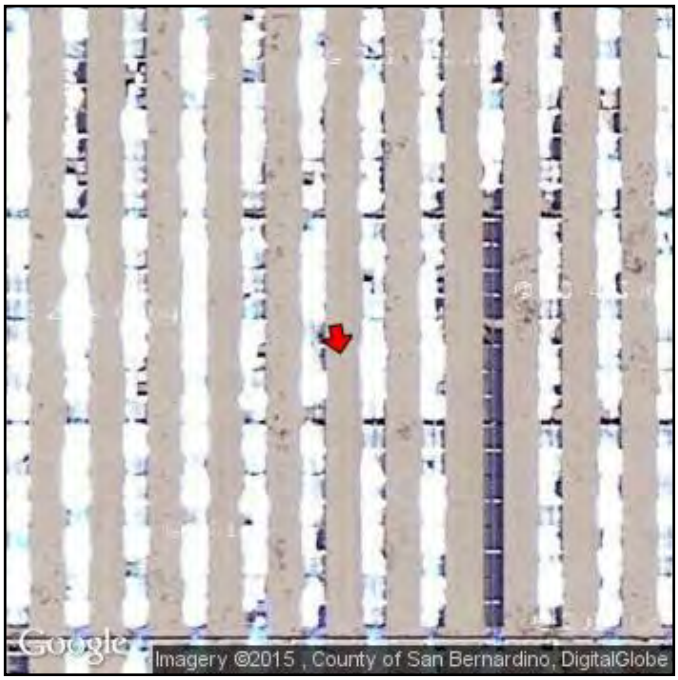
Attributes	
Comments	Excavation remediation at leak from double flex hose - rows 55 and 56C/D
Photo ID	23

Photo ID: 24



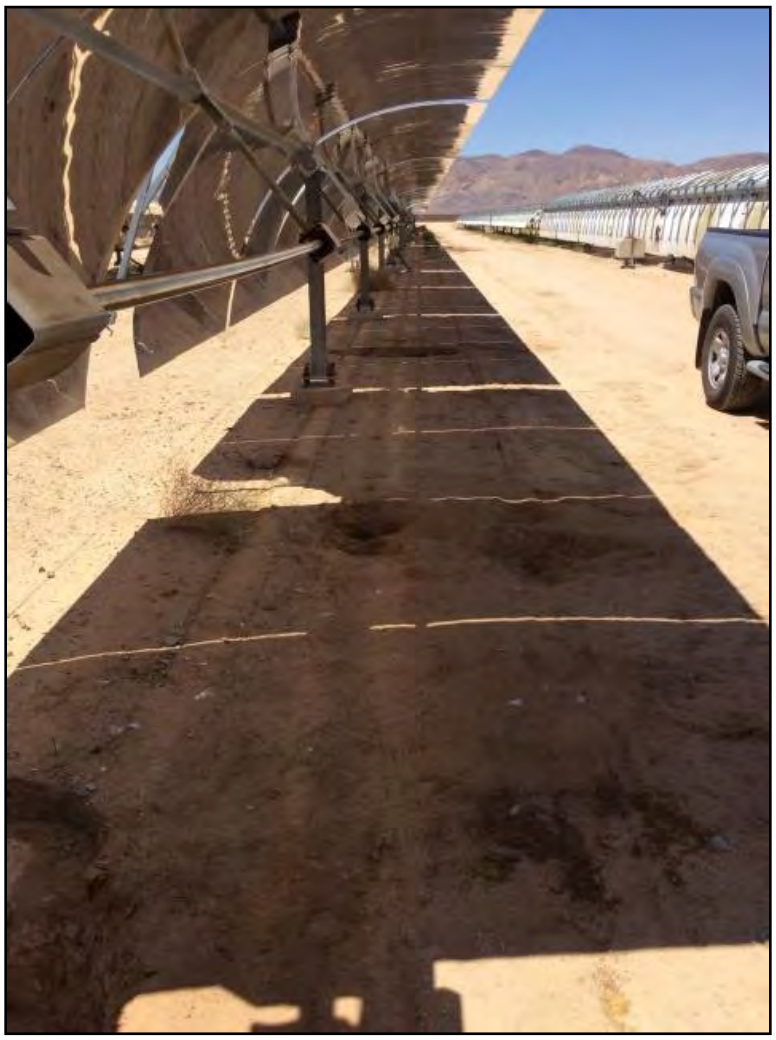
Attributes	
Comments	Concrete piling for array structure. Note contaminated soil around concrete.
Photo ID	24

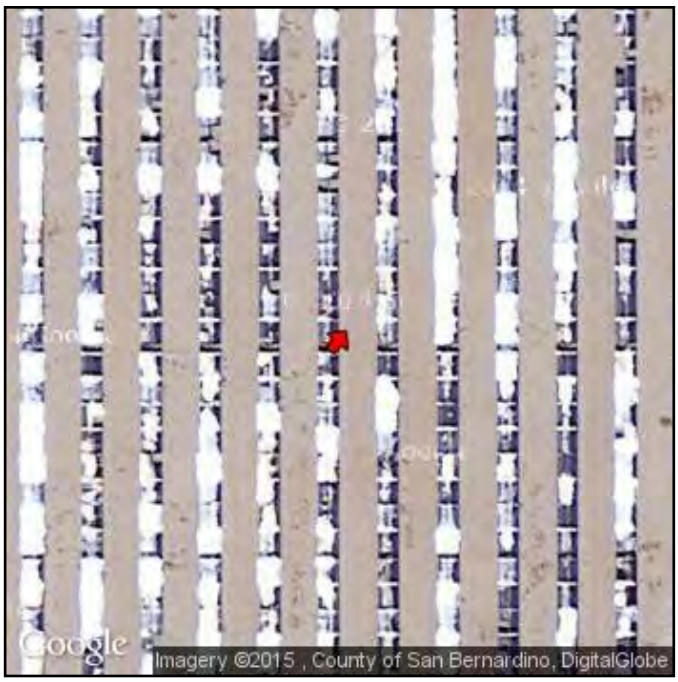
Photo ID: 25



Attributes	
Comments	Caloria contaminated soils on concrete piling.
Photo ID	25

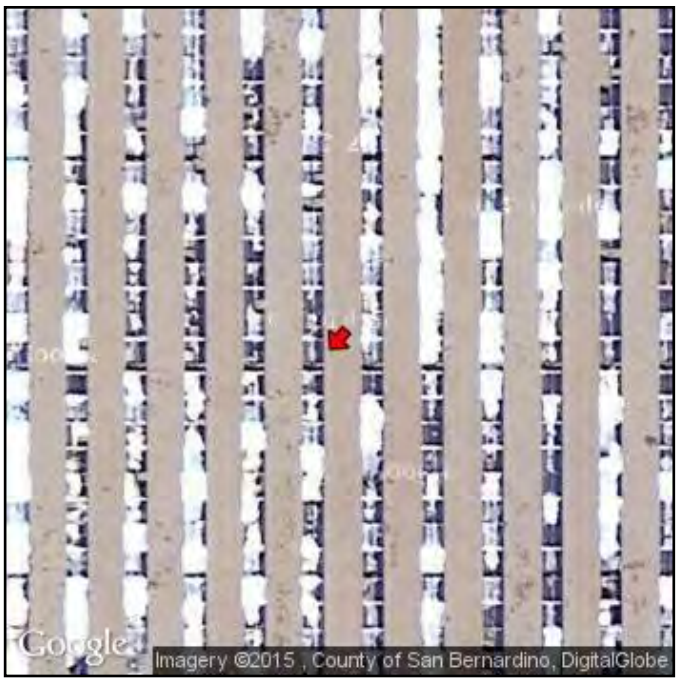
Photo ID: 26





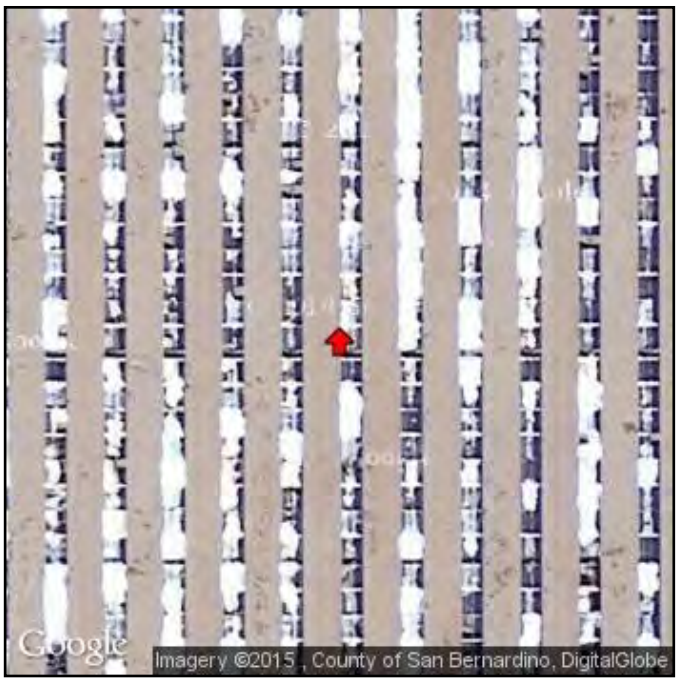
Attributes	
Comments	Note deminimus spills in row 70/71 array C.
Photo ID	26

Photo ID: 27



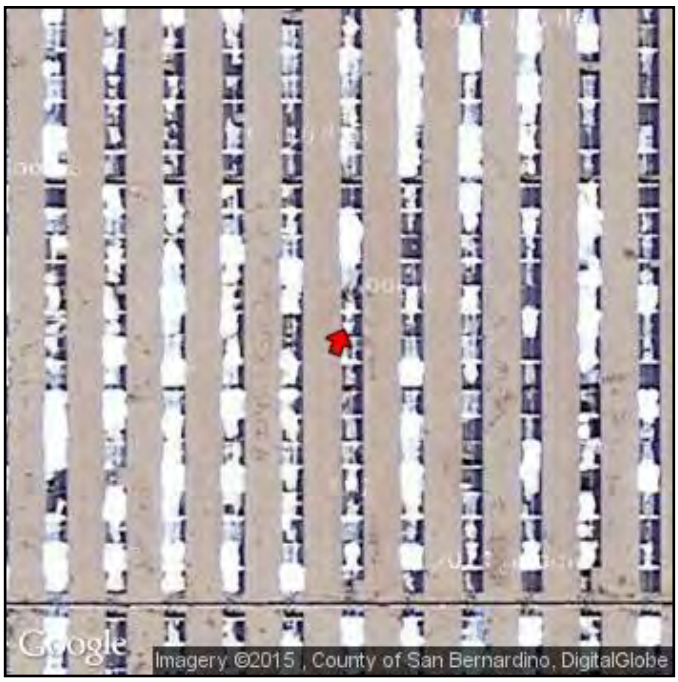
Attributes	
Comments	Note at row 70/71 c remediated 1cy excavation
Photo ID	27

Photo ID: 28



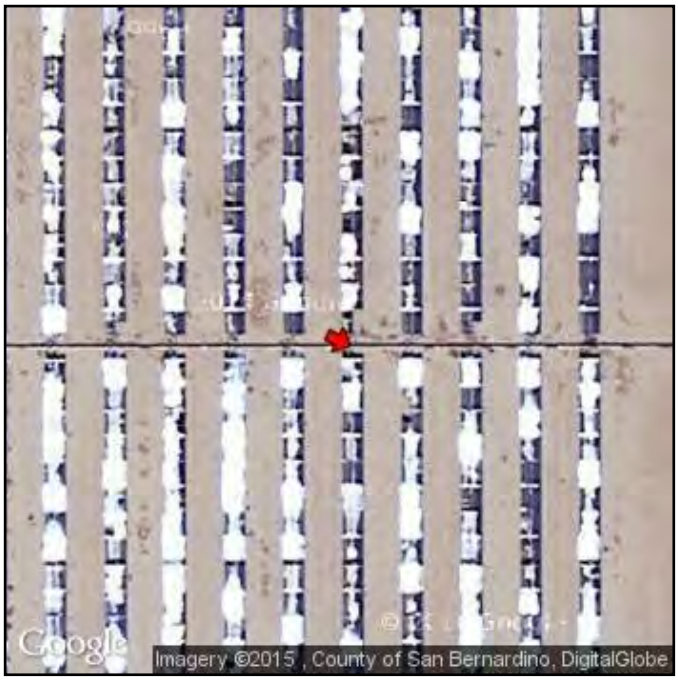
Attributes	
Comments	Row 71/70 C
Photo ID	28

Photo ID: 29



Attributes	
Comments	71/72D in progress. Note darker layer of sand is where caloria is present
Photo ID	29

Photo ID: 30



Attributes	
Comments	Deminimus spill at row 75 D south from single flex. A hand excavation completed.
Photo ID	30

Photo ID: 31

Attributes	
Comments	Boring P-5 at east side of stockpile for LTU 1
Photo ID	31

Photo ID: 32

Attributes	
Comments	Screen machine to screen glass out
Photo ID	32

Photo ID: 33

Attributes	
Comments	South end of LTU 1.
Photo ID	33

Photo ID: 34

Attributes	
Comments	Remediated soil pile from SEGS 1 array field.
Photo ID	34

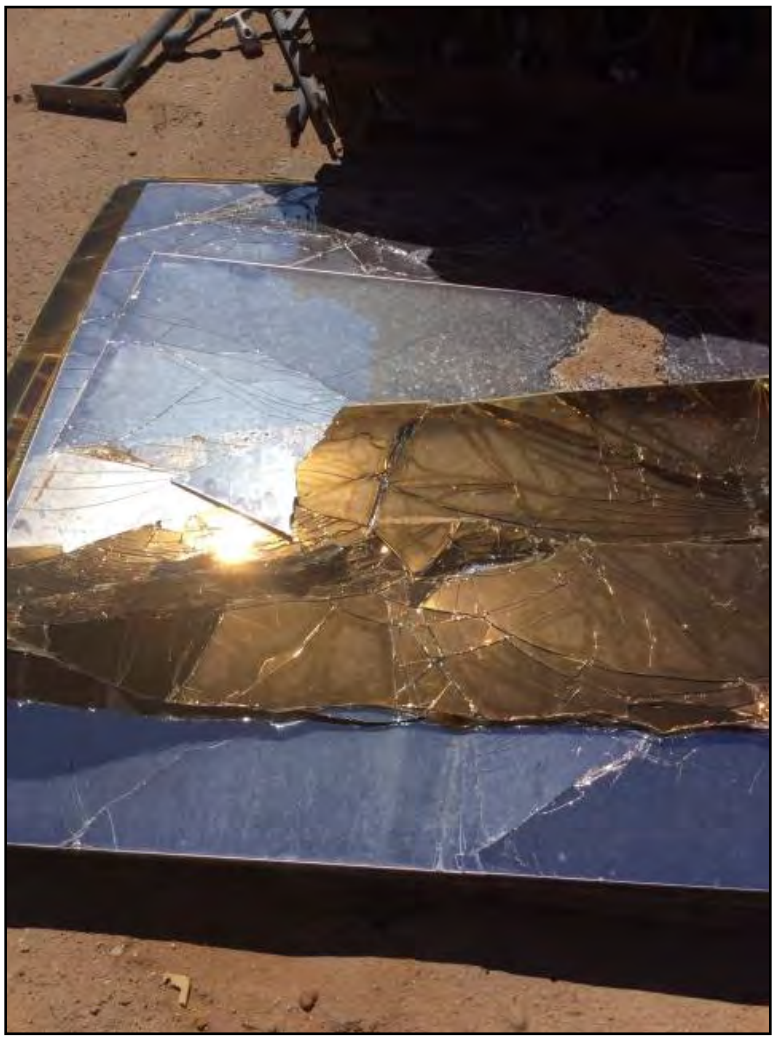
Photo ID: 35

Attributes	
Comments	Thermally treated soil that once contained oil from the equipment yard area
Photo ID	35

Photo ID: 36

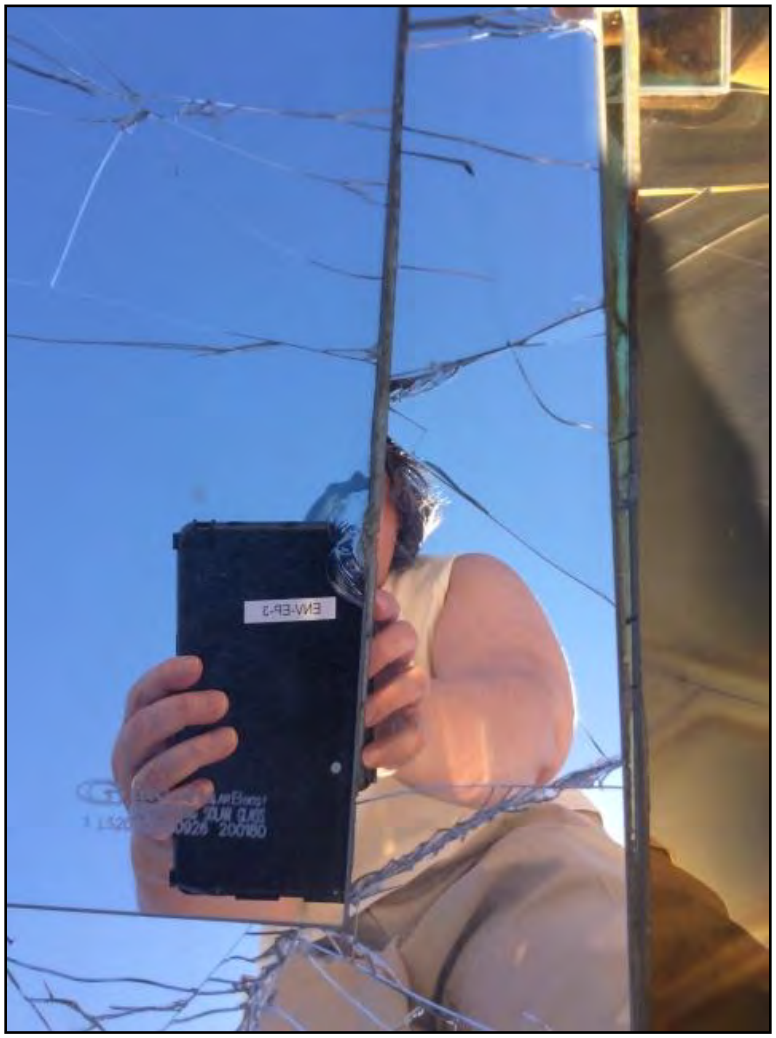
Attributes	
Comments	Treated soil from LTU 1
Photo ID	36

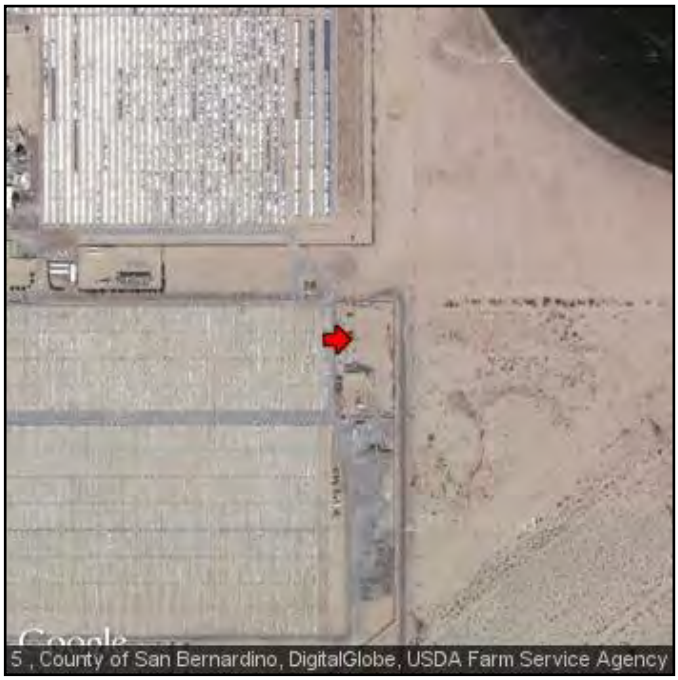
Photo ID: 37



Attributes	
Comments	Guardian mirror glass does not have lead coating on the back of the mirror like the others.
Photo ID	37

Photo ID: 38





Attributes	
Comments	Guardian mirror glass.
Photo ID	38

Photo ID: 39

Attributes	
Comments	Oil lube and motor oil drums
Photo ID	39

Photo ID: 40

Attributes	
Comments	Charcoal for air treatment in drums and phosphorous for water treatment in blue cube tote.
Photo ID	40

Photo ID: 41

Attributes	
Comments	Maintenance garage for vehicles
Photo ID	41

Photo ID: 42

Attributes	
Comments	Parts cleaner recycled in maintainence garage
Photo ID	42

Photo ID: 43

Attributes	
Comments	Diesel and gasoline ASTs for on-site vehicles. Boring M-5 is located off the pad.
Photo ID	43

Photo ID: 44

Attributes	
Comments	One cubic yard sump drains on fuel tanks pad
Photo ID	44

Photo ID: 45

Attributes	
Comments	Water and inoculation tanks for LTUs
Photo ID	45

Photo ID: 46

Attributes	
Comments	Remediated area where numerous deminimus leaks from vehicles in the maintenance and storage yard.
Photo ID	46

Photo ID: 47

Attributes	
Comments	Soil boring M-6 located in the remediated oil area.
Photo ID	47

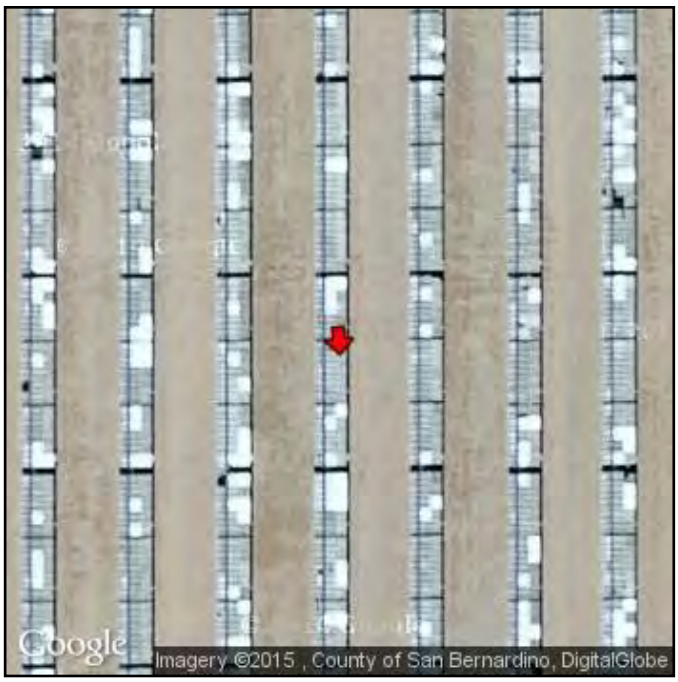
Photo ID: 48

Attributes	
Comments	42m5 by gas tanks
Photo ID	48

Photo ID: 49

Attributes	
Comments	North side of west SEGS 2
Photo ID	49

Photo ID: 50



Attributes	
Comments	SEGS 2 west at soil vapor test location SV-3
Photo ID	50

Photo ID: 51

Attributes	
Comments	SEGS 2 west at soil boring location P-9
Photo ID	51

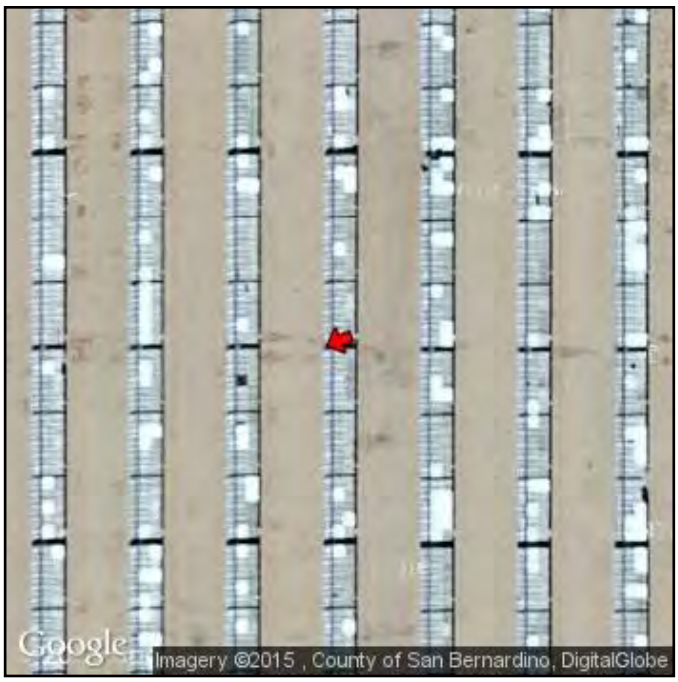
Photo ID: 52

Attributes	
Comments	Therminol spill at 37B double flex hose. Darker wet looking areas is where there is still some stringers of therminol that needs to be excavated.
Photo ID	52

Photo ID: 53

Attributes	
Comments	Double flex hose in therminol array
Photo ID	53

Photo ID: 54



Attributes	
Comments	Former remediaton area at 27H in west SEGS 2 array field. Boring P-11 is located in this area.
Photo ID	54

Photo ID: 55

Attributes	
Comments	View of east SEGS 2 array field between rows 17 and 18. Boring P-12 is located in this area.
Photo ID	55

Photo ID: 56

Attributes	
Comments	Therminol stockpile ready to be put in treatment area. Boring P-13 is located along the site periminter in this area.
Photo ID	56

Photo ID: 57

Attributes	
Comments	Machine shop and storage conex near soil boring S-11
Photo ID	57

Photo ID: 58

Attributes	
Comments	Used oil AST at SEGS 2 Powerblock. There is a large containment area. No leaks or spills observed.
Photo ID	58

Photo ID: 59

Attributes	
Comments	View of SEGS 2 powerblock near soil boring S-10
Photo ID	59

Photo ID: 60

Attributes	
Comments	Green water pipe at soil boring S-9 in SEGS 2 powerblock area
Photo ID	60

Photo ID: 61

Attributes	
Comments	At soil boring S-7 in SEGS 2. Acid tanks and independent superheat.
Photo ID	61

Photo ID: 62

Attributes	
Comments	Therminal AST at boring S-5
Photo ID	62

Photo ID: 63

Attributes	
Comments	Phosphate additive to process water to control pH at powerblock
Photo ID	63

Photo ID: 64

Attributes	
Comments	Emergency generator at soil boring S-6
Photo ID	64

Photo ID: 65

Attributes	
Comments	East well at cooling tower for SEGS 2
Photo ID	65

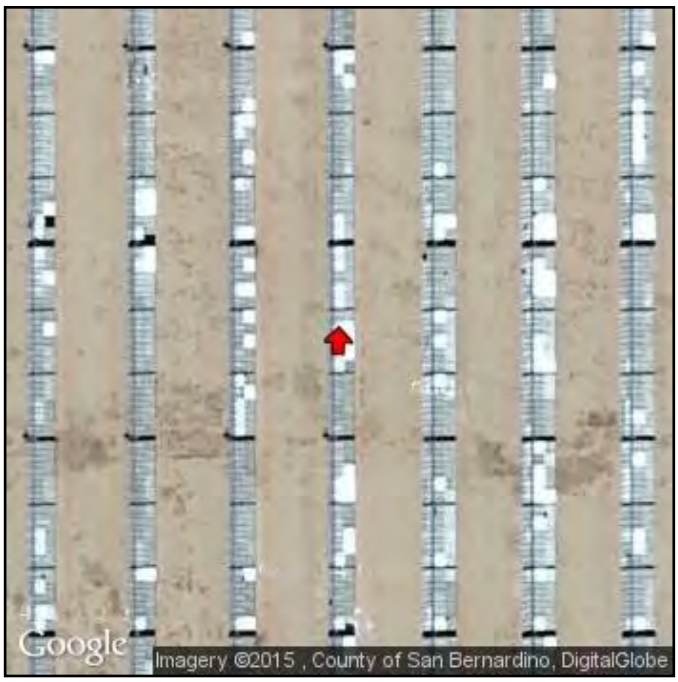
Photo ID: 66

Attributes	
Comments	Land treatment unit (LTU) area 2 for therminol contaminated soils
Photo ID	66

Photo ID: 67

Attributes	
Comments	View of SEGS 2 powerblock and east solar field on right
Photo ID	67

Photo ID: 68



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Comments	Location of soil vapor probe SV-6 in east SEGS 2 array feld
Photo ID	68

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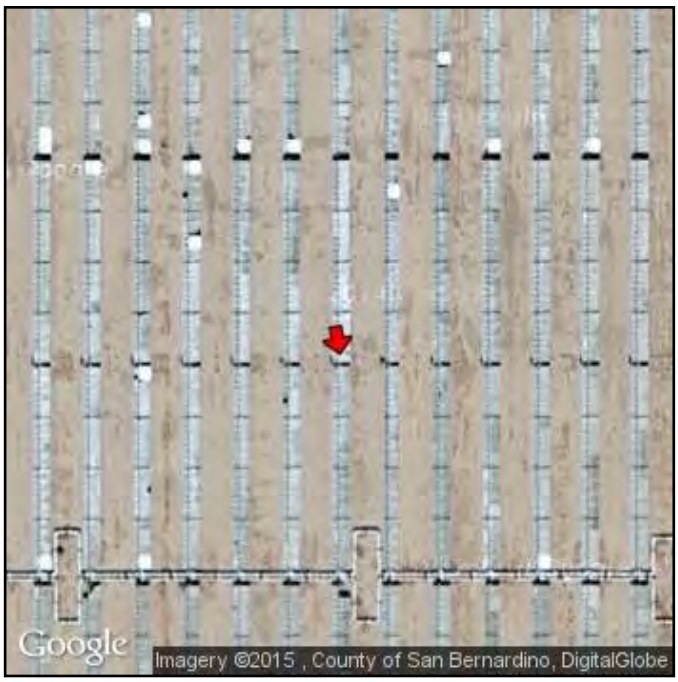
Comments	View of SEGS 2 east between rows 26/27 near soil boring P-14
Photo ID	69

Photo ID: 70

Attributes	
Comments	At soil boring P-15 in SEGS 2 south field
Photo ID	70

Photo ID: 71



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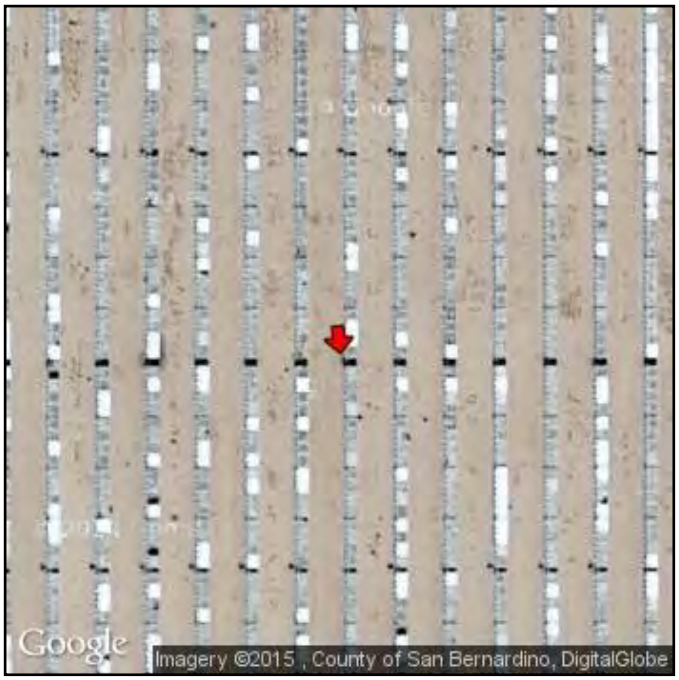

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Comments	North SEGS 2 array at 66T old therminol spill remediated.
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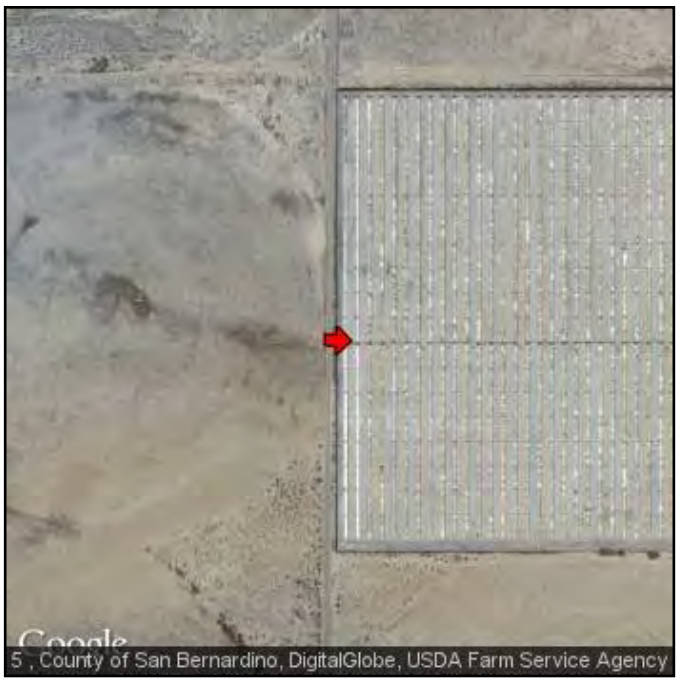

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Photo ID	73

Photo ID: 74

Attributes	
Comments	Multiple therminal deminimus spill area at 41 E/F , east array SEGS 2 field.
Photo ID	74

Photo ID: 75

Attributes	
Comments	Double flex hose in between J/K mirror section is old spill site near boring P-16
Photo ID	75

Photo ID: 76

Attributes	
Comments	Foundation at double flex leak site at 14 J/K south SEGS 2 array field
Photo ID	76

Photo ID: 77

Attributes	
Comments	Monitoring well north of pond at soil boring location W-3
Photo ID	77

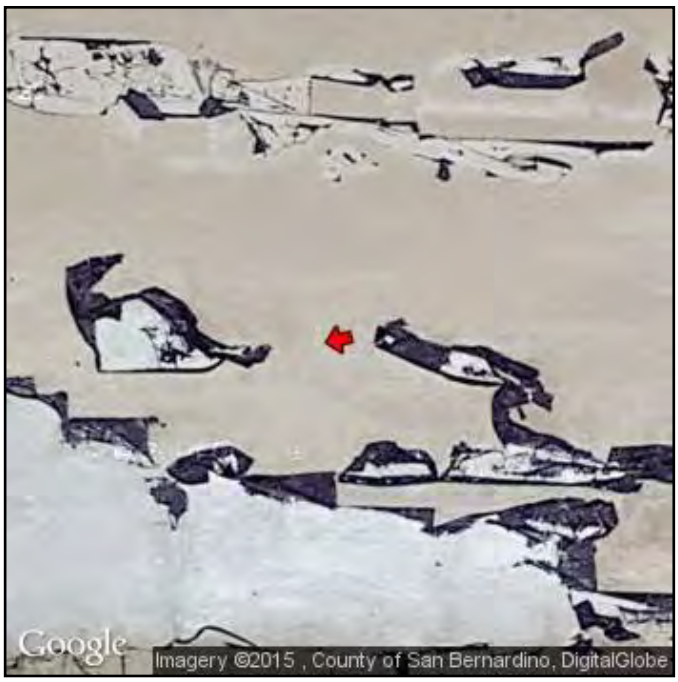
Photo ID: 78

Attributes	
Comments	4 inch ID monitoring well MW-4A
Photo ID	78

Photo ID: 79

Attributes	
Comments	Inside north pond at about W-1 location
Photo ID	79

Photo ID: 80



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Comments	Inside north pond at about W-2 location
Photo ID	80

Photo ID: 81

Attributes	
Comments	Sumps in between east and west ponds
Photo ID	81

Photo ID: 82

Attributes	
Comments	West pond
Photo ID	82

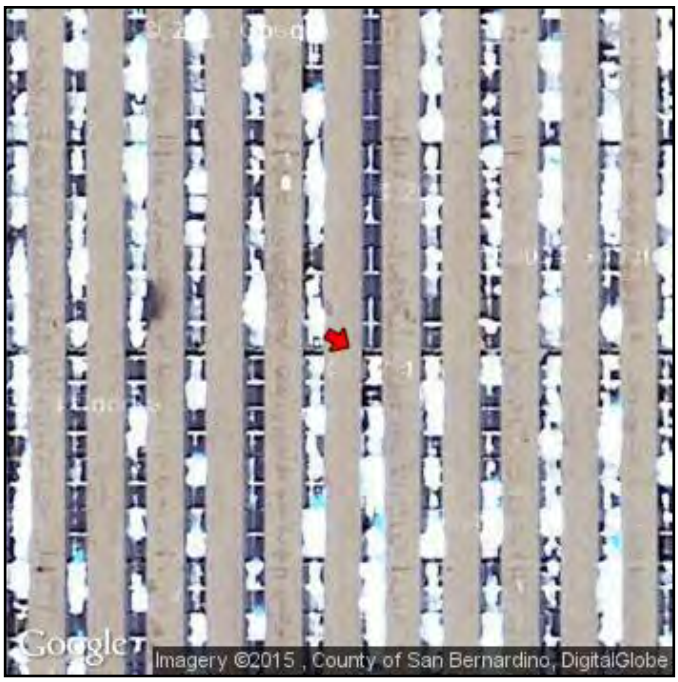
Photo ID: 83

Attributes	
Comments	East pond
Photo ID	83

Photo ID: 84

Attributes	
Comments	Inside sump for west pond
Photo ID	84

Photo ID: 85



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Comments	Location of soil vapor sample SV-1
Photo ID	85

Photo ID: 86

Attributes	
Comments	Location of soil boring P-5
Photo ID	86

Photo ID: 87

Attributes	
Comments	Area where site people (prior to Cogentrix) started a new land treatment unit and spread the contaminated soils from the fire pit area.
Photo ID	87

Photo ID: 88

Attributes	
Comments	Location by caustic tanks at SEGS 1 power block
Photo ID	88

Photo ID: 89

Attributes	
Comments	Condenser vacuum pump area at SEGS 1. Condensation pit. Water only area.
Photo ID	89

Photo ID: 90

Attributes	
Comments	Caloria aux oil heater at SEGS 1. No oil spillage visible. Completely drained
Photo ID	90

Photo ID: 91

Attributes	
Comments	Inlet to aux tanks at SEGS 1 powerblock
Photo ID	91

Photo ID: 92

Attributes	
Comments	Outlet to six tanks to evacuate the oil.
Photo ID	92

Photo ID: 93

Attributes	
Comments	Caloria tanks at SEGS 1.
Photo ID	93

Photo ID: 94

Attributes	
Comments	Fill for Caloria 12,000 gallon storage tank
Photo ID	94

Photo ID: 95

Attributes	
Comments	Portable evac tank with portable diesel fuel tank on drip pad and empty HTF AST in background
Photo ID	95

Photo ID: 96

Attributes	
Comments	Old connection line for HTF AST area.
Photo ID	96

Photo ID: 97

Attributes	
Comments	Heptane tank at SEGS 1 was a degradation product as a vapor. Was usually flared.
Photo ID	97

Photo ID: 98

Attributes	
Comments	Heptane organics leaking out or water vapor condensate dripping off of pipe.
Photo ID	98

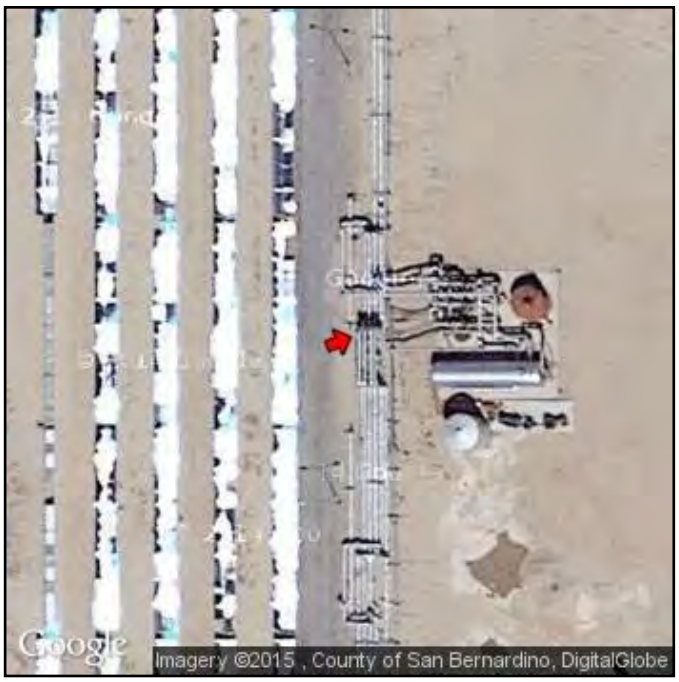
Photo ID: 99

Attributes	
Comments	Heptane organics leaking out of pipe or possibly water vapor dripping off of pipes.
Photo ID	99

Photo ID: 100

Attributes	
Comments	Caloria HTF pressure relief AST that is out of service.
Photo ID	100

Photo ID: 101



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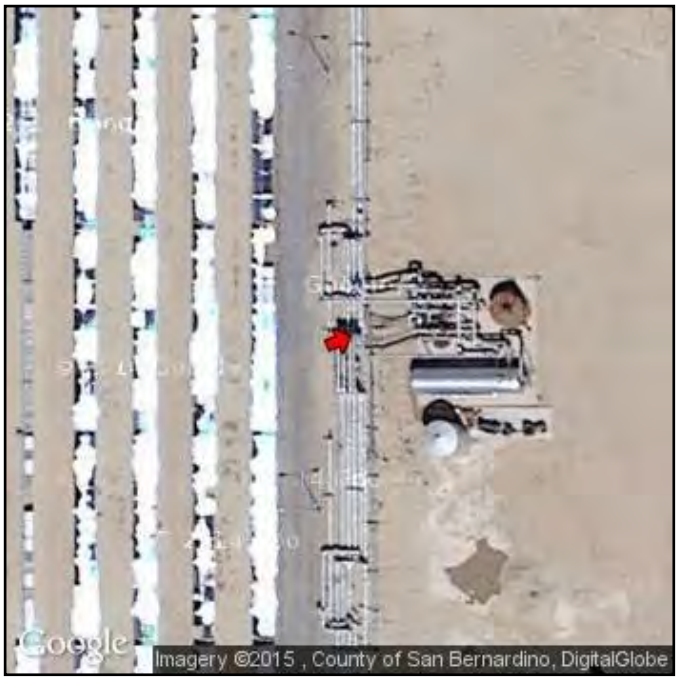
Comments	Distribution header area into Caloria storage tanks in fire pit.
Photo ID	101

Photo ID: 102



Attributes	
Comments	See labels.
Photo ID	102

Photo ID: 103

Attributes	
Comments	More header pipes that formerly contained Caloria
Photo ID	103

Photo ID: 104

Attributes	
Comments	EST, Inc. on boring S-2
Photo ID	104

Photo ID: 105

Attributes	
Comments	Boring sample S-2 from 0 to 4 ft depth.
Photo ID	105

Photo ID: 106

Attributes	
Comments	EST, Inc. geoprobe
Photo ID	106

Photo ID: 107

Attributes	
Comments	Therminol stockpile being put in LTU 2.
Photo ID	107

Photo ID: 108

Attributes	
Comments	Soil boring location P-13.
Photo ID	108

Photo ID: 109

Attributes	
Comments	Therminol stockpile decreasing in size because currently spreading the dirt on LTU No.2.
Photo ID	109

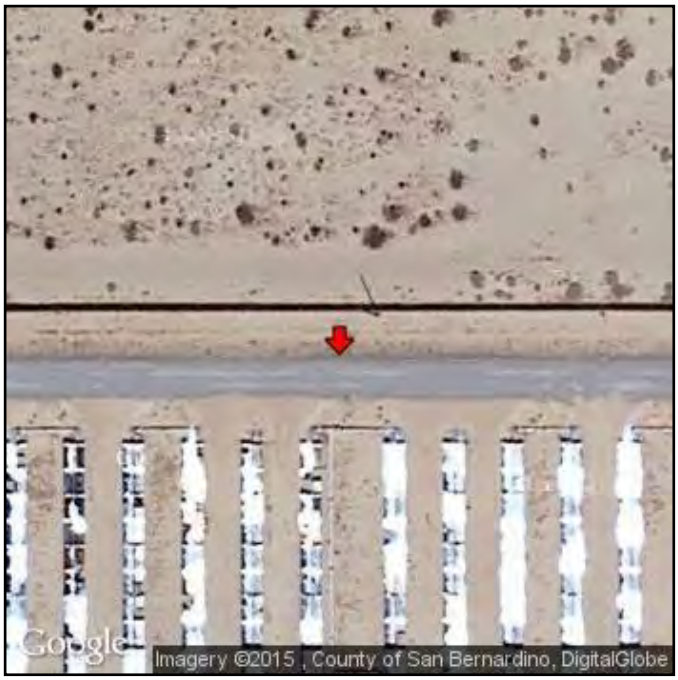
Photo ID: 110

Attributes	
Comments	GeoVision GPR unit.
Photo ID	110

Photo ID: 111

Attributes	
Comments	Location of boring P-11 at row 27 H. Therminol spill west SEGS 2 Field
Photo ID	111

Photo ID: 112



Attributes	
Comments	Boring Location for P-3 and header lines at row 42/43 SEGS 1.
Photo ID	112

Photo ID: 113

Attributes	
Comments	Water condenser at SEGS 2.
Photo ID	113

Photo ID: 114

Attributes	
Comments	Deminimus oil spillage from pumps in the water chemical storage building at SEGS 2 powerblock
Photo ID	114

Photo ID: 115

Attributes	
Comments	Superheater for heating steam to step up energy.
Photo ID	115

Photo ID: 116

Attributes	
Comments	Therminol lines going into water heating area
Photo ID	116

Photo ID: 117

Attributes	
Comments	Therminol spill were cap was left open and can't all be cleaned up because of high temp oil in lines. Too hard to dig out now. Will need to be later during decommissioning.
Photo ID	117

Photo ID: 118

Attributes	
Comments	Storage sheds for parts south of office at SEGS 2 powerblock
Photo ID	118

Photo ID: 119

Attributes	
Comments	Spare empty transformer at SEGS 2 powerblock area
Photo ID	119

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Attributes	
Comments	File cabinets with environmental files going back to 1996 inside main office at SEGS 1 powerblock.
Photo ID	120

Photo ID: 121

Attributes	
Comments	Cooling tower treatment chemical AST at SEGS 1
Photo ID	121

Photo ID: 122

Attributes	
Comments	Diesel fuel AST for fire pump.
Photo ID	122

Photo ID: 123

Attributes	
Comments	Engine that drives the fire pump
Photo ID	123

Photo ID: 124

Attributes	
Comments	Cooling towers for SEGS 1 powerblock
Photo ID	124

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Eric Hansen
Sr. Environmental Engineer

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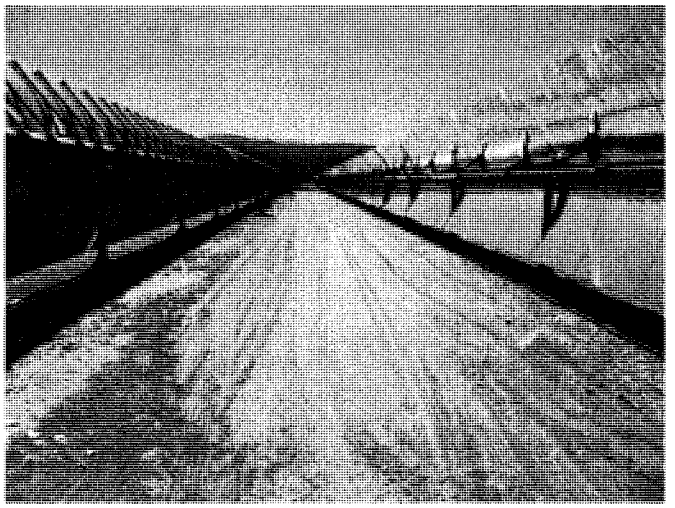

Solar Energy Generating System I & II
Daggett, California

San Bernardino County

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February 2009

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FIGURES

Figure 1. Phase II Boring Location Map SEGS I & II Daggett, California

TABLES

Table 1. Estimated Volume of Impacted Soils above 100 mg/kg, SEGS I and II Daggett, California

Table 2. Remedial Action Cost Estimate

APPENDICES

Appendix A Northgate Environmental Management, Inc. Phase II Environmental Site Assessment Solar Energy Generating System 1 & 2 Daggett, California

1. INTRODUCTION

Tetra Tech EC, Inc. (TtEC) was retained by Cogentrix Energy, Inc. (Cogentrix) to perform both a Phase I Environmental Site Assessment (in accordance with "Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process," issued by American Society for Testing and Materials (ASTM) Standard E1527-05) and Phase II Field Investigation for the Sunray Energy, Inc. (Sunray) Solar Energy Generating System (SEGS) I and II, located in Daggett, California (the site). The following recognized environmental conditions were identified through completion of the Phase I ESA process.

- SEGS I & II Solar Arrays—Evidence of releases of heat transfer fluid (HTF) in SEGS I & II was identified below flex lines, piping joints, valves, and drain ports.

- SEGS I Power Block 1999 Fire—The 330-foot by 150-foot secondary containment pit located north of the SEGS I Power Block was the site of a catastrophic tank failure, resulting in a 750,000 to 1,000,000-gallon HTF release, a Heptane release up to a maximum of 10,000 gallons, a Toluene release up to a maximum of 20,000 gallons, and fire in February 1999.

- Groundwater at the SEGS I Power Block—The large release of HTF mentioned above warrants a sample of the groundwater from the closest well in the vicinity.

- SEGS I Power Block—Stained soil was found at a Caloria expansion tank where HTF pumping operations take place.

- SEGS II Power Block—Stained soil was found below a hand crafted Therminol expansion system, industrial air compressor, and PCB oil containing transformer (as identified on the transformer identification plate).

- SEGS II Cooling Tower—A large stained area (approximately 100 feet by 50 feet) with white precipitate was located east of the acid tank secondary containment.

- Equipment Yard—Soil staining around open drums of HTF, piles of used flex lines, and drum storage area.

- HTF Impacted Soils Stockpiles—Two areas at the site were used historically for the stockpiling of HTF impacted soils. These two areas were near the southwestern-most corner of SEGS I and the southern-most portion of SEGS II, just east of the cooling tower. The practice of storing impacted soils in these areas could potentially have resulted in impacts to the underlying soil

- Therminol Burial Area—Approximately 100 feet east of SEGS II eastern boundary (east fence) 1,000 to 2,000 gallons of Therminol was buried and reportedly cleaned up. The affected area is approximately 20 feet by 200 feet.

This document comprises a summary of the Phase II Field Investigation. The ultimate objective of the Phase II Field Investigation was to develop sufficient data to develop an estimate of costs for eventual site remediation. Tetra Tech EC retained Northgate Environmental Management, Inc. (Northgate) to assist with the Phase II Field Investigation. Interphase Environmental Inc. was contracted by Northgate to perform the direct push drilling needed to conduct the investigation. Soil borings were advanced at 55 locations from December 2 through 6, 2008. The locations of these borings are illustrated in Figure 1. All field operations were coordinated and conducted under Tetra Tech EC personnel oversight. The

Northgate Environmental Management, Inc. Phase II Environmental Site Assessment Solar Energy Generating System 1 & 2 Daggett, California report is included in Appendix A as supporting documentation for this report

2. SITE DESCRIPTION

SEGS I and II are two Concentrated Solar Power (CSP) generating facilities, co-located on a 333-acre site. SEGS I, located in the northern portion of the site, is rated at 14.7 megawatts, while the larger SEGS II, located in the southern and southwestern portions of the site, is rated at 30 megawatts. Both CSP facilities operate using parabolic trough technology. This technology uses trough-shaped reflectors (mirrors), which focus the sun's energy on a glass encapsulated tube containing heat transfer fluid (HTF). The heated HTF, which is a high temperature oil, moves through the tubes to a central facility location (power block) where it is used to generate steam, which in turn is used to power a turbine generator. Two HTFs have been used extensively at the site. The HTF used at SEGS I is Caloria HT-43, which is a de-waxed paraffinic petroleum distillate. At SEGS II, the HTF of choice is Therminol VP-1 (Dowtherm A), which is a eutectic mixture of biphenyl and diphenyl oxide. Based on manufacturers Material Data Safety Sheets (MSDS), Therminol VP-1 can contain small concentrations of benzene.

3. SITE HISTORY

Prior to development as a solar generating facility, the site was used for agricultural purposes. The land was originally part of the Van Dyke Ranch, which later became the Cool Water Ranch before being sold to Southern California Edison (SCE).

LUZ, the original developer of SEGS I & II, leased the project site from SCE. LUZ eventually went into bankruptcy and the project was acquired by Daggett Leasing Corporation (DLC). Eric Wills, the principal owner of DLC, later changed the project's name to Sunray Energy Inc. In addition, the project purchased the land from SCE. However, SCE retains a first right of refusal should the property be sold at some future date.

4. PHASE II FIELD INVESTIGATION

As part of the implementation of the Phase I ESA, TtEC identified several recognized environmental conditions (RECs) at the site. The identified RECs were grouped into nine different areas within the site. The Phase II field investigation consisted of environmental sampling at each of the nine REC areas. With the exception of the groundwater REC, soil samples were collected with a direct push drill rig and analyzed by Test America, a California accredited lab, for potential contaminants selected based on institutional knowledge of operational history and chemical usage at those REC areas.

At each location, the objective was to determine the vertical and areal extents of HTF impacts to allow for the calculation of an estimated volume of impacted soil. The field team relied on visual indications of impact and odor to guide the sampling program. A cleanup standard of 100 milligrams per kilogram (mg/kg) for TPH in HTF impacted soil was previously established under the site Clean Up and Remediation Plan, dated August 1, 1997. Estimated volumes of impacted soils above the 100 mg/kg are included in Table 1. A summary description of sampling activities at each REC is provided below.

4.1 SEGS I &II Solar Array Stained Areas

During the Phase I ESA, TtEC identified approximately 100 stained areas in the solar array fields. Most of these stained areas are attributable to the release of HTF. Many of these stains cover very small areas, and likely do not represent significant impacts to the environment. Accordingly, only a subset of the stains identified during the Phase I ESA was sampled in the Phase II Investigation.

Accordingly, 38 borings within the SEGS I Solar Array and 17 borings within the SEGS II Solar Array were drilled at stained areas covering 50 square feet or more. Within the SEGS I Solar Array, 64 soil samples were collected and analyzed for Total Petroleum Hydrocarbon – Carbon Chain (TPH-cc), diphenyl oxide/biphenyl, and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX). Within the SEGS II Solar Array, 47 soil samples were collected and analyzed for TPH-cc and diphenyl oxide/biphenyl; 46 of these samples were also analyzed for BTEX.

Based on analytical results and field observations of the area of surface staining and depth of staining within the soil cores, an estimated volume of impacted soil was calculated. Approximately 3,300 cubic yards of contaminated soil within the SEGS I Parabolic Array and 954 cubic yards of impacted soil within the SEGS II Parabolic Array were delineated from the Phase II Investigation.

Of the 3,300 cubic yards of impacted HTF soil within the SEGS I Parabolic Array only 1275 cubic yards exceeded the cleanup standard of 100 mg/kg. Of the 954 cubic yards of impacted soil within the SEGS II Parabolic Array only 182 cubic yards exceeded the cleanup standard of 100 mg/kg.

4.2 SEGS I Fire Remediation Area

A major fire occurred in the Chevron Caloria HTF tank farm containment area in close proximity to the SEGS I power block in 1999. During the fire, approximately 1 million gallons of caloria, a maximum of 10,000 gallons Heptane, and a maximum of 20,000 gallons of Toluene were released and burned in the former tank basin north of the SEGS I Administration Building (north side of SEGS I power block). The Phase I ESA conducted by TtEC, Inc. in October 2008 identified a 10,000 gallon Heptane AST and two 10,000 gallon Toluene AST's involved in this fire. It is believed, based on interviews conducted during the Phase I ESA, the fire was allowed to burn itself out. Analysis for semi volatile organic compounds was suggested for this REC due to the potential for products of incomplete combustion.

Three soil borings were advanced to 20 feet bgs within this area, eight soil samples were collected from 4 to 5 feet bgs up to 19 to 20 feet bgs, and analyzed for TPH-cc, diphenyl oxide/biphenyl, and BTEX. Six of the eight samples were analyzed for Semi -Volatile Organic Compounds (SVOCs). Based on an 8-foot depth of impact and the size of the tank basin, an estimate of 4,444 cubic yards of impacted soil exceeded the cleanup standard of 100 mg/kg within this area.

4.3 SEGS I Power Block Groundwater

Groundwater was also a REC of interest within the SEGS I Power Block. Groundwater at the site is encountered at approximately 150 feet below land surface. Due to this depth, the viscous nature of HTF at ambient temperatures, and the expected presence of intervening low-permeability layers (caliche), HTF constituents were not expected to have contacted the water table. However, the possibility of contact with the groundwater could not be totally discounted, especially in the area of the SEGS I fire.

A discreet groundwater sample was collected from the groundwater supply well located in the SEGS I power block and analyzed for volatile organic compounds (VOCs) and diphenyl oxide/biphenyl. Analytical results showed the only detection to be toluene at a concentration of 0.65 micrograms per liter

(mg/L), a level approximately 230 times less than the Title 22 California Code of Regulations Related to Drinking Water, the maximum contaminant level for public water supplies - 0.15 milligrams per liter (mg/L). This concentration is very close to the laboratory detection limit. Given the depth to groundwater and the common occurrence of toluene as a laboratory contaminant, this low-concentration detection could be a false positive. However, since toluene was used at the SEGS I Power Block as an industrial cleaner and may have been released in the 1999 fire, its presence in groundwater is possible.

4.4 SEGS I Power Block

One location near the SEGS I Power Block caloria expansion tank contained a significant area of stained soil where HTF pumping operations were taking place. At this location, a boring was advanced to 12 feet below ground surface (bgs), and three soil samples were collected and analyzed for TPH-cc, diphenyl oxide/biphenyl, and BTEX. TPH was detected (only) at a concentration of 350 mg/kg within the 0 to 1 foot bgs interval. The non-detect analytical results in the 5 to 6-foot bgs interval confirm the impact is limited to the near surface. Based on the confirmed depth of impact and the area of the stained soil at the surface, an estimate of 4.4 cubic yards of impacted soil exceeded the cleanup standard of 100 mg/kg within this area.

4.5 SEGS II Power Block

During the Phase I ESA, three locations were identified as areas of significant or special interest soil staining. A large and dark soil stain was identified below a hand crafted therminol expansion system, and a large soil stain was identified around an industrial air compressor. Soil staining below a large PCB oil containing transformer was of special interest.

At the location below the SEGS II Power Block hand crafted therminol expansion system, a boring was drilled to 16 feet bgs, and four soil samples were collected for TPH-cc, diphenyl oxide/biphenyl, and BTEX. Analytical results showed only TPH detections of 12,000 mg/kg and diphenyl oxide of 2,500 mg/kg within the 0 to 1-foot bgs interval, confirming only surface impact. Based on the confirmed depth of impact and the area of the stained soil at the surface, an estimate of 14.8 cubic yards of impacted soil exceeded the cleanup standard of 100 mg/kg within this area.

Numerous unmapped underground utilities prevented direct push drilling activities at the PCB oil containing transformer and industrial air compressor locations within the SEGS II Power Block. No sample was collected at the industrial air compressor. As an alternative, hand tools were incorporated to collect a surface soil sample below the PCB oil containing transformer. This sample was analyzed for TPH-cc, diphenyl oxide/biphenyl, BTEX and PCB's. Below the transformer, TPH was detected (only) at a concentration of 2,800 mg/kg and PCB's were not detected suggesting the source may not be the transformer and could possibly be from another petroleum spill.

4.6 SEGS II Cooling Tower

A large area with a white crust was identified during the Phase I ESA. It was located east of the SEGS II cooling tower and adjacent to the chemical Above Ground Storage Tank (AST) secondary containment units. The source of the spill was noted to be from a breach in the concrete of the AST secondary containment, which contained sulfuric acid.

Three borings were drilled in the area of the white crust to a depth of 12 feet bgs. Nine soil samples were collected and analyzed for pH and results varied from 7.63 to 8.63. The analytical results indicate the pH of the soil at the boring locations is close to neutral and no acidic impacts remain in this area.

4.7 Equipment Yard

Soil staining around open drums of waste HTF, piles of used flex lines, and drum storage area was identified during the Phase I ESA. Ten samples were collected from five borings drilled in this area (EY_1 through EY_5).

Locations EY_1 and EY_3 were associated with surface soil stains likely from HTF. Each boring was drilled to 12 feet bgs and samples were collected from the 0 to 1-foot and 5 to 6-foot bgs intervals. All four samples were analyzed for TPH-cc, diphenyl oxide/biphenyl, and Volatile Organic Compounds (VOCs) (including BTEX). Analytical results only showed detections of TPH at 150 mg/kg and diphenyl oxide at 110 milligram per kilogram (mg/kg) within the 0 to 1-foot bgs interval of EY_1.

Locations EY_2, EY_4, and EY_5 were associated with surface soil stains where the potential source was from drums containing petroleum products for machinery. Each boring was drilled to 12 feet bgs and samples were collected from the 0 to 1-foot and 5 to 6-foot bgs intervals. All six samples were analyzed for TPH-cc, diphenyl oxide/biphenyl, VOCs (including BTEX), Total Petroleum Hydrocarbon – Gasoline (TPH-g), and Total Petroleum Hydrocarbon – Diesel (TPH-d). TPH-d was only detected at each location within the 0 to 1-foot bgs interval and varied in concentration from 100 to 3,400 mg/kg. TPH-cc was detected at each location within the 0 to 1-foot bgs interval and varied in concentration from 140-22,000 mg/kg; a TPH-cc detection of 9.9 mg/kg was detected within the 5 to 6-foot bgs interval of EY_5. Persistent, slow leaking of machinery parked at and around EY_5 may have resulted in relatively deeper (5 to 6 feet bgs) impact at this location.

The volume of impacted soil exceeding the cleanup standard of 100 mg/kg from borings EY_1, EY_2, EY_4, and EY_5 is estimated at 29 cubic yards (combined).

4.8 HTF Impacted Soils Stockpiles

Two areas at the site were used historically for the stockpiling of HTF impacted soils. These two areas were near the southwestern-most corner of SEGS I and the southern-most portion of SEGS II, east of the cooling tower. The practice of stockpiling impacted soils in these areas could potentially have resulted in impacts to the underlying soil.

Two borings were advanced to 12 feet bgs (I_SP1, II_SP1, and II_SP2) and 16 feet bgs (I_SP2) within each of the former SEGS I and SEGS II impacted soil stockpile locations, nine soil samples were collected and analyzed for TPH-cc, diphenyl oxide/biphenyl, and BTEX. TPH was only detected at a concentration of 85 mg/kg within the 0 to 1-foot bgs interval at I_SP2 and is likely due to residual surface impact originating from the stockpile. Remediation at and around I_SP2 is not required because the detection did not exceed the cleanup standard of 100 mg/kg.

4.9 Therminol Disposal Area

Therminol is reported to have been disposed at this location in 1986. The affected area is approximately 100 feet east of SEGS II Eastern boundary (fence) and is approximately 20 ft by 200 ft. Cleanup is reported to have occurred in 1989, and this sampling was performed to verify that cleanup was effective. Delineation of the area was aided by historical photographs obtained for the Phase I ESA showing an excavated area after 1989.

Within this area two soil borings were advanced to 12 feet bgs, four soil samples were collected from the 0 to 1-foot bgs and 5 to 6-foot bgs intervals within each boring, and analyzed for TPH-cc, diphenyl oxide/biphenyl, and BTEX. Only toluene was detected in boring TDA-2 at a concentration of 4.2 µg/kg

within the 5 to 6-foot bgs interval. Considering that this detection is well below the U.S. EPA Soil Screening Level for toluene is 12 mg/kg, the absence of TPH-cc detections, and lack of field observations supporting impacted soil, it is not likely soil remediation or further investigation is needed at this area.

5. REMEDIAL COST ESTIMATE

Ex-Situ bioremediation techniques are known to be successful in the remediation of soils and sludges contaminated with petroleum hydrocarbons (including HTF). Discussions with the current site owner suggest that this technique has been successful in rapidly reducing HTF concentrations in HTF impacted soil. Given the reported success of this technique, we have assumed for the purpose of cost estimating that ex-situ bioremediation (specifically land farming) is the preferred remedial technology for this site.

Land farming is a full-scale bioremediation technology, which usually incorporates liners and other methods to control leaching of contaminants. The technique requires excavation and placement of the contaminated soils into lined beds, and the periodic tilling to aerate the waste. The addition of pH buffering materials, as well as water and possibly other constituents (nutrients), may also be required.

The exact design of the land farming system, or biological enhancements has not been investigated and as such is not yet determined. Typically, however, in addition to the development of a leachate control (lining) system, soil conditions during remediation are often routinely monitored and controlled to optimize the rate of contaminant degradation. Conditions normally controlled include:

- Moisture content (usually by irrigation or spraying).
- Aeration (by tilling the soil with a predetermined frequency, the soil is mixed and aerated).
- pH (buffered near neutral pH by adding crushed limestone or agricultural lime).
- Other amendments (e.g., Soil bulking agents, nutrients, etc.).

Contaminated media is usually treated in lifts up to 18 inches thick. When the desired level of treatment is achieved, the lift is removed and a new lift is constructed. It may be desirable to only remove the top of the remediated lift and then construct the new lift by adding more contaminated media to the remaining material and mixing. This serves to inoculate the freshly added material with an actively degrading microbial culture, and can reduce treatment times.

To ensure optimization of treatment and the correct design of the treatment cell the following site and soil considerations should be addressed prior to implementation: surface geological features (e.g., topography and vegetative cover), subsurface geological and hydrogeological features, temperature, precipitation, wind velocity and direction, water availability, soil type and texture, soil moisture content, soil organic matter content, cation exchange capacity, water-holding capacity, nutrient content, pH, atmospheric temperature, permeability, and microorganisms (degradative populations present at site).

In designing the land farm the following should be considered:

- A large amount of space is required.
- Conditions affecting biological degradation of contaminants (e.g., temperature, rain fall) are largely uncontrolled, which increases the length of time to complete remediation.
- Inorganic contaminants will not be biodegraded.
- Volatile contaminants must be pretreated (or other engineering consideration made [such as a cover]) because they would volatilize into the atmosphere, causing air pollution.

- Dust control is an important consideration, especially during tilling and other material handling operations.

- Runoff collection facilities must be constructed and monitored.

- Topography, erosion, climate, soil stratigraphy, and permeability of the soil at the site must be evaluated to determine the optimum design of facility.

Based upon some of the factors discussed above and data derived from the Federal Remediation Technologies Roundtable (FRTR - http://www.frtr.gov/) typical costs for the assessment, design and implementation of a land farming operations are likely to be as follows:

- Costs prior to treatment (assumed to be independent of volume to be treated): $25,000 to $50,000 for laboratory studies; and $100,000 for pilot tests or field demonstrations.

- Cost of prepared bed (ex situ treatment and placement of soil on a prepared liner): Costs for this element can be very variable depending upon the complexity of the system; in this case a FRTR cost estimate has been used at $100 per cubic meter ($75 per cubic yard). Actual costs will depend upon the requirement of additional constituents and HTF concentrations.

The cost estimate for this site is presented in Table 2.

Table 2. Remedial Action Cost Estimate

Remedial Action	Cost (Estimated)
Laboratory Studies	$25,000–$50,000
Remedial Action Plan, Agency Agreement, Pilot Studies, Design	$100,000
Landfarm construction and operating cost based upon 5,950 cubic yards	$446,250
Decommission Costs – Land farm soil removal and replacement, liner removal and soil validation costs, close out report and agency agreement (estimate)	$100,000
Total (Estimated Cost)	$671,250–$696,250

6. PHASE II SITE ASSESSMENT—CONCLUSION

Observations made during the Phase I ESA and the data collected for the Phase II Site Assessment support that impacted soil is widespread throughout the site and is generally limited to the near surface. This Phase II Site Assessment concluded the following REC areas contain minimal to large quantities of impacted soil:

- SEGS I & II Parabolic Arrays
- SEGS I Power Block Fire Remediation Area
- SEGS I Power Block
- SEGS II Power Block
- Equipment Yard

Soil samples from borings dilled in these areas were analyzed to provide depth-profiles of the impact and obtain a clean confirmation sample below the impacted area. Using the analytical data (principally TPH-cc analytical data) and visual observations of stained soils obtained during drilling, the total volume of

impacted soils at each boring location was approximated. Table 1 contains a listing of the depth of TPH impact, the lateral area of the stained zone, and the estimated volume of impacted soils that exceeded the site cleanup standard of 100 mg/kg.

A total of 29 areas were identified where TPH-cc was found to depths ranging from 1 to 16 feet bgs, for a total estimated volume of 5,950 cubic yards of impacted soil that exceeded the site cleanup standard of 100 mg/kg. This estimated volume of impacted soil could be greater due to the inaccessibility of sampling locations below HTF header piping, next to mirror upright foundations, and within the Power Blocks. In comparison, HSI GeoTrans estimated the volume of impacted soil on the site to be 7,963 cubic yards as disclosed in their 1997 Phase II Site Assessment (*Comprehensive Environmental Assessment Report Solar Electric Generating Systems I & II 35100 Santa Fe Street Daggett, California,* HSI GeoTrans, 1997). If the volume of impacted soil generated from the SEGS I Power Block Fire Remediation Area (4444 cubic yards) is subtracted from the estimated total (5,950 cubic yards), it would suggest site operations and infrastructure improvements since 1997 have reduced the amount of impacted soil on the site.

7. SIGNATURE OF ENVIRONMENTAL PROFESSIONALS

Preparation of this report was conducted by the following TtEC personnel:

Paul Dupre, Associate Geologist/Task Manager

This Phase I ESA was reviewed by the following TtEC personnel:

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FIGURES

TABLES

Table 1

Estimated Volume of Impacted Soils Above 100 mg/kg

SEGS I and II Daggett, California

Project Area	Description	Location	Boring ID	Depth of TPH Impact >100mg/kg	Estimated Lateral Area of Stained Zone (square feet)	Estimated Volume of Contamination (cubic feet)	Estimated Volume of Contamination (cubic yards)	TPH Concentration C13 - C44 (mg/kg)
SEGS I Power Block	15 ft x 4 ft soil stain near rubber piping and pump	South of Caloria expansion tank system/slab	I_ET	2	60.0	120.0	4.4	350.0
SEGS I Parabolic Array	5 ft x 20 ft soil stain oriented east/west below flex line	South side between rows 29 H and 30 H	I_29H	2	100.0	200.0	7.4	27000.0
	48 ft x 30 ft dark soil stain between two rows of mirrors	Between rows 27 G and 28 G	I_28G-1 I_28G-2	2	1440.0	2880.0	106.7	520 - 3,400
	90 ft x 30 ft dark soil stain between two rows of mirrors	Between rows 24 F and 25 F	I_24F-1 I_24F-2	2	2700.0	5400.0	200.0	16000.0
	75 ft x 30 ft soil stain below mirrors and in isle	Along rows 19 E and 19 F	I_19E-1 I_19E-2	2	2250.0	4500.0	166.7	10,000 - 21,000
	60 ft x 5 ft soil stain with a northern section measuring 10 ft x 30 ft	Below row 20 G	I_20G	2	600.0	1200.0	44.4	730.0
	10 ft dia. Soil stain around concrete foundation – below flex line	Between rows 4 B and 4 C	I_4B	2	78.5	157.0	5.8	17000.0
	15 ft dia. Soil stain below mirrors	Row 12 B	I_12B	2	176.6	353.3	13.1	13000.0
	20 ft dia. (old) soil stain below mirrors – soil appears to have been previously removed in this area	Row 17 B	I_17B	5	314.0	1570.0	58.1	4800.0
	20 ft x 6 ft soil stain near control box	Row 23 B	I_23B	2	120.0	240.0	8.9	11000.0
	40 ft long by 10 to 20 ft wide soil stain below mirrors	Between rows 23 B to 23 C	I_23B/C	2	800.0	1600.0	59.3	4400.0
	10 ft x 8 ft soil stain below mirrors	Row 23 C	I_23C	2	80.0	160.0	5.9	8500.0
	21 ft x 5 ft light colored soil stain below mirrors	Row 36 B	I_36B	2	105.0	210.0	7.8	25000.0
	10 ft x 8 ft soil stain below header pipe	South end of row 73 D	I_73D	15	80.0	1200.0	44.4	130 - 23,000
	45 ft x 40 ft soil stain extending across two rows of mirrors	Across rows 61E/61 F and 62 E/62 F	I_61F-1 I_61F-2	8	1800.0	14400.0	533.3	16,000 - 28,000
	8 ft dia soil stain at base of upright around concrete foundation	North side of row 81 E	I_81E	7	50.2	351.7	13.0	630 - 7,600
						SEGS I Parabolic Array Total	**1274.9**	

Table 1

Estimated Volume of Impacted Soils Above 100 mg/kg

SEGS I and II Daggett, California

Project Area	Description	Location	Boring ID	Depth of TPH Impact >100mg/kg	Estimated Lateral Area of Stained Zone (square feet)	Estimated Volume of Contamination (cubic feet)	Estimated Volume of Contamination (cubic yards)	TPH Concentration C13 - C44 (mg/kg)
SEGS II Power Block	3 ft x 1.5 ft soil stain below PCB transformer cooling fins. No leak was identified from the transformer.	North side of transformer S/N: SEW7439-0101	II_PB-2	1	5.0	4.5	0.2	2800.0
	Soil staining extending beyond concrete pad under 750K gal. Therminol AST vapor release system.	At, around, and beyond two 55 gallon drums with piping on north east corner of 750K gal Therminol AST	II_PB-1	2	200.0	400.0	14.8	12000.0
						SEGS II Power Block Total	**15.0**	
SEGS II Parabolic Array	8 ft dia soil stain round upright concrete foundation	South end of 37 H	II_37H	8	50.2	401.9	14.9	10,000 - 20, 000
	Odorous 10 ft dia soil stain, below a control box and at base of upright	Row 27 H	II_27H	2	78.5	157.0	5.8	2700.0
	Dark 5 ft dia soil stain at base of upright around concrete foundation and 15 ft x 4 ft light soil stain across isle	Row 5 G	II_5G	2	78.5	157.0	5.8	22000.0
	Soil stain extending 6 ft beyond base of upright around concrete foundation	Between rows 31 A and 31 B	II_31A	8	113.0	904.3	33.5	7,600 - 10,000
	12 ft dia soil stain below valve	South side of 36 K	II_36K	8	113.0	904.3	33.5	9,500 - 25,000
	17 ft x 11 ft Soil stain below flex line drain	Row 16 J	II_14J	12.8	187.0	2393.6	88.7	5,100 - 6,900
						SEGS II Parabolic Array Total	**182.2**	

Table 1

Estimated Volume of Impacted Soils Above 100 mg/kg

SEGS I and II Daggett, California

Project Area	Description	Location	Boring ID	Depth of TPH Impact >100mg/kg	Estimated Lateral Area of Stained Zone (square feet)	Estimated Volume of Contamination (cubic feet)	Estimated Volume of Contamination (cubic yards)	TPH Concentration C13 - C44 (mg/kg)
Equipment Yard	Light 15 ft dia. Soil stain	Off the SW corner of the southern central pile of flex lines in the northern equipment yard	EY-1	2	176.6	353.3	13.1	150.0
	Three soil stains, the largest is a 15 ft x 5 ft soil stain originating from 55 gal drum storage pad	SE corner of equipment yard along drum storage pad. The largest stain is on north end of N-S oriented drum storage pad	EY-2	1	75.0	75.0	2.8	13000.0
	Dark soil stain extending 7 ft beyond unlabeled drum	NE corner of inner fenced section of equipment yard	EY-4	1	153.9	153.9	5.7	140.0
	Seven soil stains below equipment parked along western boarder of equipment yard. Stains are dark to very dark and varied in size from 4 ft dia to 10 ft x 6 ft.	Equipment parking area along the western boarder of the equipment yard below a bobcat, earth mover, dump truck, water truck and open areas.	EY-5	1	201.0	201.0	7.4	22000.0
						Equipment Yard Total	**29.0**	
SEGS I Fire Remediation Area			I_FRA-1 I_FRA-2 I_FRA-3	8	15000.0	120000.0	4444.4	580 - 8,100
						Total Volume of Contamination (cubic yards)	**5949.9**	

APPENDIX A

Northgate Environmental Management, Inc.
Phase II Environmental Site Assessment
Solar Energy Generating System 1 and 2
Daggett, California

(Provided on CD)

Phase II Environmental Site Assessment
Solar Energy Generating System 1 & 2
Daggett, California

December 22, 2008

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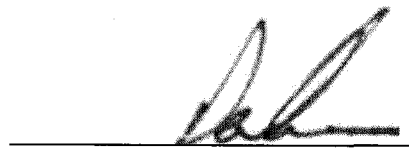

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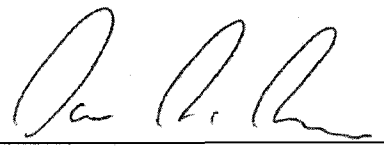

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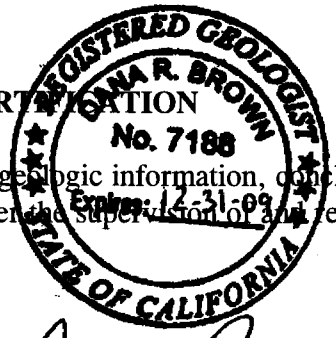

CERTIFICATION

All geologic information, conclusions, and recommendations in this document have been prepared under the supervision of and reviewed by a Northgate California Professional Geologist.

December 22, 2008

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1.0 INTRODUCTION

This report presents the results of a Phase II Environmental Site Assessment (ESA) performed at the Solar Energy Generating System 1 & 2 property located at 35100 Santa Fe Road in Daggett, San Bernardino County, California ("the Site"). The Site totals approximately 333 acres of land situated in the Western Mojave Desert and improved with two operating solar electric generating facilities (solar electric generating system [SEGS] I and SEGS II). The Site location is shown on Figure 1, and a Site Plan is shown on Figure 2.

1.1 Authorization

Tetra Tech EC, Inc. (Tetra Tech) requested that Northgate Environmental Management, Inc. (Northgate) conduct a Phase II ESA to assess recognized environmental conditions identified by Tetra Tech. The objective and scope of work for this assessment were outlined in Northgate's proposal dated November 20, 2008.

1.2 Objectives

The primary objectives of the Phase II ESA were to evaluate the potential presence of constituents of concern that may have been associated with recognized environmental conditions identified by Tetra Tech. The recognized environmental conditions are listed below:

- Approximately 100 stained soil areas, mostly attributable to the release of heat transfer fluid (HTF). Many of these stains cover very small areas, and likely do not represent significant impacts to the environment. Only a subset of these stains will be sampled.
- Therminol Disposal Area: An estimated 1,500 to 2,000 gallons of Therminol VP-1 were disposed in 1986, in an area approximately 100 feet east of the SEGS II eastern boundary (east fence). Cleanup occurred in 1989. The affected area was approximately 20 feet by 200 feet.
- HTF-contaminated stockpiles: Two areas were historically used for the stockpiling of HTF-contaminated soils. These were near the southwesternmost corner of SEGS I and the southernmost portion of SEGS II, just east of the cooling tower.
- SEGS I Fire Remediation Area: A major fire occurred in the SEGS I power block in 1999. During the fire, approximately one million gallons of caloria and unknown quantities of heptanes and toluene were released and burned in the former tank basin north of the SEGS I Administration Building (north side of SEGS I power block).

In addition, groundwater at the Site is encountered at approximately 150 feet below ground surface (bgs). Due to this depth, the viscous nature of HTF at ambient temperatures, and the

expected presence of intervening low-permeability layers (caliche), HTF constituents are not expected to have contacted the water table. However, the possibility of contact with the groundwater cannot be totally discounted, especially in the area of the SEGS I fire. There is also a series of monitoring wells at the evaporation ponds, southeast of the main plant. Groundwater in this area may have been impacted with inorganic constituents generated in the evaporative process of cooling and process water.

1.3 Scope of Work

The scope of work for this Phase II ESA included the following activities:

- **SEGS I Parabolic Array** – Advancement of 21 borings in the SEGS I Parabolic Array area to a maximum depth of 20 feet below ground surface (bgs). Samples were collected at five-foot intervals until field observations (discoloration, odors, photoionization detector readings, other indications of the possible presence of contamination) indicated that the soil was not impacted. A confirmation sample was collected from the "clean zone" of each boring. The confirmation soil samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX), total petroleum hydrocarbons for the carbon range of C13-C44 (TPH-cc), and diphenyl oxide/biphenyl.
- **SEGS I Power Block** – Advancement of one boring (I_ET) in the SEGS I Power Block area to a depth of 12 feet bgs. Samples were collected at five-foot intervals until field observations indicated that the soil was not impacted. A confirmation sample was collected from the "clean zone" of the boring. The confirmation soil sample was analyzed for BTEX, TPH-cc, and diphenyl oxide/biphenyl. In addition, a groundwater sample (GW-1) was collected from a production well in the SEGS I Power Block area. The groundwater sample was analyzed for VOCs and for diphenyl oxide/biphenyl.
- **SEGS I Fire Remediation Area** – Advancement of three borings (I_FRA-1, I_FRA-2, and I_FRA-3) in the SEGS I Fire Remediation Area to a maximum depth of 20 feet bgs. Samples were collected at five-foot intervals until field observations indicated that the soil was not impacted. Confirmation samples were collected from the "clean zone" of each boring. The confirmation soil samples were analyzed for BTEX, TPH-cc, diphenyl oxide/biphenyl, and for semi-volatile organic compounds (SVOCs).
- **SEGS II Parabolic Array** – Advancement of 17 borings in the SEGS II Parabolic Array area to a maximum depth of 20 feet bgs. Samples were collected at five-foot intervals until field observations (discoloration, odors, photoionization detector readings, other indications of the possible presence of contamination) indicated that the soil was not impacted. A confirmation sample was collected from the "clean zone" of each boring. The confirmation soil samples were analyzed for BTEX, TPH-cc, and diphenyl oxide/biphenyl.
- **SEGS II Power Block** – Advancement of one boring (II_PB-1) in the SEGS II Power Block area near a 750 gallon Therminol AST to a depth of 12 feet bgs. Samples were

collected at five-foot intervals until field observations indicated that the soil was not impacted. A confirmation sample was collected from the "clean zone" of the boring. The confirmation soil sample was analyzed for BTEX, TPH (C13-C44), and diphenyl oxide/biphenyl. In addition, a shallow soil sample (II_PB-2) was collected near the transformer cooling fins at a depth of 0.5 foot bgs. The soil sample was analyzed for BTEX, TPH-cc, diphenyl oxide/biphenyl, and polychlorinated biphenyls (PCBs).

- **SEGS II Cooling Tower** – Advancement of three shallow borings (II_CT-1, II_CT-2, and II_CT-3) in the SEGS II Cooling Tower area to a maximum depth of 12 feet bgs. Samples were collected at five-foot intervals and analyzed for pH.
- **Equipment Yard** – Advancement of five shallow borings (EY-1 through EY-5) in the equipment yard area to a maximum depth of 20 feet bgs. Samples were collected at five-foot intervals until field observations indicated that the soil was not impacted. Confirmation samples were collected from the "clean zone" of each boring. The confirmation soil samples were analyzed for BTEX, TPH-cc, and diphenyl oxide/biphenyl. Selected samples were also analyzed for TPH-gasoline (TPH-g), and TPH-diesel (TPH-d).
- **HTF Contaminated Soils Stockpiles** – Advancement of two borings in each of the two HTF Contaminated Soils Stockpiles areas (I_SP-1, I_SP-2, II_SP-1, and II_SP-2) to a maximum depth of 11 feet bgs. Samples were collected at five-foot intervals until field observations indicated that the soil was not impacted. A confirmation sample was collected from the "clean zone" of each boring. The confirmation soil samples were analyzed for BTEX, TPH-cc, and diphenyl oxide/biphenyl.
- **Therminol Disposal Area** – Advancement of two borings in the Therminol Disposal area (TDA-1, TDA-2) to a depth of 12 feet bgs. Samples were collected at five-foot intervals until field observations (discoloration, odors, photoionization detector readings, other indications of the possible presence of contamination) indicated that the soil was not impacted. A confirmation sample was collected from the "clean zone" of each boring. The confirmation soil samples were analyzed for BTEX, TPH-cc, and diphenyl oxide/biphenyl.

Boring locations in the SEGS I parabolic array are shown in Figure 3. Boring locations in the SEGS II parabolic array are shown in Figure 4. Boring locations outside of the array and the groundwater sample location are depicted on Figure 5. Table 5 lists the boring names, gives descriptions of the boring locations, and provides the rationale for placement of the boring.

1.4 Limitations

This assessment was conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions.

The opinions and recommendations presented in this report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by Northgate and the party for whom this report was originally prepared. This report is an instrument of professional service and was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry. No other representation, warranty, or guarantee, express or implied, is intended or given. To the extent that Northgate relied upon any information prepared by other parties not under contract to Northgate, Northgate makes no representation as to the accuracy or completeness of such information.

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Results of any investigations or testing and any findings presented in this report apply solely to conditions existing at the time when Northgate's investigative work was performed. It must be recognized that any such investigative or testing activities are inherently limited and do not represent a conclusive or complete characterization. Conditions in other parts of the project site may vary from those at the locations where data were collected. Northgate's ability to interpret investigation results is related to the availability of the data and the extent of the investigation activities. As such, 100% confidence in environmental investigation conclusions cannot reasonably be achieved.

Northgate, therefore, does not provide any guarantees, certifications, or warranties regarding any conclusions regarding environmental contamination of any such property. Furthermore, nothing contained in this document shall relieve any other party of its responsibility to abide by contract documents and applicable laws, codes, regulations, or standards.

1.5 User Reliance

This report has been prepared for the exclusive use of Tetra Tech EC, Inc. (Tetra Tech), Cogentrix Energy Inc. (Cogentrix), and their parent corporations, subsidiaries, affiliates, partner, partnerships, and lenders in use of the Site, and others may not rely on the information contained in this report without the express written consent of Northgate.

2.0 BACKGROUND

2.1 Site Description

The Site consists of approximately 333 acres of land located at 35100 Santa Fe Road in the Mojave Desert outside of Daggett, California. There are two operating solar electric generating facilities on the property: SEGS I, rated at 14.7 megawatts; and SEGS II, rated at 30 megawatts. SEGS I includes an east and west solar field, a power block, and a cooling tower. SEGS II includes north, south, east, and west solar fields, a power block, and a cooling tower. The facility also includes a common maintenance and equipment storage yard; office trailers and a main office building; and three Class II surface impoundments (evaporation ponds). The facility is currently owned by Sunray Energy, Inc.

2.2 Regional and Local Geology and Hydrology

The Site is situated within the Mojave Valley in the western Mojave Desert of the Mojave Desert geologic province. The Calico Mountains and the Calico Fault are located north and east of the Site, and the Newberry Mountains and the Lenwood Fault are located to the south. The underlying geology consists of extensive successions of undifferentiated Holocene alluvial deposits (Bortugno and Spittler, 1986). Near-surface sedimentary materials consist of intermixed sands, silts, clays, and localized gravels and cobbles. Layers of partially calcium carbonate-cemented sediments (caliche) are typical throughout the area at shallower depths. The caliche is formed by infiltrating rainfall dissolving salts near the ground surface, and then depositing the salt at the depth of maximum infiltration. The low rainfall and high evapotranspiration rate result in caliche layers in near surface soils.

The nearby Calico Mountains are highly colored bright green sedimentary and dark reddish-brown volcanic rocks of Tertiary age. From 1882 to 1896 the area was mined for its high-grade, low-tonnage silver deposits, and then until 1907 for borax (Sharp, 1972).

Water well drillers' reports for water production wells installed at the Site indicate that the geology to depths of approximately 400 feet bgs consists of an interlayered sequence of medium to coarse sand, fine sand, silt, and clay with localized gravel and cobbles. Clay layers of five- to 10-foot thickness are described in several of the logs.

The Site is situated within the Lower Mojave River Valley hydrogeologic groundwater basin, a 430-square-mile alluvial basin drained by the Mojave River through alluvial materials. Drainage is entirely internal with no discharge to the ocean. Reported well yields in the Lower Mojave

River Valley ranged from 560 to 1,700 gallons per minute (DWR, 1975). Saline deposits within the sediments of the basin limit local groundwater uses.

There are five groundwater production wells on the Site that supply process water. The depth to groundwater within these wells under pumping conditions is approximately 150 feet. Production well depths range from 300 to 400 feet. According to Daggett Leasing Corporation (DLC) records, groundwater use at the Site from 1987 through 1996 averaged 321.61 acre feet per year, and ranged from 111.01 to 440.57 acre feet per year (HIS GeoTrans, 1997).

Protection of groundwater quality in the area is under the authority of the Regional Water Quality Control Board – Lahontan District (RWQCB). Information obtained through the RWQCB indicates the presence of approximately 12 groundwater production wells and approximately 10 groundwater monitoring wells on Southern California Edison- (SCE-) owned property, which surrounds and includes the Site. The production wells are used to supply the Solar Two facility and the Edison Coolwater Generating Station, and for agricultural purposes. Edison performs quarterly groundwater sampling on their property under Waste Discharge Requirement No. 6-84-29.

Groundwater resources in the area are managed by the Mojave Water Agency (MWA). The MWA has several monitoring wells within the general area of the Site. The MWA maintains records of groundwater irrigation and industrial production wells near the Site.

Groundwater beneath the Site flows north to northeast towards the Mojave River.

3.0 FIELD INVESTIGATION

Northgate conducted soil and groundwater sampling at the Sunray Energy property located at 35100 Santa Fe Road in Daggett, California. These sampling activities were performed to assess the recognized environmental conditions identified in the Phase I ESA report discussed above.

3.1 Preparation of Sampling Locations

Before sampling activities began, Northgate coordinated scheduling and Site access with Tetra Tech, Inc. Other pre-field activities included the following specific tasks.

3.1.1 Health and Safety Plan Preparation

Northgate prepared a site-specific Health and Safety Plan (HASP) for the Phase II assessment. The HASP was prepared in accordance with applicable federal and state regulations (29CFR1910.120 and 8CCR5192, respectively). The HASP addressed the potential for exposure to hazardous constituents, and delineated the general safety procedures that are required for the safe operation of mechanical equipment to be used while conducting field operations at the Site. A copy of the HASP is located in Appendix A.

3.1.2 Clearance of Underground Utilities

Underground Service Alert (USA) was notified, as required by law, 48 hours before any intrusive activities began. All boring locations were marked using wooden stakes or white paint, and USA members located utilities and other subsurface obstructions in the vicinity of the borings. In addition, all boring locations were cleared for underground utilities by Mr. Bob Lawrence, Maintenance Manager for Sunray Energy, Inc. Mr. Lawrence has been employed at the plant for over 15 years, and is very knowledgeable of the buried utilities present at the facility.

3.2 Soil Borings

Soil borings were advanced at 57 locations between December 2 – 6, 2008. One surface sample was also collected in the SEGS II Power Block. These sampling locations are illustrated in Figures 3 through 5. Sample collection is discussed below. Soil sampling procedures and protocols are described in Appendix B. Boring logs are located in Appendix C.

3.2.1 Soil Sample Nomenclature

Soil samples were identified based on their locations and depths. Soil samples were identified by area, as follows:

- SEGS I Parabolic Array: All samples in this area were prefixed by an "I" followed by the row and column where the sample was located, and followed by the depth of the sample in parentheses, such as I_17E (0-1);
- SEGS I Power Block: Samples prefixed by I_ET followed by the depth in parentheses, such as I_ET (0-1);
- SEGS I Fire Remediation Area: Samples were prefixed by I_FRA followed by the sample number and depth, such as I_FRA-2 (4-5);
- SEGS II Parabolic Array: Samples were prefixed by a II and followed by the array row and column, and the sample depth, such as II_14J (15-16);
- SEGS II Power Block: Samples were prefixed by II_PB and followed by the sample number and the depth, such as II_PB-1 (5-6);
- SEGS II Cooling Tower: Samples were prefixed with II_CT and followed by the sample number and the depth, such as II_CT-3 (10-11);
- Equipment Yard: Samples were prefixed with EY followed by the sample number and the depth, such as EY-4 (5-6);
- HTF Contaminated Soils Stockpiles: Samples were prefixed with I_SP or II_SP, depending on which array the stockpile was associated with, followed by the sample number and depth, such as I_SP-1 (0-1); and
- Therminol Disposal Area: Samples were prefixed with TDA followed by the sample number and depth, such as TDA-2 (0-1).

3.2.2 Collection of Soil Samples

Northgate utilized Interphase Environmental, Inc. of Los Angeles, California, for collection of the soil samples. Soil samples were collected using Geoprobe technology in clean acetate sleeves, which were driven into the ground at their respective sampling depths. Samples collected for analysis of VOCs, BTEX, and TPH-g were collected using EasyDraw Syringe™ and PowerStop Handle™ samplers and preserved at the Site in accordance with EPA Method 5035.

At the direction of Tetra Tech, soil cuttings generated during drilling and sampling activities were segregated and placed in the SEGS II stockpile area. Following sample collection, the borings were backfilled with hydrated amorphous bentonite chips.

The soil samples were held at the laboratory pending a request for analysis depending on field conditions. A discussion of analytical results is presented in Section 4.0. Soil sampling procedures and protocols are described in Appendix B.

3.3 Groundwater Sample Collection

On December 4, 2008 a groundwater sample (GW-1) was collected from the production well located in the SEGS I Power Block. On December 11, 2008 Northgate returned to the Site and collected an additional groundwater sample (GW-1-121108) because the analytical laboratory was not able to locate some of the bottles collected on December 4. Procedures and methods used to collect the two groundwater samples were identical. Sunray Energy also provided the same staff members on both dates to assist Northgate in performing the well purge and sample collection operations.

Although no well log or construction diagram was located by Sunray staff, previous reports for the Site reference five onsite groundwater production wells with a depth range of 300 to 400 feet, and depth to groundwater of 150 feet. The wells penetrate the regional aquifer system, and have been used historically to extract groundwater at an approximate amount of 111 and 440 acre feet per year (HIS Geotrans, 1997).

The well is completed with 7-inch diameter steel casing, and fitted with a production pump and discharge tubing. No sounding tube is present. Flow rate during pumping was measured at 81gallons per minute (gpm), by Layne Christensen in July, 2008. The water level in the production well could not be measured prior to collection of the water sample.

Construction details are not known for the well, but using a worst-case estimation of 150 feet of saturated screen; three well casing volumes would represent approximately 900 gallons of water. Prior to sampling the surge tank was bypassed, and water was allowed to discharge to the ground. The well was purged for 10 minutes and then stopped. The wellhead was fitted with sample collection tubing, and the well was purged an additional 5 minutes prior to collection of the groundwater sample. A portion of the flow was diverted at the wellhead through a 1-inch port into a section of ¼-inch polyethylene tubing to facilitate pressure drop and allow the sample stream to be placed slowly into the sampling bottles.

During purging the properties of pH, temperature, and specific conductance (SC) were measured in the produced water and recorded on the water sample data sheet. When the properties of pH, temperature, and SC stabilized to within 10% upon repeat measurements, and following the purging of three casing volumes, a groundwater sample was collected by filling the bottles directly

from the tubing. The flow was restricted during sample collection to decrease the flow rate and volume of water produced, and to prevent volatilization of organics within the produced water.

The groundwater samples were visibly free of suspended solids or turbidity, and had no detectable odor. Groundwater sampling procedures are located in Appendix B. The water sample data sheet is located in Appendix C. A discussion of groundwater analytical results is presented in Section 4.0.

4.0 ANALYTICAL METHODS

4.1 Soil Analysis

Summaries of the results of soil testing are located in Tables 1 through 3. Detailed laboratory analytical reports and chain-of-custody documents are located in Appendix D.

4.1.1 SEGS I Parabolic Array

A total of 64 soil samples were analyzed for TPH in the carbon range of C13 – C44 (TPH-cc, or extractable fuel hydrocarbons [EFH]) using U.S. Environmental Protection Agency (EPA) Method 8015M; for diphenyl oxide (1,1'-oxybisbenzene) and biphenyl (1,1'-biphenyl) using EPA Method 8015M; and for BTEX using EPA Method 8260B.

4.1.2 SEGS I Power Block

Three soil samples from the SEGS I Power Block were analyzed for TPH-cc using EPA Method 8015M; for diphenyl oxide and biphenyl using EPA Method 8015M; and for BTEX using EPA Method 8260B.

4.1.3 SEGS I Fire Remediation Area

Six soil samples from this area were analyzed for TPH-cc using EPA Method 8015M; for diphenyl oxide and biphenyl using EPA Method 8015M; and for SVOCs using EPA Method 8270C. Eight soil samples were analyzed for BTEX using EPA Method 8260B.

4.1.4 SEGS II Parabolic Array

Forty-seven soil samples from this area were analyzed for TPH-cc using EPA Method 8015M and for diphenyl oxide and biphenyl using EPA Method 8015M. Forty-six soil samples were analyzed for BTEX using EPA Method 8260B.

4.1.5 SEGS II Power Block

Four soil samples from the SEGS I Power Block were analyzed for TPH-cc using EPA Method 8015M; for diphenyl oxide and biphenyl using EPA Method 8015M; and for BTEX using EPA Method 8260B. One soil sample from the SEGS II Power Block was also analyzed for PCBs using EPA Method 8081.

4.1.6 SEGS II Cooling Tower

Nine samples from the SEGS II Cooling Tower were analyzed for pH using EPA Method 9045C.

4.1.7 Equipment Yard

Ten soil samples from the SEGS I Power Block were analyzed for TPH-cc using EPA Method 8015M; for diphenyl oxide and biphenyl using EPA Method 8015M; and for VOCs (including BTEX) using EPA Method 8260B. In addition, six of the samples were analyzed for TPH-gasoline range (TPH-g or GRO) and TPH-diesel range (TPH-d or DRO).

4.1.8 HTF Contaminated Soils Stockpiles

Nine soil samples from this area were analyzed for TPH-cc using EPA Method 8015M; for diphenyl oxide and biphenyl using EPA Method 8015M; and for BTEX using EPA Method 8260B.

4.1.9 Therminol Disposal Area

Four soil samples from this area were analyzed for TPH-cc using EPA Method 8015M; for diphenyl oxide and biphenyl using EPA Method 8015M; and for BTEX using EPA Method 8260B.

4.2 Groundwater Analysis

One groundwater sample was collected from the production well located in the SEGS I Power Block. The groundwater was analyzed for diphenyl oxide and biphenyl using EPA Method 3510C/8015B Modified, and for VOCs using EPA Method 8260B.

5.0 DISCUSSION AND RESULTS

Northgate collected 158 soil samples and 1 groundwater sample during the Site investigation. All soil and groundwater samples were submitted for analysis. Summaries of the results of soil and groundwater testing are located in Tables 1 through 4. Laboratory analytical reports and chain-of-custody documents are located in Appendix D. A discussion of the results is presented below.

5.1 Soil Results

In the SEGS I and SEGS II parabolic arrays, a total of 38 soil borings were installed at locations where oil-stained soils had been observed. Soil samples from the borings were analyzed to provide a depth-profile of the contamination, and obtain a clean confirmation sample below the impacted area. Using the analytical data and visual observations of stained soils obtained during drilling, the total volume of impacted soils at each boring location was estimated. Table 5 contains a listing of the observed depth of contamination, depth of the clean confirmation sample, the lateral area of the stained zone, and the estimated volume of contaminated soils present.

At 20 additional locations, soil samples were collected and analyzed to determine if historic activities had impacted Site soils. In some locations borings were placed in areas where stained soils were present; the remaining borings were placed in areas where no impacts were observed. One soil sample (II_PB-2) was collected in an area known to contain underground utilities by digging a shallow hole to access the soil. Table 5 contains a listing of the observed depth of contamination, depth of the clean confirmation sample, the lateral area of the stained zone, and the estimated volume of contaminated soils (where present).

5.1.1 SEGS I Parabolic Array

Sixty-four soil samples from 21 soil borings were analyzed for TPH-cc, diphenyl oxide/biphenyl, and BTEX in the SEGS I Parabolic Array. Analytical results indicated that TPH-cc was detected in 30 soil samples at concentrations ranging from 5.9 milligrams per kilogram (mg/kg) to 28,000 mg/kg. The higher concentrations were generally in the shallower soil samples (0-1 foot bgs), indicating that concentrations of TPH-cc attenuate with depth.

No concentrations of biphenyl, diphenyl oxide, or BTEX were detected above laboratory detection limits in any of the samples from the SEGS I Parabolic Array.

A summary of analytical results for TPH-cc, diphenyl oxide/biphenyl, and BTEX is located in Table 1. Laboratory analytical reports and COC documentation are located in Appendix D.

5.1.2 SEGS I Power Block

One soil boring (with three soil samples) was advanced in the SEGS I Power Block during the investigation. The three soil samples were analyzed for TPH-cc, diphenyl oxide/biphenyl, and BTEX. TPH-cc was detected in one soil sample, I_ET (0-1), at a concentration of 350 mg/kg. No other analytes were detected above laboratory detection limits in the soil samples from this area.

A summary of analytical results for TPH-cc, diphenyl oxide/biphenyl, and BTEX is located in Table 1. Laboratory analytical reports and COC documentation are located in Appendix D.

5.1.3 SEGS I Fire Remediation Area

Three soil borings (a total of eight soil samples) were advanced in the SEGS I Fire Remediation Area. Six soil samples were analyzed for TPH-cc and diphenyl oxide/biphenyl, and eight soil samples were analyzed for BTEX and SVOCs. TPH-cc was detected in four soil samples at concentrations ranging from 7.6 mg/kg to 8,100 mg/kg. These concentrations attenuated with depth.

Toluene was detected in three soil samples at concentrations ranging from 3 micrograms per kilogram (µg/kg) to 4.9 µg/kg. Xylenes were detected in one soil sample at a concentration of 5.7 µg/kg. No other analytes were detected above laboratory detection limits.

Two SVOCs were detected in one soil sample each. Benzo(g,h,i)perylene was detected in sample I_FRA-1 (4-5) at a concentration of 1,700 µg/kg, and bis(2-ethylhexyl)phthalate was detected in sample I_FRA-1 (4-5) at a concentration of 640 µg/kg.

A summary of analytical results for TPH-cc, diphenyl oxide/biphenyl, and BTEX is located in Table 1, and a summary of SVOC analytical results is located in Table 2. Laboratory analytical reports and COC documentation are located in Appendix D.

5.1.4 SEGS II Parabolic Array

Forty-seven soil samples from 17 soil borings were analyzed for TPH-cc and diphenyl oxide/biphenyl in the SEGS II Parabolic Array; 46 soil samples were analyzed for BTEX. TPH-cc was detected in 17 soil samples at concentrations ranging from 9.7 mg/kg to 25,000 mg/kg.

Shallow soil samples (0-1 foot bgs) generally yielded higher concentrations than deeper samples, indicating that TPH-cc concentrations attenuate with depth.

Diphenyl oxide was detected in 15 soil samples above laboratory detection limits. Concentrations of diphenyl oxide ranged from 2 mg/kg to 19,000 mg/kg. Biphenyl was detected in only one sample at a concentration of 400 mg/kg, but the detection limit for biphenyl was often raised significantly (up to 10,000 mg/kg) when diphenyl oxide was quantified in the sample; other samples may therefore contain biphenyl below laboratory reporting limits. Shallow soil samples (0-1 foot bgs) generally yielded higher concentrations of diphenyl oxide than deeper samples, indicating that concentrations attenuate with depth.

Concentrations of BTEX above laboratory reporting limits were reported in six soil samples at concentrations ranging from 2.6 µg/kg to 270 µg/kg. Benzene was reported in one soil sample (at 2.6 µg/kg); ethylbenzene was reported in six soil samples at concentrations ranging from 3.6 µg/kg to 270 µg/kg; toluene was reported in four soil samples at concentrations ranging from 3 µg/kg to 29 µg/kg; and xylenes were reported in four soil samples at concentrations ranging from 4.2 µg/kg to 13 µg/kg.

A summary of analytical results for TPH-cc, diphenyl oxide/biphenyl, and BTEX is located in Table 1. Laboratory analytical reports and COC documentation are located in Appendix D.

5.1.5 SEGS II Power Block

Four soil samples from the SEGS II Power Block were analyzed for TPH-cc, diphenyl oxide/biphenyl, and BTEX. TPH-cc was detected in the two shallow soil samples (0-1 foot bgs) at concentrations of 2,800 mg/kg and 12,000 mg/kg. Diphenyl oxide was detected in one soil sample (II_PB-1 (0-1)) at a concentration of 2,500 mg/kg. No other analytes were detected above laboratory detection limits.

One soil sample from the SEGS II power block was analyzed for PCBs. No PCBs were detected in that soil sample.

A summary of analytical results for TPH-cc, diphenyl oxide/biphenyl, and BTEX is located in Table 1. Laboratory analytical reports and COC documentation are located in Appendix D.

5.1.6 SEGS II Cooling Tower

Soil samples in three borings from the SEGS II Cooling Tower were analyzed for pH. pH ranged from 7.61 to 8.63 in the nine samples analyzed. pH analytical results are summarized in Table 3. Laboratory reports and COC forms are included in Appendix D.

5.1.7 Equipment Yard

Ten samples from five borings in the Equipment Yard were analyzed for TPH-cc, diphenyl oxide/biphenyl, and VOCs (including BTEX). In addition, six samples were analyzed for TPH-g and TPH-d. No VOCs were detected in any of the soil samples.

No TPH-g was detected in any of the soil samples above laboratory detection limits. TPH-d was detected in three shallow (0-1 foot bgs) soil samples at concentrations ranging from 100 mg/kg to 3,400 mg/kg.

TPH-cc was detected in five soil samples at concentrations ranging from 9.9 mg/kg to 22,000 mg/kg. Shallow soil samples (0-1 foot bgs) yielded higher concentrations than deeper samples, indicating that TPH-cc concentrations attenuate with depth.

Diphenyl oxide was detected in one soil sample, EY-1 (0-1), at a concentration of 110 mg/kg.

No other analytes were detected in the soil samples above laboratory detection limits.

A summary of analytical results for TPH-g, TPH-d, TPH-cc, diphenyl oxide/biphenyl, and VOCs is located in Table 1. Laboratory analytical reports and COC documentation are located in Appendix D.

5.1.8 HTF Contaminated Soils Stockpiles

Nine soil samples from four soil borings advanced in the area of the HTF-contaminated soils stockpiles. All soil samples were analyzed for TPH-cc, diphenyl oxide/biphenyl, and BTEX. No analytes were detected above laboratory detection limits, with the exception of TPH-cc at a concentration of 85 mg/kg in soil sample I_SP-2 (0-1).

A summary of analytical results for TPH-cc, diphenyl oxide/biphenyl, and BTEX is located in Table 1. Laboratory analytical reports and COC documentation are located in Appendix D.

5.1.9 Therminol Disposal Area

Four soil samples from two soil borings in the Therminol Disposal Area were analyzed for TPG-cc, diphenyl oxide/biphenyl, and BTEX. No analytes were detected above laboratory detection limits, with the exception of toluene at a concentration of 4.2 µg/kg in sample TDA-2 (5-6).

A summary of analytical results for TPH-cc, diphenyl oxide/biphenyl, and BTEX is located in Table 1. Laboratory analytical reports and COC documentation are located in Appendix D.

5.2 Volume of Impacted Soil

Soil samples from the borings were analyzed to provide a depth-profile of the contamination, and obtain a clean confirmation sample below the impacted area. Using the analytical data (principally TPH-cc analytical data) and visual observations of stained soils obtained during drilling, the total volume of impacted soils at each boring location was estimated.

The depth of contamination was determined based on visual observations of stained soils at each boring location, as documented on the boring logs. The depth of visually stained soils from each boring log were used to calculate the volume of contaminated soils, along with the area of contamination observed on the ground surface, as presented in Table 5. The first soil sample below the stained soil horizon was considered to be the depth of the clean confirmation sample, unless analytical results determined that the soil sample at that location was impacted. In that case, the following soil sample was determined to be the clean confirmation sample.

A total of 38 areas were identified where TPH-cc was found to depths ranging from 1 to 16 feet bgs, for an estimated volume of 8,779 cubic yards of impacted material total. Table 5 contains a listing of the observed depth of contamination, depth of the clean confirmation sample, the lateral area of the stained zone, and the estimated volume of contaminated soils present.

5.3 Groundwater Results

One groundwater sample was obtained from the production well located in the SEGS I Power Block. With the exception of toluene, no VOCs or biphenyl/diphenyl oxide compounds were detected in the groundwater sample. Toluene was detected at a concentration of 0.65 ug/l in groundwater sample GW-1-121108. Groundwater analytical results are summarized in Table 4. Laboratory reports and COC forms are located in Appendix D.

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TABLES

Table 1.

Summary of Soil Sample Analytical Results for TPH and VOCs

Solar Energy Generating System 1 and 2

Daggett, California

Sample Name	Sample Depth (ft bgs)	Sample Date	EPA Method 8015B Modified (mg/kg)		EPA Method 8015 Modified (mg/kg)			EPA Method 8260B (µg/kg)				
			GRO (C4 - C12)	DRO (C13 - C22)	EFH (C13 - C44)	1,1'-Biphenyl	1,1'-Oxybisbenzene	Benzene	Ethyl-benzene	Toluene	Xylenes, Total	All Other VOCs
SEGS I Parabolic Array												
I_12B (0-1)	0-1	12/05/08	--	--	**13,000**	<20	<20	<1.9	<1.9	<1.9	<3.9	--
I_12B (5-6)	5-6	12/05/08	--	--	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	--
I_17B (0-1)	0-1	12/05/08	--	--	**4,800**	<8.0	<8.0	<1.9	<1.9	<1.9	<3.9	--
I_17B (5-6)	5-6	12/05/08	--	--	<5.0	<2.0	<2.0	<2.1	<2.1	<2.1	<4.2	--
I_17B (10-11)	10-11	12/05/08	--	--	<5.0	<2.0	<2.0	<2.3	<2.3	<2.3	<4.7	--
I_17E (0-1)	0-1	12/05/08	--	--	**17**	<2.0	<2.0	<1.7	<1.7	<1.7	<3.4	--
I_17E (5-6)	5-6	12/05/08	--	--	<5.0	<2.0	<2.0	<2.1	<2.1	<2.1	<4.1	--
I_17E (10-11)	10-11	12/05/08	--	--	<5.0	<2.0	<2.0	<2.2	<2.2	<2.2	<4.4	--
I_19E-1 (0-1)	0-1	12/02/08	--	--	**21,000**	<60	<60	<1.8	<1.8	<1.8	<3.6	--
I_19E-1 (5-6)	5-6	12/02/08	--	--	<5.0	<2.0	<2.0	<2.2	<2.2	<2.2	<4.5	--
I_19E-1 (10-11)	10-11	12/02/08	--	--	<5.0	<2.0	<2.0	<2.3	<2.3	<2.3	<4.6	--
I_19E-2 (0-1)	0-1	12/02/08	--	--	**10,000**	<20	<20	<1.6	<1.6	<1.6	<3.3	--
I_19E-2 (5-6)	5-6	12/02/08	--	--	<5.0	<2.0	<2.0	<2.1	<2.1	<2.1	<4.1	--
I_19E-2 (10-11)	10-11	12/02/08	--	--	<5.0	<2.0	<2.0	<1.7	<1.7	<1.7	<3.3	--
I_20G (0-1)	0-1	12/02/08	--	--	**730**	<2.0	<2.0	<1.9	<1.9	<1.9	<3.8	--
I_20G (5-6)	5-6	12/02/08	--	--	<5.0	<2.0	<2.0	<1.8	<1.8	<1.8	<3.6	--
I_20G (10-11)	10-11	12/02/08	--	--	<5.0	<2.0	<2.0	<1.7	<1.7	<1.7	<3.5	--
I_23 B (0-1)	0-1	12/03/08	--	--	**11,000**	<10	<10	<1.8	<1.8	<1.8	<3.5	--
I_23 B (5-6)	5-6	12/03/08	--	--	<5.0	<2.0	<2.0	<2.3	<2.3	<2.3	<4.6	--
I_23 B (10-11)	10-11	12/03/08	--	--	<5.0	<2.0	<2.0	<1.6	<1.6	<1.6	<3.2	--
I_23 B/C (0-1)	0-1	12/03/08	--	--	**4,400**	<10	<10	<1.8	<1.8	<1.8	<3.5	--
I_23 B/C (5-6)	5-6	12/03/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.9	--
I_23 B/C (10-11)	10-11	12/03/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.8	--
I_23C (0-1)	0-1	12/02/08	--	--	**8,500**	<20	<20	<1.6	<1.6	<1.6	<3.2	--
I_23C (5-6)	5-6	12/02/08	--	--	**26**	<2.0	<2.0	<2.0	<2.0	<2.0	<3.9	--
I_23C (10-11)	10-11	12/02/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.8	--
I_24F-1 (0-1)	0-1	12/02/08	--	--	**16,000**	<20	<20	<1.7	<1.7	<1.7	<3.5	--
I_24F-1 (5-6)	5-6	12/02/08	--	--	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	--
I_24F-1 (10-11)	10-11	12/02/08	--	--	<5.0	<2.0	<2.0	<2.1	<2.1	<2.1	<4.1	--

Table 1.

Summary of Soil Sample Analytical Results for TPH and VOCs

Solar Energy Generating System 1 and 2

Daggett, California

Sample Name	Sample Depth (ft bgs)	Sample Date	EPA Method 8015B Modified (mg/kg)		EPA Method 8015 Modified (mg/kg)			EPA Method 8260B (µg/kg)				
			GRO (C4 - C12)	DRO (C13 - C22)	EFH (C13 - C44)	1,1'-Biphenyl	1,1'-Oxybisbenzene	Benzene	Ethyl-benzene	Toluene	Xylenes, Total	All Other VOCs
I_24F-2 (0-1)	0-1	12/02/08	--	--	**15,000**	<20	<20	<1.8	<1.8	<1.8	<3.6	--
I_24F-2 (5-6)	5-6	12/02/08	--	--	**6.1**	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	--
I_24F-2 (10-11)	10-11	12/02/08	--	--	<5.0	<2.0	<2.0	<1.8	<1.8	<1.8	<3.7	--
I_28G-1 (0-1)	0-1	12/05/08	--	--	**520**	<2.0	<2.0	<1.9	<1.9	<1.9	<3.8	--
I_28G-1 (5-6)	5-6	12/05/08	--	--	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	--
I_28G-1 (10-11)	10-11	12/05/08	--	--	<5.0	<2.0	<2.0	<2.1	<2.1	<2.1	<4.1	--
I_28G-2 (0-1)	0-1	12/05/08	--	--	**3,400**	<8.0	<8.0	<2.3	<2.3	<2.3	<4.6	--
I_28G-2 (5-6)	5-6	12/05/08	--	--	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	--
I_28G-2 (10-11)	10-11	12/05/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.9	--
I_29H (0-1)	0-1	12/05/08	--	--	**27,000**	<40	<40	<1.7	<1.7	<1.7	<3.4	--
I_29H (5-6)	5-6	12/05/08	--	--	**7.3**	<2.0	<2.0	<1.9	<1.9	<1.9	<3.8	--
I_29H (10-11)	10-11	12/05/08	--	--	<5.0	<2.0	<2.0	<2.4	<2.4	<2.4	<4.8	--
I_36 B (0-1)	0-1	12/03/08	--	--	**25,000**	<100	<100	<1.7	<1.7	<1.7	<3.3	--
I_36 B (5-6)	5-6	12/03/08	--	--	<5.0	<2.0	<2.0	<2.1	<2.1	<2.1	<4.3	--
I_36 B (10-11)	10-11	12/03/08	--	--	**34**	<2.0	<2.0	<1.9	<1.9	<1.9	<3.8	--
I_4B (0-1)	0-1	12/05/08	--	--	**17,000**	<20	<20	<2.0	<2.0	<2.0	<4.0	--
I_4B (5-6)	5-6	12/05/08	--	--	**5.9**	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	--
I_4B (10-11)	10-11	12/05/08	--	--	**32**	<2.0	<2.0	<2.0	<2.0	<2.0	<4.1	--
I_4B (15-16)	15-16	12/05/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.7	--
I_55E (0-1)	0-1	12/03/08	--	--	**18**	<2.0	<2.0	<1.9	<1.9	<1.9	<3.9	--
I_55E (5-6)	5-6	12/03/08	--	--	<5.0	<2.0	<2.0	<1.8	<1.8	<1.8	<3.7	--
I_55E (10-11)	10-11	12/03/08	--	--	<5.0	<2.0	<2.0	<2.1	<2.1	<2.1	<4.1	--
I_61 F-1 (0-1)	0-1	12/05/08	--	--	**16,000**	<16	<16	<1.6	<1.6	<1.6	<3.2	--
I_61 F-1 (5-6)	5-6	12/05/08	--	--	**16,000**	<16	<16	<1.9	<1.9	<1.9	<3.9	--
I_61 F-1 (10-11)	10-11	12/05/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.8	--
I_61 F-2 (0-1)	0-1	12/05/08	--	--	**28,000**	<80	<80	<1.7	<1.7	<1.7	<3.3	--
I_61 F-2 (5-6)	5-6	12/05/08	--	--	<5.0	<2.0	<2.0	<2.8	<2.8	<2.8	<5.5	--
I_61 F-2 (10-11)	10-11	12/05/08	--	--	<5.0	<2.0	<2.0	<3.2	<3.2	<3.2	<6.5	--
I_73D (0-1)	0-1	12/03/08	--	--	**23,000**	<100	<100	<1.6	<1.6	<1.6	<3.1	--
I_73D (5-6)	5-6	12/03/08	--	--	<5.0	<2.0	<2.0	<1.7	<1.7	<1.7	<3.5	--

Table 1.

Summary of Soil Sample Analytical Results for TPH and VOCs

Solar Energy Generating System 1 and 2

Daggett, California

Sample Name	Sample Depth (ft bgs)	Sample Date	EPA Method 8015B Modified (mg/kg)		EPA Method 8015 Modified (mg/kg)			EPA Method 8260B (µg/kg)				
			GRO (C4 - C12)	DRO (C13 - C22)	EFH (C13 - C44)	1,1'-Biphenyl	1,1'-Oxybisbenzene	Benzene	Ethyl-benzene	Toluene	Xylenes, Total	All Other VOCs
I_73D (10-11)	10-11	12/03/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.8	--
I_73D (15-16)	15-16	12/03/08	--	--	**130**	<2.0	<2.0	<1.9	<1.9	<1.9	<3.7	--
I_81E (0-1)	0-1	12/03/08	--	--	**7,600**	<10	<10	<1.9	<1.9	<1.9	<3.7	--
I_81E (5-6)	5-6	12/03/08	--	--	**630**	<2.0	<2.0	<1.8	<1.8	<1.8	<3.6	--
I_81E (10-11)	10-11	12/03/08	--	--	<5.0	<2.0	<2.0	<2.2	<2.2	<2.2	<4.4	--
SEGS I Power Block												
I_ET (0-1)	0-1	12/02/08	--	--	**350**	<2.0	<2.0	<1.8	<1.8	<1.8	<3.7	--
I_ET (4-5)	4-5	12/02/08	--	--	<5.0	<2.0	<2.0	<1.8	<1.8	<1.8	<3.6	--
I_ET (10-11)	10-11	12/02/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.8	--
SEGS I Fire Remediation Area												
I_FRA-1 (4-5)	4-5	12/02/08	--	--	**6,500**	<20	<20	<1.9	<1.9	**3**	**5.7**	--
I_FRA-1 (9-10)	9-10	12/02/08	--	--	**7.6**	<2.0	<2.0	<2.1	<2.1	<2.1	<4.3	--
I_FRA-2 (4-5)	4-5	12/02/08	--	--	<5.0	<2.0	<2.0	<2.5	<2.5	<2.5	<5.1	--
I_FRA-2 (9-10)	9-10	12/02/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.7	--
I_FRA-2 (14-15)	14-15	12/02/08	--	--	--	--	--	<1.6	<1.6	<1.6	<3.2	--
I_FRA-2 (19-20)	19-20	12/02/08	--	--	--	--	--	<2.0	<2.0	<2.0	<4.0	--
I_FRA-3 (4-5)	4-5	12/02/08	--	--	**8,100**	<20	<20	<1.8	<1.8	**4.5**	<3.6	--
I_FRA-3 (9-10)	9-10	12/02/08	--	--	**580**	<10	<10	<1.9	<1.9	**4.9**	<3.8	--
SEGS II Parabolic Array												
II_10I (0-1)	0-1	12/04/08	--	--	**14**	<2.0	<2.0	<1.7	<1.7	<1.7	<3.4	--
II_10I (5-6)	5-6	12/04/08	--	--	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	--
II_10I (10-11)	10-11	12/04/08	--	--	<5.0	<2.0	<2.0	<2.1	<2.1	<2.1	<4.1	--
II_14J (0-1)	0-1	12/04/08	--	--	**6,400**	<4000	**8,600**	<1.7	**160**	**29**	**13**	--
II_14J (5-6)	5-6	12/04/08	--	--	**5,100**	<2000	**3,100**	<1.9	**30**	**3**	**4.2**	--
II_14J (10-11)	10-11	12/04/08	--	--	**6,900**	<2000	**4,400**	<2.0	**88**	**8.8**	**7.6**	--
II_14J (15-16)	15-16	12/04/08	--	--	**10**	<2.0	**3.5**	<2.0	<2.0	<2.0	<4.0	--
II_14J (19-20)	19-20	12/04/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.7	--
II_1P (0-1)	0-1	12/06/08	--	--	<5.0	<2.0	<2.0	<1.8	<1.8	<1.8	<3.6	--
II_1P (5-6)	5-6	12/06/08	--	--	<5.0	<2.0	<2.0	<2.3	<2.3	<2.3	<4.5	--
II_1R (0-1)	0-1	12/06/08	--	--	<5.0	<2.0	<2.0	<4.5	<4.5	<4.5	<9.0	--

Table 1.

Summary of Soil Sample Analytical Results for TPH and VOCs

Solar Energy Generating System 1 and 2

Daggett, California

Sample Name	Sample Depth (ft bgs)	Sample Date	EPA Method 8015B Modified (mg/kg)		EPA Method 8015 Modified (mg/kg)			EPA Method 8260B (µg/kg)				
			GRO (C4 - C12)	DRO (C13 - C22)	EFH (C13 - C44)	1,1'-Biphenyl	1,1'-Oxybisbenzene	Benzene	Ethyl-benzene	Toluene	Xylenes, Total	All Other VOCs
II_1R (5-6)	5-6	12/06/08	--	--	<5.0	<2.0	<2.0	<2.1	<2.1	<2.1	<4.2	--
II_21I-1 (0-1)	0-1	12/04/08	--	--	<5.0	<2.0	<2.0	<1.6	<1.6	<1.6	<3.1	--
II_21I-1 (5-6)	5-6	12/04/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.7	--
II_21I-2 (0-1)	0-1	12/04/08	--	--	<5.0	<2.0	<2.0	<1.6	<1.6	<1.6	<3.2	--
II_21I-2 (5-6)	5-6	12/04/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.8	--
II_21O (0-1)	0-1	12/06/08	--	--	<5.0	<2.0	<2.0	<1.6	<1.6	<1.6	<3.3	--
II_21O (5-6)	5-6	12/06/08	--	--	<5.0	<2.0	<2.0	<1.6	<1.6	<1.6	<3.2	--
II_23Q (0-1)	0-1	12/06/08	--	--	<5.0	<2.0	<2.0	<3.5	<3.5	<3.5	<6.9	--
II_23Q (5-6)	5-6	12/06/08	--	--	<5.0	<2.0	<2.0	<2.1	<2.1	<2.1	<4.1	--
II_27A (0-1)	0-1	12/04/08	--	--	**24**	<2.0	**2**	<1.6	<1.6	<1.6	<3.2	--
II_27A (10-11)	10-11	12/04/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.9	--
II_27H (0-1)	0-1	12/04/08	--	--	**2,700**	**400**	**1,100**	<1.6	<1.6	<1.6	<3.2	--
II_27H (5-6)	5-6	12/04/08	--	--	<5.0	<2.0	<2.0	<2.2	<2.2	<2.2	<4.3	--
II_27H (10-11)	10-11	12/04/08	--	--	<5.0	<2.0	<2.0	<2.1	<2.1	<2.1	<4.2	--
II_31A (0-1)	0-1	12/04/08	--	--	**10,000**	<2000	**5,700**	<1.6	**3.6**	<1.6	<3.2	--
II_31A (5-6)	5-6	12/04/08	--	--	**7,600**	<2000	**5,800**	<1.8	<1.8	<1.8	<3.5	--
II_31A (10-11)	10-11	12/04/08	--	--	**81**	<20	**72**	<1.9	<1.9	<1.9	<3.9	--
II_31A (15-16)	15-16	12/04/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.7	--
II_36K (0-1)	0-1	12/04/08	--	--	**25,000**	<6000	**12,000**	**2.6**	**270**	**25**	**13**	--
II_36K (5-6)	5-6	12/04/08	--	--	**9,500**	<2000	**2,500**	<1.8	<1.8	<1.8	<3.6	--
II_36K (10-11)	10-11	12/04/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.9	--
II_36K (15-16)	15-16	12/04/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.8	--
II_37H (0-1)	0-1	12/04/08	--	--	**10,000**	<4000	**8,400**	<1.6	<1.6	<1.6	<3.2	--
II_37H (5-6)	5-6	12/04/08	--	--	**20,000**	<8000	**19,000**	<1.7	**25**	<1.7	<3.4	--
II_37H (9-10)	9-10	12/04/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.8	--
II_39D (0-1)	0-1	12/04/08	--	--	<5.0	<2.0	<2.0	<1.8	<1.8	<1.8	<3.5	--
II_39D (5-6)	5-6	12/04/08	--	--	<5.0	<2.0	<2.0	<2.1	<2.1	<2.1	<4.1	--
II_39D (10-11)	10-11	12/04/08	--	--	<5.0	<2.0	<2.0	<1.6	<1.6	<1.6	<3.2	--
II_40K (0-1)	0-1	12/03/08	--	--	**9.7**	<2.0	**5.1**	<2.1	<2.1	<2.1	<4.2	--
II_40K (5-6)	5-6	12/03/08	--	--	<5.0	<2.0	<2.0	<2.3	<2.3	<2.3	<4.6	--

Table 1.

Summary of Soil Sample Analytical Results for TPH and VOCs

Solar Energy Generating System 1 and 2

Daggett, California

Sample Name	Sample Depth (ft bgs)	Sample Date	EPA Method 8015B Modified (mg/kg)		EPA Method 8015 Modified (mg/kg)			EPA Method 8260B (µg/kg)				
			GRO (C4 - C12)	DRO (C13 - C22)	EFH (C13 - C44)	1,1'-Biphenyl	1,1'-Oxybisbenzene	Benzene	Ethyl-benzene	Toluene	Xylenes, Total	All Other VOCs
II_40K (10-11)	10-11	12/03/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.8	--
II_5G (0-1)	0-1	12/04/08	--	--	**22,000**	<10000	**16,000**	--	--	--	--	--
II_5G (5-6)	5-6	12/04/08	--	--	**5.1**	<2.0	<2.0	<1.7	<1.7	<1.7	<3.4	--
II_5G (10-11)	10-11	12/04/08	--	--	<5.0	<2.0	<2.0	<2.1	<2.1	<2.1	<4.2	--
II_87T (0-1)	0-1	12/03/08	--	--	<5.0	<2.0	<2.0	<1.8	<1.8	<1.8	<3.6	--
II_87T (5-6)	5-6	12/03/08	--	--	<5.0	<2.0	<2.0	<2.3	<2.3	<2.3	<4.6	--
SEGS II Power Block												
II_PB-1 (0-1)	0-1	12/05/08	--	--	**12,000**	<2000	**2,500**	<1.9	<1.9	<1.9	<3.8	--
II_PB-1 (5-6)	5-6	12/05/08	--	--	<5.0	<2.0	<2.0	<2.2	<2.2	<2.2	<4.5	--
II_PB-1 (10-11)	10-11	12/05/08	--	--	<5.0	<2.0	<2.0	<2.3	<2.3	<2.3	<4.5	--
II_PB-2 (0-0.5)	0-0.5	12/05/08	--	--	**2,800**	<8.0	<8.0	<1.8	<1.8	<1.8	<3.5	--
Equipment Yard												
EY-1 (0-1)	0-1	12/03/08	--	--	**150**	<40	**110**	<1.7	<1.7	<1.7	<3.4	ND
EY-1 (5-6)	5-6	12/03/08	--	--	<5.0	<2.0	<2.0	<2.2	<2.2	<2.2	<4.4	ND
EY-2 (0-1)	0-1	12/03/08	<0.39	**1,600**	**13,000**	<20	<20	<1.8	<1.8	<1.8	<3.6	ND
EY-2 (5-6)	5-6	12/03/08	<0.42	<5.0	<5.0	<2.0	<2.0	<2.1	<2.1	<2.1	<4.2	ND
EY-3 (0-1)	0-1	12/03/08	--	--	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	ND
EY-3 (5-6)	5-6	12/03/08	--	--	<5.0	<2.0	<2.0	<2.2	<2.2	<2.2	<4.4	ND
EY-4 (0-1)	0-1	12/03/08	<0.36	**100**	**140**	<2.0	<2.0	<1.9	<1.9	<1.9	<3.9	ND
EY-4 (5-6)	5-6	12/03/08	<0.45	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	ND
EY-5 (0-1)	0-1	12/03/08	<0.34	**3,400**	**22,000**	<50	<50	<1.7	<1.7	<1.7	<3.4	ND
EY-5 (5-6)	5-6	12/03/08	<0.32	<5.0	**9.9**	<2.0	<2.0	<1.7	<1.7	<1.7	<3.4	ND
HTF Contaminated Soils Stockpiles												
I_SP-1 (0-1)	0-1	12/05/08	--	--	<5.0	<2.0	<2.0	<1.8	<1.8	<1.8	<3.6	--
I_SP-1 (5-6)	5-6	12/05/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	<1.9	<3.7	--
I_SP-2 (0-1)	0-1	12/05/08	--	--	**85**	<2.0	<2.0	<1.9	<1.9	<1.9	<3.9	--
I_SP-2 (5-6)	5-6	12/05/08	--	--	<5.0	<2.0	<2.0	<1.7	<1.7	<1.7	<3.3	--
I_SP-2 (10-11)	10-11	12/05/08	--	--	<5.0	<2.0	<2.0	<2.2	<2.2	<2.2	<4.5	--
II_SP-1 (0-1)	0-1	12/06/08	--	--	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<3.9	--
II_SP-1 (5-6)	5-6	12/06/08	--	--	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<3.9	--

Table 1.

Summary of Soil Sample Analytical Results for TPH and VOCs

Solar Energy Generating System 1 and 2

Daggett, California

Sample Name	Sample Depth (ft bgs)	Sample Date	EPA Method 8015B Modified (mg/kg)		EPA Method 8015 Modified (mg/kg)			EPA Method 8260B (µg/kg)				
			GRO (C4 - C12)	DRO (C13 - C22)	EFH (C13 - C44)	1,1'-Biphenyl	1,1'-Oxybisbenzene	Benzene	Ethyl-benzene	Toluene	Xylenes, Total	All Other VOCs
II_SP-2 (0-1)	0-1	12/06/08	--	--	<5.0	<2.0	<2.0	<3.2	<3.2	<3.2	<6.4	--
II_SP-2 (5-6)	5-6	12/06/08	--	--	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	--
Therminol Disposal Area												
TDA-1 (0-1)	0-1	12/06/08	--	--	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.1	--
TDA-1 (5-6)	5-6	12/06/08	--	--	<5.0	<2.0	<2.0	<2.5	<2.5	<2.5	<5.0	--
TDA-2 (0-1)	0-1	12/06/08	--	--	<5.0	<2.0	<2.0	<2.2	<2.2	<2.2	<4.4	--
TDA-2 (5-6)	5-6	12/06/08	--	--	<5.0	<2.0	<2.0	<1.9	<1.9	**4.2**	<3.8	--

TPH = total petroleum hydrocarbons
VOCs = volatile organic compounds
ft bgs = feet below ground surface
EPA = Environmental Protection Agency
mg/kg = milligrams per kilogram
µg/kg = micrograms per kilogram
GRO = gasoline range organics
DRO = diesel range organics
EFH = extractable fuel hydrocarbons
-- = Not analyzed for
< = Not detected above laboratory reporting limit indicated
Note: VOCs shown for selected compounds only including all compounds detected above laboratory reporting limits.
See laboratory reports for a complete list of compounds analyzed for.

Table 2.

Summary of Soil Sample Analytical Results for SVOCs

Solar Energy Generating System 1 and 2

Daggett, California

Sample Name	Sample Depth (ft bgs)	Sample Date	EPA Method 8270C (µg/kg)		
			Benzo(g,h,i)perylene	Bis(2-ethylhexyl)phthalate	All Other SVOCs
I_FRA-1 (4-5)	4-5	12/02/08	**1,700**	<1300	ND
I_FRA-1 (9-10)	9-10	12/02/08	<330	<330	<330
I_FRA-2 (4-5)	4-5	12/02/08	<330	<330	<330
I_FRA-2 (9-10)	9-10	12/02/08	<330	<330	<330
I_FRA-3 (4-5)	4-5	12/02/08	<2600	<2600	<2600
I_FRA-3 (9-10)	9-10	12/02/08	<330	**640**	<330

SVOCs = semivolatile organic compounds

ft bgs = feet below ground surface

EPA = Environmental Protection Agency

µg/kg = micrograms per kilogram

< = not detected above laboratory reporting limit indicated

ND = Not detected

Note: SVOCs are shown for detected compounds only, see laboratory reports for a complete list of compounds analyzed for.

Table 3.

Summary of Soil Sample Analytical Results for pH

Solar Energy Generating System 1 and 2

Daggett, California

Sample Name	Sample Depth	Sample Date	EPA Method 9045C		
			Analyte	Result	Units
II_CT-1 (0-1)	0-1	12/04/08	pH	7.61	pH Units
II_CT-1 (5-6)	5-6	12/04/08	pH	8.14	pH Units
II_CT-1 (10-11)	10-11	12/04/08	pH	7.80	pH Units
II_CT-2 (0-1)	0-1	12/04/08	pH	8.26	pH Units
II_CT-2 (5-6)	5-6	12/04/08	pH	8.01	pH Units
II_CT-2 (10-11)	10-11	12/04/08	pH	8.05	pH Units
II_CT-3 (0-1)	0-1	12/04/08	pH	8.63	pH Units
II_CT-3 (5-6)	5-6	12/04/08	pH	7.87	pH Units
II_CT-3 (10-11)	10-11	12/04/08	pH	8.17	pH Units

ft bgs = feet below ground surface

EPA = Environmental Protection Agency

Table 4.

Summary of Groundwater Sample Analytical Results for TPH (quantified as Biphenyl Oxybisbenzene) and VOCs

Solar Energy Generating System 1 and 2

Daggett, California

Sample Name	Sample Date	EPA Method 8015B (mg/L)		EPA Method 8260B (µg/L)					
		1,1'-Biphenyl	1,1'-Oxybisbenzene	MTBE	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylene
GW-1	12/04/08	<0.097	<0.097	--	--	--	--	--	--
GW-1-121108	12/11/08	--	--	<1.0	<0.50	**0.65**	<0.50	<1.0	<0.50

Table 5
Estimated Volume of Contaminated Soils
Solar Energy Generating System 1 and 2
Daggett, California

Project Area	Description	Location	Materials Potentially Released	Analytical Parameters	Boring ID	Sample Intervals	Depth of Clean Confirmation Sample	Depth of Contamination	Estimated Lateral Area of Stained Zone (square feet)	Estimated Volume of Contamination (cubic feet)	Estimated Volume of Contamination (cubic yards)
SEGS I Power Block	15 ft x 4 ft soil stain near rubber piping and pump	South of Caloria expansion tank system/slab	Therminol VP-1 or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_ET	0-1, 5-6, 10-11 fbls	10	5.5	60.0	330.0	12.2
SEGS I Parabolic Array	5 ft x 20 ft soil stain oriented east/west below flex line	South side between rows 29 H and 30 H	Therminol VP-1 or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_29H	0-1, 5-6, 10-11 fbls	10	6	100.0	600.0	22.2
	48 ft x 30 ft dark soil stain between two rows of mirrors	Between rows 27 G and 28 G	Therminol VP-1 or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_28G-1 I_28G-2	0-1, 5-6, 10-11 fbls	10	5	1440.0	7200.0	266.7
	90 ft x 30 ft dark soil stain between two rows of mirrors	Between rows 24 F and 25 F	Therminol VP-1 or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_24F-1 I_24F-2	0-1, 5-6, 10-11 fbls	10	8.5	2700.0	22950.0	850.0
	75 ft x 30 ft soil stain below mirrors and in isle	Along rows 19 E and 19 F	Therminol VP-1 or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_19E-1 I_19E-2	0-1, 5-6, 10-11 fbls	10	8	2250.0	18000.0	666.7
	60 ft x 5 ft soil stain with a northern section measuring 10 ft x 30 ft	Below row 20 G	Therminol VP-1 or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_20G	0-1, 5-6, 10-11 fbls	10	9	600.0	5400.0	200.0
	45 ft x 20 ft soil stain under mirrors and in isle	Extending across rows 17 E and 17 F	Therminol VP-1 or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_17E	0-1, 5-6, 10-11 fbls	10	5	900.0	4500.0	166.7
	10 ft dia. Soil stain around concrete foundation – below flex line	Between rows 4 B and 4 C	Therminol VP-1 or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_4B	0-1, 5-6, 10-11, 15-16 fbls	10	7.5	78.5	588.8	21.8
	15 ft dia. Soil stain below mirrors	Row 12 B	Therminol VP-1 or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_12B	0-1, 5-6 fbls	5	2	176.6	353.3	13.1
	20 ft dia. (old) soil stain below mirrors – soil appears to have been previously removed in this area	Row 17 B	Therminol VP-1 or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_17B	0-1, 5-6, 10-11 fbls	10	5	314.0	1570.0	58.1
	20 ft x 6 ft soil stain near control box	Row 23 B	Therminol VP-1 or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_23B	0-1, 5-6, 10-11 fbls	10	5	120.0	600.0	22.2
	40 ft long by 10 to 20 ft wide soil stain below mirrors	Between rows 23 B to 23 C	Therminol VP-1 or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_23B/C	0-1, 5-6, 10-11 fbls	10	7.5	800.0	6000.0	222.2

Table 5
Estimated Volume of Contaminated Soils
Solar Energy Generating System 1 and 2
Daggett, California

Project Area	Description	Location	Materials Potentially Released	Analytical Parameters	Boring ID	Sample Intervals	Depth of Clean Confirmation Sample	Depth of Contamination	Estimated Lateral Area of Stained Zone (square feet)	Estimated Volume of Contamination (cubic feet)	Estimated Volume of Contamination (cubic yards)
	10 ft x 8 ft soil stain below mirrors	Row 23 C	Therminol VP-I or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_23C	0-1, 5-6, 10-11 fbls	10	8	80.0	640.0	23.7
	21 ft x 5 ft light colored soil stain below mirrors	Row 36 B	Therminol VP-1 or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_36B	0-1, 5-6, 10-11 fbls	10	7.8	105.0	819.0	30.3
	10 ft x 8 ft soil stain below header pipe	South end of row 73 D	Therminol VP-1 or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_73D	0-1, 5-6, 10-11, 15-16 fbls	15	12	80.0	960.0	35.6
	26 ft x 20 ft soil stain below flex line drain with shortened 55 gallon drum below drain	Between Rows 55 E and 55 F	Therminol VP-1 or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_55E	0-1, 5-6, 10-11 fbls	10	8	520.0	4160.0	154.1
	45 ft x 40 ft soil stain extending across two rows of mirrors	Across rows 61E/61 F and 62 E/62 F	Therminol VP-1 or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_61F-1 I_61F-2	0-1, 5-6, 10-11 fbls	10	8	1800.0	14400.0	533.3
	8 ft dia soil stain at base of upright around concrete foundation	North side of row 81 E	Therminol VP-1 or Caloria	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_81E	0-1, 5-6, 10-11 fbls	10	7	50.2	351.7	13.0
SEGS II Power Block	3 ft x 1.5 ft soil stain below PCB transformer cooling fins. No leak was identified from the transformer.	North side of transformer S/N: SEW7439-0101	Unknown – possibly Wecosol.	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl.	II_PB-2	0-1					
	Soil staining extending beyond concrete pad under 750K gal. Therminol AST vapor release system.	At, around, and beyond two 55 gallon drums with piping on north east corner of 750K gal Therminol AST	Therminol ~ >10 gallons	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	II_PB-1	0-1, 10-11 fbls	10	4	200.0	800.0	29.6
	Stained soil extending 6 ft beyond compressor	At and around green compressor	Unknown – possibly Therminol or other Petroleum products	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	no sample taken						
SEGS II Cooling Tower	White crust and 50 ft x 100 ft soil stain originating from breached secondary containment where a corrosive tank was stored.	East of cooling tower	Acid/corrosives ~> 55 gal.	pH	II_CT-1 II_CT-2 II_CT-3	0-1, 5-6, 10-11 fbls	5	0			
SEGS II Parabolic Array	12 ft dia light soil stain in the middle of the isle	Row 23 Q	Therminol VP-1	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	II_23Q	0-1, 5-6 fbls	5	2.5	113.0	282.6	10.5

Table 5
Estimated Volume of Contaminated Soils
Solar Energy Generating System 1 and 2
Daggett, California

Project Area	Description	Location	Materials Potentially Released	Analytical Parameters	Boring ID	Sample Intervals	Depth of Clean Confirmation Sample	Depth of Contamination	Estimated Lateral Area of Stained Zone (square feet)	Estimated Volume of Contamination (cubic feet)	Estimated Volume of Contamination (cubic yards)
	10 ft dia soil stain around upright concrete foundation	Row 21 O	Therminol VP-1	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	II_21O	0-1, 5-6 fbls	5	2.5	78.5	196.3	7.3
	30 ft x 20 ft soil stain at end of mirror row	SW of the south side of Row I	Therminol VP-1	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	II_1R	0-1, 5-6 fbls	5	3.5	600.0	2100.0	77.8
	Two 45 ft x 15 ft soil stains in open area	Between SEGS II cooling tower and power block, west of row 1 P	Therminol VP-I	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	II_1P	0-1, 5-6 fbls	5	1.5	1350.0	2025.0	75.0
	8 ft dia soil stain round upright concrete foundation	South end of 37 H	Therminol VP-1	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	II_37H	0-1, 5-6, 10-11 fbls	10	8	50.2	401.9	14.9
	Odorous 10 ft dia soil stain, below a control box and at base of upright	Row 27 H	Therminol VP-1	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	II_27H	0-1, 5-6, 10-11 fbls	10	6.5	78.5	510.3	18.9
	Soil stain 30 ft wide and extending across 6 rows of mirrors	Rows 18 I through row 22 I	Therminol VP-1	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	II_21I-1 II_21I-2	0-1, 5-6 fbls	5	2.5	1800.0	4500.0	166.7
	Odorous 8 ft dia soil stain below flex line	South end of Rows 9 I and 10 I	Therminol VP-1	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	II_10I	0-1, 5-6, 10-11 fbls	10	6.5	50.2	326.6	12.1
	Dark 5 ft dia soil stain at base of upright around concrete foundation and 15 ft x 4 ft light soil stain across isle	Row 5 G	Therminol VP-1	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	II_5G	0-1, 5-6, 10-11 fbls	10	9	78.5	706.5	26.2
	41 ft x 23 ft soil stain across two rows of mirrors	Rows 38 D and 39 D	Therminol VP-1	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	II_39D	0-1, 5-6, 10-11 fbls	10	6.8	943.0	6412.4	237.5
	Soil stain extending 6 ft beyond base of upright around concrete foundation	Between rows 31 A and 31 B	Therminol VP-1	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	II_31A	0-1, 5-6, 10-11, 15-16 fbls	15	10.5	113.0	1186.9	44.0
	21 ft x 14 ft light soil stain originating at flex line and base of upright around concrete foundation extending into isle	Row 27 A	Therminol VP-1	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	II_27A	0-1, 10-11 fbls	10	4	294.0	1176.0	43.6

Table 5
Estimated Volume of Contaminated Soils
Solar Energy Generating System 1 and 2
Daggett, California

Project Area	Description	Location	Materials Potentially Released	Analytical Parameters	Boring ID	Sample Intervals	Depth of Clean Confirmation Sample	Depth of Contamination	Estimated Lateral Area of Stained Zone (square feet)	Estimated Volume of Contamination (cubic feet)	Estimated Volume of Contamination (cubic yards)
	12 ft dia soil stain at base of upright around concrete foundation	North side of 40 K	Therminol VP-1	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	II_40K	0-1, 5-6, 10-11 fbls	10	6.5	113.0	734.8	27.2
	12 ft dia soil stain below valve	South side of 36 K	Therminol VP-1	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	II_36K	0-1, 5-6, 10-11, 15-16 fbls	15	14	113.0	1582.6	58.6
	17 ft x 11 ft Soil stain below flex line drain	Row 16 J	Therminol VP-1	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	II_14J	0-1, 5-6, 10-11, 15-16, 19-20 fbls	15	12.8	187.0	2393.6	88.7
	27 ft x 18 ft soil stain between two rows	Between rows 97 S/97 T and 98 S/98 T	Therminol VP-1	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	II_87T	0-1, 5-6 fbls	5	2.5	486.0	1215.0	45.0
Equipment Yard	Light 15 ft dia. Soil stain	Off the SW corner of the southern central pile of flex lines in	HTF – either Therminol or Caloria or both	TPH (C15-C50), diphenyl oxide/biphenyl	EY-1	0-1, 5-6 fbls	5	3.5	176.6	618.2	22.9
	Three soil stains, the largest is a 15 ft x 5 ft soil stain originating from 55 gal drum storage pad	SE corner of equipment yard along drum storage pad. The largest stain is on north end of N-S oriented drum storage pad	Petroleum products – motor oil, gear oil, or ATF.	TPH (C15-C50), diphenyl oxide/biphenyl, 8015 gas, 8015 diesel, VOCs	EY-2	0-1, 5-6 fbls	5	1	75.0	75.0	2.8
	8 ft dia soil stain below crushed/refuse drum dumpster	Below green dumpster north west of the northern most	HTF – either Therminol or Caloria or both	TPH (C15-C30), diphenyl oxide/biphenyl	EY-3	0-1, 5-6 fbls	1	0			
	Dark soil stain extending 7 ft beyond unlabeled drum	NE corner of inner fenced section of equipment yard	Unknown drum contents, spill <55 gal.	TPH (C15-C50), diphenyl oxide/biphenyl, 8015 gas, 8015 diesel, VOCs	EY-4	0-1, 5-6 fbls	5	1	153.9	153.9	5.7
	Seven soil stains below equipment parked along western boarder of equipment yard. Stains are dark to very dark and varied in size from 4 ft dia to 10 ft x 6 ft.	Equipment parking area along the western boarder of the equipment yard below a bobcat, earth mover, dump truck, water truck and open areas.	Various petroleum products associated with heavy equipment	TPH (C15-C50), diphenyl oxide/biphenyl, 8015 gas, 8015 diesel, VOCs	EY-5	0-1, 5-6, 10-11 fbls	5	1	201.0	201.0	7.4
		Therminol Disopsal Area	Therminol	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	TDA-1 TDA-2	0-1, 5-6 fbls	5	0			

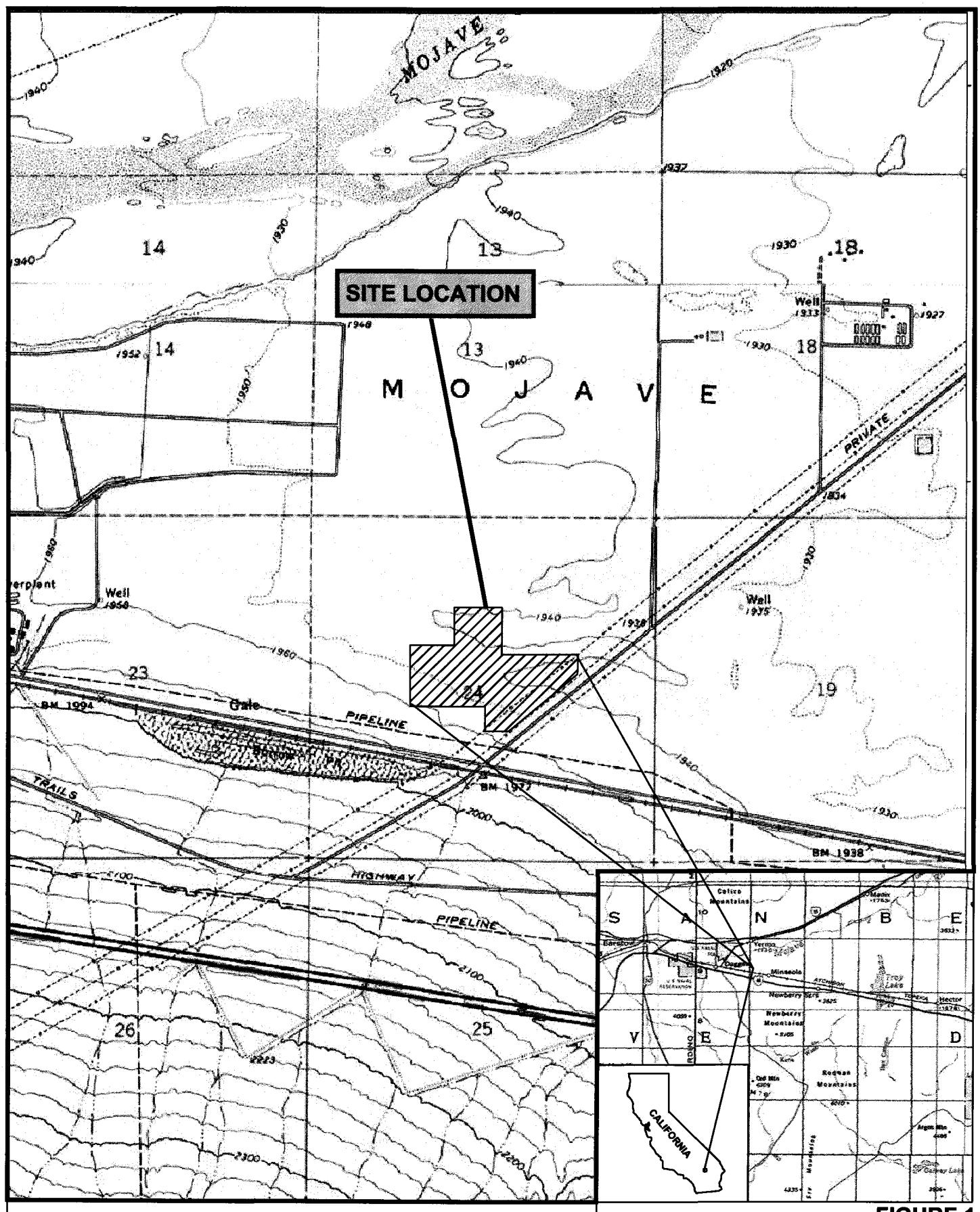
Table 5

Estimated Volume of Contaminated Soils

Solar Energy Generating System 1 and 2

Daggett, California

Project Area	Description	Location	Materials Potentially Released	Analytical Parameters	Boring ID	Sample Intervals	Depth of Clean Confirmation Sample	Depth of Contamination	Estimated Lateral Area of Stained Zone (square feet)	Estimated Volume of Contamination (cubic feet)	Estimated Volume of Contamination (cubic yards)
		HTF contaminated area	HTF – either Therminol or Caloria or both	BTEX, TPH (C15-C50), diphenyl oxide/biphenyl	I_SP-1 I_SP-2 II_SP-1	0-1, 5-6 1 fbls also 10-11	5	0			
		SEGS 1 Remediation Area		BTEX, TPH (C15-C50), diphenyl oxide/biphenyl, SVOCs	I_FRA-1 I_FRA-2 I_FRA-3	4-5, 9-10, 14-15, 19-20 fbls	9	8	15000.0	120000.0	4444.4
										Total Volume of Contamination (cubic yards)	**8778.6**



Scale

1000 0 1000 2000 3000 Feet

1" = 2,000'

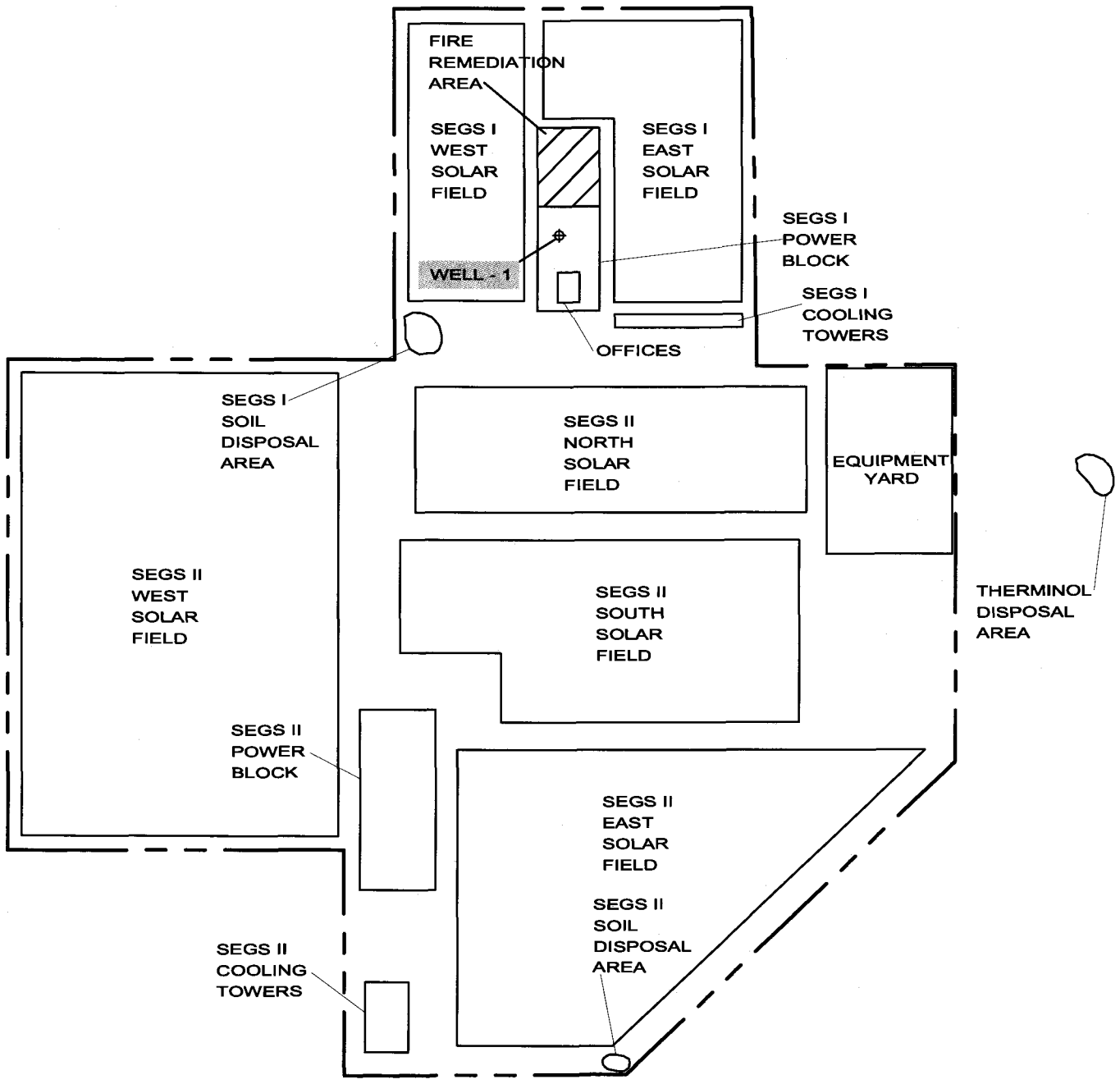
Source: National Geographic 2008

FIGURE 1
Site Location Map

SEGS I and II
35100 Santa Fe Road
Daggett, California

northgate
environmental management, inc.

Project No. 2024.01



LEGEND

SITE BOUNDARY

Production Well

Well #1

Fire Remediation Area

N

Scale 0 150 ft

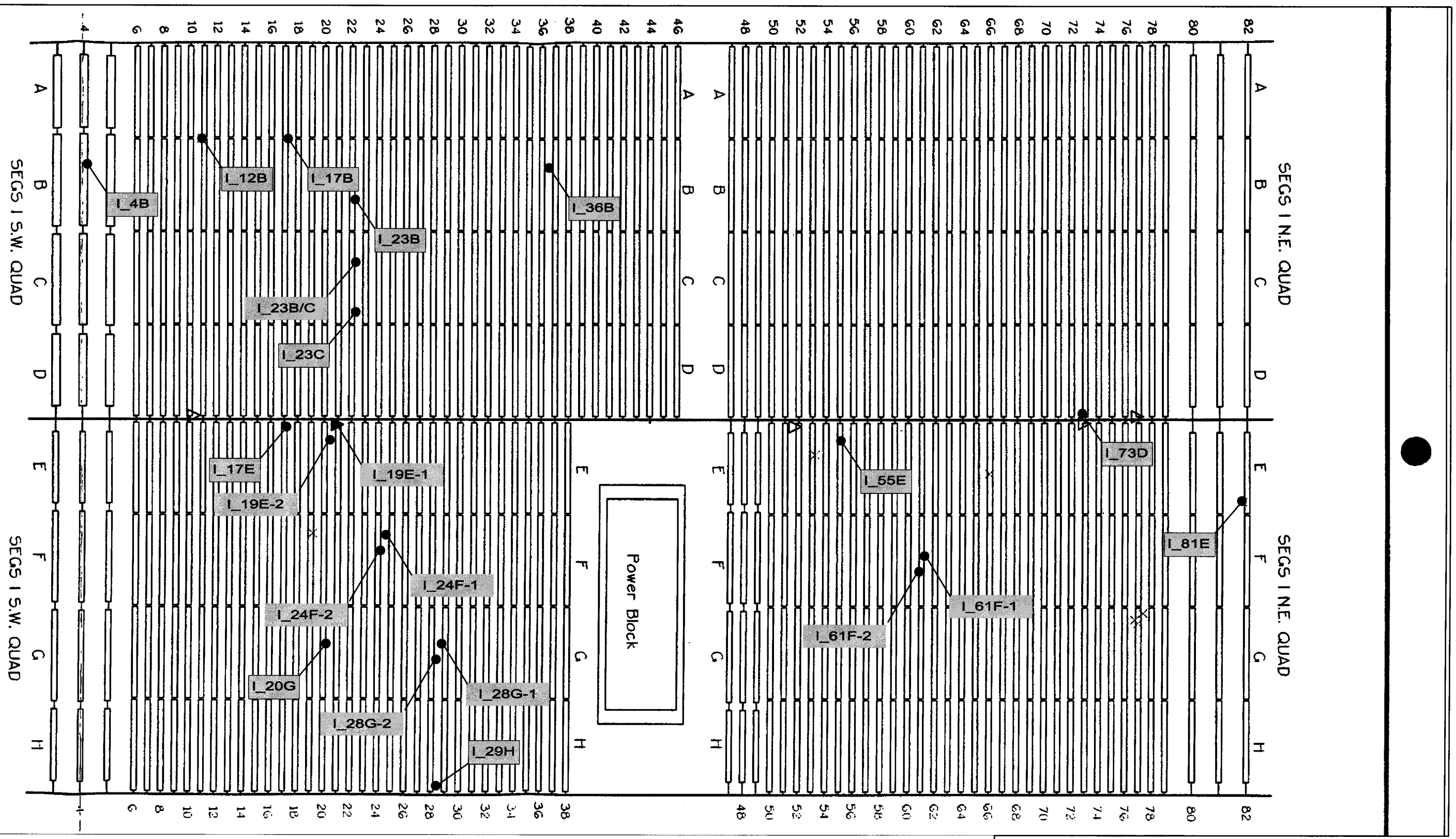
1" = 150'

FIGURE 2
Site Map

SEGS I and I
35100 Santa Fe Road
Daggett, California

northgate
environmental management, inc.

Project No. 2024.01



Legend

I_28G-1 — Soil Boring Location

0 100 200

Scale 1" = 100'

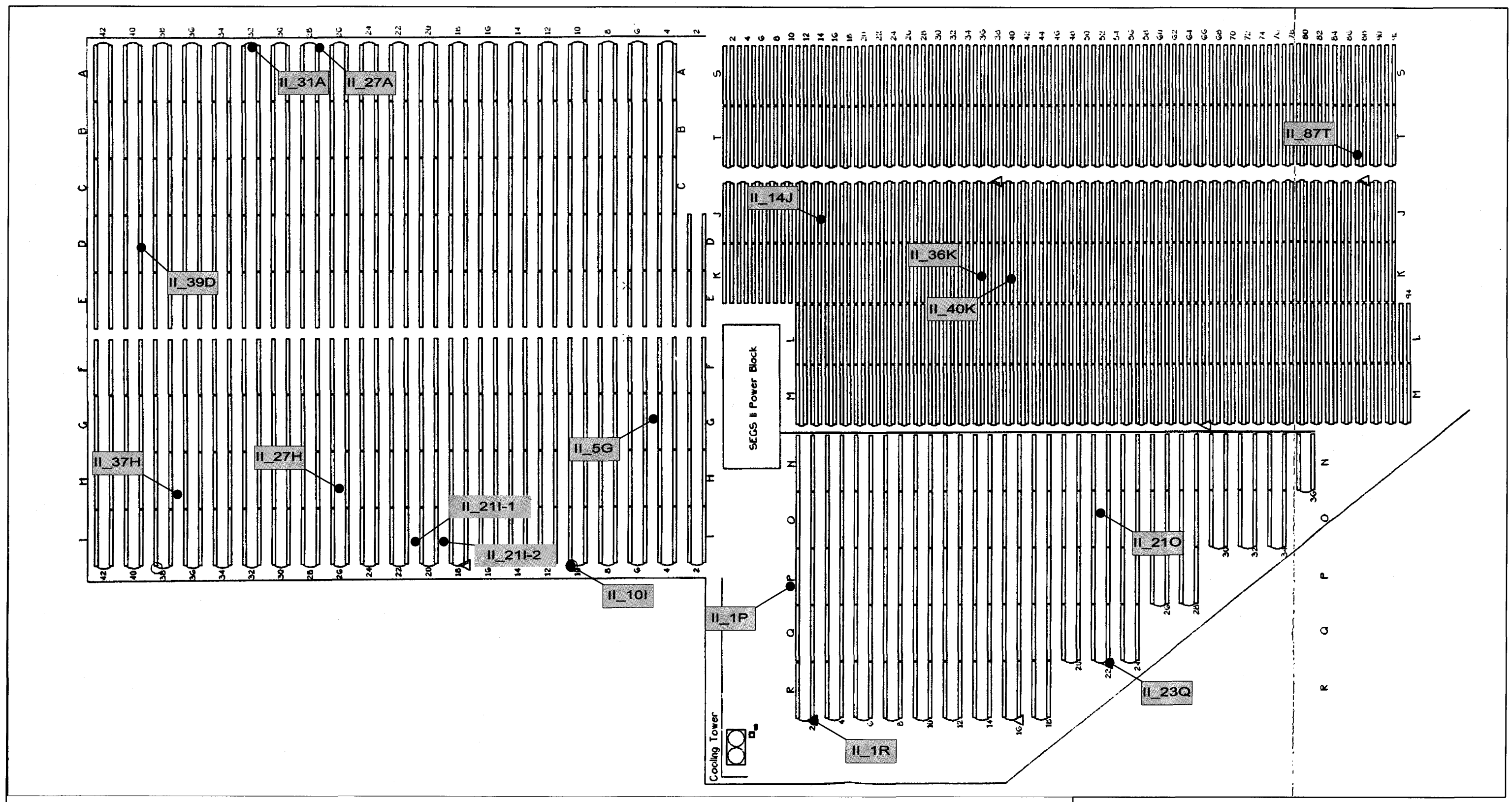
N

FIGURE 3
SEGS I Parabolic Array Map

northgate
environmental management, inc.

SEGS I and II
35100 Santa Fe Road
Daggett, California

Project No. 2024.01



Legend

Soil Boring Location

II_21I-2

0 150 300

Scale 1" = 300'

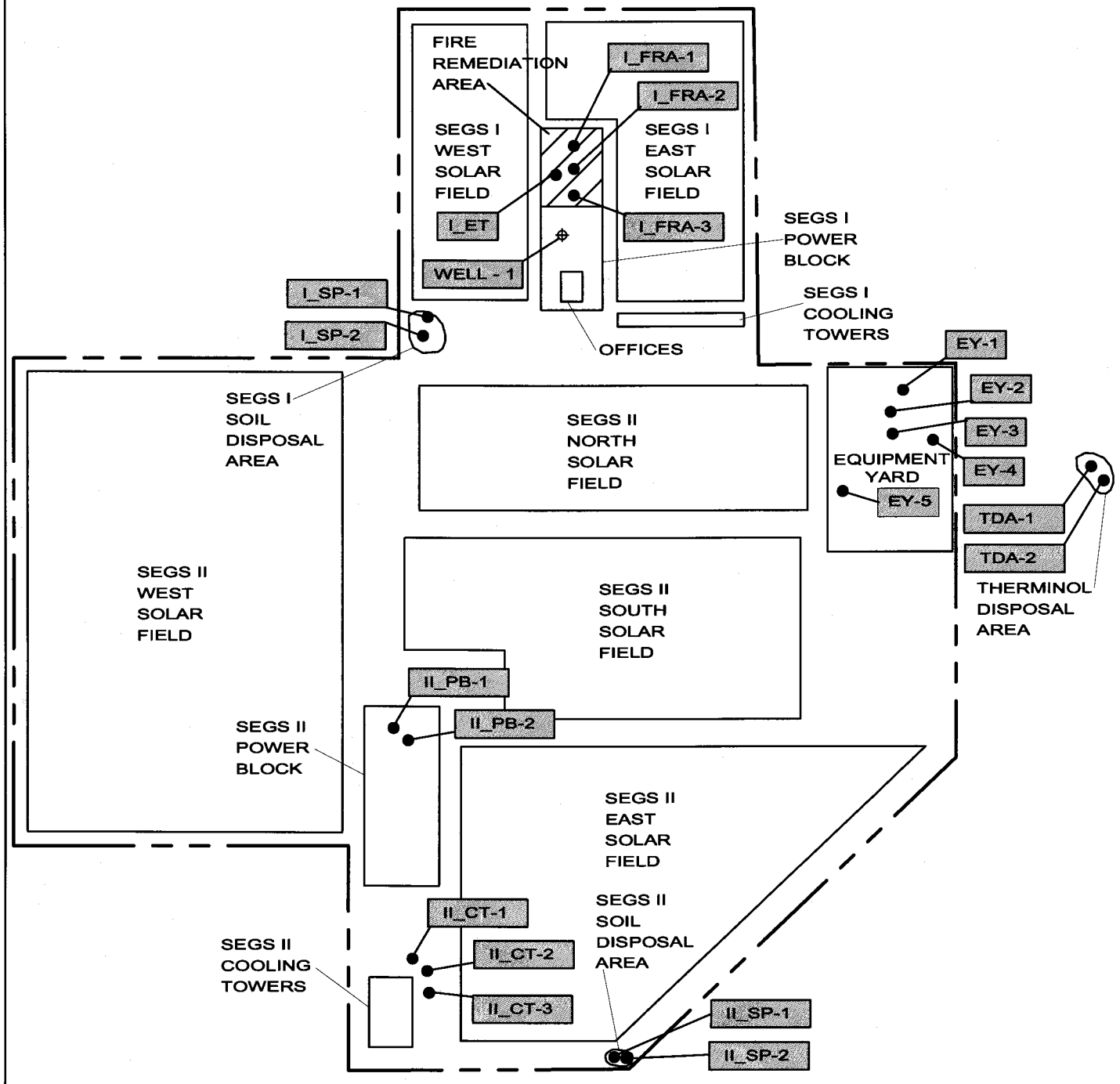
N

FIGURE 4
SEGS II Parabolic Array Map

northgate
environmental management, inc.

SEGS I and II
35100 Santa Fe Road
Daggett, California

Project No. 2024.01



LEGEND

SITE BOUNDARY

Production Well

Well #1

Soil Boring Location

II_CT-1

N

Scale

0 150 ft

1" = 150'

FIGURE 5
Soil Boring Locations

SEGS I and I
35100 Santa Fe Road
Daggett, California

northgate
environmental management, inc.

Project No. 2024.01

APPENDIX A
HEALTH AND SAFETY PLAN

Health and Safety Plan
for Investigation Activities at the
Solar Energy Generating Systems (SEGS) 1 & 2 Site
Daggett, California

December 1, 2008
2024.01

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Air Monitoring Form
Incident Report Form

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1.0 GENERAL

Northgate Environmental Management (Northgate) has prepared this Health and Safety Plan (HSP) for use during the investigation/excavation activities to be conducted at the Solar Energy Generating System (SEGS) 1 & 2 Site located at 35100 Santa Fe Street in Daggett, California ("the Site"). Activities conducted under NORTHGATE's direction at the Site will be in compliance with applicable Occupational Safety and Health Administration (OSHA) regulations, particularly those in Title 8 California Code of Regulations (CCR) 5192, and other applicable federal, state, and local laws, regulations, and statutes. A copy of this HSP will be kept on site during scheduled field activities.

This HSP addresses the potential hazards associated with planned field activities at the Site. It presents the minimum health and safety requirements for establishing and maintaining a safe working environment during the course of work. In the event of conflicting requirements, the procedures or practices that provide the highest degree of personnel protection will be implemented. If work plan specifications change or if site conditions encountered during the course of the work are found to differ substantially from those anticipated, the Director of Health and Safety must be informed immediately upon discovery, and appropriate changes will be made to this HSP.

It is the Project Manager's responsibility to ensure that health and safety procedures are enforced at the Site. Project personnel, including subcontractors, shall receive a copy of this HSP and sign the form to indicate acceptance before on-site project activities begin.

NORTHGATE's health and safety programs and procedures, including medical monitoring, respiratory protection, injury and illness prevention, hazard communication, and personal protective equipment (PPE), are documented in the NORTHGATE Corporate Health and Safety Manual. These health and safety procedures are incorporated herein by reference, and NORTHGATE employees will adhere to the procedures specified in the manual.

When specified in contract documents, this HSP may cover the activities of NORTHGATE subcontractors. However, this HSP may not address hazards associated with tasks and equipment that are specialties of the subcontractor (e.g., operation of a drill rig). Subcontractors are responsible for developing, maintaining, and implementing their own health and safety programs, policies, and procedures.

NORTHGATE is responsible for the safety of its employees and subcontractors under its control, but assumes no responsibility for the activities of other contractors or their subcontractors who may be working concurrently at the general project location. NORTHGATE will use a reasonable degree of care when marking potentially hazardous areas within its project work site and restricting access as appropriate. NORTHGATE will not be responsible for others outside its control who disregard such marked hazards or restricted access. This HSP has been prepared specifically for this

project and is intended to address health and safety issues solely with respect to NORTHGATE's work. All references, therefore, to the site, the work, activities, site personnel, workers, persons, or subcontractors in this HSP are with respect to NORTHGATE work only.

2.0 SITE DESCRIPTION AND BACKGROUND

- The Site is owned by Cogentrix Energy, Inc. The Site consists of SEGS 1 and 2 which are concentrated solar power generating facilities collocated on a 333 acre parcel. The facility produces electricity from trough-shaped reflectors (mirrors), which focus the sun's energy on a glass encapsulated tube containing heat transfer fluid (htf). The heated htf, which is a high temperature oil, moves through the tubes to a central facility location (power block) where it is used to generate steam, which in turn is used to power a turbine generator. The htf used at SEGS 1 is Caloria HT-43, which is a de-waxed paraffinic petroleum distillate. At SEGS 2 the htf of choice is Therminol VP-1 (Dowtherm A), which is a eutectic mixture of biphenyl and diphenyl oxide. Therminol VP-1 can contain small concentrations of benzene.

3.0 PLANNED SITE ACTIVITIES

Scheduled work will consist of the following activities:

- Soil sampling; and
- Groundwater sampling.

Work is anticipated to begin on December 1, 2008 and is expected to last approximately five days.

4.0 KEY PROJECT PERSONNEL AND RESPONSIBILITIES

Project Manager	**Derrick Willis**
Site Safety Officer (SSO)	Dana Brown

The responsibilities of key project personnel are outlined below.

4.1 Project Manager

The Project Manager has the ultimate responsibility for the health and safety of NORTHGATE personnel at the Site. The Project Manager is responsible for:

- Ensuring that project personnel review and understand the requirements of this HSP;
- Keeping the Director of Health and Safety informed of project developments;
- Keeping on-site personnel, including subcontractors, informed of the expected hazards and appropriate protective measures at the Site; and
- Providing resources necessary for maintaining a safe and healthy work environment for NORTHGATE personnel.

4.2 Site Safety Officer

The SSO is responsible for enforcing the requirements of this HSP once Site work begins. The SSO has the authority to immediately correct situations where noncompliance with this HSP is noted and to immediately stop work in cases where an immediate danger to Site workers or the environment is perceived. Responsibilities of the SSO also include:

- Obtaining and distributing personal protective equipment (PPE) and air monitoring equipment necessary for this project;
- Limiting access at the Site to authorized personnel;
- Communicating unusual or unforeseen conditions at the Site to the Project Manager;
- Supervising and monitoring the safety performance of site personnel to evaluate the effectiveness of health and safety procedures and correct deficiencies;
- Conducting daily tailgate safety meetings before each day's activities begin; and
- Conducting a site safety inspection prior to the commencement of each day's field activities.

4.4 Subcontractor Personnel

Subcontractor personnel are expected to comply with the minimum requirements specified in this HSP. Failure to do so may result in the removal of the subcontractor or any of the subcontractor's workers from the job site. Subcontractors may employ health and safety procedures that afford them a greater measure of personal protection than those specified in this plan so long as they do not pose additional hazards to themselves, the environment, or others working in the area.

5.0 HAZARDS OF KNOWN OR EXPECTED CHEMICALS OF CONCERN

Anticipated Compounds	Source (soil/water/drum, etc.)	Known Concentration Range (ppm, mg/kg, mg/l)	
		Lowest	Highest
Total petroleum hydrocarbons (TPH)	Soil/groundwater	unknown	unkown
Pesticides	Soil	unknown	unknown
Herbicides	Soil	unknown	unknown

Exposure pathways of concern for chemical compounds that may be present at the Site are inhalation of airborne contaminants, direct skin contact with contaminated materials, and incidental ingestion of affected media. Wearing protective equipment and following decontamination procedures listed in Section 9 can minimize dermal contact and incidental ingestion. To minimize inhalation hazards, dust or vapor control measures will be implemented, where necessary, and action levels will be observed during scheduled activities. Site-specific action levels are presented in Section 10. Chemical descriptions of chemicals of concern, including health effects and exposure limits, are located in Appendix A.

In accordance with the Hazard Communication standard, material safety data sheets (MSDSs) will be maintained on site for chemical products used by NORTHGATE personnel at the Site. In addition, containers will be clearly labeled in English to indicate their contents and appropriate hazard warnings.

5.1 Air Monitoring

Real-time air monitoring devices will be used to analyze airborne contaminant concentrations every 30 minutes in the workers' breathing zones while workers are in the designated Exclusion Zone. If elevated concentrations are indicated, the monitoring frequency will be increased, as appropriate. The equipment will be calibrated daily, and the results will be recorded on NORTHGATE's Air Monitoring form or project log book. The results of air monitoring will be recorded on an NORTHGATE Air Monitoring Form or project log book and will be retained in the project files following completion of field activities. A copy of the Air Monitoring Form is located in Appendix B.

On-site worker exposure to airborne contaminants will be monitored during intrusive site activities. A calibrated photoionization detector (PID) with a lamp strength of 10.6 eV or flame ionization detector (FID) will be used to monitor changes in exposure to volatile organic compounds (VOCs). A miniature real-time aerosol monitor (mini-RAM, or equivalent) will be used to monitor exposure to total dusts. Personnel will

perform routine monitoring during site operations to evaluate concentrations of VOCs and/or total dusts in employee breathing zones. If VOCs and/or total dusts are detected above predetermined action levels specified in Section 10, the procedures found in Section 7 of this HSP will be followed.

6.0 PHYSICAL HAZARDS

The following potential physical hazards may be encountered during scheduled activities at the Site:

- Slips, trips, and falls;
- Heavy equipment;
- Heat stress;
- Cold stress;
- Noise;
- Electrical sources;
- Excavations;
- Underground and overhead utilities;
- Materials and equipment handling;
- Fire/explosion;
- Lightning/electrical storms; and
- Traffic

6.1 General Safe Work Practices

- Workers will thoroughly clean their hands, faces, and other potentially contaminated areas before smoking, eating, or leaving the Site.
- Respiratory devices may not be worn with beards or long sideburns, or under other conditions that prevent a proper seal.
- Accidents and/or injuries associated with work at the Site will be immediately reported to the SSO. If necessary, an incident report will be initiated by the SSO.
- Periodic safety briefings will be held to discuss current site conditions, field tasks being performed, planned modifications, and work concerns.
- Site conditions may include uneven, unstable, or slippery work surfaces. Substantial care and personal observation is required on the part of each employee to prevent injuries from slips, trips, and falls.

- Workers will maintain good housekeeping practices during field activities to maintain a safe working environment. The work site will be kept free of debris, waste, and trash.
- The "buddy system" will be used whenever appropriate.
- To prevent head injury, ANSI-approved hard hats will be worn at all times while the worker is in an area where overhead obstructions or falling objects may be encountered.
- To prevent eye injuries, workers must wear ANSI-approved safety glasses during field activities.

6.2 Heavy Equipment

Equipment, including earth-moving equipment, drill rigs, or other heavy machinery, will be operated in compliance with the manufacturer's instructions, specifications, and limitations, as well as any applicable regulations. The operator is responsible for inspecting the equipment daily to verify that it is functioning properly and safely.

Operation of equipment at the Site for the activities outlined in Section 3 poses potential physical hazards. The following precautions should be observed whenever heavy equipment is in use:

- PPE, including steel-toed boots, safety glasses, and hard hats, must be worn.
- Personnel must be aware of the location and operation of heavy equipment and take precautions to avoid getting in the way of its operation. Workers must never assume that the equipment operator sees them; eye contact and hand signals should be used to inform the operator of intent.
- Traffic safety vests are required for personnel working near mobile heavy equipment or near high traffic areas.
- Personnel should not walk directly in back of, or to the side of, heavy equipment without the operator's knowledge.
- Nonessential personnel will be kept out of the work area.

6.3 Heat Stress

Adverse climate conditions, primarily heat, are important considerations in planning and conducting site operations. Heat-related illnesses range from heat fatigue to heat stroke, with heat stroke being the most serious condition. The effects of ambient temperature can cause physical discomfort, loss of efficiency, and personal injury, and can increase the probability of accidents. In particular, protective clothing that decreases the body's ventilation can be an important factor leading to heat-related illnesses.

To reduce the possibility of heat-related illness, workers should drink plenty of fluids and establish a work schedule that will provide sufficient rest periods for cooling down. Personnel shall maintain an adequate supply of non-caffeinated drinking fluids on site for personal hydration. Workers should be aware of signs and symptoms of heat-related illnesses, as well as first aid for these conditions. These are summarized in the table below.

Condition	Signs	Symptoms	Response
Heat Rash or Prickly Heat	Red rash on skin.	Intense itching and inflammation.	Increase fluid intake and observe affected worker.
Heat Cramps	Heavy sweating, lack of muscle coordination.	Muscle spasms, and pain in hands, feet, or abdomen.	Increase fluid uptake and rest periods. Closely observe affected worker for more serious symptoms.
Heat Exhaustion	Heavy sweating; pale, cool, moist skin; lack of coordination; fainting.	Weakness, headache, dizziness, nausea.	Remove worker to a cool, shady area. Administer fluids and allow worker to rest until fully recovered. Increase rest periods and closely observe worker for additional signs of heat exhaustion. If symptoms of heat exhaustion recur, treat as above and release worker from the day's activities after he/she has fully recovered.
Heat Stroke	Red, hot, dry skin; disorientation; unconsciousness	Lack of or reduced perspiration; nausea; dizziness and confusion; strong, rapid pulse.	Immediately contact emergency medical services by dialing 911. Remove the victim to a cool, shady location and observe for signs of shock. Attempt to comfort and cool the victim by administering small amounts of cool water (if conscious), loosening clothing, and placing cool compresses at locations where major arteries occur close to the body's surface (neck, underarms, and groin areas). Carefully follow instructions given by emergency medical services until help arrives.

6.4 Cold Stress

Workers performing activities during winter and spring months may encounter extremely cold temperatures, as well as conditions of snow and ice, making activities in the field difficult. Adequate cold weather gear, especially head and foot wear, is required under these conditions. Workers should be aware of signs and symptoms of hypothermia and frostbite, as well as first aid for these conditions. These are summarized in the table below.

Condition	Signs	Symptoms	Response
Hypothermia	Confusion, slurred speech, slow movement.	Sleepiness, confusion, warm feeling.	Remove subject to warm area, such as truck cab; give warm fluids; warm body core as rapidly as possible; remove outer clothing and wrap torso in blankets with hot water bottle or other heat source. Get medical attention immediately.
Frostbite	Reddish area on skin, frozen skin.	Numbness or lack of feeling on exposed skin.	Place affected extremity in warm, not hot, water, or wrap in warm towels. Get medical attention.

6.5 Noise

Noise may result primarily from the operation of drill rigs and mechanical equipment. The use of heavy equipment may generate noise above the Cal/OSHA permissible exposure limit for noise of 90 dBA for an 8-hour time-weighted average. Workers will wear appropriate hearing protection when operating or working near heavy equipment. If loud noise is present or normal conversation becomes difficult, hearing protection in the form of ear plugs, or equivalent, will be required.

6.6 Electric Shock

Electrical equipment to be used during field activities will be suitably grounded and insulated. Ground fault circuit interrupters (GFCI), or equivalent, will be used with electrical equipment to reduce the potential for electrical shock.

Lockout/tagout procedures in accordance with 8 CCR 3314 will be conducted before activities begin on or near energized or mechanical equipment that may pose a hazard to site personnel. Workers conducting the operation will positively isolate the piece of equipment, lock/tag the energy source, and verify effectiveness of the isolation. Only

employees who perform the lockout/tagout procedure may remove their own tags/locks. Employees will be thoroughly trained before initiating this procedure.

6.7 Excavations

A Cal/OSHA Excavation Permit (per 8 CCR 341) will be obtained by the Project Manager prior to the construction of any excavation greater than 5 feet in depth into which an NORTHGATE employee is required to descend. **Each** subcontractor whose employees will enter such an excavation is responsible for obtaining a permit from Cal/OSHA for its operations.

A competent person who is capable of identifying existing and predictable hazards in the surroundings, or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them, will be present during excavation activities.

The atmosphere will be tested in excavations greater than 4 feet in depth where oxygen deficiency or toxic or flammable gases are likely to be present before employees are permitted to enter and begin work. The atmosphere should be ventilated and re-tested until flammable gas concentrations less than 10 percent of the lower explosive limit (LEL) are obtained. Worker entry will not be allowed if the oxygen concentration is less than 19.5 percent.

Workers will not enter excavations greater than 5 feet in depth without appropriate protective systems such as benching, sloping, or shoring. Side slopes will not be steeper than 1½:1 without a written report from a qualified civil or geotechnical engineer. Excavations will be constructed in accordance with the Cal/OSHA Excavation Safety Standard, 8 CCR 1541.

The competent person will inspect excavations daily. If there is evidence that a cave-in or slide is possible, work will cease until the necessary safeguards have been taken. Excavated material will be placed far enough from the edge of the excavation (a minimum of 2 feet) so that it does not fall back into the opening. At the end of each day's activities, open excavations will be clearly marked and secured to prevent nearby workers or unauthorized personnel from entering them. Remote sampling techniques will be the preferred method of sample collection in excavations.

6.8 Underground and Overhead Utilities

Reasonable efforts will be made to identify the location(s) of underground utilities (e.g., pipes, electrical conductors, fuel lines, and water and sewer lines) before mechanized soil intrusive work is performed. The state underground utility notification authority (e.g., USA, Dig Alert, Blue Stake) will be contacted prior to the start of intrusive field activities in accordance with local notification requirements. In areas not evaluated by the underground utility notification authority, and a reasonable potential

for underground utilities exists, one or more of the following techniques will be employed to determine the location of subsurface structures:

- Contracting the services of a qualified private utility locator;
- Having a survey of the subject area conducted by staff trained in the use of subsurface utility locating equipment; and
- Subsurface testing (i.e., potholing) to the expected depth of probable utilities (not less than 5 feet).

If utilities cannot be located or if unlocated utilities are suspected to be present, subsurface activities (i.e., borings, excavation) should not be conducted before the location(s) or absence of underground utilities is confirmed.

Equipment with articulated upright booms or masts shall not be permitted to pass within 20 feet of an overhead utility line (less than 50 kV) while the boom is in the upright position. For transmission lines in excess of 50 kV, an additional distance of 4 inches for each 10 kV over 50 kV will be used.

6.9 Materials and Equipment Handling Procedures

The movement and handling of equipment and materials on the Site pose a risk to workers in the form of muscle strains and minor injuries. These injuries can be avoided by using safe handling practices, proper lifting techniques, and proper personal safety equipment such as steel-toed boots and sturdy work gloves. Where practical, mechanical devices will be utilized to assist in the movement of equipment and materials. Workers will not attempt to move heavy objects by themselves without using appropriate mechanical aids such as drum dollies or hydraulic lift gates.

6.10 Fire/Explosion

Site workers should have an increased awareness concerning fire and explosion hazards whenever working with or near flammable materials, especially when performing any activity that may generate sparks, flame, or other source of ignition. Intrinsically safe equipment is required when working in or near environments with the potential for an explosive atmosphere. The SSO will verify facility requirements for a "hot work" permit before activities that may serve as a source of ignition are conducted.

Flammable materials will be kept away from sources of ignition. In the event of fire, work will cease, the area will be evacuated, and the local fire response team will be notified immediately. Only trained, experienced fire fighters should attempt to extinguish substantial fires at the Site. Site personnel should not attempt to fight fires, unless properly trained and equipped to do so. A fully charged ABC dry chemical fire extinguisher will be readily available for use during all scheduled activities at the Site.

6.11 Lightning/Electrical Storms

Lightning can be unpredictable and may strike many miles in front of, or behind, a thunderstorm. Workers will therefore cease field operations at the **first** sign of a thunderstorm and suspend activities until at least 30 minutes after the last observed occurrence of lightning or thunder. For purposes of this HSP, signs of a thunderstorm will include any visible lightning or audible thunder.

In the event of a thunderstorm, workers will take the following actions:

- Get inside a permanent building structure (not a shed or canopy) or fully enclosed metal vehicle (not a convertible or camper shell) with the windows fully up.
- Stay away from tall isolated objects, such as trees, drill rigs, telephone poles, or flag poles.
- Avoid large open areas, such as fields or parking lots, where a person is the relatively highest object.
- Stay away from lakes, ponds, railroad tracks, fences, and other objects that could transmit current from a distant lightning strike.

6.12 Traffic

Vehicular traffic presents opportunities for serious injury to persons or property. Traffic may consist of street traffic or motor vehicles operated by facility employees or visitors to the Site. Workers and other pedestrians are clearly at risk during periods of heavy traffic. Risk from motor vehicle operations may be minimized by good operating practices and alertness, and care on the part of workers and pedestrians.

Site personnel will wear high-visibility safety vests whenever activities are conducted in areas of heavy traffic. Work vehicles will be arranged to be used as a barrier between site workers and nearby traffic. If required by local ordinances or site location, a traffic control plan will be developed implemented.

7.0 PERSONAL PROTECTIVE EQUIPMENT

The purpose of PPE is to protect employees from hazards and potential hazards they are likely to encounter during site activities. The amount and type of PPE used will be based on the nature of the hazard encountered of anticipated. Respiratory protection will be utilized when an airborne hazard has been identified using real-time air monitoring devices, or as a precautionary measure in areas designated by the Director of Health and Safety or SSO.

Dermal protection, primarily in the form of chemical-resistant gloves and coveralls, will be worn whenever contact with chemically affected materials (e.g., soil,

groundwater, sludge) is anticipated, without regard to the level of respiratory protection required.

NORTHGATE personnel will be provided with appropriate personal safety equipment and protective clothing. The SSO is to inform each worker about necessary protection and must provide proper training in the use of the safety equipment. The required PPE to be worn is described below.

7.1 Conditions Requiring Level D Protection

In general, site activities will commence in Level D PPE unless otherwise specified, or if the SSO determines on site that a higher level of PPE is required. Air monitoring of employee breathing zones will be routinely conducted using real-time air monitoring devices to determine if upgrading to Level C PPE is necessary. Level D PPE will be permitted as long as air monitoring data indicate that airborne concentrations of chemicals of concern are maintained below the site-specific action levels defined in Section 10.

It is important to note that dermal protection is required whenever contact with chemically affected soils or groundwater is anticipated. The following equipment is specified as the minimum PPE required to conduct activities at the Site:

- Work shirt and long pants;
- ANSI-approved steel-toed boots or safety shoes;
- ANSI-approved safety glasses; and
- ANSI-approved hard hat.

Other personal protection readily available for use, if necessary, includes the following:

- Outer nitrile gloves and inner nitrile surgical gloves when direct contact with chemically affected soils or groundwater is anticipated (nitrile surgical gloves may be used for collecting or classifying samples as long as they are removed and disposed of immediately after each sampling event);
- Chemical-resistant clothing (e.g., Tyvek or polycoated Tyvek coveralls) when contact with chemically affected soils or groundwater is anticipated;
- Safety shoes/boots with protective overboots or knee-high PVC polyblend boots when direct contact with chemically affected soils is anticipated;
- Hearing protection; and
- Sturdy work gloves.

7.2 Conditions Requiring Level C Protection

If air monitoring indicates that the site-specific action levels defined in Section 10 are exceeded, workers in the affected area(s) will upgrade PPE to Level C. In addition to the protective equipment specified for Level D, Level C also includes the following:

- NIOSH-approved half- or full-face air-purifying respirator (APR) equipped with filter cartridges as specified in Section 10.0. Note: safety glasses are not required when wearing a full-face APR.
- chemical-resistant clothing (e.g., Tyvek, polycoated Tyvek, or Saranex coveralls) when contact with chemically affected soils or groundwater is anticipated
- outer nitrile gloves and inner nitrile surgical gloves when direct contact with chemically affected soils or groundwater is anticipated (nitrile surgical gloves may be used for collecting or classifying samples as long as they are removed and disposed of immediately after each sampling event)
- safety shoes/boots with protective overboots or knee-high PVC polyblend boots when direct contact with chemically affected soils is anticipated

Respirators will be stored in clean containers (i.e., self-sealing bag) when not in use. Respirator cartridges will be replaced in accordance with the following change-out schedule.

Type of Cartridge	Cartridge Change-out Schedule
Particulate (i.e., HEPA)	At least weekly or whenever the employee detects an increase in breathing resistance. This will occur as the filter becomes loaded with particulate matter.
Sorbent (i.e., organic vapor)	At the end of each day's use or whenever the employee detects an abnormal odor or other indicator.

Personnel who wear air-purifying respirators will be trained in their use and must have successfully passed a qualitative respiratory fit test in accordance with 8 CCR 5144 within the last 12 months.

7.3 Conditions Requiring Stoppage of Work

If air monitoring indicates that the site-specific action levels defined in Section 10 are exceeded, activities must cease, and personnel must evacuate the Exclusion Zone (see Section 9). The Project Manager and Director of Health and Safety will be contacted immediately.

8.0 SAFETY PROCEDURES AND SITE REQUIREMENTS

A daily morning briefing to cover safety procedures and contingency plans in the event of an emergency is to be included with a discussion of the day's activities. These daily meetings will be recorded on NORTHGATE Daily Tailgate Safety Meeting Forms. A debriefing to cover the activities is to be held upon completion of the work. A copy of the Daily Tailgate Safety Meeting Form is included in Appendix B.

The SSO will conduct a safety inspection of the work site before each day's activities begin to verify compliance with the requirements of the HSP. Results of the first day's inspection will be documented on an NORTHGATE Site Safety Checklist. A copy of the checklist is included in Appendix B.

Minimum emergency equipment maintained on site will include a fully charged 20-pound ABC dry chemical fire extinguisher, an adequately stocked first aid kit, and an emergency eyewash station (when corrosive chemicals are present).

8.1 Training Requirements

Site personnel, including subcontractors and visitors conducting work in controlled areas of the Site, must have completed the appropriate training as required by 8 CCR 5192. Further site-specific training will be conducted by the SSO prior to the initiation of project activities. This training will include, but will not necessarily be limited to, emergency procedures, site control, personnel responsibilities, and the provisions of this HSP.

General site workers (such as equipment operators, general laborers, and supervisory personnel) engaged in hazardous substance removal or other activities that could expose them to hazardous substances must have successfully completed an initial 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training course. In addition, each employee must have attended an eight-hour annual HAZWOPER refresher training course within the past 12 months if their initial 40-hour HAZWOPER training course was completed more than 12 months prior.

8.2 Medical Surveillance Requirements

Site personnel, including subcontractors and site visitors, who will or may work in an area designated as an exclusion zone must have fulfilled the appropriate medical monitoring requirements in accordance with 8 CCR 5192(f). Each individual entering an exclusion zone must have completed an annual surveillance examination and/or an initial baseline examination within the last 12 months.

9.0 SITE CONTROL MEASURES

Procedures must be followed to maintain site control so that persons who may be unaware of site conditions are not exposed to hazards. The work area will be barricaded by tape, warning signs, or other appropriate means. Pertinent equipment or machinery will be secured and stored safely.

Access inside the specified work area will be limited to authorized personnel. Only NORTHGATE employees and designated NORTHGATE subcontracted personnel, as well as designated employees of the client, will be admitted to the work site. Personnel entering the work area are required to sign the signature page of this HSP, indicating they have read and accepted the health and safety practices outlined in this plan.

9.1 Establishing Work Zones

In some instances it may be necessary to define established work zones: an Exclusion Zone, a Contamination Reduction Zone, and a Support Zone. Work zones may be established based on the extent of anticipated contamination, projected work activities, and the presence or absence of non-project personnel. The physical dimensions and applicability of work zones will be determined for each area based on the nature of job activity and hazards present. Within these zones, prescribed operations will occur using appropriate PPE. Movement between zones will be controlled at checkpoints.

Considerable judgment is needed to maintain a safe working area for each zone, balanced against practical work considerations. Physical and topographical barriers may constrain ideal locations. Field measurements combined with climatic conditions may, in part, determine the control zone distances. Even when work is performed in an area that does not require the use of chemical-resistant clothing, work zone procedures may still be necessary to limit the movement of personnel and retain adequate site control.

Personnel entering the designated Exclusion Zone should exit at the same location. There must be an alternate exit established for emergency situations. In all instances, worker safety will take precedence over decontamination procedures. If decontamination of personnel is necessary, exiting the Site will include the decontamination procedures described below.

9.2 Decontamination Procedures

Despite protective procedures, personnel may come in contact with potentially hazardous compounds while performing work tasks. If so, decontamination needs to take place using an Alconox or TSP wash, followed by a rinse with clean water. Standard decontamination procedures for levels C and D are as follows:

- Equipment drop;

- Boot cover and outer glove wash and rinse;
- Boot cover and outer glove removal;
- Suit wash and rinse;
- Suit removal;
- Safety boot wash and rinse;
- Inner glove wash and rinse;
- Respirator removal;
- Inner glove removal; and
- Field wash of hands and face.

Workers should employ only applicable steps in accordance with level of PPE worn and extent of contamination present. The SSO shall maintain adequate quantities of clean water to be used for personal decontamination (i.e., field wash of hands and face) whenever a suitable washing facility is not located in the immediate vicinity of the work area. Disposable items will be disposed of in an appropriate container. Wash and rinse water generated from decontamination activities will be handled and disposed of properly. Non-disposable items may need to be sanitized before reuse. Each site worker is responsible for the maintenance, decontamination, and sanitizing of his/her own PPE.

Used equipment may be decontaminated as follows:

- An Alconox or TSP and water solution will be used to wash the equipment; and
- The equipment will then be rinsed with clean water.

Each person must follow these procedures to reduce the potential for transferring chemically affected materials off site.

10.0 ACTION LEVELS

The following action levels were developed for exposure monitoring with real-time air monitoring instruments as specified in Section 5.1. Air monitoring data will determine the required respiratory protection levels at the Site during scheduled intrusive activities. The action levels are based on sustained readings indicated by the instrument(s). Air monitoring will be performed and recorded at up to 30-minute intervals.

If elevated concentrations are indicated, the monitoring frequency will be increased, as appropriate. If during this time, sustained measurements are observed, the following actions will be instituted, and the Project Manager and Director of Health and Safety will be notified. For purposes of this HSP, sustained readings are defined as the average airborne concentration maintained for a period of one (1) minute.

Activity	Action Level	Level of Respiratory Protection
Drilling exploratory borings/excavation of impacted soil	< 5 ppm above background (VOCs) < 0.5 mg/m^3 above background (dust)	Level D: No respiratory protection required.
	5 to 25 ppm (VOCs) 0.5 to 1.5 mg/m^3 (dust)	Level C: Half-or full-face air-purifying respirator fitted with organic vapor/HEPA filter cartridges.
	> 25 ppm (VOCs) > 1.5 mg/m^3 (dust)	Cease operations and evacuate work area. Contact Director of Health and Safety and Project Manager immediately.

11.0 CONTINGENCY PROCEDURES

In the event of an emergency, site personnel will signal distress with three blasts of a horn (a vehicle horn will be sufficient), or other predetermined signal. Communication signals, such as hand signals, must be established where communication equipment is not feasible or in areas of loud noise.

It is the SSO's duty to evaluate the seriousness of the situation and to notify appropriate authorities. Section 12 of this plan contains emergency telephone numbers as well as directions to the hospital. Nearby telephone access must be identified and available to communicate with local authorities. If a nearby telephone is not available, a cellular telephone will be maintained on site during work activities.

Personnel should contact local emergency services in the event of an emergency (see Section 12). After emergency services are notified, the Project Manager and Director of Health and Safety will be notified of the situation as soon as possible. If personal injury, property damage, or equipment damage occurs, the Project Manager and NORTHGATE Corporate Administration will be contacted as soon as practicable. An Incident Report form will be completed within 24 hours by the SSO or another designated person. A copy of the NORTHGATE Incident Report form is included in Appendix B.

11.1 Injury/Illness

If an exposure or injury occurs, work will be temporarily halted until an assessment can be made of whether it is safe to continue work. The SSO, in consultation with the Director of Health and Safety, will make the decision regarding the safety of continuing work. The SSO will conduct an investigation to determine the cause of the incident and steps to be taken to prevent recurrence.

In the event of an injury, the extent and nature of the victim's injuries will be assessed and first aid will be rendered as appropriate. If necessary, the individual may be transported to the nearby medical center. The mode of transportation and the eventual destination will be based on the nature and extent of the injury. A hospital route map is presented in Appendix C.

In the event of a life-threatening emergency, the injured person will be given immediate first aid and emergency medical services will be contacted by dialing the number listed in Section 12. The individual rendering first aid will follow directions given by emergency medical personnel via telephone. When working in areas where medical services are not readily available, a person trained in first aid/CPR techniques will be present during field activities.

11.2 Fire

In the event of fire, personnel should contact the local fire department immediately by dialing 911. When representatives of the fire department arrive, the SSO, or designated representative, will advise the commanding officer of the location, nature, and identification of hazardous materials on site. Only trained, experienced fire fighters should attempt to extinguish substantial fires at the Site. Site personnel should not attempt to fight fires, unless properly trained and equipped to do so.

Smoking is not permitted in controlled areas (i.e., exclusion or contamination reduction zones), near flammable or combustible materials, or in areas designated by the facility as non-smoking areas.

11.3 Underground Utilities

In the event that an underground conduit is damaged during excavation or drilling, mechanized equipment will immediately be shut off until the nature of the piping can be determined. Depending on the nature of the broken conduit (e.g., natural gas, water, or electricity), the appropriate local utility will be contacted.

11.4 Evacuation

The SSO will designate evacuation routes and refuge areas to be used in the event of an emergency. Site personnel will stay upwind from vapors or smoke and upgradient from spills. If workers are in an Exclusion or Contamination Reduction Zone at the start of an emergency, they should exit through the established decontamination areas whenever possible. If evacuation cannot be done through an established decontamination area, site personnel will go to the nearest safe location and remove contaminated clothing there or, if possible, leave it near the Exclusion Zone. Personnel will assemble at the predetermined refuge following evacuation and decontamination. The SSO, or designated representative, will count and identify site personnel to verify that all have been evacuated safely.

11.5 Hazardous Material Spill

If a hazardous material spill occurs, site personnel should locate the source of the spill and determine the hazard to the health and safety of site workers and the public. Attempt to stop or reduce the flow if it can be done without risk to personnel. Isolate the spill area and do not allow entry by unauthorized personnel. De-energize sources of ignition within 100 feet of the spill, including vehicle engines. Should a spill be of the nature or extent that it cannot be safely contained, or poses an imminent threat to human health or the environment, an emergency cleanup contractor will be called out as soon as possible. Spill containment measures listed below are examples of responses to spills.

- Right or rotate containers to stop the flow of liquids. This step may be accomplished as soon as the spill or leak occurs, providing it is safe to do so.
- Sorbent pads, booms, or adjacent soil may be used to dike or berm materials, subject to flow, and to solidify liquids.
- Sorbent pads, soil, or booms, if used, shall be placed in appropriate containers after use, pending disposal.
- Contaminated tools and equipment shall be collected for subsequent cleaning or disposal.

12.0 EMERGENCY CONTACTS

Emergency Services (Police/Fire Department/Ambulance):	911
National Response Center:	(800) 424-8802
Poison Control Center:	(800) 876-4766 or (800) 222-1222
CHEMTREC:	(800) 424-9300
NORTHGATE Project Manager: (Derrick Willis)	(949) 260-9293
Cell Phone:	(949) 375-7004
NORTHGATE Oakland office:	(510) 839-0688

Nearby Hospital:

Barstow Community Hospital

555 South 7th Avenue
Barstow, CA 92311
(760) 256-17611

Directions to Hospital:

From the guard shack at the main gate, head southeast on Sunray Street toward Santa Fe Street. Turn RIGHT at Santa Fe Street and stay on it until A Street in Daggett. Turn RIGHT on A Street and take the ramp onto CA-40 West. Take Exit Barstow Road in Barstow and turn RIGHT or North. Turn RIGHT at East Mountain View Street and go one block east. Turn left at 7th Street, hospital will be on the right. Total drive time approximately 12 minutes.

A hospital route map is presented in Appendix C.

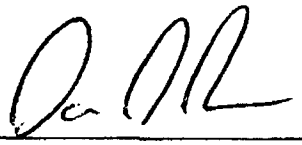
13.0 NORTHGATE APPROVALS

This HSP has been prepared for the following project:

Solar Energy Generating System (SEGS) 1 & 2 Site
Daggett, California

NORTHGATE Project Number: 2024.01S

This HSP has been reviewed and approved by the following NORTHGATE personnel:



11/29/08

Dana Brown — Date
Site Safety Officer

Derrick Willis — Date
Project Manager

SIGNATURE PAGE

The following signatures indicate that this Health and Safety Plan has been read and accepted by NORTHGATE personnel as well as subcontractors and their personnel.

NAME	COMPANY	SIGNATURE	DATE
GILBERT MENDOZA	INTERPHASE		12/3/08
Luis Tellez	Interphase		12/3/08
	TEC		12/3/08
Dan Hill	NGEM	Dan Hill	12/3/08

Important notice to subcontractor(s):

This Health and Safety Plan has been prepared solely for the use of NORTHGATE personnel. It is supplied to you for informational purposes only and may not be relied upon for protection of your employees. The Subcontractor is responsible for providing, at its cost, all personal protective clothing and equipment required for its employees to perform their work in a safe manner and in compliance with all applicable state and federal OSHA regulations. Subcontractor is responsible for ensuring that such equipment is in good condition and is properly inspected and maintained. Subcontractor must, at a minimum, use the equipment and follow the procedures described in this HSP. Failure to do so may result in immediate termination of Subcontractor's services. This does not relieve Subcontractor of the responsibility to provide equipment and institute procedures affording a greater degree of protection than those specified in this HSP should Subcontractor determine such measures are necessary to protect the health and welfare of its employees, second-tier subcontractors, or others under its control or direction.

APPENDIX A

CHEMICAL DESCRIPTIONS

CHEMICAL DESCRIPTIONS

The following chemical descriptions are presented for chemicals that may be present at the Site. Each chemical description includes physical and odor recognition characteristics, health effects associated with exposure, and exposure limits expressed as an eight-hour time weighted average (TWA). Provided are federal OSHA ("OSHA") permissible exposure limits (PELs; located in 29 CFR 1910.1000); California OSHA ("Cal/OSHA") PELs (located in 8 CCR 5155); and/or American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs).

PETROLEUM HYDROCARBONS

Petroleum distillates (naphtha) are mildly toxic by inhalation. They can cause unconsciousness, dyspnea, and a bluish tint to the skin. Recovery follows after removal from exposure. In mild form, intoxication resembles drunkenness. On a chronic basis, no true poisoning occurs; however, effects may include headache, lack of appetite, dizziness, sleeplessness, indigestion, and nausea. It is combustible when exposed to heat or flame and can react with oxidizing materials.

- The OSHA PEL is listed as 500 ppm (as petroleum distillates).
- The Cal/OSHA PEL is listed as 300 ppm (as VM&P naphtha), 100 ppm (as stoddard solvent), and 300 ppm (as gasoline).

The TLV is listed as 300 ppm (as VM&P naphtha), 100 ppm (as stoddard solvent), and 300 ppm as gasoline).

DICHLORODIPHENYLTRICHLOROETHANE (DDT), DICHLORODIPHENYLDICHLOROETHANE (DDD), AND DICHLORODIPHENYLDICHLOROETHYLENE (DDE)

DDT consists of colorless crystals or off-white powder with a slight, aromatic odor. Symptoms of exposure via inhalation, absorption, ingestion, or contact might consist of irritation to the eyes, skin; paresthesia of the tongue, lips, face; tremor; apprehension, dizziness, confusion, malaise, headache, fatigue; convulsions; paresis of hands; vomiting. DDT is a potential occupational carcinogen. Target organs are the eyes, skin, central nervous system, kidneys, liver, peripheral nervous system.

DDD and DDE are metabolites of DDT. DDD and DDE are closely related chemically and are similar in properties to DDT, but are considered less toxic to animals.

- The OSHA PEL for DDT is listed as 1 mg/m^3.

CHLORDANE

Chlordane is an amber-colored, viscous liquid with a pungent, chlorine-like odor. Symptoms of exposure via inhalation, absorption, ingestion, or contact might consist of blurred vision; confusion; ataxia, delirium; cough; abdominal pain, nausea, vomiting, diarrhea; irritability, tremor, convulsions; anuria; in animals, lung, liver, and kidney damage. Chlordane is a potential occupational carcinogen. Target organs are the central nervous system, eyes, lungs, liver, and kidneys.

- The OSHA PEL is listed as 0.5 mg/m^3.

ARSENIC

Arsenic is a metal whose appearance and odor vary depending on the specific organic arsenic compound. Symptoms of exposure via inhalation, ingestion, or contact might include skin irritation, possible dermatitis; respiratory distress; diarrhea; kidney damage; muscle tremor, seizure; possible GI tract, teratogenic, reproductive effects; possible liver damage.

- The OSHA PEL is listed as 0.5mg/m^3.

LEAD

Lead is a heavy, ductile, soft, gray solid. Symptoms of exposure via inhalation, ingestion, and contact might include weakness, lassitude, insomnia; facial pallor; pal eye, anorexia, low weight, malnutrition; constipation, abdominal pain, colic; anemia, gingival lead line; tremor; paralysis of wrist and ankles; encephalopathy; kidney disease; eye irritation; hypotension.

- The OSHA PEL is listed as 0.050 mg/m^3.

APPENDIX B

NORTHGATE FORMS

AIR MONITORING FORM

Date _____ *NORTHGATE Project No.* _____

Project Name _____ *Type of Activities* _____

Type of PID/FID _____ *Serial No.* _____

Initial Calibration Reading _____ *End-of-Use Calibration Check* _____

Calibration Standard/Concentration _____

Mini-RAM Serial No. _____ *Zeroed in Z-Bag?* ☐ Yes ☐ No

Time	Activity/Location	PID/FID (ppm)	Mini-RAM (mg/m³)

Name (print) _____ *Signature* _____

SITE SAFETY CHECKLIST

Project Name _____ *NORTHGATE Project No.* _____

Project Activities _____

	YES	NO	N/A
Written Health and Safety Plan (HSP) is on site	☐	☐	☐
Addenda to the HSP are documented on site	☐	☐	☐
Information in the HSP matches conditions and activities at the site	☐	☐	☐
HSP has been read and signed by all site personnel, including visitors	☐	☐	☐
Daily tailgate safety meetings have been held and documented	☐	☐	☐
Site personnel have appropriate training and medical clearance	☐	☐	☐
Air monitoring is performed and documented as described in the HSP	☐	☐	☐
Air monitoring equipment has been calibrated daily	☐	☐	☐
Site zones are set up and observed where appropriate	☐	☐	☐
Access to the work area limited to authorized personnel	☐	☐	☐
Decontamination procedures are followed and match the requirements of the HSP	☐	☐	☐
Decontamination stations (including hand/face wash) are set up and used	☐	☐	☐
Personal protective equipment used matches HSP requirements	☐	☐	☐
Hearing protection used where appropriate	☐	☐	☐
Respirators are properly cleaned and stored	☐	☐	☐
Utility locator has cleared subject locations	☐	☐	☐
Overhead utilities do not present a hazard to field equipment/personnel	☐	☐	☐
Traffic control measures have been implemented	☐	☐	☐
Trenches and excavations are in compliance with federal, state, and local safety requirements before worker entry	☐	☐	☐
Spoils are placed no closer than 2 feet from the edge of an excavation	☐	☐	☐
Emergency and first aid equipment is on site as described in the HSP	☐	☐	☐
Drinking water is readily available	☐	☐	☐
Accessible phone is readily available for emergency use	☐	☐	☐
Proper drum and material handling techniques are used	☐	☐	☐
Drums and waste containers are labeled appropriately	☐	☐	☐
Extension cords are grounded and protected from water and vehicle traffic	☐	☐	☐
Tools and equipment are in good working order	☐	☐	☐

Notes (All "no" answers must be addressed and corrected immediately. Note additional health and safety observations here): _____

_____

_____

_____

_____

_____

Conducted By: _____ *Signature:* _____ *Date:* _____

DAILY TAILGATE SAFETY MEETING FORM

Date _____ *Time* _____ *NORTHGATE Project No.* _____

Project Name _____ *Specific Location* _____

Type of Work _____

Chemicals Present _____

SAFETY TOPICS DISCUSSED

Protective Clothing/Equipment _____

_____

Hazards of Chemicals Present _____

_____

Physical Hazards _____

_____

Special Hazards _____

_____

Other Topics _____

_____

ATTENDEES

Name (please print) ***Signature***

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

INCIDENT REPORT FORM

INSTRUCTIONS: Complete, obtain Ops. Mgr.'s signature and route original to your Administrative Manager within 3 days of the Incident.

Office:	Department:	Supervisor:
Name:	Occupation:	
Exact Location Incident Occurred: (Street Address, City, State)	Project No.:	Project Name:
Date and Time of Occurrence:	Time Began Work on Day Injury Occurred:	
Date and to Whom Initially Reported:		
Nature of Incident: (e.g. strain, contusion, laceration, abrasion)		
Parts of Body Affected:		
Type of Activity Engaged in and Equipment Being Used When Incident Occurred: (e.g. water/soil/air sampling, site assessment, hand augering)		
Person with Most Control of Object/Equipment/Substance:		
Witness:		

Describe clearly how the incident occurred: _____

_____

_____

Were Safety Equipment/Safeguards Required for this Particular Job/Activity? ☐ Yes ☐ No **If yes, were they used?**

Indicate by an "x" if in your opinion the incident was caused by:

Physical Causes

- ☐ Defective Equipment
- ☐ Hazardous Equipment
- ☐ Improper Dress
- ☐ Improper Guarding
- ☐ Improper Ventilation
- ☐ Other _____

Unsafe Acts

- ☐ Operating Without Authority
- ☐ Failure to Wear Protective Equipment
- ☐ Horseplay
- ☐ Failure to Secure or Warn
- ☐ Took Unsafe Position
- ☐ Used Unsafe Equipment or Hands Instead of Equipment
- ☐ Worked on Moving/Energized Equipment
- ☐ Unsafe Equipment
- ☐ Unsafe Loading

Do you require medical attention at this time? ☐ No ☐ Yes **Treated in an emergency room?** ☐ No ☐ Yes

Hospital Name & Address: _____

Physician Name & Address: _____

What actions will be taken to prevent reoccurrence?

_____

Employee Signature:	Group Manager Signature:
Date:	Print Name:
Phone No.:	Date:

APPENDIX C

HOSPITAL ROUTE MAP

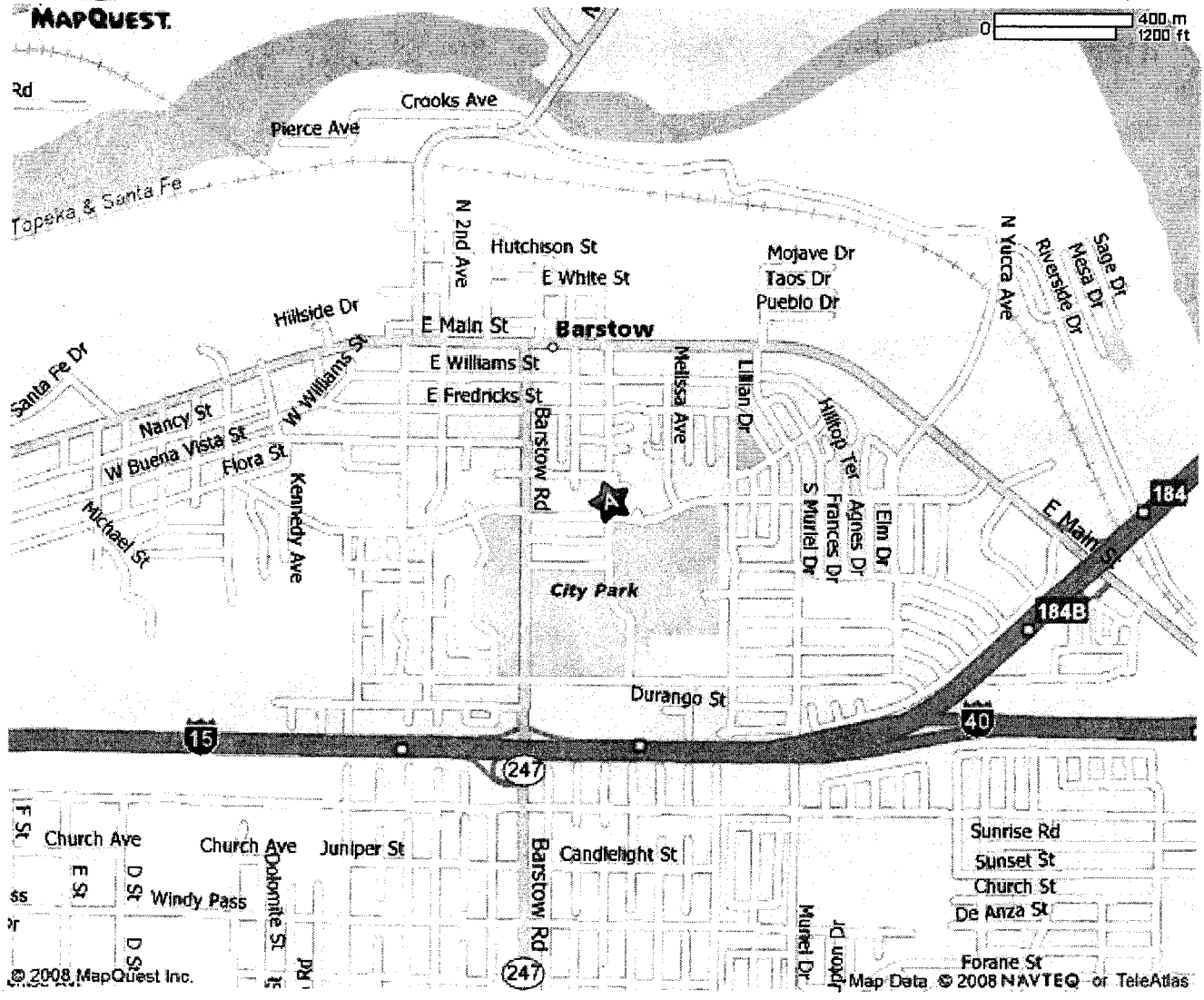
MAPQUEST

Barstow Community Hospital
555 South 7th Avenue
Barstow, CA 92311
(760) 256-1761

12|12
Introducing the 12-Month/12,000-Mile* Bumper-to-Bumper Warranty.
That's No Worries.
GM Certified USED VEHICLES
Learn more >
*Whichever comes first. See dealer for limited warranty details.

A: 555 S 7th Ave, Barstow, CA 92311-3043

Need help on the go? Get Voice Activated Directions for free. Call **1-800-FREE411** (1-800-373-3411).



APPENDIX B
FIELD PROCEDURES

Standard Operating Procedure No.1
Decontamination of Equipment Used To Sample Soil or Water

Field personnel shall set up the area used to decontaminate soil and water sampling equipment in the manner shown on Figure 1-1. This area shall be located approximately 15 feet away from the specific sampling area. The personnel performing the decontamination procedures shall wear disposable surgical gloves. A record of the decontamination procedures performed and equipment cleaned shall be kept on the Decontamination Record (Form 1-1).

Procedures Used to Decontaminate Soil Sampling Equipment
The following decontamination procedures shall be utilized for contaminated soil sampling equipment. Table 1.1 lists the equipment that shall be used to decontaminate the soil sampling equipment. The specific procedures for decontaminating soil sampling equipment include:

1. At Station No. 1 wash the contaminated equipment in a tub containing tap water mixed with a phosphate-free industrial strength soap such as Alconox (Bucket No. 1). During the wash cycle scrub the equipment thoroughly with a bristle brush.
2. Move the equipment to the rinse line at Station No. 2. Rinse the equipment with clean water (Bucket No. 1), and then with distilled/deionized (DS/DI) water (Bucket No. 2).
3. At Station No. 3, place the clean equipment on plastic sheeting until it is used again. Soil sampling equipment that will not be used immediately shall be wrapped in clean plastic.

Procedures Used to Decontaminate Water Sampling Equipment
The following decontamination procedures shall be utilized for water sampling equipment. Table 1.2 lists the equipment that shall be used to decontaminate water sampling equipment.

The specific procedures for decontaminating water sampling equipment include:

1. At Station No. 1, wash the contaminated equipment in a tub containing water mixed with a phosphate-free industrial strength soap such as Alconox (Bucket No. 1). Scrub the equipment thoroughly with a bristle brush during the wash cycle.
2. At Station No. 1, perform a second wash of the contaminated equipment in a tub containing water mixed with a phosphate-free industrial strength soap such as Alconox (Bucket No. 2).
3. Move the equipment to the rinse line at Station No. 2. First, rinse the equipment with clean water (Bucket No. 1), then rinse the equipment using DS/DI water (Bucket No. 2).

4. At Station No. 3, place the clean equipment on plastic sheeting until it is used again. Water sampling equipment that will not be used immediately shall be wrapped in clean plastic.

Disposal of Decontamination Materials

Based on the sample data results from previous investigations and anticipated quantity of material, disposal of investigation-derived waste shall consist of the following:

1. Following the decontamination of sampling equipment, the disposable gloves and used plastic from Station No. 3 shall be placed in garbage bags and disposed of in a trash collection facility.
2. The wash and rinse water from Station No. 1 and No. 2 shall be disposed of by placing the solutions in the SEGS2 HTF contaminated area.

TABLE 1.1

DECONTAMINATION EQUIPMENT FOR SOIL SAMPLING

Plastic tubs (3)
Tap water
DS/DI water
Phosphate-free detergent (e.g., Alconox)
Hard-bristle brushes
Plastic sheeting or garbage bags
Latex gloves

Equipment at Decontamination Stations

Station No. 1
Alconox, tap water, plastic washtub, scrub brush
Station No. 2
Plastic washtubs (2), tap water, DS/DI water.
Station No. 3
Plastic sheeting or garbage bags

TABLE 1.2

DECONTAMINATION EQUIPMENT FOR WATER SAMPLING

Plastic tubs (3)
Tap water
DS/DI water
Phosphate-free detergent (e.g., Alconox)
Hard-bristle brushes
Plastic sheeting or garbage bags
Latex gloves
PVC outer gloves

Equipment at Decontamination Stations

Station No. 1
Alconox, tap water, plastic washtubs (2), scrub brush.

Station No. 2
Plastic washtubs (2), tap water, DS/DI water.

Station No. 3
Plastic sheeting or garbage bags

Standard Operating Procedure No. 2
Sample Collection from Soil Borings and Hand Auger Points,
Method 5035 Sample Collection

Soil Boring Procedures

The following procedures are designed to be used during the operation of drill rigs or hand augers during soil sampling operations. Health and safety procedures during sampling activities are described in the Workplan. The procedures listed below may be modified in the field by the agreement of the onsite geologist and drill operators based on field and site conditions after appropriate annotations have been made on the Daily Field Report form.

Sampling intervals and sampling devices shall be specified in the Workplan. Field personnel shall be familiar with the content of the Workplan and shall keep a field copy of the Workplan onsite during sampling activities.

1. Locate the site as directed in the Workplan.
2. Drillers prepare rig for operation. This includes but is not limited to decontamination of the drill rig tools and sampling equipment; placing plastic sheeting under the rig and leveling the rig; preparing the downhole tools, auger "flights", core barrel, and drill bit; and establishing the drill over the location.
3. Boreholes shall be abandoned in accordance with state regulations.

Split Spoon Sample Collection

1. Line the pre-cleaned split spoon sampler in accordance with the Workplan.
2. Mount the split spoon sampler to the drive stem.
3. Set the split spoon sampler on the bottom of the borehole and advance the sampler to the desired depth using the rig hammer. Record the number of blows required to advance the sampler through each six-inch depth interval.
4. After driving the split spoon sampler its entire length or upon refusal of advancement, recover the split spoon sampler. Refusal is defined as 50 blows with the rig hammer with less than six inches of advancement of the split spoon sampler. This decision shall be made at the discretion of the field sampler.
5. After recovery of the split spoon sampler, open sampler and place in a holding device, maintaining the intervals as sampled. If laboratory analyses are specified in the Workplan, proceed with sample collection.
6. Sampling personnel will then describe the soil sample using the USCS and ASTM D-2488 (Visual-Manual Procedure) and fill out the appropriate field forms (i.e., Daily Field Report or Field Sampling Data Form), field boring logs, and quality assurance/quality control documentation. An example of the standard boring log form is presented in Figure 3-1.

7. Decontaminate the split spoon sampler according to procedures presented in SOP-6.
8. Repeat Steps 1 to 7 until sampling is completed.
9. The drill rig tools and sampling equipment shall be decontaminated prior to moving onto the next site. The drill rig will be left in a safe and secure fashion at the end of each shift.
10. Sample locations shall be marked with white paint or a survey stake.

Core Barrel Sample Collection

1. Line the core barrel sample in accordance with the workplan and install basket retainer (sand catcher), if necessary.
2. Mount the core barrel sampler to the drive stem.
3. Place the core barrel sampler on the ground surface and advance sampler to desired depth by rotating the drive stem.
4. Recover the sampler, remove liner from sampler and record lithology on boring log (Figure 3-1). If laboratory analyses are specified in the FSP, proceed with sample collection.
5. Advance augers to bottom of sample interval.
6. Decontaminate sampler according to SOP-1 and repeat Steps 1 to 6 until sampling is completed.
7. Decontaminate drill rig tools and sampling equipment prior to moving onto next site.

EPA Method 5035 Soil Sample Collection

The stationary laboratory that will perform the soil analysis will provide preserved, tared, and labeled VOA vials that have PTFE-lined septum caps. The preservation fluid is either methanol or sodium bisulfate solution. The selection of the preservation fluid is based upon the desired method detection limits (Low Level Analysis or High Level Analysis) and the data quality objectives. Soil subcores of appropriate mass are placed into the VOA vials in the field and are capped, forming an airtight seal. Usually three co-located samples are taken and placed into their individual vials so that the laboratory has an appropriate sample volume. A disposable coring device (e.g. the Lock N' Load soil sampling tool), which can readily transfer the soil subcore into the relatively narrow opening of the VOA vial is used to collect the soil.

The procedure for collecting soil samples using EPA Method 5035 is as follows:

1. Push the coring device into a freshly exposed soil surface.
2. Continue pushing until the appropriate amount of soil has been collected, normally this is after the soil column inside the coring device has forced the device's plunger to the stopping point.
3. Use a paper towel to quickly wipe the exterior of the coring device to remove excess soil.
4. Insert the end of the coring device into the pre-tared VOA vial and eject the soil sample into the vial by pushing on the plunger of the coring

device. Avoid splashing the preservative out of the VOA vial by holding the VOA vial at an angle.

5. Quickly cap and seal the VOA vial. Note: this should be done as quickly as possible to prevent VOC loss.
6. Gently swirl the soil sample in the VOA vial to mix and break up the soil aggregate until the soil is covered with the preservative.
7. Using the pre-attached label on the VOA vial, complete the label information as needed.
8. Place the VOA vial into a resealable plastic bag and place the package into a cooler chilled to 4 +/- 2C.
9. The VOA vials should be transported to the analytical in an upright position whenever possible.
10. Repeat the procedure as necessary to obtain the required number of Method 5035 soil samples.

Notes:

1. Do not use or submit samples for analysis if the preservative has spilled or splashed from the VOA vial.
2. Extra tared and preserved VOA vials should be taken into the field anticipating potential preservative loss due to evaporation or spillage.
3. Rough trimming of a sampling locations surface layer should be considered if the soil has been exposed to ambient air for more than two minutes. Removal of the surface layer can be accomplished by scraping the soil surface with a clean spatula, scoop, trowel, or knife.
4. The collection of subsequent co-located subcores should not begin until the previous subcore is sealed in its vial.
5. Field personnel should wear gloves during sample collection to avoid VOC exposure.

Standard Operating Procedure No. 3
Groundwater Sampling

FIELD MEASUREMENTS

Once a well has been located and properly identified, the following field measurements should be noted in the Daily Field Report or the Field Sampling Data Form, as appropriate. A cross reference should be made between the field measurements identifying the well and the measurements of the well to be sampled to ensure that the proper well has been selected.

Physical Measurements

1. Presence and diameter of protective casing, and type of access;
2. Type of well plug, lock type and serial number (if lock is present at the well);
3. Diameter and construction material of the well casing;
4. Depth from the TOC to water. Static water level measurements are taken to the nearest 0.01 foot from the marked point or, if not marked, the highest point on the well casing; and
5. Total depth of the well from the TOC, or surveyor's mark (if present).

Note: Groundwater is normally not sampled from wells containing product sheen or LNAPL.

Groundwater Sampling Calculations

1. Calculate the linear feet of water in the well by subtracting depth to water from total depth of the well.
2. Calculate the volume of water present in the well casing by multiplying the linear feet of water by the volume of water per linear foot for the diameter of the well, as given in the following table.

WELL CASING DIAMETER/CAPACITY	
Inside Casing Diameter (inches)	Gallons per Linear Foot
2	.16
4	.65
6	1.47
8	2.61

Example calculation:

Total depth of casing	100 ft.
Depth to water	-20 ft.
Linear water column	80 ft.
2" casing	x .16

Amount of water in casing 12.80 gallons

Alternatively, use this formula to determine the gallons in any size pipe:

$$\text{Volume} = \frac{3.1416 \times r^2 \times h \text{ (in inches)}}{231}$$

Physical-Chemical Parameters
In addition to the physical measurements taken above and other information that may identify the well, the following physical-chemical information should be recorded initially, during evacuation, and prior to sampling (see SOP-6 *Field Measurement of pH, Specific Conductance, Temperature, and Turbidity for Aqueous Samples*):

1. pH;
2. Specific conductance;
3. Temperature; and
4. Turbidity.

Well Purging and Evacuation Procedures
To obtain a representative sample of groundwater, the well should be purged or evacuated to allow fresh or formation groundwater to enter the well. The optimum or preferred method to ensure that fresh water representative of the aquifer in contact with the well screen is being sampled is to perform a controlled sampling experiment.

Wells will be presumed to be adequately flushed for a representative sample when indicator parameters such as pH, specific conductance, temperature, and turbidity are observed to vary by less than +/-10 percent. Measurement of the field indicators will be recorded at a minimum frequency of once per casing volume removed. Evacuation of three to six well volumes may be necessary to meet the indicator parameter criteria; however, in wells with very low recoveries this amount may not be practical. In these instances, the well may be evacuated to near dryness and allowed to recover prior to sampling. Evacuation rates should be kept well below 10 gallons per minute and in most cases should be below five gallons per minute.

Evacuation Methods
The evacuation of monitoring wells prior to sampling will be accomplished using a bailer, hand-lift pump, a submersible pump, or other appropriate methods that will not impact the integrity of the sample. Prior to beginning evacuation, non-disposable equipment should be decontaminated according to pertinent decontamination procedures (SOP-1 *Decontamination of Equipment Used to Sample Soil, LNAPL, and Water*).

The selection of an evacuation method most often relies on the expected recharge. If the recharge is anticipated to be rapid, a submersible pump may be used. Care should be utilized to ensure this does not act as a route of cross-contamination.

Hand bailing may be utilized in any case, but in general is more efficient in wells with a low recharge rate. A new length of either nylon or PVC cord should be used for each well and for each evacuation event.

Groundwater Sample Collection

Sampling can begin after evacuation of the required volume of water from the well, and a target recovery value for water level has been attained. Sampling should occur as soon as possible after evacuation and well recovery, preferably immediately. In most cases, the time lapse between evacuation and sampling should not exceed two hours. Field quality control samples shall be collected in accordance with the Workplan.

The collected groundwater samples will be placed in the appropriate types of containers specified in the Workplan. Following collection, the samples should be prepared for shipping and necessary documentation should be completed (Chain-of-custody forms).

The bailer and other equipment placed in the well should be clean (i.e., decontaminated) or new and handled with new surgical gloves to preclude potential contamination. Objects entering the well should not be allowed to contact the ground or other potentially contaminated surface. If an item is contaminated, it should not be placed in the well or utilized for sampling.

APPENDIX C
WELL LOGS

northgate
environmental management, inc.

Boring Log

Northgate Environmental Management
1100 Quail Street, Suite 102
Newport Beach, CA 92660
949.260.9293

Project Number: 2024.01		**Boring ID: EY-1**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/03/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/03/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	EY-1(0-1) 13:20	48/48	X		SM	Silty sand (SM): Pale yellowish brown 10 YR (6/2), very-loose, dry. 5% sub-rounded gravel to 1/2"-, 60% fine to medium sub-angular sand, 35% non-plastic fines. Slight HC odor and visible staining.	
						Oil staining observed 0' to 3.5'.	
5–8	EY-1(5-6) 13:22	48/48	X		SP	Poorly graded sand (SP): Pale yellowish brown 10 YR (6/2), very loose, dry. Trace fine sub-angular gravel to 1/2"-, 95% fine to medium subangular sand, 5% non-plastic fines. No odor or staining.	
8–12		48/48			SP	Poorly graded sand (SP): Pale yellowish brown 10 YR (6/2), very loose, dry. 5% fine sub-angular gravel to 3/8"+, 90% fine to medium subangular sand, 5% non-plastic fines. No odor or staining.	
12						T.D. = 12.0' @ 13:25; 12/03/08	
13–20							

northgate
environmental management, inc.

Boring Log

Northgate Environmental Management
1100 Quail Street, Suite 102
Newport Beach, CA 92660
949.260.9293

Project Number: 2024.01		**Boring ID: EY-2**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/03/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/03/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	EY-2(0-1) 13:42	48/48			SM	Silty sand (SM): Pale yellowish brown 10 YR (6/2), medium-stiff, dry. 65% fine sub-angular sand, 35% non-plastic fines. No odor or staining.	
2							
3							
4					SP	Poorly graded sand (SP): Pale yellowish brown 10 YR (6/2), very-loose to loose, dry. Trace fine sub-angular gravel to 3/8"+, 95% fine to medium subangular sand, 5% non-plastic fines. No odor or staining.	
5	EY-2(5-6) 13:44	48/48					
6							
7						Contact-gradational	
8					SP	Poorly graded sand with gravel (SP): Very pale orange 10 YR (8/2), very-loose, dry. 15 % fine sub-angular gravel to 3/8"+, 80% fine to coarse subangular sand, 5% non-plastic fines. No odor or staining.	
9							
10		48/48					
11							
12						T.D. = 12.0' @ 13:46; 12/03/08	
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Project Number: 2024.01		**Boring ID: EY-3**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/03/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/03/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	EY-3(0-1) 14:10	48/48			SP	Poorly graded sand (SP): Pale yellowish brown 10 YR (6/2), very-loose to loose, dry. 5 % fine sub-angular gravel to 1/8"-, 90% fine to medium subangular sand, 5% non-plastic fines. No odor or staining.	
5–8	EY-3(5-6) 14:14	48/48					
9–12		48/48			SP	Coarsening to 10% gravel @ 7.5'	
13–20						T.D. = 12.0' @ 14:20; 12/03/08	

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Project Number: 2024.01	**Boring ID: EY-4**
Project Name: Sunray Energy	**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental	**Logged By: Dana R. Brown**
Drilling Method: Geoprobe / **Date Started: 12/03/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75 / **Completed: 12/03/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–2	EY-4(0-1) 14:55	48/48			SM	Silty sand (SM): Pale yellowish brown 10 YR (6/2), medium-stiff, dry. 65% fine sub-angular sand, 35% non-plastic fines. No odor or staining.	0.1
3–4					SP	Poorly graded sand (SP): Pale yellowish brown 10 YR (6/2), very-loose to loose, dry. Trace fine sub-angular gravel to 3/8"+, 95% fine to medium subangular sand, 5% non-plastic fines. No odor or staining.	
5–6	EY-4(5-6) 14:57	48/48					
7					SM	Silty sand (SM): Pale yellowish brown 10 YR (6/2), medium-stiff, dry. 65% fine sub-angular sand, 35% non-plastic fines. No odor or staining. Contact-gradational	0.0
8–10		48/48			SP	Poorly graded sand with gravel (SP): Very pale orange 10 YR (8/2), very-loose, dry. 15 % fine sub-angular gravel to 3/8"+, 80% fine to coarse subangular sand, 5% non-plastic fines. No odor or staining.	
11–12							0.0
13–20						T.D. = 12.0' @ 15:02; 12/03/08	

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Project Number: 2024.01	Boring ID: EY-5
Project Name: Sunray Energy	Location: 35100 Santa Fe Road, Dagget, CA
Drilling Contractor: Interphase Environmental	Logged By: Dana R. Brown
Drilling Method: Geoprobe / Date Started: 12/03/08	Total Depth (feet): 12
Borehole Dia. (in): 2.75 / Completed: 12/03/08	Depth to Water: N/A

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	EY-5(0-1) 15:36	48/48	☒		SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), medium-stiff, moist. 75% fine sub-angular sand, 25% non-plastic fines. No odor or staining.	0.0
4–5					SM	Silty sand (SM): Pale brown 5 Y (5/2), medium-stiff, dry. 65% fine sub-angular sand, 35% non-plastic fines. No odor or staining.	
5–8	EY-5(5-6) 15:42	48/48	☒		SP	Poorly graded sand (SP): Pale yellowish brown 10 YR (6/2), very-loose, moist. 5% fine sub-angular gravel to 3/8"+, 90% fine to coarse subangular sand, 5% non-plastic fines. No odor or staining.	0.0
8–12	EY-5(10-11) 15:49	48/48	☒		SP		0.0
12						T.D. = 12.0' @ 15:52; 12/03/08	

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Project Number: 2024.01	Boring ID: I_4B
Project Name: Sunray Energy	Location: 35100 Santa Fe Road, Dagget, CA
Drilling Contractor: Interphase Environmental	Logged By: Dana R. Brown
Drilling Method: Geoprobe / Date Started: 12/05/08	Total Depth (feet): 16
Borehole Dia. (in): 2.75 / Completed: 12/05/08	Depth to Water: N/A

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 16

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	I_4B(0-1) 09:47	48/48			SP	Poorly graded sand (SP): Very pale orange 10 YR (8/2), very-loose, damp. 2% fine sub-angular to sub-rounded gravel to 1/2"-, 95% medium to coarse sub-angular sand (15% fine, 50% medium, 35% coarse sand), 5% non-plastic fines. Mild HC odor and staining.	
5–8	I_4B(5-6) 09:49	48/48			SW	Oil staining observed 0' to 7.5'. Well graded sand (SW): Light brown 5 YR (5/6), loose, damp with oil. 95% subangular sand (75% fine, 25% medium, 0% coarse sand), 5% non-plastic fines. Mild HC odor.	
9–12	No Recovery-redrilled. I_4B(10-11) 10:35	6/48			SP	Poorly graded sand with gravel (SP): Grayish orange 10 YR (7/4), loose, dry. 15% fine sub-angular gravel to 1/2"-, 80% fine to medium sub-angular sand, 5% non-plastic fines. No odor or staining below 12' depth.	
13–16	I_4B(15-16) 10:46	12/48				Refusal in caliche @16'.	
17–20						T.D. = 16.0' @ 10:48; 12/05/08	

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Project Number: 2024.01		Boring ID: I_12B
Project Name: Sunray Energy		Location: 35100 Santa Fe Road, Dagget, CA
Drilling Contractor: Interphase Environmental		Logged By: Dana R. Brown
Drilling Method: Geoprobe	Date Started: 12/05/08	Total Depth (feet): 12
Borehole Dia. (in): 2.75	Completed: 12/05/08	Depth to Water: N/A

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	I_12B(0-1) 12:05	48/48			SP		
2						Oil staining observed 0' to 2'.	
3							
4							
5	I_12B(5-6) 12:07	48/48			SP	Poorly graded sand (SP): Moderate yellowish brown 10 YR (5/4), loose, dry. 2% fine sub-angular gravel to 3/8"+, 93% medium to coarse sub-angular sand, 5% non-plastic fines. Vague HC odor.	
6							
7							
8					SP		
9							
10		48/48					
11					SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), medium-dense, dry. 2% fine sub-angular gravel to 1/2"-, 95% fine to medium sub-angular sand, 3% non-plastic fines. No odor.	
12						T.D. = 12.0' @ 12:12; 12/05/08	
13							
14							
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Project Number: 2024.01		**Boring ID: I_17B**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/05/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/05/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	I_17B(0-1) 11:19	48/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), medium-dense to loose, dry to damp. 65% fine sub-angular sand, 35% non-plastic fines. Vague HC odor and visible staining.	
4–8	I_17B(5-6) 11:22	48/48			SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), loose to medium-dense, dry. Trace fine sub-angular gravel to 1/2"-, 97% fine to medium sub-angular sand, 3% non-plastic fines. Moderate HC odor and visible staining.	
5						Oil staining observed 0' to 5'.	
8					SP	At 8', coarsening to 2% gravel, 93% sand 5% non-plastic fines.	
8–12	I_17B(10-11) 11:25	48/48			SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), medium-dense, dry. 5% fine sub-angular gravel to 1/2"-, 92% fine to medium sub-angular sand, 3% non-plastic fines. No odor.	
12						T.D. = 12.0' @ 11:25; 12/05/08	

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Project Number: 2024.01		Boring ID: I_19E-1
Project Name: Sunray Energy		Location: 35100 Santa Fe Road, Dagget, CA
Drilling Contractor: Interphase Environmental		Logged By: Dana R. Brown
Drilling Method: Geoprobe	Date Started: 12/02/08	Total Depth (feet): 12
Borehole Dia. (in): 2.75	Completed: 12/02/08	Depth to Water: N/A

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	I_19E-1(0-1) 15:11	48/48			ML	Sandy silt (ML): Pale yellowish brown 10 YR (6/2), loose to medium-stiff, moist. Trace sub-angular gravel to 1/2"-, 80% fine sub-angular sand, 20% non-plastic fines. Mild HC odor and visible staining.	
5–8	I_19E-1(5-6) 15:12	48/48			SP	Poorly graded sand (SP): Grayish orange pink 5 YR (7/2), very-loose, dry. Trace fine sub-angular gravel to 1/2"-, 95% fine to medium sub-angular sand, 5% non-plastic fines. No odor or staining below 8' depth.	
						Oil staining observed 0' to 8'.	
9–12	I_19E-1(10-11) 15:14	48/48			SP	Coarsening to 5% fine sub-angular gravel to 1/2"- @ 9'.	
13–20						T.D. = 12.0' @ 15:14; 12/02/08	

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Project Number: 2024.01	**Boring ID: I_19E-2**
Project Name: Sunray Energy	**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental	**Logged By: Dana R. Brown**
Drilling Method: Geoprobe / **Date Started: 12/02/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75 / **Completed: 12/02/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	I_19E-2(0-1) 15:21	48/48			ML	Sandy silt (ML): Dark yellowish brown 10 YR (4/2), medium-stiff, moist. Trace sub--angular gravel to 3/8"+, 35% very-fine sub-angular sand, 65% non-plastic fines. Mild HC odor and visible staining.	
5–7	I_19E-2(5-6) 15:23	48/48			SM	Silty sand (SM): Pale yellowish brown 10 YR (6/2), medium-dense to loose, dry to damp. Trace sub-angular gravel to 1/2"+, 80% fine sub-angular sand, 20% non-plastic fines. Mild HC odor and visible staining. Contact - gradational	
8–10	I_19E-2(10-11) 15:28	48/48			SP	Oil staining observed 0' to 7.5'. Poorly graded sand (SP): Grayish orange pink 5 YR (7/2), very-loose, dry. Trace fine sub-angular gravel to 1/2"-, 75% fine to medium sub-angular sand, 25% non-plastic fines. No odor or staining below 7.5' depth.	
11–12					SM	Silty sand (SM): Dark yellowish orange 10 YR (6/6), very-loose to loose, dry. 1% fine sub-angular gravel to 3/8"+, 70% fine to medium sub-angular sand, 30% non-plastic fines. No odor or staining.	
13–20						T.D. = 12.0' @ 15:28; 12/02/08	

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Project Number: 2024.01	Boring ID: I_20G
Project Name: Sunray Energy	Location: 35100 Santa Fe Road, Dagget, CA
Drilling Contractor: Interphase Environmental	Logged By: Dana R. Brown
Drilling Method: Geoprobe / Date Started: 12/02/08	Total Depth (feet): 12
Borehole Dia. (in): 2.75 / Completed: 12/02/08	Depth to Water: N/A

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	I_20G(0-1) 14:27	48/48			SM	Silty sand (SM): Pale brown 5 YR (5/2), loose, damp. 2% fine sub-angular gravel to 1/2"-, 70% fine sub-angular sand, 28% non-plastic fines. Mild HC odor and staining.	
2					ML	Sandy silt (ML): Moderate yellowish brown 10 YR (5/4), medium-stiff, moist. Trace sub-angular gravel to 3/8"+, 35% fine to medium sub-angular sand, 65% non-plastic fines. Moderate HC odor and visible staining.	
3							
4					SM	Silty sand (SM): Pale yellowish brown 10 YR (6/2), loose, dry. 2% fine sub-angular gravel to 1/2"-, 75% fine sub-angular sand, 23% non-plastic fines. Mild HC odor and staining.	
5	I_20G(5-6) 14:32	48/48					
6							
7					SP	Poorly graded sand with gravel (SP): Grayish orange pink 5 YR (7/2), very-loose, dry. 10% fine sub-angular to sub-rounded gravel to 1/2"-, 85% fine to medium sub-angular sand, 5% non-plastic fines. No odor or staining below 9' depth.	
8							
9						Oil staining observed 0' to 9'.	
10	I_20G(10-11) 14:34	48/48					
11							
12						T.D. = 12.0' @ 14:35; 12/02/08	
13							
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Project Number: 2024.01		**Boring ID: I_23B**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/03/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/03/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	I_23B(0-1) 08:22	46/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), medium-dense, moist. Trace sub-angular gravel to 3/8"+, 70% fine sub-angular sand, 30% non-plastic fines. Mild HC odor and visible staining.	
5–8	I_23B(5-6) 08:24	46/48			SP	Oil staining observed 0' to 5'. Poorly graded sand (SP): Grayish orange 10 YR (7/4), very loose, dry. 2% fine sub-angular gravel to 1/2", 93% fine to medium subangular sand, 5% non-plastic fines. No odor or staining below 5' depth.	
9–12	I_23B(10-11) 08:32	46/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/2), very loose to loose, dry to damp. 70% fine sub-angular sand, 30% non-plastic fines. No odor or staining.	
13–20						T.D. = 12.0' @ 08:34; 12/03/08	

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Project Number: 2024.01		**Boring ID: I_23B/C**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/03/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/03/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	I_23B/C(0-1) 07:59	48/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), medium-dense, moist. Trace sub-angular gravel to 3/8"+, 70% fine sub-angular sand, 30% non-plastic fines. Mild HC odor and visible staining.	
5–8	I_23B/C(5-6) 08:03	48/48			SP	Oil staining observed 0' to 7.5'. Poorly graded sand (SP): Grayish orange 10 YR (7/4), very loose, dry. 2% fine sub-angular gravel to 1/2", 95% fine to medium subangular sand, 3% non-plastic fines. No odor or staining below 7.5' depth.	
9–12	I_23B/C(10-11) 08:05	48/48			SM SP	Lens of Silty sand (SM): 9.5' to 10.0'. Poorly graded sand (SP): Grayish orange 10 YR (7/4), very loose, dry. 5% fine sub-angular gravel to 1/2", 90% fine to medium subangular sand, 5% non-plastic fines. No odor or staining.	
13–20						T.D. = 12.0' @ 08:06; 12/03/08	

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Project Number: 2024.01		**Boring ID: I_23C**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/02/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/02/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	I_23C(0-1) 16:13	48/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), medium-dense to loose, dry to damp. Trace sub-angular gravel to 3/8"+, 65% fine sub-angular sand, 35% non-plastic fines. Mild HC odor and visible staining.	
5–8	I_23C(5-6) 16:16	48/48			SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), loose to medium-dense, dry. 95 % subangular sand (40% fine, 55% medium, 5% coarse sand), 3% non-plastic fines. No odor or staining below 8' depth.	
8						Oil staining observed 0' to 8'.	
9–11	I_23C(10-11) 16:19	48/48			SP		
11–12					SW	Well graded sand (SW): Grayish orange 10 YR (7/4), very-loose, dry. 95% sub-angular fine sand, 5% non-plastic fines. No odor or staining.	
12						T.D. = 12.0' @ 16:19; 12/02/08	
13–20							

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Project Number: 2024.01		**Boring ID: I_24F-1**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/02/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/02/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–3	I_24F-1(0-1) 13:31	48/48	☒		SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), loose, dry to damp. Trace fine sub-angular to sub-rounded gravel to 3/8"+, 95% fine to medium sub-angular sand, 5 % non-plastic fines. Mild HC odor and visible staining.	
4					SM	Silty sand (SM): Grayish orange pink 5 YR (7/2), loose to medium-dense, damp. 2% sub-angular gravel to 3/8"+, 78% fine sub-angular sand, 20% non-plastic fines. Mild HC odor and visible staining.	
5–7	I_24F-1(5-6) 13:33	48/48	☒		SP	Poorly graded sand (SP): Grayish orange pink 5 YR (7/2), very-loose, dry. 2% fine sub-angular gravel to 1/2"-, 93% fine to medium sub-angular sand, 5% non-plastic fines. No odor or staining below 7' depth.	
8						Oil staining observed 0' to 7.5'.	
9					SP	Poorly graded sand (SP): Grayish orange pink 5 YR (7/2), very-loose, dry. 5% fine sub-angular to sub-rounded gravel to 1/2"-, 85% fine to medium sub-angular sand, 10 % non-plastic fines. No odor or staining below 7' depth.	
10–11	I_24F-1(10-11) 13:35	48/48	☒		SM	Silty sand (SM): Grayish orange pink 5 YR (7/2), loose to medium-dense, damp. 2% sub-angular gravel to 3/8"+, 78% fine sub-angular sand, 20% non-plastic fines. No odor or staining.	
12						T.D. = 12.0' @ 13:35; 12/02/08	
13–20							

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Project Number: 2024.01		**Boring ID: I_24F-2**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/02/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/02/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	I_24F-2(0-1) 13:40	48/48	X		SP	Poorly graded sand with gravel (SP): Light olive gray 5 Y (5/2), very-loose, dry. Trace fine sub-angular gravel to 1/2"-, 95% fine to medium sub-angular sand, 5% non-plastic fines. Mild HC odor and visible staining.	
5–8	I_24F-2(5-6) 13:45	48/48	X		SP	Poorly graded sand (SP): Grayish orange pink 5 YR (7/2), very-loose, dry. 5% fine sub-angular to sub-rounded gravel to 1/2"-, 90% fine to medium sub-angular sand, 5 % non-plastic fines. No odor or staining below 8.5' depth.	
9						Oil staining observed 0' to 8.5'.	
10–12	I_24F-2(10-11) 13:50	48/48	X		SP	Increasing to 10% fine sub-angular to sub-rounded gravel to 1/2"- @ 9.5'.	
13–20						T.D. = 12.0' @ 13:50; 12/02/08	

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Project Number: 2024.01		**Boring ID: I_28G-1**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/05/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/05/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	I_28G-1(0-1) 14:14	48/48			SP	Poorly graded sand (SP): Very pale orange 10 YR (8/2), very loose, damp with oil. 95 % subangular sand (40% fine, 45% medium, 15% coarse sand), 5% non-plastic fines.	
2							
3					SW	Well graded sand (SW): Light brown 5 YR (5/6), loose, damp with oil. 95% subangular sand (75% fine, 25% medium, 0% coarse sand), 5% non-plastic fines. Mild HC odor.	
4							
5	I_28G-1(5-6) 14:16	48/48				Oil staining observed 0' to 5'.	
6							
7					SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), looseto medium-dense, dry. 95 % subangular sand (35% fine, 55% medium, 10% coarse sand), 3% non-plastic fines. No odor or staining below 5' depth.	
8							
9							
10	I_28G-1(10-11) 14:22	48/48					
11					SP	At 9', coarsening to 2% gravel, 95% sand (25% fine, 55% medium, 20% coarse sand), 3% non-plastic fines.	
12						T.D. = 12.0' @ 14:25; 12/05/08	
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Project Number: 2024.01		**Boring ID: I_28G-2**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/05/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/05/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	I_28G-2(0-1) 14:34	48 48			SP	Poorly graded sand (SP): Very pale orange 10 YR (8/2), very loose, damp with oil. 95 % subangular sand (40% fine, 45% medium, 15% coarse sand), 5% non-plastic fines.	
2							
3					SW	Well graded sand (SW): Light brown 5 YR (5/6), loose, damp with oil. 95% subangular sand (75% fine, 25% medium, 0% coarse sand), 5% non-plastic fines. Mild HC odor.	
4							
5	I_28G-2(5-6) 14:36	48 48				Oil staining observed 0' to 5'.	
6							
7					SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), looseto medium-dense, dry. 95 % subangular sand (35% fine, 55% medium, 10% coarse sand), 3% non-plastic fines. No odor or staining below 5' depth.	
8							
9							
10	I_28G-2(10-11) 14:44	48 48					
11					SP	At 9', coarsening to 2% gravel, 95% sand (25% fine, 55% medium, 20% coarse sand), 3% non-plastic fines.	
12							
13						T.D. = 12.0' @ 14:44; 12/05/08	
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Project Number: 2024.01		**Boring ID: I_29H**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/05/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/05/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	I_29H(0-1) 15:08	48/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), medium-dense to loose, dry to damp. 65% fine sub-angular sand, 35% non-plastic fines. Vague HC odor and visible staining.	
2							
3					SP	Poorly graded sand (SP): Very pale orange 10 YR (8/2), very loose to loose, dry to damp. 5% fine sub-angular gravel to 1/2", 96% sub-angular sand (25% fine, 50% medium, 25% coarse sand), 2% non-plastic fines. Mild HC odor and visible staining.	
4							
5	I_29H(5-6) 15:11	48/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/2), very loose to loose, dry to damp. 70% fine sub-angular sand, 30% non-plastic fines. Mild HC odor and staining.	
6						Oil staining observed 0' to 6'.	
7							
8					SP	Poorly graded sand (SP): Very pale orange 10 YR (8/2), very loose to loose, dry to damp. 5% fine sub-angular gravel to 1/2", 96% sub-angular sand (25% fine, 50% medium, 25% coarse sand), 2% non-plastic fines. No odor or staining.	
9					SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/2), very loose to loose, dry to damp. 70% fine sub-angular sand, 30% non-plastic fines. No odor.	
10	I_29H(10-11) 15:15	48/48					
11					SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), medium-dense, dry. 5% fine sub-angular gravel to 1/2"-, 92% fine to medium sub-angular sand, 3% non-plastic fines. No odor.	
12							
13						T.D. = 12.0' @ 15:17; 12/05/08	
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Project Number: 2024.01		**Boring ID: I_36B**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/03/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/03/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	I_36B(0-1) 09:10	48/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), medium-dense, moist. Trace sub-angular gravel to 3/8"+, 70% fine sub-angular sand, 30% non-plastic fines. Mild HC odor and visible staining.	
2							
3							
4					SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), very loose, dry. 2% fine sub-angular gravel to 1/2", 93% fine to medium subangular sand, 5% non-plastic fines. No odor or staining below 7.8' depth.	
5	I_36B(5-6) 09:12	48/48					
6							
7							
8						Oil staining observed 0' to 7.8'.	
9							
10	I_36B(10-11) 09:14	48/48			SP	At 10', coarsening to 7% gravel, 90% sand, 3% non-plastic fines.	
11							
12						T.D. = 12.0' @ 09:15; 12/03/08	
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Project Number: 2024.01		**Boring ID: I_55E**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/03/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/03/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	I_55E(0-1) 12:00	48 / 48			SW	Well graded sand (SW): Very pale orange 10 YR (8/2), very loose, damp. Trace sub-angular gravel to 1/2", 95% fine sub-angular sand, 5% non-plastic fines. Strong HC odor and staining.	
3–4					SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), medium-dense, moist. Trace sub-angular gravel to 3/8"+, 70% fine sub-angular sand, 30% non-plastic fines. Mild HC odor and visible staining.	
5–8	I_55E(5-6) 12:02	48 / 48			SP	Poorly graded sand (SP): Moderate yellowish brown 10 YR (5/4), very loose, damp to dry. 2% fine sub-angular gravel to 1/2", 93% fine to medium subangular sand, 5% non-plastic fines. No odor or staining below 8'.	
8						Oil staining observed 0' to 8'.	
9–12	I_55E(10-11) 12:09	48 / 48			SP	At 8', coarsening to 5% gravel, 92% sand, 3% non-plastic fines.	
12						T.D. = 12.0' @ 12:10; 12/03/08	
13–20							

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Project Number: 2024.01		**Boring ID: I_61F-1**
roject Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/05/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/05/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	I_61F-1(0-1) 08:00	48/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), very loose to loose, dry to damp. 80% fine subangular sand, 20% non-plastic fines. Mild HC odor and staining.	
2							
3							
4					SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), loose to medium-dense, dry. 95 % subangular sand (35% fine, 55% medium, 10% coarse sand), 3% non-plastic fines. No odor or staining below 7.5' depth.	
5	I_61F-1(5-6) 08:03	48/48					
6							
7							
8						Oil staining observed 0' to 7.5'.	
9							
10	I_61F-1(10-11) 08:12	48/48			SP	At 10', coarsening to 2% gravel, 95% sand, 3% non-plastic fines. Oxidized colors.	
11							
12						T.D. = 12.0' @ 08:15; 12/05/08	
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Project Number: 2024.01	**Boring ID: I_61F-2**
roject Name: Sunray Energy	**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental	**Logged By: Dana R. Brown**
Drilling Method: Geoprobe / **Date Started: 12/05/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75 / **Completed: 12/05/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	I_61F-2(0-1) 08:28	48/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), very loose to loose, dry to damp. 80% fine subangular sand, 20% non-plastic fines. Mild HC odor and staining.	
2							
3							
4					SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), loose to medium-dense, dry. 95 % subangular sand (35% fine, 55% medium, 10% coarse sand), 3% non-plastic fines. No odor or staining below 8' depth.	
5	I_61F-2(5-6) 08:30	48/48					
6							
7							
8						Oil staining observed 0' to 8'.	
9	I_61F-2(10-11) 08:35	48/48			SP	At 10', coarsening to 2% gravel, 95% sand, 3% non-plastic fines. Oxidized colors.	
10							
11							
12						T.D. = 12.0' @ 08:35; 12/05/08	
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Project Number: 2024.01		**Boring ID: I_73D**
roject Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/03/08**	**Total Depth (feet): 16**
Borehole Dia. (in): 2.75	**Completed: 12/03/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 16

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	I_73D(0-1) 10:22	48/48			SM	Silty sand (SM): Pale yellowish brown 10 YR (6/2), loose, moist. 80% fine sub-angular sand, 20% non-plastic fines. Mild HC odor and staining.	
					SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), loose to medium-dense, dry. 5 % fine sub-angular gravel to 3/8"+, 90% fine to medium sub-angular sand, 5% non-plastic fines. Mild HC odor and staining.	
5–7	I_73D(5-6) 10:24	48/48			SM	Silty sand (SM): Dark yellowish brown 10 YR (4/2), loose, damp. 70% fine subangular sand, 30% non-plastic fines. Mild HC odor and staining.	
8–12	I_73D(10-11) 10:26	48/48			SP	Poorly graded sand with gravel (SP): Grayish orange 10 YR (7/4), loose, dry. 15% fine sub-angular gravel to 1/2"-, 80% fine to medium sub-angular sand, 5% non-plastic fines. No odor or staining below 12' depth.	
						Oil staining observed 0' to 12'.	
13–16	I_73D(15-16) 10:54	12/48				Refusal in caliche @16'.	
17–20						T.D. = 16.0' @ 10:54; 12/03/08	

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Project Number: 2024.01	Boring ID: I_81E
Project Name: Sunray Energy	Location: 35100 Santa Fe Road, Dagget, CA
Drilling Contractor: Interphase Environmental	Logged By: Dana R. Brown
Drilling Method: Geoprobe / Date Started: 12/03/08	Total Depth (feet): 12
Borehole Dia. (in): 2.75 / Completed: 12/03/08	Depth to Water: N/A

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	I_81E(0-1) 11:29	48/48			SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), very loose, dry. Trace sub-angular gravel to 1/2", 93% fine to medium subangular sand, 5% non-plastic fines. Strong HC odor and staining.	
5–8	I_81E(5-6) 11:31	48/48			SM / SP / SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), medium-dense, moist. Trace sub-angular gravel to 3/8"+, 70% fine sub-angular sand, 30% non-plastic fines. Mild HC odor and visible staining. Poorly graded sand (SP): same as 3'. Oil staining observed 0' to 7'. Silty sand (SM): same as 5'.	
9–12	I_81E(10-11) 11:34	48/48			SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), very loose, dry. 2% fine sub-angular gravel to 1/2", 93% fine to medium subangular sand, 5% non-plastic fines. No odor or staining. At 11', coarsening to 7% gravel, 90% sand, 3% non-plastic fines.	
13–20						T.D. = 12.0' @ 11:35; 12/03/08	

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Project Number: 2024.01		**Boring ID: I_ET**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/02/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/02/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	I_ET(0-1) 12:35	48/48			SP	Poorly graded sand (SP): Grayish orange pink 5 YR (7/2), very-loose, dry. 2% fine sub-angular gravel to 1/2"-, 90% fine to medium sub-angular sand, 8% non-plastic fines. Mild HC odor and visible staining.	
2							
3							
4							
5	I_ET(5-6) 12:40	48/48			SP	Oil staining observed 0' to 5.5'.	
6							
7						Poorly graded sand with gravel (SP): Grayish orange pink 5 YR (7/2), very-loose, dry. 10% fine sub-angular gravel to 1/2"-, 85% fine to medium sub-angular sand, 5% non-plastic fines. No odor or staining below 5.5' depth.	
8						Fining to 2% fine sub-angular gravel to 1/2"- @ 8'.	
9							
10	I_ET(10-11) 12:48	48/48					
11							
12						T.D. = 12.0' @ 12:48; 12/02/08	
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Project Number: 2024.01	**Boring ID: I_FRA-1**
Project Name: Sunray Energy	**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental	**Logged By: Dana R. Brown**
Drilling Method: Geoprobe / **Date Started: 12/02/08**	**Total Depth (feet): 20**
Borehole Dia. (in): 2.75 / **Completed: 12/02/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 20

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4		43/48			SM	Silty sand with gravel (SM): Light brownish gray 5 Y (6/1), loose to very-loose, dry to slightly moist. 15% fine sub-angular gravel to 1/2"-, 70% fine sub-angular sand, 15% non-plastic fines. Visible staining and moderate HC odor.	0.8
4–5	I_FRA-1(4-5) 08:10					Less gravel at 1' (10%), decreasing to 2% by 5' bgs.	0.2
5–8		48/48			SP	Gravelly poorly graded sand (SP): Brownish gray 5 YR (4/1), very loose, dry. 25% fine sub-rounded gravel to 1/2"+, 70% medium to coarse sub-angular sand, 5% non-plastic fines. Mild HC odor and staining. Oil staining observed 0' to 8'.	
8–9					SM	Silty sand with gravel (SM): Light brownish gray 5 Y (6/1), loose to very-loose, dry to slightly moist. 15% fine sub-angular gravel to 1/2"-, 70% fine sub-angular sand, 15% non-plastic fines. No odor or staining.	0.0
9–10	I_FRA-1(9-10) 08:30	36/48					
10–12					SP	Poorly graded sand (SP): Pinkish gray 5 YR (8/1), very loose, dry. 5% fine sub-rounded gravel to 3/8"+, 90% medium sub-angular sand, 5% non-plastic fines. Mild No odor or staining.	
12–14							
14–15	I_FRA-1(14-15) 08:36	48/48					0.0
15–16							
16–18		48/48			ML	Sandy Silt (ML): Light brownish gray 5 Y (6/1), very loose, dry. 65% very-fine sub-angular sand, 35% non-plastic fines. No odor or staining.	
18–19							
19–20	I_FRA-1(19-20) 08:42						0.0
						T.D. = 20.0' @ 09:00; 12/02/08	

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Project Number: 2024.01	**Boring ID: I_FRA-2**
Project Name: Sunray Energy	**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental	**Logged By: Dana R. Brown**
Drilling Method: Geoprobe / **Date Started: 12/02/08**	**Total Depth (feet): 20**
Borehole Dia. (in): 2.75 / **Completed: 12/02/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 20

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4		48/48			SM	Silty sand (SM): Light olive gray 5 Y (6/1), loose to very-loose, dry to damp. 2% fine sub-angular gravel to 3/8"+, 75% fine sub-angular sand, 23% non-plastic fines. No odor.	0.0
4–8	I_FRA-2(4-5) 09:30	48/48			SP	Poorly graded sand (SP): Light brownish gray 5 YR (6/1), very loose, dry. 5% fine sub-angular gravel to 3/8"+, 90% medium sub-angular sand, 5% non-plastic fines. No odor or staining.	0.0
8–12	I_FRA-2(9-10) 09:35	36/48			SP		0.0
12–15	I_FRA-2(14-15) 09:42	48/48			SM	Silty Sand (SM): Brownish gray 5 YR (4/1), medium-stiff, mosit. Trace fine sub-angular gravel to 3/8"-, 55% fine sub-angular sand, 45% non-plastic fines. No odor or staining.	0.0
15–18		48/48			ML	Sandy Silt (ML): Olive gray 5 Y (4/1), medium-dense, dry to damp. 40% fine to medium sub-angular sand, 60% non-plastic fines. No odor or staining.	
18–20	I_FRA-2(19-20) 09:48				SP	Poorly graded sand (SP): Light brownish gray 5 YR (6/1), very loose, dry. 5% fine sub-angular gravel to 3/8"+, 90% medium sub-angular sand, 5% non-plastic fines. No odor or staining.	0.0
						T.D. = 20.0' @ 09:55; 12/02/08	

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Project Number: 2024.01	Boring ID: I_FRA-3
Project Name: Sunray Energy	Location: 35100 Santa Fe Road, Dagget, CA
Drilling Contractor: Interphase Environmental	Logged By: Dana R. Brown
Drilling Method: Geoprobe / Date Started: 12/02/08	Total Depth (feet): 20
Borehole Dia. (in): 2.75 / Completed: 12/02/08	Depth to Water: N/A

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 20

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–3		48/48			SP-SM	Poorly graded sand with silt (SP-SM): Light brown 5 YR (5/6), loose, damp. Trace sub-angular gravel to 3/8"+, 90% fine subangular sand, 10% non-plastic fines. Vague HC odor, visible oil staining.	0.6
4–7	I_FRA-3(4-5) 10:17	48/48			SM	Silty sand (SM): Light brown 5 YR (6/4), loose to very-loose, dry. Trace fine sub-rounded gravel to 3/8"+, 65% fine subangular sand, 35% non-plastic fines. Moderate HC odor.	0.9
7						Oil staining observed 0.5' to 7'.	
8–10	I_FRA-3(9-10) 10:52	48/48			SM	Fining downward.	0.0
11					ML	Sandy Silt (ML): Light brown 5 YR (6/4), medium-stiff, damp. 15% subangular sand, 85% non-plastic fines. No odor or staining.	0.0
12–16	I_FRA-3(14-15) 11:14	48/48			SP	Poorly graded sand (SP): Light brown 5 YR (6/4), very loose, dry. 5% fine sub-angular to sub-rounded gravel to 1/2", 90% fine to medium sub-angular sand, 5% non-plastic fines. No odor or staining.	0.0
17–20	I_FRA-3(19-20) 11:30	48/48					
						T.D. = 20.0' @ 11:30; 12/02/08	

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Project Number: 2024.01		**Boring ID: I_SP-1**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/05/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/05/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	I_SP-1(0-1) 15:47	48/48			SP	Poorly graded sand (SP): Very pale orange 10 YR (8/2), very loose to loose, dry to damp. Trace fine sub-angular gravel to 1/2", 95% sub-angular sand (55% fine, 35% medium, 10% coarse sand), 5% non-plastic fines. No odor.	
4–5					SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/2), very loose to loose, dry to damp. 70% fine sub-angular sand, 30% non-plastic fines. No odor.	
5–6	I_SP-1(5-6) 15:49	48/48			MH	Sandy elastic silt (ML): Dark yellowish brown 10 YR (4/2), dense, moist. 35% fine sub-angular sand, 65% non to moderate-plastic fines. No odor.	
7–8					SP	Poorly graded sand (SP): Very pale orange 10 YR (8/2), very loose to loose, dry to damp. 5% fine sub-angular gravel to 1/2", 96% sub-angular sand (25% fine, 50% medium, 25% coarse sand), 2% non-plastic fines. No odor or staining.	
8–9					MH	Sandy elastic silt (ML): Dark yellowish brown 10 YR (4/2), dense, moist. 35% fine sub-angular sand, 65% non to moderate-plastic fines. No odor or staining.	
9–12		48/48			SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), medium-dense, dry. 5% fine sub-angular gravel to 1/2"-, 92% fine to medium sub-angular sand, 3% non-plastic fines. No odor.	
12						T.D. = 12.0' @ 15:52; 12/05/08	
13–20							

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Project Number: 2024.01	**Boring ID: I_SP-2**
Project Name: Sunray Energy	**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental	**Logged By: Dana R. Brown**
Drilling Method: Geoprobe — **Date Started: 12/05/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75 — **Completed: 12/05/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	I_SP-2(0-1) 16:00	48/48			SP	Poorly graded sand (SP): Very pale orange 10 YR (8/2), very loose to loose, dry to damp. Trace fine sub-angular gravel to 1/2", 95% sub-angular sand (55% fine, 35% medium, 10% coarse sand), 5% non-plastic fines. No odor.	
4–5					SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/2), very loose to loose, dry to damp. 70% fine sub-angular sand, 30% non-plastic fines. No odor.	
5–6	I_SP-2(5-6) 16:05	48/48			MH	Sandy elastic silt (ML): Dark yellowish brown 10 YR (4/2), dense, moist. 35% fine sub-angular sand, 65% non to moderate-plastic fines. No odor.	
7–8					SP	Poorly graded sand (SP): Very pale orange 10 YR (8/2), very loose to loose, dry to damp. 5% fine sub-angular gravel to 1/2", 96% sub-angular sand (25% fine, 50% medium, 25% coarse sand), 2% non-plastic fines. No odor or staining.	
8–9					MH	Sandy elastic silt (ML): Dark yellowish brown 10 YR (4/2), dense, moist. 35% fine sub-angular sand, 65% non to moderate-plastic fines. No odor or staining.	
9–12	I_SP-2(10-11) 16:09	48/48			SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), medium-dense, dry. 5% fine sub-angular gravel to 1/2"-, 92% fine to medium sub-angular sand, 3% non-plastic fines. No odor.	
12						T.D. = 12.0' @ 16:10; 12/05/08	
13–20							

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Project Number: 2024.01	Boring ID: II_1P
Project Name: Sunray Energy	Location: 35100 Santa Fe Road, Dagget, CA
Drilling Contractor: Interphase Environmental	Logged By: Dana R. Brown
Drilling Method: Geoprobe / Date Started: 12/06/08	Total Depth (feet): 12
Borehole Dia. (in): 2.75 / Completed: 12/06/08	Depth to Water: N/A

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–3	II_1P(0-1) 07:45	48/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/2), very loose to loose, dry to damp. 70% fine subangular sand, 30% non-plastic fines. Mild HC odor and staining. Oil staining observed 0' to 1.5'.	
4–7	II_1P(5-6) 07:48	48/48			SP	Poorly graded SAND (SP): Grayish orange 10 YR (7/4), very loose to loose, dry to damp. 2% fine subangular gravel to 1/2", 95% subangular sand (35% fine, 50% medium, 15% coarse sand), 3% non-plastic fines. No odor or staining.	
8–10		48/48			SP	At 7.5', coarsening to 5% gravel, 90% sand, 5% non-plastic fines.	
11					SP	At 10', coarsening to 7% gravel, 90% sand, 3% non-plastic fines.	
12						T.D. = 12.0' @ 07:35; 12/06/08	
13–20							

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Project Number: 2024.01		**Boring ID: II_1R**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/06/08**	**Total Depth (feet): 8**
Borehole Dia. (in): 2.75	**Completed: 12/06/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 8

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	II_1R(0-1) 08:08	4/8			SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), very loose, damp. 95% fine subangular sand, 5% non-plastic fines. HC odor and staining.	
2					SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), very loose to loose, dry to damp. 65% fine subangular sand, 35% non-plastic fines. Mild HC odor and staining.	
3							
4						Oil staining observed 0' to 3.5'.	
5	II_1R(5-6) 08:14	4/8			SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), very loose to loose, dry to damp. 2% fine subangular gravel to 1/2", 95% subangular sand (35% fine, 50% medium, 15% coarse sand), 3% non-plastic fines. No odor or staining.	
6							
7						At 7', coarsening to 2% gravel.	
8						T.D. = 8.0' @ 08:14; 12/06/08	
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Project Number: 2024.01		**Boring ID: II_5G**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/04/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/04/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	II_5G(0-1) 12:14	48/48			SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), medium-dense, moist. 2% fine sub-angular gravel to 3/8"+, 95% fine to medium sub-angular sand, 5% non-plastic fines. Strong HC odor and visible staining.	
5–6	II_5G(5-6) 12:16	48/48			SM	Silty sand (SM): Dark yellowish brown 10 YR (4/2), dense, moist. 65% fine sub-angular sand, 35% non-plastic fines. No odor or staining.	
7–8					SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), medium-dense to loose, damp to dry. 5% sub-angular gravel to 1/2", 90% sand (15% fine, 40% medium, 45% coarse sand), 5% non-plastic fines. No odor or staining below 9.0'.	
9						Oil staining observed 0' to 9'.	
10–12	II_5G(10-11) 12:18	48/48			SP		
13–20						T.D. = 12.0' @ 12:20; 12/04/08	

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Project Number: 2024.01	Boring ID: II_10I
Project Name: Sunray Energy	Location: 35100 Santa Fe Road, Dagget, CA
Drilling Contractor: Interphase Environmental	Logged By: Dana R. Brown
Drilling Method: Geoprobe / Date Started: 12/04/08	Total Depth (feet): 12
Borehole Dia. (in): 2.75 / Completed: 12/04/08	Depth to Water: N/A

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	II_10I(0-1) 11:50	48/48			SM	Silty sand (SM): Dark yellowish brown 10 YR (4/2), dense, moist. 65% fine sub-angular sand, 35% non-plastic fines. Moderate HC odor and visible staining.	
5–8	II_10I(5-6) 11:54	48/48			SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), medium-dense to loose, damp to dry. Trace sub-angular gravel to 1/2"-, 95% sand (35% fine, 50% medium, 15% coarse sand), 5% non-plastic fines. No odor or staining below 6.5'.	
						Oil staining observed 0' to 6.5'.	
9–12	II_10I(10-11) 11:58	48/48			SP	At 9', coarsening to 5% gravel, 90% sand (25% fine, 40% medium, 35% coarse sand), 5% non-plastic fines.	
13–20						T.D. = 12.0' @ 12:00; 12/04/08	

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Project Number: 2024.01	**Boring ID: II_14J**
Project Name: Sunray Energy	**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental	**Logged By: Dana R. Brown**
Drilling Method: Geoprobe / **Date Started: 12/04/08**	**Total Depth (feet): 20**
Borehole Dia. (in): 2.75 / **Completed: 12/04/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 20

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	II_14J(0-1) 13:45	48/48			SM	Silty sand (SM): Light olive gray 5 Y (6/1), loose to very-loose, dry to damp.65% fine sub-angular sand, 35% non-plastic fines. Mild HC odor and visible staining.	
5–8	II_14J(5-6) 13:47	48/48			SP	Poorly graded sand (SP): Light brownish gray 5 YR (6/1), very loose, dry. Trace fine sub-angular gravel to 3/8"+, 95% medium sub-angular sand, 5% non-plastic fines. No odor or staining.	
9–12	II_14J(10-11) 13:49	36/48			SP	At 11', coarsening to 2% gravel, 95% sand, 3% non-plastic fines.	
13						Oil staining observed 0' to 12.8'.	
14–16	II_14J(15-16) 13:59	48/48					
17–20	II_14J(19-20) 14:04	48/48			SP	At 16', coarsening to 5% gravel, 90% sand, 5% non-plastic fines.	
						T.D. = 20.0' @ 14:10; 12/04/08	

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Project Number: 2024.01	Boring ID: I_17E
Project Name: Sunray Energy	Location: 35100 Santa Fe Road, Dagget, CA
Drilling Contractor: Interphase Environmental	Logged By: Dana R. Brown
Drilling Method: Geoprobe / Date Started: 12/05/08	Total Depth (feet): 12
Borehole Dia. (in): 2.75 / Completed: 12/05/08	Depth to Water: N/A

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	I_17E(0-1) 13:21	48/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), very loose to loose, dry to damp. 80% fine subangular sand, 20% non-plastic fines. Mild HC odor and staining.	
2							
3					SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), looseto medium-dense, dry. 95 % subangular sand (35% fine, 55% medium, 10% coarse sand), 3% non-plastic fines. No odor or staining below 5' depth.	
4							
5						Oil staining observed 0' to 5'.	
6	I_17E(5-6) 13:22	48/48			SP	At 5.5', coarsening to 2% gravel, 95% sand (10% fine, 60% medium, 30% coarse sand), 3% non-plastic fines.	
7							
8							
9					SP	At 9.5', coarsening to 2% gravel, 95% sand (25% fine, 55% medium, 20% coarse sand), 3% non-plastic fines.	
10	I_17E(10-11) 13:35	48/48					
11							
12						T.D. = 12.0' @ 13:35; 12/05/08	
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Project Number: 2024.01		**Boring ID: II_21I-1**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/04/08**	**Total Depth (feet): 8**
Borehole Dia. (in): 2.75	**Completed: 12/04/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 8

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	II_21I-1(0-1) 11:05	48/48			SP	Poorly graded sand (SP): Pale yellowish brown 10 YR (6/2), very loose to loose, moist. 95% fine to medium sub-angular sand, 5% non-plastic fines. Moderate HC odor and visible staining.	
2						Oil staining observed 0' to 2'.	
3					SM	Silty sand (SM): Light brownish gray 5 YR (6/1), dense, damp. 60% fine sub-angular sand, 40% non-plastic fines. Moderate HC odor no staining. Some caliche grains.	
4							
5	II_21I-1(5-6) 11:08	48/48			SP	Poorly graded sand (SP): Pale yellowish brown 10 YR (6/2), very loose to loose, moist. 2% fine sub-angular gravel to 1/2"-, 95% fine to medium sub-angular sand, 3% non-plastic fines. No odor. Locally with oxidized colors (orange, kidney-red, reddish-tan).	
6							
7							
8						T.D. = 8' @ 11:10; 12/04/08	
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Project Number: 2024.01	Boring ID: II_21I-2
Project Name: Sunray Energy	Location: 35100 Santa Fe Road, Dagget, CA
Drilling Contractor: Interphase Environmental	Logged By: Dana R. Brown
Drilling Method: Geoprobe / Date Started: 12/04/08	Total Depth (feet): 8
Borehole Dia. (in): 2.75 / Completed: 12/04/08	Depth to Water: N/A

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 8

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	II_21I-2(0-1) 11:22	48/48			SW-SM	Well graded sand with silt (SW-SM): Pale yellowish brown 10 YR (6/2), medium-stiff, moist. 90% fine sub-angular sand, 10% non-plastic fines. Mild HC odor and visible staining.	
2						Oil staining observed 0' to 2.5'.	
3					SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), medium-dense, moist. 60% fine sub-angular sand, 40% non-plastic fines. Some black (MnO?) staining & oxidation colors (reddish-orange, kidney-red, purple).	
4							
5	II_21I-2(5-6) 11:29	48/48			SP	Poorly graded sand (SP): Pale yellowish brown 10 YR (6/2), very loose to loose, moist. Trace fine sub-angular gravel to 1/2"-, 95% fine to medium sub-angular sand, 5 % non-plastic fines. No odor. Locally with oxidized colors (orange, kidney-red, reddish-tan).	
6							
7							
8						T.D. = 8' @ 11:30; 12/04/08	
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Project Number: 2024.01		**Boring ID: II_21O**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/06/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/06/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	II_21O(0-1) 09:15	48/48			SP	Oil staining observed 0' to 2.5'.	
2							
3							
4						Poorly graded SAND (SP): Very pale orange 10 YR (8/2), very loose to loose, dry to damp. 5% fine subangular gravel to 1/2", 96% subangular sand (25% fine, 50% medium, 25% coarse sand), 2% non-plastic fines. No odor or staining.	
5	II_21O(5-6) 09:22						
6		48/48					
7							
8						At 9', coarsening to 2% gravel, 93% sand (15% fine, 40% medium, 45% coarse sand), 5% non-plastic fines.	
9							
10		48/48					
11							
12						T.D. = 12.0' @ 10:15; 12/06/08	
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Project Number: 2024.01		**Boring ID: II_23Q**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/06/08**	**Total Depth (feet): 8**
Borehole Dia. (in): 2.75	**Completed: 12/06/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 8

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	II_23Q(0-1) 09:35	48/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), very loose to loose, dry to damp. 70% fine subangular sand, 30% non-plastic fines. Mild HC odor and staining.	
2							
3						Oil staining observed 0' to 2.5'.	
4					SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), loose, dry. 95% subangular sand (40% fine, 35% medium, 25% coarse sand), 5% non-plastic fines. No odor or staining below 2.5'.	
5	II_23Q(5-6) 09:37						
6							
7		48/48			SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), looseto medium-dense, dry. 2% fine subangular gravel to 1/2", 95% subangular sand (25% fine, 45% medium, 30% coarse sand), 3% non-plastic fines. No odor or staining.	
8						T.D. = 8.0' @ 09:37; 12/06/08	
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Project Number: 2024.01	Boring ID: II_27A
Project Name: Sunray Energy	Location: 35100 Santa Fe Road, Dagget, CA
Drilling Contractor: Interphase Environmental	Logged By: Dana R. Brown
Drilling Method: Geoprobe / Date Started: 12/04/08	Total Depth (feet): 12
Borehole Dia. (in): 2.75 / Completed: 12/04/08	Depth to Water: N/A

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	II_27A(0-1) 09:29	48/48			SM	Silty sand (SM): Dark yellowish brown 10 YR (4/2), medium-dense to loose, moist. 60 % fine sub-angular sand, 40% non-plastic fines. Strong HC odor and visible staining.	
3–4					SP	Poorly graded sand (SP): Yellowish gray 5 Y (8/1), very-loose, moist. 95 % fine to medium sub-angular sand, 5% non-plastic fines. No odor or staining.	
4						Oil staining observed 0' to 4'.	
5–8	No Recovery (4' - 8')	0/48			SP?		
9–12	II_27H(10-11) 09:33	48/48			SP	Poorly graded sand with gravel (SP): Grayish orange 10 YR (7/4), medium-dense, dry. 15% fine sub-angular gravel to 1/2"-, 80% sand (35% fine, 50% medium, 15% coarse sand), 5% non-plastic fines. No odor.	
12						T.D. = 12.0' @ 10:05; 12/04/08	
13–20							

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Project Number: 2024.01	**Boring ID: II_27H**
Project Name: Sunray Energy	**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental	**Logged By: Dana R. Brown**
Drilling Method: Geoprobe / **Date Started: 12/04/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75 / **Completed: 12/04/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	II_27H(0-1) 10:47	48/48			SM	Silty sand (SM): Dark yellowish brown 10 YR (4/2), dense, moist. 65% fine sub-angular sand, 35% non-plastic fines. Moderate HC odor and visible staining.	
5–8	II_27H(5-6) 10:49	48/48			SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), medium-dense to loose, damp to dry. Trace sub-angular gravel to 1/2"-, 95% sand (35% fine, 50% medium, 15% coarse sand), 5% non-plastic fines. No odor or staining below 6.5'.	
						Oil staining observed 0' to 6.5'.	
					SP	At 7.5', coarsening to 5% gravel, 90% sand (25% fine, 40% medium, 35% coarse sand), 5% non-plastic fines.	
9–12	II_27H(10-11) 10:51	48/48			SP		
13–20						T.D. = 12.0' @ 10:55; 12/04/08	

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Project Number: 2024.01	**Boring ID: II_31A**
Project Name: Sunray Energy	**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental	**Logged By: Dana R. Brown**
Drilling Method: Geoprobe / **Date Started: 12/05/08**	**Total Depth (feet): 16**
Borehole Dia. (in): 2.75 / **Completed: 12/05/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 16

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	II_31A(0-1) 08:37	48/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), medium-dense to loose, damp. 65% fine subangular sand, 35% non-plastic fines. Mild HC odor and staining.	
5–8	II_31A(5-6) 08:41	48/48			SP	Poorly graded sand (SP): Moderate yellowish brown 10 YR (5/4), very loose to loose, damp. Trace fine subangular gravel to 3/8"+, 95% subangular sand (35% fine, 55% medium, 10% coarse sand), 5% non-plastic fines. Strong HC odor and visible staining. At 7', coarsening to 2% gravel.	
9–12	II_31A(10-11) 08:44	48/48			SP	Oil staining observed 0' to 10.5'. Gravel lens from 11' to 12'.	
13–16	II_31A(15-16) 08:49	48/48			SP	Becoming medium-dense @ 13' and fining to mostly fine sand.	
16						T.D. = 16.0' @ 08:50; 12/04/08	
17–20							

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Project Number: 2024.01	Boring ID: II_36K
Project Name: Sunray Energy	Location: 35100 Santa Fe Road, Dagget, CA
Drilling Contractor: Interphase Environmental	Logged By: Dana R. Brown
Drilling Method: Geoprobe / Date Started: 12/04/08	Total Depth (feet): 16
Borehole Dia. (in): 2.75 / Completed: 12/04/08	Depth to Water: N/A

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 16

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–3	II_36K(0-1) 14:42	48/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), medium-dense to loose, damp. 75% fine subangular sand, 25% non-plastic fines. Strong HC odor and staining.	
4					SP	Poorly graded sand (SP): Pale yellowish brown 10 YR (6/2), very loose, damp. Trace fine subangular gravel to 3/8"+, 95% subangular sand (75% fine, 25% medium sand), 5% non-plastic fines. Strong HC odor and visible staining.	
5–6	II_36K(5-6) 14:44	48/48					
7					SM	Silty sand (SM): as at 2' but moderate yellowish brown 10 YR (5/4).	
8					SP	Sandy silt (ML): Dark yellowish brown 10 YR (4/2), medium-stiff, damp. 25% fine sub-angular sand, 75% non-plastic fines. Strong HC odor and visible staining.	
9–11	II_36K(10-11) 14:48	48/48			SW	Well graded sand (SW): Light brown 5 YR (5/6), loose, damp with oil. 95% subangular sand (75% fine, 25% medium, 0% coarse sand), 5% non-plastic fines. Mild HC odor.	
12–14		48/48				Oil staining observed 0' to 14'.	
15–16	II_36K(15-16) 15:05					Some caliche as grain coatings 14' to 16'.	
17–20						T.D. = 16.0' @ 15:10; 12/04/08	

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Project Number: 2024.01		**Boring ID: II_37H**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/04/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/04/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	II_37H(0-1) 09:57	48/48			SP-SM	Poorly graded sand with silt (SP-SM): Moderate yellowish brown 10 YR (5/4), loose to very-loose, moist. 90% fine sub-angular sand, 10% non-plastic fines. Strong HC odor and visible staining.	
5–8	II_37H(5-6) 09:59	48/48			SM	Silty sand (SM): Dark yellowish brown 10 YR (4/2), medium-dense to loose, moist. 60 % fine sub-angular sand, 40% non-plastic fines. Strong HC odor and visible staining.	
						Oil staining observed 0' to 8'.	
9–12	II_37H(10-11) 10:02	48/48			SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), medium-dense, dry. 2% fine sub-angular gravel to 1/2"-, 95% sand (35% fine, 50% medium, 15% coarse sand), 3% non-plastic fines. Vague HC odor.	
13–20						T.D. = 12.0' @ 10:05; 12/04/08	

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Project Number: 2024.01		**Boring ID: II_39D**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/04/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/04/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–3	II_39D(0-1) 08:04	48/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), medium-dense to loose, dry to damp. 65% fine sub-angular sand, 35% non-plastic fines. Vague HC odor and visible staining.	
4–8	II_39D(5-6) 08:06	48/48			SP	Poorly graded sand (SP): Moderate yellowish brown 10 YR (5/4), loose, dry. 2% fine sub-angular gravel to 3/8"+, 93% medium to coarse sub-angular sand, 5% non-plastic fines. Vague HC odor.	
7						Oil staining observed 0' to 6.8'.	
8					SP		
9					SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), medium-dense, damp. 65% fine sub-angular sand, 35% non-plastic fines. No odor.	
10–12	II_39D(10-11) 08:10	48/48			SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), medium-dense, dry. 5% fine sub-angular gravel to 1/2"-, 92% fine to medium sub-angular sand, 3% non-plastic fines. No odor.	
12						T.D. = 12.0' @ 08:10; 12/04/08	
13–20							

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Project Number: 2024.01		**Boring ID: II_40K**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/05/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/05/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–3	II_40K(0-1) 16:37	48/36			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/2), very loose to loose, dry to damp. 70% fine subangular sand, 30% non-plastic fines. Mild HC odor and staining.	
4–8	II_40K(5-6) 16:39	48/48			SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), loose to medium-dense, dry. 95 % fine to medium sub-angular sand, 3% non-plastic fines. No odor or staining below 6.5' depth.	
						Oil staining observed 0' to 6.5'.	
8–12	II_40K(10-11) 16:46	48/48			SP	At 9', coarsening to 5% gravel, with traces of caliche on bedding surfaces.	
12						T.D. = 12.0' @ 16:46; 12/03/08	
13–20							

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Project Number: 2024.01	Boring ID: II_87T
Project Name: Sunray Energy	Location: 35100 Santa Fe Road, Dagget, CA
Drilling Contractor: Interphase Environmental	Logged By: Dana R. Brown
Drilling Method: Geoprobe / Date Started: 12/03/08	Total Depth (feet): 12
Borehole Dia. (in): 2.75 / Completed: 12/03/08	Depth to Water: N/A

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	II_87T(0-1) 16:13	48/48			SM	Silty sand (SM): Pale yellowish brown 10 YR (6/2), medium-stiff, dry. 65% fine sub-angular sand, 35% non-plastic fines. Mild HC odor and visible staining.	
2							
3						Oil staining observed 0' to 2.5'.	
4							
5	II_87T(5-6) 16:15	48/48			SP	Poorly graded sand (SP): Pale yellowish brown 10 YR (6/2), very-loose to loose, dry. Trace fine sub-angular gravel to 3/8"+, 95% fine to medium subangular sand, 5% non-plastic fines. No odor or staining below 2.5'.	
6							
7							
8							
9		48/48					
10							
11							
12						T.D. = 12.0' @ 16:15; 12/03/08	
13							
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Project Number: 2024.01	**Boring ID: II_CT-1**
Project Name: Sunray Energy	**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental	**Logged By: Dana R. Brown**
Drilling Method: Geoprobe / **Date Started: 12/04/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75 / **Completed: 12/04/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	II_CT-1(0-1) 16:11	48/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), medium-stiff, moist. 75% fine sub-angular sand, 25% non-plastic fines. No odor or staining.	
2					SW	Well graded sand (SW): Pale yellowish brown 10 YR (6/2), very-loose, moist. 95% fine sub-angular sand, 5% non-plastic fines. No odor or staining.	
3							
4					SP	Poorly graded sand (SP): Yellowish gray 5 Y (8/1), very-loose, moist. 95% fine to medium sub-angular sand, 5% non-plastic fines. No odor or staining.	
5	II_CT-1(5-6) 16:13	48/48			SM	Silty sand (SM): Dark yellowish brown 10 YR (4/2), dense, moist. 65% fine sub-angular sand, 35% non-plastic fines. No odor or staining.	
6							
7							
8							
9					SP	Poorly graded sand (SP): Pale yellowish brown 10 YR (6/2), very-loose, moist. 5% fine sub-angular gravel to 3/8"+, 90% fine to coarse subangular sand, 5% non-plastic fines. No odor or staining.	
10	II_CT-1(10-11) 16:16	48/48					
11							
12						T.D. = 12.0' @ 16:20; 12/04/08	
13							
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Project Number: 2024.01	Boring ID: II_CT-2
Project Name: Sunray Energy	Location: 35100 Santa Fe Road, Dagget, CA
Drilling Contractor: Interphase Environmental	Logged By: Dana R. Brown
Drilling Method: Geoprobe / Date Started: 12/04/08	Total Depth (feet): 12
Borehole Dia. (in): 2.75 / Completed: 12/04/08	Depth to Water: N/A

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	II_CT-2(0-1) 15:49	48/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), medium-stiff, moist. 75% fine sub-angular sand, 25% non-plastic fines. No odor or staining.	
4–8	II_CT-2(5-6) 15:52	48/48			SP	Poorly graded sand (SP): Pale yellowish brown 10 YR (6/2), very-loose, moist. Trace fine sub-angular gravel to 3/8"+, 95% fine to medium sub-angular sand, 5% non-plastic fines. No odor or staining.	
8–12	II_CT-2(10-11) 15:57	48/48			SP	At 9', coarsening to 5% gravel, 90% sand (15% fine, 40% medium, 45% coarse sand), 5% non-plastic fines.	
12						T.D. = 12.0' @ 15:59; 12/04/08	
13–20							

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Project Number: 2024.01		Boring ID: II_CT-3
Project Name: Sunray Energy		Location: 35100 Santa Fe Road, Dagget, CA
Drilling Contractor: Interphase Environmental		Logged By: Dana R. Brown
Drilling Method: Geoprobe	Date Started: 12/04/08	Total Depth (feet): 12
Borehole Dia. (in): 2.75	Completed: 12/04/08	Depth to Water: N/A

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–3	II_CT-3(0-1) 16:25	48/48			SM	Silty sand (SM): Moderate yellowish brown 10 YR (5/4), medium-stiff, moist. 75% fine sub-angular sand, 25% non-plastic fines. No odor or staining.	
4					SP	Poorly graded sand (SP): Yellowish gray 5 Y (8/1), very-loose, moist. 95% fine to medium sub-angular sand, 5% non-plastic fines. No odor or staining.	
5–6	II_CT-3(5-6) 16:29	48/48			SP	Poorly graded sand (SP): Pale yellowish brown 10 YR (6/2), very-loose, moist. 5% fine sub-angular gravel to 3/8"+, 90% fine to coarse subangular sand, 5% non-plastic fines. No odor or staining.	
7–8					ML	Sandy silt (ML): Dark yellowish brown 10 YR (4/2), dense, moist. 45% fine sub-angular sand, 55% non-plastic fines. No odor or staining.	
9–11	II_CT-3(10-11) 16:39	48/48			SP	Poorly graded sand with gravel (SP): Pale yellowish brown 10 YR (6/2), very-loose, moist. 15% fine sub-angular gravel to 3/8"+, 80% fine to coarse subangular sand, 5% non-plastic fines. No odor or staining.	
12						T.D. = 12.0' @ 16:40; 12/04/08	
13–20							

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Project Number: 2024.01	Boring ID: II_PB-1
Project Name: Sunray Energy	Location: 35100 Santa Fe Road, Dagget, CA
Drilling Contractor: Interphase Environmental	Logged By: Dana R. Brown
Drilling Method: Geoprobe / Date Started: 12/05/08	Total Depth (feet): 12
Borehole Dia. (in): 2.75 / Completed: 12/05/08	Depth to Water: N/A

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	I_PB-1(0-1) 16:25	48/48			SP	Poorly graded sand (SP): Very pale orange 10 YR (8/2), very loose to loose, dry to damp. Trace fine sub-angular gravel to 1/2", 95% sub-angular sand (55% fine, 35% medium, 10% coarse sand), 5% non-plastic fines. Strong HC odor and visible staining.	
4						Oil staining observed 0' to 4'.	
5–8	I_PB-1(5-6) 16:45	12/48			SP	Poorly graded sand (SP), as above. No staining below 5'. Note: Interval 5' - 6' not recovered during initial boring. Moved rig 2' north and re-drilled recovering sample from 5' - 6' interval.	
9–12	I_PB-1(10-11) 16:30	48/48			SP	Poorly graded sand (SP): Grayish orange 10 YR (7/4), medium-dense, dry. 5% fine sub-angular gravel to 1/2"-, 92% fine to medium sub-angular sand, 3% non-plastic fines. No odor.	
12						T.D. = 12.0' @ 16:45; 12/05/08	
13–20							

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Project Number: 2024.01		**Boring ID: II_SP-1**
roject Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/06/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/06/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	II_SP-1(0-1) 08:28	48/48	X		SW	Well graded SAND (SW): Very pale orange 10 YR (8/2), very loose, damp. 98% fine subangular sand, 2% non-plastic fines. No odor or staining.	
2							
3							
4							
5	II_SP-1(5-6) 08:33	48/48	X		SP	Poorly graded SAND with gravel (SP): Very pale orange 10 YR (8/2), very loose to loose, dry to damp. 5% fine subangular gravel to 1/2"-, 92% subangular sand (25% fine, 45% medium, 30% coarse sand), 3% non-plastic fines. No odor or staining.	
6							
7							
8							
9		48/48				Increasing to 7% gravel @ 7.5'.	
10							
11							
12						T.D. = 12.0' @ 08:38; 12/06/08	
13							
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Project Number: 2024.01		**Boring ID: II_SP-2**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/06/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/06/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1	II_SP-2(0-1) 08:45	48/48			SP	Poorly graded SAND (SP): Very pale orange 10 YR (8/2), very loose to loose, dry to damp. 2% fine subangular gravel to 1/2"-, 96% subangular sand (35% fine, 45% medium, 20% coarse sand), 2% non-plastic fines. No odor or staining.	
2							
3							
4							
5	II_SP-2(5-6) 08:51	48/48					
6							
7							
8							
9		48/48				Increasing to 5% gravel @ 7.5'.	
10							
11							
12						T.D. = 12.0' @ 08:55; 12/06/08	
13							
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Project Number: 2024.01		**Boring ID: TDA-1**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/06/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/06/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–4	TDA-1(0-1) 10:04	48/48			SM	Silty SAND (SM): Grayish orange 10 YR (7/4), medium-dense, wet from surface to 0.5', dry below. Trace fine sub-anglar gravel to 3/8"+, 65% fine sub-angular sand, 35% non-plastic fines. No odor or staining.	
5–8	TDA-1(5-6) 10:07	48/48			SP	Poorly graded SAND (SP): Very pale orange 10 YR (8/2), very loose to loose, dry to damp. 5% fine subangular gravel to 1/2", 96% subangular sand (25% fine, 50% medium, 25% coarse sand), 2% non-plastic fines. No odor or staining.	
9–12		48/48			SP	Coarsening to Poorly graded sand with gravel (SP): 7% fine subangular gravel to 1/2", 91% subangular sand (25% fine, 55% medium, 20% coarse sand), 2% non-plastic fines. No odor or staining.	
13–20						T.D. = 12.0' @ 10:15; 12/06/08	

northgate
environmental management, inc.

Boring Log

Northgate Environmental Management
1100 Quail Street, Suite 102
Newport Beach, CA 92660
949.260.9293

Project Number: 2024.01		**Boring ID: TDA-2**
Project Name: Sunray Energy		**Location: 35100 Santa Fe Road, Dagget, CA**
Drilling Contractor: Interphase Environmental		**Logged By: Dana R. Brown**
Drilling Method: Geoprobe	**Date Started: 12/06/08**	**Total Depth (feet): 12**
Borehole Dia. (in): 2.75	**Completed: 12/06/08**	**Depth to Water: N/A**

Surface Seal Type: Amorphous Bentonite
Interval (ft bgs): 0 - 12

Remarks:
Core samples recovered in acetate liners.

Depth (ft)	Sample ID & Sample Time	Recovery %	Sample Int.	Graphic Log	USCS Code	Material Description	PID (ppm)
1–2	TDA-2(0-1) 10:22	48/48			SM	Silty SAND (SM): Grayish orange pink 5 YR (7/2), loose to medium-dense, dry. 60% fine sub-angular sand, 40% non-plastic fines. No odor or staining. Some fine caliche grains on bedding surfaces.	
3–4					SW	Well graded SAND (SP): Very pale orange 10 YR (8/2), very loose to loose, dry. 95% fine subangular sand, 5% non-plastic fines. No odor or staining.	
5–6	TDA-2(5-6) 10:27	48/48			SM	Silty SAND (SM): Grayish orange pink 5 YR (7/2), medium-dense, dry. 75% fine sub-angular sand, 25% non-plastic fines. No odor or staining.	
7–10		48/48			SP	Poorly graded SAND (SP): Very pale orange 10 YR (8/2), very loose to loose, dry to damp. 5% fine subangular gravel to 1/2", 96% subangular sand (25% fine, 50% medium, 25% coarse sand), 2% non-plastic fines. No odor or staining.	
11–12						T.D. = 12.0' @ 10:35; 12/06/08	
13–20							

APPENDIX D
LABORATORY RESULTS AND CHAIN-OF-CUSTODY DOCUMENTATION

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

LABORATORY REPORT

Prepared For: Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project: Solar Energy Generating System
2024.01.01S-01

Sampled: 12/02/08
Received: 12/02/08
Issued: 12/05/08 08:57

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 3 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 4°C, on ice and with chain of custody documentation. Any tests that had not been analyzed for samples IRK0275-07, -08, -11 and -12 were requested to be set to Hold status per client on 12/03/08. All TPH and Therminol tests had been extracted, but were then put on Hold. The BTEX tests had been done for samples IRK0275-07 and -08, but the other two samples were put on Hold. Additional EPA 8270C-SVOC tests were requested by client on 12/03/08 for samples IRK0275-05, -06, -09 and -10.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers. Selected surrogate concentrations were diluted below detection limits due to sample dilution for target analyte or matrix interference. The affected surrogate concentrations were flagged with Z3 qualifiers.

COMMENTS: Therminol target compounds were reported as 1,1'-Biphenyl (CAS # 92-52-4) and 1,1'-Oxybisbenzene (CAS # 101-84-8, aka Diphenyl oxide).

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
IRL0275-01	I_FRA-1 (4-5)	Soil
IRL0275-02	I_FRA-1 (9-10)	Soil

TestAmerica Irvine
Patty Mata
Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

LABORATORY ID	CLIENT ID	MATRIX
IRL0275-03	I_FRA-1 (14-15)	Soil
IRL0275-04	I_FRA-1 (19-20)	Soil
IRL0275-05	I_FRA-2 (4-5)	Soil
IRL0275-06	I_FRA-2 (9-10)	Soil
IRL0275-07	I_FRA-2 (14-15)	Soil
IRL0275-08	I_FRA-2 (19-20)	Soil
IRL0275-09	I_FRA-3 (4-5)	Soil
IRL0275-10	I_FRA-3 (9-10)	Soil
IRL0275-13	I_ET (4-5)	Soil
IRL0275-14	I_ET (10-11)	Soil
IRL0275-15	I_ET (0-1)	Soil
IRL0275-16	I_24F-1 (0-1)	Soil
IRL0275-17	I_24F-1 (5-6)	Soil
IRL0275-18	I_24F-1 (10-11)	Soil
IRL0275-19	I_24F-2 (0-1)	Soil
IRL0275-20	I_24F-2 (5-6)	Soil
IRL0275-21	I_24F-2 (10-11)	Soil
IRL0275-22	I_20G (0-1)	Soil
IRL0275-23	I_20G (5-6)	Soil
IRL0275-24	I_20G (10-11)	Soil
IRL0275-25	I_19E-1 (0-1)	Soil
IRL0275-26	I_19E-1 (5-6)	Soil
IRL0275-27	I_19E-1 (10-11)	Soil
IRL0275-28	I_19E-2 (0-1)	Soil
IRL0275-29	I_19E-2 (5-6)	Soil
IRL0275-30	I_19E-2 (10-11)	Soil
IRL0275-31	I_23C (0-1)	Soil
IRL0275-32	I_23C (5-6)	Soil
IRL0275-33	I_23C (10-11)	Soil
IRL0275-34	TB-120208	Soil

Reviewed By:

TestAmerica Irvine
Patty Mata
Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-01 (I_FRA-1 (4-5) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02154	20	ND	10	12/3/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02154	20	ND	10	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*				*Z3*
Sample ID: IRL0275-02 (I_FRA-1 (9-10) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*92 %*				
Sample ID: IRL0275-05 (I_FRA-2 (4-5) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*86 %*				
Sample ID: IRL0275-06 (I_FRA-2 (9-10) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*86 %*				
Sample ID: IRL0275-09 (I_FRA-3 (4-5) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02154	20	ND	10	12/3/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02154	20	ND	10	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*				*Z3*
Sample ID: IRL0275-10 (I_FRA-3 (9-10) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02154	10	ND	5	12/3/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02154	10	ND	5	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*40 %*				*Z3*
Sample ID: IRL0275-13 (I_ET (4-5) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*92 %*				

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-14 (I_ET (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*83 %*				
Sample ID: IRL0275-15 (I_ET (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*				*Z9*
Sample ID: IRL0275-16 (I_24F-1 (0-1) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02154	20	ND	10	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02154	20	ND	10	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*				*Z3*
Sample ID: IRL0275-17 (I_24F-1 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*78 %*				
Sample ID: IRL0275-18 (I_24F-1 (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*84 %*				
Sample ID: IRL0275-19 (I_24F-2 (0-1) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02154	20	ND	10	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02154	20	ND	10	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*				*Z3*
Sample ID: IRL0275-20 (I_24F-2 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*88 %*				

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-21 (I_24F-2 (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*92 %*				
Sample ID: IRL0275-22 (I_20G (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02154	2.0	ND	1	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*58 %*				
Sample ID: IRL0275-23 (I_20G (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02156	2.0	ND	1	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02156	2.0	ND	1	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*64 %*				
Sample ID: IRL0275-24 (I_20G (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02156	2.0	ND	1	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02156	2.0	ND	1	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*81 %*				
Sample ID: IRL0275-25 (I_19E-1 (0-1) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02156	60	ND	30	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02156	60	ND	30	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*563 %*				*Z3*
Sample ID: IRL0275-26 (I_19E-1 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02156	2.0	ND	1	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02156	2.0	ND	1	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*73 %*				
Sample ID: IRL0275-27 (I_19E-1 (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02156	2.0	ND	1	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02156	2.0	ND	1	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*76 %*				

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Project Manager

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-28 (I_19E-2 (0-1) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02156	20	ND	10	12/3/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02156	20	ND	10	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*				*Z3*
Sample ID: IRL0275-29 (I_19E-2 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02156	2.0	ND	1	12/3/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02156	2.0	ND	1	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*73 %*				
Sample ID: IRL0275-30 (I_19E-2 (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02156	2.0	ND	1	12/3/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02156	2.0	ND	1	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*76 %*				
Sample ID: IRL0275-31 (I_23C (0-1) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02156	20	ND	10	12/3/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02156	20	ND	10	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*88 %*				*Z3*
Sample ID: IRL0275-32 (I_23C (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02156	2.0	ND	1	12/3/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02156	2.0	ND	1	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*87 %*				
Sample ID: IRL0275-33 (I_23C (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L02156	2.0	ND	1	12/3/2008	12/3/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L02156	2.0	ND	1	12/3/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*79 %*				

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-01 (I_FRA-1 (4-5) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03017	1.9	ND	0.926	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03017	1.9	ND	0.926	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03017	1.9	3.0	0.926	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03017	1.9	3.7	0.926	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03017	1.9	2.0	0.926	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03017	3.7	5.7	0.926	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*80 %*				
Surrogate: Dibromofluoromethane (80-135%)				*108 %*				
Surrogate: Toluene-d8 (80-120%)				*78 %*				*Z*
Sample ID: IRL0275-02 (I_FRA-1 (9-10) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03017	2.1	ND	1.07	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03017	2.1	ND	1.07	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03017	2.1	ND	1.07	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03017	2.1	ND	1.07	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03017	2.1	ND	1.07	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03017	4.3	ND	1.07	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*96 %*				
Surrogate: Dibromofluoromethane (80-135%)				*91 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0275-05 (I_FRA-2 (4-5) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03017	2.5	ND	1.27	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03017	2.5	ND	1.27	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03017	2.5	ND	1.27	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03017	2.5	ND	1.27	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03017	2.5	ND	1.27	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03017	5.1	ND	1.27	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*93 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				

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Northgate Environmental Management
1100 Quail Street Suite 102
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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-06 (I_FRA-2 (9-10) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03017	1.9	ND	0.935	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03017	1.9	ND	0.935	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03017	1.9	ND	0.935	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03017	1.9	ND	0.935	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03017	1.9	ND	0.935	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03017	3.7	ND	0.935	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*95 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				
Sample ID: IRL0275-07 (I_FRA-2 (14-15) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03017	1.6	ND	0.795	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03017	1.6	ND	0.795	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03017	1.6	ND	0.795	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03017	1.6	ND	0.795	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03017	1.6	ND	0.795	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03017	3.2	ND	0.795	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*92 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				
Sample ID: IRL0275-08 (I_FRA-2 (19-20) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03017	2.0	ND	0.988	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03017	2.0	ND	0.988	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03017	2.0	ND	0.988	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03017	2.0	ND	0.988	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03017	2.0	ND	0.988	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03017	4.0	ND	0.988	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*94 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-09 (I_FRA-3 (4-5) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03034	1.8	ND	0.907	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03034	1.8	ND	0.907	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03034	1.8	4.5	0.907	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03034	1.8	ND	0.907	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03034	1.8	ND	0.907	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03034	3.6	ND	0.907	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*76 %*				
Surrogate: Dibromofluoromethane (80-135%)				*106 %*				
Surrogate: Toluene-d8 (80-120%)				*80 %*				
Sample ID: IRL0275-10 (I_FRA-3 (9-10) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03017	1.9	ND	0.949	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03017	1.9	ND	0.949	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03017	1.9	4.9	0.949	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03017	1.9	ND	0.949	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03017	1.9	ND	0.949	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03017	3.8	ND	0.949	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*83 %*				
Surrogate: Dibromofluoromethane (80-135%)				*106 %*				
Surrogate: Toluene-d8 (80-120%)				*81 %*				
Sample ID: IRL0275-13 (I_ET (4-5) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03017	1.8	ND	0.888	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03017	1.8	ND	0.888	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03017	1.8	ND	0.888	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03017	1.8	ND	0.888	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03017	1.8	ND	0.888	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03017	3.6	ND	0.888	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*89 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-14 (I_ET (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03017	1.9	ND	0.947	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03017	1.9	ND	0.947	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03017	1.9	ND	0.947	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03017	1.9	ND	0.947	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03017	1.9	ND	0.947	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03017	3.8	ND	0.947	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*92 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				
Sample ID: IRL0275-15 (I_ET (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03034	1.8	ND	0.919	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03034	1.8	ND	0.919	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03034	1.8	ND	0.919	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03034	1.8	ND	0.919	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03034	1.8	ND	0.919	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03034	3.7	ND	0.919	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*80 %*				
Surrogate: Dibromofluoromethane (80-135%)				*110 %*				
Surrogate: Toluene-d8 (80-120%)				*81 %*				
Sample ID: IRL0275-16 (I_24F-1 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03034	1.7	ND	0.865	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03034	1.7	ND	0.865	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03034	1.7	ND	0.865	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03034	1.7	ND	0.865	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03034	1.7	ND	0.865	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03034	3.5	ND	0.865	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-17 (I_24F-1 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03034	2.0	ND	0.99	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03034	2.0	ND	0.99	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03034	2.0	ND	0.99	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03034	2.0	ND	0.99	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03034	2.0	ND	0.99	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03034	4.0	ND	0.99	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				
Sample ID: IRL0275-18 (I_24F-1 (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03016	2.1	ND	1.04	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03016	2.1	ND	1.04	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03016	2.1	ND	1.04	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03016	2.1	ND	1.04	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03016	2.1	ND	1.04	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03016	4.1	ND	1.04	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*94 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				
Sample ID: IRL0275-19 (I_24F-2 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03016	1.8	ND	0.906	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03016	1.8	ND	0.906	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03016	1.8	ND	0.906	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03016	1.8	ND	0.906	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03016	1.8	ND	0.906	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03016	3.6	ND	0.906	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*63 %*				Z
Surrogate: Dibromofluoromethane (80-135%)				*119 %*				
Surrogate: Toluene-d8 (80-120%)				*71 %*				Z

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-20 (I_24F-2 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03016	2.0	ND	1.01	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03016	2.0	ND	1.01	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03016	2.0	ND	1.01	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03016	2.0	ND	1.01	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03016	2.0	ND	1.01	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03016	4.0	ND	1.01	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				
Sample ID: IRL0275-21 (I_24F-2 (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03016	1.8	ND	0.923	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03016	1.8	ND	0.923	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03016	1.8	ND	0.923	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03016	1.8	ND	0.923	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03016	1.8	ND	0.923	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03016	3.7	ND	0.923	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*95 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				
Sample ID: IRL0275-22 (I_20G (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03016	1.9	ND	0.938	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03016	1.9	ND	0.938	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03016	1.9	ND	0.938	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03016	1.9	ND	0.938	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03016	1.9	ND	0.938	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03016	3.8	ND	0.938	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*89 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*96 %*				

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Project ID: Solar Energy Generating System
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Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-23 (I_20G (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03016	1.8	ND	0.896	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03016	1.8	ND	0.896	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03016	1.8	ND	0.896	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03016	1.8	ND	0.896	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03016	1.8	ND	0.896	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03016	3.6	ND	0.896	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*96 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0275-24 (I_20G (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03016	1.7	ND	0.874	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03016	1.7	ND	0.874	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03016	1.7	ND	0.874	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03016	1.7	ND	0.874	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03016	1.7	ND	0.874	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03016	3.5	ND	0.874	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*97 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				
Sample ID: IRL0275-25 (I_19E-1 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03016	1.8	ND	0.888	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03016	1.8	ND	0.888	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03016	1.8	ND	0.888	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03016	1.8	ND	0.888	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03016	1.8	ND	0.888	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03016	3.6	ND	0.888	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*101 %*				
Surrogate: Toluene-d8 (80-120%)				*98 %*				

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17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-26 (I_19E-1 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03016	2.2	ND	1.11	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03016	2.2	ND	1.11	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03016	2.2	ND	1.11	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03016	2.2	ND	1.11	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03016	2.2	ND	1.11	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03016	4.5	ND	1.11	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*96 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				
Sample ID: IRL0275-27 (I_19E-1 (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03016	2.3	ND	1.14	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03016	2.3	ND	1.14	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03016	2.3	ND	1.14	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03016	2.3	ND	1.14	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03016	2.3	ND	1.14	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03016	4.6	ND	1.14	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*98 %*				
Surrogate: Dibromofluoromethane (80-135%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*96 %*				
Sample ID: IRL0275-28 (I_19E-2 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03016	1.6	ND	0.824	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03016	1.6	ND	0.824	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03016	1.6	ND	0.824	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03016	1.6	ND	0.824	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03016	1.6	ND	0.824	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03016	3.3	ND	0.824	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*75 %*				
Surrogate: Dibromofluoromethane (80-135%)				*108 %*				
Surrogate: Toluene-d8 (80-120%)				*81 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-29 (I_19E-2 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03017	2.1	ND	1.03	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03017	2.1	ND	1.03	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03017	2.1	ND	1.03	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03017	2.1	ND	1.03	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03017	2.1	ND	1.03	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03017	4.1	ND	1.03	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*94 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				
Sample ID: IRL0275-30 (I_19E-2 (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03017	1.7	ND	0.831	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03017	1.7	ND	0.831	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03017	1.7	ND	0.831	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03017	1.7	ND	0.831	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03017	1.7	ND	0.831	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03017	3.3	ND	0.831	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-135%)				*94 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0275-31 (I_23C (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03034	1.6	ND	0.812	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03034	1.6	ND	0.812	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03034	1.6	ND	0.812	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03034	1.6	ND	0.812	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03034	1.6	ND	0.812	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03034	3.2	ND	0.812	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*96 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*96 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-32 (I_23C (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03034	2.0	ND	0.98	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03034	2.0	ND	0.98	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03034	2.0	ND	0.98	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03034	2.0	ND	0.98	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03034	2.0	ND	0.98	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03034	3.9	ND	0.98	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*97 %*				
Surrogate: Dibromofluoromethane (80-135%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				
Sample ID: IRL0275-33 (I_23C (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L03034	1.9	ND	0.952	12/3/2008	12/3/2008	
Ethylbenzene	EPA 8260B	8L03034	1.9	ND	0.952	12/3/2008	12/3/2008	
Toluene	EPA 8260B	8L03034	1.9	ND	0.952	12/3/2008	12/3/2008	
m,p-Xylenes	EPA 8260B	8L03034	1.9	ND	0.952	12/3/2008	12/3/2008	
o-Xylene	EPA 8260B	8L03034	1.9	ND	0.952	12/3/2008	12/3/2008	
Xylenes, Total	EPA 8260B	8L03034	3.8	ND	0.952	12/3/2008	12/3/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*96 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-01 (I_FRA-1 (4-5) - Soil)								**RL2**
Reporting Units: ug/kg								
Acenaphthene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Acenaphthylene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Aniline	EPA 8270C	8L03070	1700	ND	4	12/3/2008	12/3/2008	
Anthracene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Benzidine	EPA 8270C	8L03070	2600	ND	4	12/3/2008	12/3/2008	
Benzo(a)anthracene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Benzo(a)pyrene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Benzo(b)fluoranthene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Benzo(g,h,i)perylene	EPA 8270C	8L03070	1300	**1700**	4	12/3/2008	12/3/2008	
Benzo(k)fluoranthene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Benzoic acid	EPA 8270C	8L03070	3300	ND	4	12/3/2008	12/3/2008	
Benzyl alcohol	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
4-Bromophenyl phenyl ether	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Butyl benzyl phthalate	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
4-Chloro-3-methylphenol	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
4-Chloroaniline	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Bis(2-chloroethoxy)methane	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Bis(2-chloroethyl)ether	EPA 8270C	8L03070	680	ND	4	12/3/2008	12/3/2008	
Bis(2-chloroisopropyl)ether	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
2-Chloronaphthalene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
2-Chlorophenol	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
4-Chlorophenyl phenyl ether	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Chrysene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Dibenz(a,h)anthracene	EPA 8270C	8L03070	1700	ND	4	12/3/2008	12/3/2008	
Dibenzofuran	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Di-n-butyl phthalate	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
1,2-Dichlorobenzene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
1,3-Dichlorobenzene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
1,4-Dichlorobenzene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
3,3'-Dichlorobenzidine	EPA 8270C	8L03070	3300	ND	4	12/3/2008	12/3/2008	
2,4-Dichlorophenol	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Diethyl phthalate	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
2,4-Dimethylphenol	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Dimethyl phthalate	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
4,6-Dinitro-2-methylphenol	EPA 8270C	8L03070	1700	ND	4	12/3/2008	12/3/2008	
2,4-Dinitrophenol	EPA 8270C	8L03070	2600	ND	4	12/3/2008	12/3/2008	
2,4-Dinitrotoluene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
2,6-Dinitrotoluene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Di-n-octyl phthalate	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
1,2-Diphenylhydrazine/Azobenzene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Bis(2-ethylhexyl)phthalate	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-01 (I_FRA-1 (4-5) - Soil) - cont.								**RL2**
Reporting Units: ug/kg								
Fluoranthene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Fluorene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Hexachlorobenzene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Hexachlorobutadiene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Hexachlorocyclopentadiene	EPA 8270C	8L03070	3300	ND	4	12/3/2008	12/3/2008	
Hexachloroethane	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Indeno(1,2,3-cd)pyrene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Isophorone	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
2-Methylnaphthalene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
2-Methylphenol	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
4-Methylphenol	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Naphthalene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
2-Nitroaniline	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
3-Nitroaniline	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
4-Nitroaniline	EPA 8270C	8L03070	3300	ND	4	12/3/2008	12/3/2008	
Nitrobenzene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
2-Nitrophenol	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
4-Nitrophenol	EPA 8270C	8L03070	3300	ND	4	12/3/2008	12/3/2008	
N-Nitroso-di-n-propylamine	EPA 8270C	8L03070	1000	ND	4	12/3/2008	12/3/2008	
N-Nitrosodimethylamine	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
N-Nitrosodiphenylamine	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Pentachlorophenol	EPA 8270C	8L03070	3300	ND	4	12/3/2008	12/3/2008	
Phenanthrene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Phenol	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Pyrene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
1,2,4-Trichlorobenzene	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
2,4,5-Trichlorophenol	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
2,4,6-Trichlorophenol	EPA 8270C	8L03070	1300	ND	4	12/3/2008	12/3/2008	
Surrogate: 2,4,6-Tribromophenol (35-125%)				*79 %*				
Surrogate: 2-Fluorobiphenyl (35-120%)				*72 %*				
Surrogate: 2-Fluorophenol (25-120%)				*58 %*				
Surrogate: Nitrobenzene-d5 (30-120%)				*61 %*				
Surrogate: Phenol-d6 (35-120%)				*66 %*				
Surrogate: Terphenyl-d14 (40-135%)				*84 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-02 (I_FRA-1 (9-10) - Soil)								
Reporting Units: ug/kg								
Acenaphthene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Acenaphthylene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Aniline	EPA 8270C	8L03070	420	ND	1	12/3/2008	12/3/2008	
Anthracene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzidine	EPA 8270C	8L03070	660	ND	1	12/3/2008	12/3/2008	M2
Benzo(a)anthracene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzo(a)pyrene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzo(b)fluoranthene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzo(g,h,i)perylene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzo(k)fluoranthene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzoic acid	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
Benzyl alcohol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Bromophenyl phenyl ether	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Butyl benzyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Chloro-3-methylphenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Chloroaniline	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Bis(2-chloroethoxy)methane	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Bis(2-chloroethyl)ether	EPA 8270C	8L03070	170	ND	1	12/3/2008	12/3/2008	
Bis(2-chloroisopropyl)ether	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Chloronaphthalene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Chlorophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Chlorophenyl phenyl ether	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Chrysene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Dibenz(a,h)anthracene	EPA 8270C	8L03070	420	ND	1	12/3/2008	12/3/2008	
Dibenzofuran	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Di-n-butyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,2-Dichlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,3-Dichlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,4-Dichlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
3,3'-Dichlorobenzidine	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
2,4-Dichlorophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Diethyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2,4-Dimethylphenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Dimethyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4,6-Dinitro-2-methylphenol	EPA 8270C	8L03070	420	ND	1	12/3/2008	12/3/2008	
2,4-Dinitrophenol	EPA 8270C	8L03070	660	ND	1	12/3/2008	12/3/2008	
2,4-Dinitrotoluene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2,6-Dinitrotoluene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Di-n-octyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,2-Diphenylhydrazine/Azobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Bis(2-ethylhexyl)phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-02 (I_FRA-1 (9-10) - Soil) - cont.								
Reporting Units: ug/kg								
Fluoranthene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Fluorene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Hexachlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Hexachlorobutadiene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Hexachlorocyclopentadiene	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
Hexachloroethane	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Indeno(1,2,3-cd)pyrene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Isophorone	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Methylnaphthalene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Methylphenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Methylphenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Naphthalene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Nitroaniline	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
3-Nitroaniline	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Nitroaniline	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
Nitrobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Nitrophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Nitrophenol	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
N-Nitroso-di-n-propylamine	EPA 8270C	8L03070	250	ND	1	12/3/2008	12/3/2008	
N-Nitrosodimethylamine	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
N-Nitrosodiphenylamine	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Pentachlorophenol	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
Phenanthrene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Phenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Pyrene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,2,4-Trichlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2,4,5-Trichlorophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2,4,6-Trichlorophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Surrogate: 2,4,6-Tribromophenol (35-125%)				*78 %*				
Surrogate: 2-Fluorobiphenyl (35-120%)				*72 %*				
Surrogate: 2-Fluorophenol (25-120%)				*82 %*				
Surrogate: Nitrobenzene-d5 (30-120%)				*73 %*				
Surrogate: Phenol-d6 (35-120%)				*83 %*				
Surrogate: Terphenyl-d14 (40-135%)				*78 %*				

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-05 (I_FRA-2 (4-5) - Soil)								
Reporting Units: ug/kg								
Acenaphthene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Acenaphthylene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Aniline	EPA 8270C	8L03070	420	ND	1	12/3/2008	12/3/2008	
Anthracene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzidine	EPA 8270C	8L03070	660	ND	1	12/3/2008	12/3/2008	
Benzo(a)anthracene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzo(a)pyrene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzo(b)fluoranthene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzo(g,h,i)perylene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzo(k)fluoranthene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzoic acid	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
Benzyl alcohol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Bromophenyl phenyl ether	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Butyl benzyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Chloro-3-methylphenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Chloroaniline	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Bis(2-chloroethoxy)methane	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Bis(2-chloroethyl)ether	EPA 8270C	8L03070	170	ND	1	12/3/2008	12/3/2008	
Bis(2-chloroisopropyl)ether	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Chloronaphthalene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Chlorophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Chlorophenyl phenyl ether	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Chrysene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Dibenz(a,h)anthracene	EPA 8270C	8L03070	420	ND	1	12/3/2008	12/3/2008	
Dibenzofuran	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Di-n-butyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,2-Dichlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,3-Dichlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,4-Dichlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
3,3'-Dichlorobenzidine	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
2,4-Dichlorophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Diethyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2,4-Dimethylphenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Dimethyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4,6-Dinitro-2-methylphenol	EPA 8270C	8L03070	420	ND	1	12/3/2008	12/3/2008	
2,4-Dinitrophenol	EPA 8270C	8L03070	660	ND	1	12/3/2008	12/3/2008	
2,4-Dinitrotoluene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2,6-Dinitrotoluene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Di-n-octyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,2-Diphenylhydrazine/Azobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Bis(2-ethylhexyl)phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-05 (I_FRA-2 (4-5) - Soil) - cont.								
Reporting Units: ug/kg								
Fluoranthene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Fluorene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Hexachlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Hexachlorobutadiene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Hexachlorocyclopentadiene	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
Hexachloroethane	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Indeno(1,2,3-cd)pyrene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Isophorone	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Methylnaphthalene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Methylphenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Methylphenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Naphthalene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Nitroaniline	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
3-Nitroaniline	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Nitroaniline	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
Nitrobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Nitrophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Nitrophenol	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
N-Nitroso-di-n-propylamine	EPA 8270C	8L03070	250	ND	1	12/3/2008	12/3/2008	
N-Nitrosodimethylamine	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
N-Nitrosodiphenylamine	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Pentachlorophenol	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
Phenanthrene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Phenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Pyrene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,2,4-Trichlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2,4,5-Trichlorophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2,4,6-Trichlorophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Surrogate: 2,4,6-Tribromophenol (35-125%)				*87 %*				
Surrogate: 2-Fluorobiphenyl (35-120%)				*78 %*				
Surrogate: 2-Fluorophenol (25-120%)				*87 %*				
Surrogate: Nitrobenzene-d5 (30-120%)				*75 %*				
Surrogate: Phenol-d6 (35-120%)				*90 %*				
Surrogate: Terphenyl-d14 (40-135%)				*87 %*				

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Patty Mata
Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-06 (I_FRA-2 (9-10) - Soil)								
Reporting Units: ug/kg								
Acenaphthene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Acenaphthylene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Aniline	EPA 8270C	8L03070	420	ND	1	12/3/2008	12/3/2008	
Anthracene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzidine	EPA 8270C	8L03070	660	ND	1	12/3/2008	12/3/2008	
Benzo(a)anthracene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzo(a)pyrene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzo(b)fluoranthene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzo(g,h,i)perylene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzo(k)fluoranthene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzoic acid	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
Benzyl alcohol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Bromophenyl phenyl ether	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Butyl benzyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Chloro-3-methylphenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Chloroaniline	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Bis(2-chloroethoxy)methane	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Bis(2-chloroethyl)ether	EPA 8270C	8L03070	170	ND	1	12/3/2008	12/3/2008	
Bis(2-chloroisopropyl)ether	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Chloronaphthalene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Chlorophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Chlorophenyl phenyl ether	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Chrysene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Dibenz(a,h)anthracene	EPA 8270C	8L03070	420	ND	1	12/3/2008	12/3/2008	
Dibenzofuran	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Di-n-butyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,2-Dichlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,3-Dichlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,4-Dichlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
3,3'-Dichlorobenzidine	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
2,4-Dichlorophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Diethyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2,4-Dimethylphenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Dimethyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4,6-Dinitro-2-methylphenol	EPA 8270C	8L03070	420	ND	1	12/3/2008	12/3/2008	
2,4-Dinitrophenol	EPA 8270C	8L03070	660	ND	1	12/3/2008	12/3/2008	
2,4-Dinitrotoluene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2,6-Dinitrotoluene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Di-n-octyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,2-Diphenylhydrazine/Azobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Bis(2-ethylhexyl)phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-06 (I_FRA-2 (9-10) - Soil) - cont.								
Reporting Units: ug/kg								
Fluoranthene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Fluorene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Hexachlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Hexachlorobutadiene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Hexachlorocyclopentadiene	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
Hexachloroethane	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Indeno(1,2,3-cd)pyrene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Isophorone	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Methylnaphthalene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Methylphenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Methylphenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Naphthalene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Nitroaniline	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
3-Nitroaniline	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Nitroaniline	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
Nitrobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Nitrophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Nitrophenol	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
N-Nitroso-di-n-propylamine	EPA 8270C	8L03070	250	ND	1	12/3/2008	12/3/2008	
N-Nitrosodimethylamine	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
N-Nitrosodiphenylamine	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Pentachlorophenol	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
Phenanthrene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Phenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Pyrene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,2,4-Trichlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2,4,5-Trichlorophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2,4,6-Trichlorophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Surrogate: 2,4,6-Tribromophenol (35-125%)				*85 %*				
Surrogate: 2-Fluorobiphenyl (35-120%)				*76 %*				
Surrogate: 2-Fluorophenol (25-120%)				*87 %*				
Surrogate: Nitrobenzene-d5 (30-120%)				*77 %*				
Surrogate: Phenol-d6 (35-120%)				*89 %*				
Surrogate: Terphenyl-d14 (40-135%)				*90 %*				

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-09 (I_FRA-3 (4-5) - Soil)								RL2
Reporting Units: ug/kg								
Acenaphthene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Acenaphthylene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Aniline	EPA 8270C	8L03070	3400	ND	8	12/3/2008	12/3/2008	
Anthracene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Benzidine	EPA 8270C	8L03070	5300	ND	8	12/3/2008	12/3/2008	
Benzo(a)anthracene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Benzo(a)pyrene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Benzo(b)fluoranthene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Benzo(g,h,i)perylene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Benzo(k)fluoranthene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Benzoic acid	EPA 8270C	8L03070	6600	ND	8	12/3/2008	12/3/2008	
Benzyl alcohol	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
4-Bromophenyl phenyl ether	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Butyl benzyl phthalate	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
4-Chloro-3-methylphenol	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
4-Chloroaniline	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Bis(2-chloroethoxy)methane	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Bis(2-chloroethyl)ether	EPA 8270C	8L03070	1400	ND	8	12/3/2008	12/3/2008	
Bis(2-chloroisopropyl)ether	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
2-Chloronaphthalene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
2-Chlorophenol	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
4-Chlorophenyl phenyl ether	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Chrysene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Dibenz(a,h)anthracene	EPA 8270C	8L03070	3400	ND	8	12/3/2008	12/3/2008	
Dibenzofuran	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Di-n-butyl phthalate	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
1,2-Dichlorobenzene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
1,3-Dichlorobenzene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
1,4-Dichlorobenzene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
3,3'-Dichlorobenzidine	EPA 8270C	8L03070	6600	ND	8	12/3/2008	12/3/2008	
2,4-Dichlorophenol	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Diethyl phthalate	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
2,4-Dimethylphenol	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Dimethyl phthalate	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
4,6-Dinitro-2-methylphenol	EPA 8270C	8L03070	3400	ND	8	12/3/2008	12/3/2008	
2,4-Dinitrophenol	EPA 8270C	8L03070	5300	ND	8	12/3/2008	12/3/2008	
2,4-Dinitrotoluene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
2,6-Dinitrotoluene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Di-n-octyl phthalate	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
1,2-Diphenylhydrazine/Azobenzene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Bis(2-ethylhexyl)phthalate	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-09 (I_FRA-3 (4-5) - Soil) - cont.								RL2
Reporting Units: ug/kg								
Fluoranthene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Fluorene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Hexachlorobenzene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Hexachlorobutadiene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Hexachlorocyclopentadiene	EPA 8270C	8L03070	6600	ND	8	12/3/2008	12/3/2008	
Hexachloroethane	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Indeno(1,2,3-cd)pyrene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Isophorone	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
2-Methylnaphthalene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
2-Methylphenol	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
4-Methylphenol	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Naphthalene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
2-Nitroaniline	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
3-Nitroaniline	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
4-Nitroaniline	EPA 8270C	8L03070	6600	ND	8	12/3/2008	12/3/2008	
Nitrobenzene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
2-Nitrophenol	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
4-Nitrophenol	EPA 8270C	8L03070	6600	ND	8	12/3/2008	12/3/2008	
N-Nitroso-di-n-propylamine	EPA 8270C	8L03070	2000	ND	8	12/3/2008	12/3/2008	
N-Nitrosodimethylamine	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
N-Nitrosodiphenylamine	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Pentachlorophenol	EPA 8270C	8L03070	6600	ND	8	12/3/2008	12/3/2008	
Phenanthrene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Phenol	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Pyrene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
1,2,4-Trichlorobenzene	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
2,4,5-Trichlorophenol	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
2,4,6-Trichlorophenol	EPA 8270C	8L03070	2600	ND	8	12/3/2008	12/3/2008	
Surrogate: 2,4,6-Tribromophenol (35-125%)				*94 %*				
Surrogate: 2-Fluorobiphenyl (35-120%)				*77 %*				
Surrogate: 2-Fluorophenol (25-120%)				*58 %*				
Surrogate: Nitrobenzene-d5 (30-120%)				*61 %*				
Surrogate: Phenol-d6 (35-120%)				*66 %*				
Surrogate: Terphenyl-d14 (40-135%)				*89 %*				

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Sample ID: IRL0275-10 (I_FRA-3 (9-10) - Soil)

Reporting Units: ug/kg

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Acenaphthene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Acenaphthylene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Aniline	EPA 8270C	8L03070	420	ND	1	12/3/2008	12/3/2008	
Anthracene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzidine	EPA 8270C	8L03070	660	ND	1	12/3/2008	12/3/2008	
Benzo(a)anthracene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzo(a)pyrene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzo(b)fluoranthene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzo(g,h,i)perylene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzo(k)fluoranthene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Benzoic acid	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
Benzyl alcohol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Bromophenyl phenyl ether	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Butyl benzyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Chloro-3-methylphenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Chloroaniline	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Bis(2-chloroethoxy)methane	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Bis(2-chloroethyl)ether	EPA 8270C	8L03070	170	ND	1	12/3/2008	12/3/2008	
Bis(2-chloroisopropyl)ether	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Chloronaphthalene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Chlorophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Chlorophenyl phenyl ether	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Chrysene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Dibenz(a,h)anthracene	EPA 8270C	8L03070	420	ND	1	12/3/2008	12/3/2008	
Dibenzofuran	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Di-n-butyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,2-Dichlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,3-Dichlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,4-Dichlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
3,3'-Dichlorobenzidine	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
2,4-Dichlorophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Diethyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2,4-Dimethylphenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Dimethyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4,6-Dinitro-2-methylphenol	EPA 8270C	8L03070	420	ND	1	12/3/2008	12/3/2008	
2,4-Dinitrophenol	EPA 8270C	8L03070	660	ND	1	12/3/2008	12/3/2008	
2,4-Dinitrotoluene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2,6-Dinitrotoluene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Di-n-octyl phthalate	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,2-Diphenylhydrazine/Azobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Bis(2-ethylhexyl)phthalate	EPA 8270C	8L03070	330	**640**	1	12/3/2008	12/3/2008	

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Project Manager

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Northgate Environmental Management
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Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Sample ID: IRL0275-10 (I_FRA-3 (9-10) - Soil) - cont.

Reporting Units: ug/kg

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Fluoranthene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Fluorene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Hexachlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Hexachlorobutadiene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Hexachlorocyclopentadiene	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
Hexachloroethane	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Indeno(1,2,3-cd)pyrene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Isophorone	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Methylnaphthalene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Methylphenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Methylphenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Naphthalene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Nitroaniline	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
3-Nitroaniline	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Nitroaniline	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
Nitrobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2-Nitrophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
4-Nitrophenol	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
N-Nitroso-di-n-propylamine	EPA 8270C	8L03070	250	ND	1	12/3/2008	12/3/2008	
N-Nitrosodimethylamine	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
N-Nitrosodiphenylamine	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Pentachlorophenol	EPA 8270C	8L03070	830	ND	1	12/3/2008	12/3/2008	
Phenanthrene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Phenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Pyrene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
1,2,4-Trichlorobenzene	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2,4,5-Trichlorophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
2,4,6-Trichlorophenol	EPA 8270C	8L03070	330	ND	1	12/3/2008	12/3/2008	
Surrogate: 2,4,6-Tribromophenol (35-125%)				*87 %*				
Surrogate: 2-Fluorobiphenyl (35-120%)				*79 %*				
Surrogate: 2-Fluorophenol (25-120%)				*76 %*				
Surrogate: Nitrobenzene-d5 (30-120%)				*72 %*				
Surrogate: Phenol-d6 (35-120%)				*80 %*				
Surrogate: Terphenyl-d14 (40-135%)				*90 %*				

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Project Manager

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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-01 (I_FRA-1 (4-5) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02153	50	**6500**	10	100	12/2/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02153	35	ND	10	N/A	12/2/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02153	35	**54**	10	1	12/2/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02153	35	**130**	10	2	12/2/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02153	35	**200**	10	3	12/2/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02153	35	**370**	10	6	12/2/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02153	35	**580**	10	9	12/2/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02153	35	**830**	10	13	12/2/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02153	35	**590**	10	9	12/2/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02153	35	**1200**	10	18	12/2/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02153	35	**920**	10	14	12/2/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02153	35	**760**	10	12	12/2/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02153	35	**420**	10	6	12/2/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02153	35	**270**	10	4	12/2/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02153	35	**110**	10	2	12/2/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02153	35	ND	10	N/A	12/2/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*1430 %*					*Z3*
Sample ID: IRL0275-02 (I_FRA-1 (9-10) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02153	5.0	**7.6**	1	100	12/2/2008	12/3/2008	M2
EFH (C13 - C14)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*73 %*					

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-05 (I_FRA-2 (4-5) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02153	5.0	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*78 %*					
Sample ID: IRL0275-06 (I_FRA-2 (9-10) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02153	5.0	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor		Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-06 (I_FRA-2 (9-10) - Soil) - cont.									
Reporting Units: mg/kg									
Surrogate: n-Octacosane (40-125%)				*83 %*					
Sample ID: IRL0275-09 (I_FRA-3 (4-5) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02153	100	**8100**	20	100	12/2/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02153	70	ND	20	N/A	12/2/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02153	70	ND	20	N/A	12/2/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02153	70	**160**	20	2	12/2/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02153	70	**250**	20	3	12/2/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02153	70	**490**	20	6	12/2/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02153	70	**700**	20	9	12/2/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02153	70	**1000**	20	12	12/2/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02153	70	**720**	20	9	12/2/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02153	70	**1700**	20	21	12/2/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02153	70	**960**	20	12	12/2/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02153	70	**970**	20	12	12/2/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02153	70	**420**	20	5	12/2/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02153	70	**350**	20	4	12/2/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02153	70	**210**	20	3	12/2/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02153	70	ND	20	N/A	12/2/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*1050 %*					*Z3*
Sample ID: IRL0275-10 (I_FRA-3 (9-10) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02153	50	**580**	10	100	12/2/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02153	35	ND	10	N/A	12/2/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02153	35	ND	10	N/A	12/2/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02153	35	ND	10	N/A	12/2/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02153	35	ND	10	N/A	12/2/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02153	35	**35**	10	6	12/2/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02153	35	**55**	10	9	12/2/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02153	35	**78**	10	13	12/2/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02153	35	**48**	10	8	12/2/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02153	35	**100**	10	17	12/2/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02153	35	**81**	10	14	12/2/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02153	35	**56**	10	10	12/2/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02153	35	**41**	10	7	12/2/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02153	35	ND	10	N/A	12/2/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02153	35	ND	10	N/A	12/2/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02153	35	ND	10	N/A	12/2/2008	12/4/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor		Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-10 (I_FRA-3 (9-10) - Soil) - cont.									
Reporting Units: mg/kg									
Surrogate: n-Octacosane (40-125%)				*265 %*					*Z3*
Sample ID: IRL0275-13 (I_ET (4-5) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02153	5.0	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*77 %*					
Sample ID: IRL0275-14 (I_ET (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02153	5.0	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	

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Project Manager

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Northgate Environmental Management
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Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-14 (I_ET (10-11) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C37 - C38)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*54 %*					
Sample ID: IRL0275-15 (I_ET (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02153	25	**350**	5	100	12/2/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02153	17	ND	5	N/A	12/2/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02153	17	ND	5	N/A	12/2/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02153	17	ND	5	N/A	12/2/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02153	17	ND	5	N/A	12/2/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02153	17	ND	5	N/A	12/2/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02153	17	**28**	5	8	12/2/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02153	17	**41**	5	12	12/2/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02153	17	**30**	5	9	12/2/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02153	17	**80**	5	23	12/2/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02153	17	**41**	5	12	12/2/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02153	17	**52**	5	15	12/2/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02153	17	**19**	5	5	12/2/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02153	17	**20**	5	6	12/2/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02153	17	ND	5	N/A	12/2/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02153	17	ND	5	N/A	12/2/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*233 %*					*Z3*
Sample ID: IRL0275-16 (I_24F-1 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02153	100	**16000**	20	100	12/2/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02153	70	ND	20	N/A	12/2/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02153	70	**110**	20	1	12/2/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02153	70	**210**	20	1	12/2/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02153	70	**380**	20	2	12/2/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02153	70	**850**	20	5	12/2/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02153	70	**1400**	20	9	12/2/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02153	70	**2200**	20	14	12/2/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02153	70	**1700**	20	11	12/2/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02153	70	**3500**	20	22	12/2/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02153	70	**2400**	20	15	12/2/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02153	70	**1200**	20	8	12/2/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02153	70	**1200**	20	8	12/2/2008	12/4/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-16 (I_24F-1 (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C37 - C38)	EPA 8015 MOD.	8L02153	70	**620**	20	4	12/2/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02153	70	**200**	20	1	12/2/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02153	70	ND	20	N/A	12/2/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*1440 %*					*Z3*
Sample ID: IRL0275-17 (I_24F-1 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02153	5.0	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02153	3.5	ND	0.999	N/A	12/2/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*77 %*					
Sample ID: IRL0275-18 (I_24F-1 (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02153	5.0	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-18 (I_24F-1 (10-11) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C31 - C32)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
Surrogate: n-Octacosane (40-125%)				*75 %*					
Sample ID: IRL0275-19 (I_24F-2 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02153	100	**15000**	20	100	12/2/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02153	70	ND	20	N/A	12/2/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02153	70	**100**	20	1	12/2/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02153	70	**200**	20	1	12/2/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02153	70	**330**	20	2	12/2/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02153	70	**810**	20	5	12/2/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02153	70	**1400**	20	9	12/2/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02153	70	**2300**	20	15	12/2/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02153	70	**1300**	20	9	12/2/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02153	70	**3100**	20	21	12/2/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02153	70	**1500**	20	10	12/2/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02153	70	**1800**	20	12	12/2/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02153	70	**1300**	20	9	12/2/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02153	70	**660**	20	4	12/2/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02153	70	**330**	20	2	12/2/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02153	70	ND	20	N/A	12/2/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*2080 %*					*Z3*

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-20 (I_24F-2 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02153	5.0	**6.1**	1	100	12/2/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*88 %*					
Sample ID: IRL0275-21 (I_24F-2 (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02153	5.0	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02153	3.5	ND	1	N/A	12/2/2008	12/3/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor		Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-21 (I_24F-2 (10-11) - Soil) - cont.									
Reporting Units: mg/kg									
Surrogate: n-Octacosane (40-125%)				*74 %*					
Sample ID: IRL0275-22 (I_20G (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02153	25	**730**	5	100	12/2/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02153	18	ND	5	N/A	12/2/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02153	18	ND	5	N/A	12/2/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02153	18	ND	5	N/A	12/2/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02153	18	ND	5	N/A	12/2/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02153	18	**39**	5	5	12/2/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02153	18	**65**	5	9	12/2/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02153	18	**90**	5	12	12/2/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02153	18	**61**	5	8	12/2/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02153	18	**140**	5	19	12/2/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02153	18	**110**	5	15	12/2/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02153	18	**89**	5	12	12/2/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02153	18	**57**	5	8	12/2/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02153	18	**32**	5	4	12/2/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02153	18	**18**	5	2	12/2/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02153	18	ND	5	N/A	12/2/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*324 %*					*Z3*
Sample ID: IRL0275-23 (I_20G (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02155	5.0	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-23 (I_20G (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C41 - C44)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*84 %*					
Sample ID: IRL0275-24 (I_20G (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02155	5.0	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*89 %*					
Sample ID: IRL0275-25 (I_19E-1 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02155	200	**21000**	40	100	12/3/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02155	140	ND	40	N/A	12/3/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02155	140	ND	40	N/A	12/3/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02155	140	**260**	40	1	12/3/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02155	140	**450**	40	2	12/3/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02155	140	**1100**	40	5	12/3/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02155	140	**1800**	40	9	12/3/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02155	140	**2700**	40	13	12/3/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02155	140	**1800**	40	9	12/3/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02155	140	**4000**	40	19	12/3/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02155	140	**3300**	40	16	12/3/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02155	140	**2300**	40	11	12/3/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02155	140	**1400**	40	7	12/3/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02155	140	**920**	40	4	12/3/2008	12/4/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-25 (I_19E-1 (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C39 - C40)	EPA 8015 MOD.	8L02155	140	**500**	40	2	12/3/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02155	140	ND	40	N/A	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*3800 %*					*Z3*
Sample ID: IRL0275-26 (I_19E-1 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02155	5.0	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*78 %*					
Sample ID: IRL0275-27 (I_19E-1 (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02155	5.0	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-27 (I_19E-1 (10-11) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C33 - C34)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*82 %*					
Sample ID: IRL0275-28 (I_19E-2 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02155	50	**10000**	10	100	12/3/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02155	35	ND	10	N/A	12/3/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02155	35	**60**	10	1	12/3/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02155	35	**130**	10	1	12/3/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02155	35	**230**	10	2	12/3/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02155	35	**580**	10	6	12/3/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02155	35	**1000**	10	10	12/3/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02155	35	**1500**	10	15	12/3/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02155	35	**1100**	10	11	12/3/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02155	35	**2400**	10	24	12/3/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02155	35	**1400**	10	14	12/3/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02155	35	**990**	10	10	12/3/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02155	35	**330**	10	3	12/3/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02155	35	**400**	10	4	12/3/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02155	35	**190**	10	2	12/3/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02155	35	ND	10	N/A	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*2080 %*					*Z3*
Sample ID: IRL0275-29 (I_19E-2 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02155	5.0	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-29 (I_19E-2 (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C31 - C32)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*91 %*					
Sample ID: IRL0275-30 (I_19E-2 (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02155	5.0	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*79 %*					

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-31 (I_23C (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02155	50	**8500**	10	100	12/3/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02155	35	ND	10	N/A	12/3/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02155	35	**44**	10	1	12/3/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02155	35	**93**	10	1	12/3/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02155	35	**160**	10	2	12/3/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02155	35	**430**	10	5	12/3/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02155	35	**770**	10	9	12/3/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02155	35	**1200**	10	14	12/3/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02155	35	**900**	10	11	12/3/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02155	35	**1400**	10	16	12/3/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02155	35	**1200**	10	14	12/3/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02155	35	**960**	10	11	12/3/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02155	35	**650**	10	8	12/3/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02155	35	**360**	10	4	12/3/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02155	35	**180**	10	2	12/3/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02155	35	ND	10	N/A	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*2100 %*					*Z3*
Sample ID: IRL0275-32 (I_23C (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02155	5.0	**26**	1	100	12/3/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02155	3.5	**3.5**	1	13	12/3/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02155	3.5	**5.3**	1	20	12/3/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02155	3.5	**4.8**	1	18	12/3/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*112 %*					

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0275-33 (I_23C (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L02155	5.0	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L02155	3.5	ND	1	N/A	12/3/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*98 %*					

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

METHOD BLANK/QC DATA

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L02154 Extracted: 12/03/08										
Blank Analyzed: 12/03/2008 (8L02154-BLK1)										
1,1'-Biphenyl	ND	2.0	mg/kg							
1,1'-Oxybisbenzene	ND	2.0	mg/kg							
Surrogate: n-Octacosane	*5.59*		*mg/kg*	*6.67*		*84*	*40-125*			
LCS Analyzed: 12/03/2008 (8L02154-BS1)										
1,1'-Biphenyl	2.42	2.0	mg/kg	3.33		73	50-115			
1,1'-Oxybisbenzene	2.44	2.0	mg/kg	3.33		73	50-115			
Surrogate: n-Octacosane	*6.59*		*mg/kg*	*6.67*		*99*	*40-125*			
Matrix Spike Analyzed: 12/03/2008 (8L02154-MS1)					**Source: IRL0275-06**					
1,1'-Biphenyl	2.29	2.0	mg/kg	3.33	ND	69	35-120			
1,1'-Oxybisbenzene	2.28	2.0	mg/kg	3.33	ND	68	35-120			
Surrogate: n-Octacosane	*6.30*		*mg/kg*	*6.67*		*94*	*40-125*			
Matrix Spike Dup Analyzed: 12/03/2008 (8L02154-MSD1)					**Source: IRL0275-06**					
1,1'-Biphenyl	2.41	2.0	mg/kg	3.33	ND	72	35-120	5	30	
1,1'-Oxybisbenzene	2.39	2.0	mg/kg	3.33	ND	72	35-120	5	30	
Surrogate: n-Octacosane	*6.35*		*mg/kg*	*6.67*		*95*	*40-125*			
Batch: 8L02156 Extracted: 12/03/08										
Blank Analyzed: 12/03/2008 (8L02156-BLK1)										
1,1'-Biphenyl	ND	2.0	mg/kg							
1,1'-Oxybisbenzene	ND	2.0	mg/kg							
Surrogate: n-Octacosane	*5.19*		*mg/kg*	*6.67*		*78*	*40-125*			
LCS Analyzed: 12/03/2008 (8L02156-BS1)										
1,1'-Biphenyl	2.04	2.0	mg/kg	3.33		61	50-115			
1,1'-Oxybisbenzene	2.05	2.0	mg/kg	3.33		62	50-115			
Surrogate: n-Octacosane	*4.87*		*mg/kg*	*6.67*		*73*	*40-125*			

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

METHOD BLANK/QC DATA

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L02156 Extracted: 12/03/08										
Matrix Spike Analyzed: 12/03/2008 (8L02156-MS1)					Source: IRL0275-27					
1,1'-Biphenyl	2.04	2.0	mg/kg	3.33	ND	61	35-120			
1,1'-Oxybisbenzene	2.06	2.0	mg/kg	3.33	ND	62	35-120			
Surrogate: n-Octacosane	*4.88*		*mg/kg*	*6.67*		*73*	*40-125*			
Matrix Spike Dup Analyzed: 12/03/2008 (8L02156-MSD1)					Source: IRL0275-27					
1,1'-Biphenyl	1.75	2.0	mg/kg	3.33	ND	52	35-120	15	30	
1,1'-Oxybisbenzene	1.75	2.0	mg/kg	3.33	ND	53	35-120	16	30	
Surrogate: n-Octacosane	*4.30*		*mg/kg*	*6.67*		*64*	*40-125*			

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METHOD BLANK/QC DATA

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L02153 Extracted: 12/02/08										
Blank Analyzed: 12/03/2008 (8L02153-BLK1)										
EFH (C13 - C44)	ND	5.0	mg/kg							
EFH (C13 - C28)	ND	5.0	mg/kg							
Surrogate: n-Octacosane	*4.66*		*mg/kg*	*6.67*		*70*	*40-125*			
LCS Analyzed: 12/03/2008 (8L02153-BS1)										
EFH (C13 - C28)	16.2	5.0	mg/kg	25.0		65	45-115			
Surrogate: n-Octacosane	*4.91*		*mg/kg*	*6.67*		*74*	*40-125*			
Matrix Spike Analyzed: 12/03/2008 (8L02153-MS1)					Source: IRL0275-02					
EFH (C13 - C44)	17.9	5.0	mg/kg	33.3	7.60	31	40-120			*M2*
Surrogate: n-Octacosane	*4.99*		*mg/kg*	*6.67*		*75*	*40-125*			
Matrix Spike Dup Analyzed: 12/03/2008 (8L02153-MSD1)					Source: IRL0275-02					
EFH (C13 - C44)	21.1	5.0	mg/kg	33.3	7.60	41	40-120	17	30	
Surrogate: n-Octacosane	*5.45*		*mg/kg*	*6.66*		*82*	*40-125*			
Batch: 8L02155 Extracted: 12/02/08										
Blank Analyzed: 12/04/2008 (8L02155-BLK1)										
EFH (C13 - C44)	ND	5.0	mg/kg							
EFH (C13 - C28)	ND	5.0	mg/kg							
Surrogate: n-Octacosane	*6.21*		*mg/kg*	*6.67*		*93*	*40-125*			
LCS Analyzed: 12/04/2008 (8L02155-BS1)										
EFH (C13 - C28)	18.5	5.0	mg/kg	25.0		74	45-115			
Surrogate: n-Octacosane	*5.51*		*mg/kg*	*6.67*		*83*	*40-125*			

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2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

METHOD BLANK/QC DATA

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L02155 Extracted: 12/02/08										
Matrix Spike Analyzed: 12/04/2008 (8L02155-MS1)					**Source: IRL0275-26**					
EFH (C13 - C44)	17.9	5.0	mg/kg	33.3	4.73	40	40-120			
Surrogate: n-Octacosane	*5.22*		*mg/kg*	*6.67*		*78*	*40-125*			
Matrix Spike Dup Analyzed: 12/04/2008 (8L02155-MSD1)					**Source: IRL0275-26**					
EFH (C13 - C44)	18.9	5.0	mg/kg	33.3	4.73	43	40-120	5	30	
Surrogate: n-Octacosane	*5.66*		*mg/kg*	*6.67*		*85*	*40-125*			

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Sampled: 12/02/08
Received: 12/02/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L03016 Extracted: 12/03/08										
Blank Analyzed: 12/03/2008 (8L03016-BLK1)										
Benzene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*47.9*		*ug/kg*	*50.0*		*96*	*75-120*			
Surrogate: Dibromofluoromethane	*52.9*		*ug/kg*	*50.0*		*106*	*80-135*			
Surrogate: Toluene-d8	*48.4*		*ug/kg*	*50.0*		*97*	*80-120*			
LCS Analyzed: 12/03/2008 (8L03016-BS1)										MNR1
Benzene	49.1	2.0	ug/kg	50.0		98	65-120			
Ethylbenzene	48.8	2.0	ug/kg	50.0		98	70-120			
Toluene	48.9	2.0	ug/kg	50.0		98	70-120			
m,p-Xylenes	98.5	2.0	ug/kg	100		98	65-120			
o-Xylene	50.7	2.0	ug/kg	50.0		101	70-125			
Xylenes, Total	149	4.0	ug/kg	150		99	65-125			
Surrogate: 4-Bromofluorobenzene	*47.3*		*ug/kg*	*50.0*		*95*	*75-120*			
Surrogate: Dibromofluoromethane	*49.5*		*ug/kg*	*50.0*		*99*	*80-135*			
Surrogate: Toluene-d8	*49.5*		*ug/kg*	*50.0*		*99*	*80-120*			
LCS Dup Analyzed: 12/03/2008 (8L03016-BSD1)										
Benzene	50.8	2.0	ug/kg	50.0		102	65-120	4	30	
Ethylbenzene	52.5	2.0	ug/kg	50.0		105	70-120	7	30	
Toluene	51.2	2.0	ug/kg	50.0		102	70-120	4	30	
m,p-Xylenes	105	2.0	ug/kg	100		105	65-120	6	30	
o-Xylene	53.6	2.0	ug/kg	50.0		107	70-125	5	30	
Xylenes, Total	158	4.0	ug/kg	150		106	65-125	6	20	
Surrogate: 4-Bromofluorobenzene	*47.0*		*ug/kg*	*50.0*		*94*	*75-120*			
Surrogate: Dibromofluoromethane	*49.0*		*ug/kg*	*50.0*		*98*	*80-135*			
Surrogate: Toluene-d8	*48.3*		*ug/kg*	*50.0*		*97*	*80-120*			

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L03017 Extracted: 12/03/08										
Blank Analyzed: 12/03/2008 (8L03017-BLK1)										
Benzene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*46.6*		*ug/kg*	*50.0*		*93*	*75-120*			
Surrogate: Dibromofluoromethane	*47.7*		*ug/kg*	*50.0*		*95*	*80-135*			
Surrogate: Toluene-d8	*47.1*		*ug/kg*	*50.0*		*94*	*80-120*			
LCS Analyzed: 12/03/2008 (8L03017-BS1)										**MNR1**
Benzene	43.5	2.0	ug/kg	50.0		87	65-120			
Ethylbenzene	46.8	2.0	ug/kg	50.0		94	70-120			
Toluene	44.2	2.0	ug/kg	50.0		88	70-120			
m,p-Xylenes	94.8	2.0	ug/kg	100		95	65-120			
o-Xylene	47.3	2.0	ug/kg	50.0		95	70-125			
Xylenes, Total	142	4.0	ug/kg	150		95	65-125			
Surrogate: 4-Bromofluorobenzene	*47.6*		*ug/kg*	*50.0*		*95*	*75-120*			
Surrogate: Dibromofluoromethane	*48.1*		*ug/kg*	*50.0*		*96*	*80-135*			
Surrogate: Toluene-d8	*47.4*		*ug/kg*	*50.0*		*95*	*80-120*			
LCS Dup Analyzed: 12/03/2008 (8L03017-BSD1)										
Benzene	42.6	2.0	ug/kg	50.0		85	65-120	2	30	
Ethylbenzene	46.0	2.0	ug/kg	50.0		92	70-120	2	30	
Toluene	43.1	2.0	ug/kg	50.0		86	70-120	2	30	
m,p-Xylenes	93.6	2.0	ug/kg	100		94	65-120	1	30	
o-Xylene	46.7	2.0	ug/kg	50.0		93	70-125	1	30	
Xylenes, Total	140	4.0	ug/kg	150		94	65-125	1	20	
Surrogate: 4-Bromofluorobenzene	*47.5*		*ug/kg*	*50.0*		*95*	*75-120*			
Surrogate: Dibromofluoromethane	*49.0*		*ug/kg*	*50.0*		*98*	*80-135*			
Surrogate: Toluene-d8	*47.9*		*ug/kg*	*50.0*		*96*	*80-120*			

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L03034 Extracted: 12/03/08										
Blank Analyzed: 12/03/2008 (8L03034-BLK1)										
Benzene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*47.1*		*ug/kg*	*50.0*		*94*	*75-120*			
Surrogate: Dibromofluoromethane	*50.1*		*ug/kg*	*50.0*		*100*	*80-135*			
Surrogate: Toluene-d8	*48.3*		*ug/kg*	*50.0*		*97*	*80-120*			
LCS Analyzed: 12/03/2008 (8L03034-BS1)										**MNR1**
Benzene	47.2	2.0	ug/kg	50.0		94	65-120			
Ethylbenzene	48.2	2.0	ug/kg	50.0		96	70-120			
Toluene	47.9	2.0	ug/kg	50.0		96	70-120			
m,p-Xylenes	99.8	2.0	ug/kg	100		100	65-120			
o-Xylene	51.8	2.0	ug/kg	50.0		104	70-125			
Xylenes, Total	152	4.0	ug/kg	150		101	65-125			
Surrogate: 4-Bromofluorobenzene	*48.0*		*ug/kg*	*50.0*		*96*	*75-120*			
Surrogate: Dibromofluoromethane	*49.3*		*ug/kg*	*50.0*		*99*	*80-135*			
Surrogate: Toluene-d8	*47.7*		*ug/kg*	*50.0*		*95*	*80-120*			
LCS Dup Analyzed: 12/03/2008 (8L03034-BSD1)										
Benzene	47.1	2.0	ug/kg	50.0		94	65-120	0	30	
Ethylbenzene	47.8	2.0	ug/kg	50.0		96	70-120	1	30	
Toluene	49.9	2.0	ug/kg	50.0		100	70-120	4	30	
m,p-Xylenes	95.8	2.0	ug/kg	100		96	65-120	4	30	
o-Xylene	49.9	2.0	ug/kg	50.0		100	70-125	4	30	
Xylenes, Total	146	4.0	ug/kg	150		97	65-125	4	20	
Surrogate: 4-Bromofluorobenzene	*46.5*		*ug/kg*	*50.0*		*93*	*75-120*			
Surrogate: Dibromofluoromethane	*47.7*		*ug/kg*	*50.0*		*95*	*80-135*			
Surrogate: Toluene-d8	*49.0*		*ug/kg*	*50.0*		*98*	*80-120*			

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Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING
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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L03070 Extracted: 12/03/08										
Blank Analyzed: 12/03/2008 (8L03070-BLK1)										
Acenaphthene	ND	330	ug/kg							
Acenaphthylene	ND	330	ug/kg							
Aniline	ND	420	ug/kg							
Anthracene	ND	330	ug/kg							
Benzidine	ND	660	ug/kg							
Benzo(a)anthracene	ND	330	ug/kg							
Benzo(a)pyrene	ND	330	ug/kg							
Benzo(b)fluoranthene	ND	330	ug/kg							
Benzo(g,h,i)perylene	ND	330	ug/kg							
Benzo(k)fluoranthene	ND	330	ug/kg							
Benzoic acid	ND	830	ug/kg							
Benzyl alcohol	ND	330	ug/kg							
4-Bromophenyl phenyl ether	ND	330	ug/kg							
Butyl benzyl phthalate	ND	330	ug/kg							
4-Chloro-3-methylphenol	ND	330	ug/kg							
4-Chloroaniline	ND	330	ug/kg							
Bis(2-chloroethoxy)methane	ND	330	ug/kg							
Bis(2-chloroethyl)ether	ND	170	ug/kg							
Bis(2-chloroisopropyl)ether	ND	330	ug/kg							
2-Chloronaphthalene	ND	330	ug/kg							
2-Chlorophenol	ND	330	ug/kg							
4-Chlorophenyl phenyl ether	ND	330	ug/kg							
Chrysene	ND	330	ug/kg							
Dibenz(a,h)anthracene	ND	420	ug/kg							
Dibenzofuran	ND	330	ug/kg							
Di-n-butyl phthalate	ND	330	ug/kg							
1,2-Dichlorobenzene	ND	330	ug/kg							
1,3-Dichlorobenzene	ND	330	ug/kg							
1,4-Dichlorobenzene	ND	330	ug/kg							
3,3'-Dichlorobenzidine	ND	830	ug/kg							
2,4-Dichlorophenol	ND	330	ug/kg							
Diethyl phthalate	ND	330	ug/kg							
2,4-Dimethylphenol	ND	330	ug/kg							
Dimethyl phthalate	ND	330	ug/kg							
4,6-Dinitro-2-methylphenol	ND	420	ug/kg							
2,4-Dinitrophenol	ND	660	ug/kg							

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L03070 Extracted: 12/03/08										
Blank Analyzed: 12/03/2008 (8L03070-BLK1)										
2,4-Dinitrotoluene	ND	330	ug/kg							
2,6-Dinitrotoluene	ND	330	ug/kg							
Di-n-octyl phthalate	ND	330	ug/kg							
1,2-Diphenylhydrazine/Azobenzene	ND	330	ug/kg							
Bis(2-ethylhexyl)phthalate	ND	330	ug/kg							
Fluoranthene	ND	330	ug/kg							
Fluorene	ND	330	ug/kg							
Hexachlorobenzene	ND	330	ug/kg							
Hexachlorobutadiene	ND	330	ug/kg							
Hexachlorocyclopentadiene	ND	830	ug/kg							
Hexachloroethane	ND	330	ug/kg							
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg							
Isophorone	ND	330	ug/kg							
2-Methylnaphthalene	ND	330	ug/kg							
2-Methylphenol	ND	330	ug/kg							
4-Methylphenol	ND	330	ug/kg							
Naphthalene	ND	330	ug/kg							
2-Nitroaniline	ND	330	ug/kg							
3-Nitroaniline	ND	330	ug/kg							
4-Nitroaniline	ND	830	ug/kg							
Nitrobenzene	ND	330	ug/kg							
2-Nitrophenol	ND	330	ug/kg							
4-Nitrophenol	ND	830	ug/kg							
N-Nitroso-di-n-propylamine	ND	250	ug/kg							
N-Nitrosodimethylamine	ND	330	ug/kg							
N-Nitrosodiphenylamine	ND	330	ug/kg							
Pentachlorophenol	ND	830	ug/kg							
Phenanthrene	ND	330	ug/kg							
Phenol	ND	330	ug/kg							
Pyrene	ND	330	ug/kg							
1,2,4-Trichlorobenzene	ND	330	ug/kg							
2,4,5-Trichlorophenol	ND	330	ug/kg							
2,4,6-Trichlorophenol	ND	330	ug/kg							
Surrogate: 2,4,6-Tribromophenol	*5290*		*ug/kg*	*6670*		*79*	*35-125*			
Surrogate: 2-Fluorobiphenyl	*2330*		*ug/kg*	*3330*		*70*	*35-120*			
Surrogate: 2-Fluorophenol	*5150*		*ug/kg*	*6670*		*77*	*25-120*			

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L03070 Extracted: 12/03/08										
Blank Analyzed: 12/03/2008 (8L03070-BLK1)										
Surrogate: Nitrobenzene-d5	*2300*		*ug/kg*	*3330*		*69*	*30-120*			
Surrogate: Phenol-d6	*5360*		*ug/kg*	*6670*		*80*	*35-120*			
Surrogate: Terphenyl-d14	*2840*		*ug/kg*	*3330*		*85*	*40-135*			
LCS Analyzed: 12/03/2008 (8L03070-BS1)										
Acenaphthene	2620	330	ug/kg	3330		79	50-120			
Acenaphthylene	2580	330	ug/kg	3330		77	50-120			
Aniline	2320	420	ug/kg	3330		70	25-120			
Anthracene	3010	330	ug/kg	3330		90	55-120			
Benzidine	1870	660	ug/kg	3330		56	20-120			
Benzo(a)anthracene	2730	330	ug/kg	3330		82	55-120			
Benzo(a)pyrene	2780	330	ug/kg	3330		83	50-125			
Benzo(b)fluoranthene	2870	330	ug/kg	3330		86	45-125			
Benzo(g,h,i)perylene	2900	330	ug/kg	3330		87	35-130			
Benzo(k)fluoranthene	3060	330	ug/kg	3330		92	45-125			
Benzoic acid	2500	830	ug/kg	3330		75	20-120			
Benzyl alcohol	2700	330	ug/kg	3330		81	35-120			
4-Bromophenyl phenyl ether	3020	330	ug/kg	3330		91	45-120			
Butyl benzyl phthalate	2930	330	ug/kg	3330		88	50-125			
4-Chloro-3-methylphenol	2940	330	ug/kg	3330		88	50-125			
4-Chloroaniline	1580	330	ug/kg	3330		47	20-120			
Bis(2-chloroethoxy)methane	2500	330	ug/kg	3330		75	45-120			
Bis(2-chloroethyl)ether	2390	170	ug/kg	3330		72	35-120			
Bis(2-chloroisopropyl)ether	2510	330	ug/kg	3330		75	40-120			
2-Chloronaphthalene	2400	330	ug/kg	3330		72	45-120			
2-Chlorophenol	2640	330	ug/kg	3330		79	40-120			
4-Chlorophenyl phenyl ether	2680	330	ug/kg	3330		81	55-120			
Chrysene	2760	330	ug/kg	3330		83	55-120			
Dibenz(a,h)anthracene	2860	420	ug/kg	3330		86	40-135			
Dibenzofuran	2620	330	ug/kg	3330		79	55-120			
Di-n-butyl phthalate	3160	330	ug/kg	3330		95	50-125			
1,2-Dichlorobenzene	2250	330	ug/kg	3330		68	40-120			
1,3-Dichlorobenzene	2150	330	ug/kg	3330		65	35-120			
1,4-Dichlorobenzene	2200	330	ug/kg	3330		66	35-120			
3,3'-Dichlorobenzidine	1880	830	ug/kg	3330		56	20-130			
2,4-Dichlorophenol	2710	330	ug/kg	3330		81	45-120			

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L03070 Extracted: 12/03/08										
LCS Analyzed: 12/03/2008 (8L03070-BS1)										
Diethyl phthalate	2740	330	ug/kg	3330		82	50-125			
2,4-Dimethylphenol	2550	330	ug/kg	3330		76	40-120			
Dimethyl phthalate	2750	330	ug/kg	3330		83	50-125			
4,6-Dinitro-2-methylphenol	2740	420	ug/kg	3330		82	40-120			
2,4-Dinitrophenol	2440	660	ug/kg	3330		73	25-120			
2,4-Dinitrotoluene	2840	330	ug/kg	3330		85	55-125			
2,6-Dinitrotoluene	2790	330	ug/kg	3330		84	55-125			
Di-n-octyl phthalate	3040	330	ug/kg	3330		91	50-135			
1,2-Diphenylhydrazine/Azobenzene	2730	330	ug/kg	3330		82	50-125			
Bis(2-ethylhexyl)phthalate	2900	330	ug/kg	3330		87	50-130			
Fluoranthene	3040	330	ug/kg	3330		91	55-120			
Fluorene	2710	330	ug/kg	3330		81	55-120			
Hexachlorobenzene	2970	330	ug/kg	3330		89	50-120			
Hexachlorobutadiene	2300	330	ug/kg	3330		69	40-120			
Hexachlorocyclopentadiene	2060	830	ug/kg	3330		62	30-125			
Hexachloroethane	2170	330	ug/kg	3330		65	40-120			
Indeno(1,2,3-cd)pyrene	2680	330	ug/kg	3330		80	30-135			
Isophorone	2490	330	ug/kg	3330		75	40-120			
2-Methylnaphthalene	2590	330	ug/kg	3330		78	45-120			
2-Methylphenol	2730	330	ug/kg	3330		82	40-120			
4-Methylphenol	2780	330	ug/kg	3330		83	45-120			
Naphthalene	2410	330	ug/kg	3330		72	45-120			
2-Nitroaniline	2800	330	ug/kg	3330		84	50-125			
3-Nitroaniline	2190	330	ug/kg	3330		66	35-120			
4-Nitroaniline	2790	830	ug/kg	3330		84	45-125			
Nitrobenzene	2420	330	ug/kg	3330		73	45-120			
2-Nitrophenol	2440	330	ug/kg	3330		73	45-120			
4-Nitrophenol	3000	830	ug/kg	3330		90	40-125			
N-Nitroso-di-n-propylamine	2580	250	ug/kg	3330		77	40-120			
N-Nitrosodimethylamine	2030	330	ug/kg	3330		61	25-120			
N-Nitrosodiphenylamine	3070	330	ug/kg	3330		92	50-120			
Pentachlorophenol	3060	830	ug/kg	3330		92	40-120			
Phenanthrene	2950	330	ug/kg	3330		88	50-120			
Phenol	2740	330	ug/kg	3330		82	40-120			
Pyrene	2860	330	ug/kg	3330		86	45-125			
1,2,4-Trichlorobenzene	2300	330	ug/kg	3330		69	40-120			

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L03070 Extracted: 12/03/08										
LCS Analyzed: 12/03/2008 (8L03070-BS1)										
2,4,5-Trichlorophenol	2710	330	ug/kg	3330		81	50-120			
2,4,6-Trichlorophenol	2610	330	ug/kg	3330		78	50-120			
Surrogate: 2,4,6-Tribromophenol	*5600*		*ug/kg*	*6670*		*84*	*35-125*			
Surrogate: 2-Fluorobiphenyl	*2340*		*ug/kg*	*3330*		*70*	*35-120*			
Surrogate: 2-Fluorophenol	*5340*		*ug/kg*	*6670*		*80*	*25-120*			
Surrogate: Nitrobenzene-d5	*2330*		*ug/kg*	*3330*		*70*	*30-120*			
Surrogate: Phenol-d6	*5480*		*ug/kg*	*6670*		*82*	*35-120*			
Surrogate: Terphenyl-d14	*2730*		*ug/kg*	*3330*		*82*	*40-135*			
Matrix Spike Analyzed: 12/03/2008 (8L03070-MS1)					**Source: IRL0275-02**					
Acenaphthene	2750	330	ug/kg	3330	ND	83	45-120			
Acenaphthylene	2670	330	ug/kg	3330	ND	80	45-120			
Aniline	2570	420	ug/kg	3330	ND	77	25-120			
Anthracene	3060	330	ug/kg	3330	ND	92	55-120			
Benzidine	1100	660	ug/kg	3330	ND	33	20-120			
Benzo(a)anthracene	2770	330	ug/kg	3330	ND	83	50-120			
Benzo(a)pyrene	2850	330	ug/kg	3330	ND	86	45-125			
Benzo(b)fluoranthene	2930	330	ug/kg	3330	ND	88	45-125			
Benzo(g,h,i)perylene	3270	330	ug/kg	3330	ND	98	25-130			
Benzo(k)fluoranthene	3070	330	ug/kg	3330	ND	92	45-125			
Benzoic acid	2320	830	ug/kg	3330	387	58	20-120			
Benzyl alcohol	2960	330	ug/kg	3330	ND	89	20-120			
4-Bromophenyl phenyl ether	3110	330	ug/kg	3330	ND	93	45-120			
Butyl benzyl phthalate	2970	330	ug/kg	3330	ND	89	45-125			
4-Chloro-3-methylphenol	3000	330	ug/kg	3330	ND	90	50-125			
4-Chloroaniline	2170	330	ug/kg	3330	ND	65	20-120			
Bis(2-chloroethoxy)methane	2610	330	ug/kg	3330	ND	78	45-120			
Bis(2-chloroethyl)ether	2550	170	ug/kg	3330	ND	76	35-110			
Bis(2-chloroisopropyl)ether	2750	330	ug/kg	3330	ND	83	40-120			
2-Chloronaphthalene	2540	330	ug/kg	3330	ND	76	45-120			
2-Chlorophenol	2870	330	ug/kg	3330	ND	86	40-120			
4-Chlorophenyl phenyl ether	2740	330	ug/kg	3330	ND	82	50-120			
Chrysene	2810	330	ug/kg	3330	ND	84	55-120			
Dibenz(a,h)anthracene	2790	420	ug/kg	3330	ND	84	25-135			
Dibenzofuran	2680	330	ug/kg	3330	ND	80	50-120			
Di-n-butyl phthalate	3140	330	ug/kg	3330	ND	94	50-125			

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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275
Sampled: 12/02/08
Received: 12/02/08

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L03070 Extracted: 12/03/08										
Matrix Spike Analyzed: 12/03/2008 (8L03070-MS1)					**Source: IRL0275-02**					
1,2-Dichlorobenzene	2400	330	ug/kg	3330	ND	72	40-120			
1,3-Dichlorobenzene	2260	330	ug/kg	3330	ND	68	35-120			
1,4-Dichlorobenzene	2320	330	ug/kg	3330	ND	70	35-120			
3,3'-Dichlorobenzidine	2360	830	ug/kg	3330	ND	71	20-130			
2,4-Dichlorophenol	2850	330	ug/kg	3330	ND	85	45-120			
Diethyl phthalate	2740	330	ug/kg	3330	ND	82	50-125			
2,4-Dimethylphenol	2740	330	ug/kg	3330	ND	82	30-120			
Dimethyl phthalate	2790	330	ug/kg	3330	ND	84	45-125			
4,6-Dinitro-2-methylphenol	2640	420	ug/kg	3330	ND	79	35-120			
2,4-Dinitrophenol	2360	660	ug/kg	3330	ND	71	20-120			
2,4-Dinitrotoluene	2810	330	ug/kg	3330	ND	84	50-125			
2,6-Dinitrotoluene	2840	330	ug/kg	3330	ND	85	50-125			
Di-n-octyl phthalate	3120	330	ug/kg	3330	ND	94	50-135			
1,2-Diphenylhydrazine/Azobenzene	2730	330	ug/kg	3330	ND	82	50-125			
Bis(2-ethylhexyl)phthalate	2970	330	ug/kg	3330	ND	89	45-130			
Fluoranthene	3040	330	ug/kg	3330	ND	91	45-120			
Fluorene	2780	330	ug/kg	3330	ND	83	50-120			
Hexachlorobenzene	3040	330	ug/kg	3330	ND	91	50-120			
Hexachlorobutadiene	2390	330	ug/kg	3330	ND	72	40-120			
Hexachlorocyclopentadiene	2170	830	ug/kg	3330	ND	65	20-125			
Hexachloroethane	2300	330	ug/kg	3330	ND	69	35-120			
Indeno(1,2,3-cd)pyrene	2760	330	ug/kg	3330	ND	83	20-130			
Isophorone	2610	330	ug/kg	3330	ND	78	40-120			
2-Methylnaphthalene	2830	330	ug/kg	3330	ND	85	40-120			
2-Methylphenol	2960	330	ug/kg	3330	ND	89	40-120			
4-Methylphenol	3040	330	ug/kg	3330	ND	91	45-120			
Naphthalene	2590	330	ug/kg	3330	ND	78	40-120			
2-Nitroaniline	2890	330	ug/kg	3330	ND	87	45-120			
3-Nitroaniline	2550	330	ug/kg	3330	ND	76	30-120			
4-Nitroaniline	2770	830	ug/kg	3330	ND	83	40-125			
Nitrobenzene	2560	330	ug/kg	3330	ND	77	40-120			
2-Nitrophenol	2600	330	ug/kg	3330	ND	78	40-120			
4-Nitrophenol	3010	830	ug/kg	3330	ND	90	35-125			
N-Nitroso-di-n-propylamine	2800	250	ug/kg	3330	ND	84	35-120			
N-Nitrosodimethylamine	2190	330	ug/kg	3330	ND	66	25-125			
N-Nitrosodiphenylamine	3160	330	ug/kg	3330	ND	95	45-125			

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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L03070 Extracted: 12/03/08										
Matrix Spike Analyzed: 12/03/2008 (8L03070-MS1)					**Source: IRL0275-02**					
Pentachlorophenol	3050	830	ug/kg	3330	ND	92	30-120			
Phenanthrene	3050	330	ug/kg	3330	ND	92	50-120			
Phenol	2980	330	ug/kg	3330	ND	90	40-120			
Pyrene	2960	330	ug/kg	3330	ND	89	40-125			
1,2,4-Trichlorobenzene	2400	330	ug/kg	3330	ND	72	40-120			
2,4,5-Trichlorophenol	2800	330	ug/kg	3330	ND	84	45-120			
2,4,6-Trichlorophenol	2740	330	ug/kg	3330	ND	82	45-120			
Surrogate: 2,4,6-Tribromophenol	*5760*		*ug/kg*	*6670*		*86*	*35-125*			
Surrogate: 2-Fluorobiphenyl	*2460*		*ug/kg*	*3330*		*74*	*35-120*			
Surrogate: 2-Fluorophenol	*5700*		*ug/kg*	*6670*		*86*	*25-120*			
Surrogate: Nitrobenzene-d5	*2450*		*ug/kg*	*3330*		*73*	*30-120*			
Surrogate: Phenol-d6	*5920*		*ug/kg*	*6670*		*89*	*35-120*			
Surrogate: Terphenyl-d14	*2810*		*ug/kg*	*3330*		*84*	*40-135*			
Matrix Spike Dup Analyzed: 12/03/2008 (8L03070-MSD1)					**Source: IRL0275-02**					
Acenaphthene	2720	330	ug/kg	3330	ND	82	45-120	1	25	
Acenaphthylene	2690	330	ug/kg	3330	ND	81	45-120	1	20	
Aniline	2440	420	ug/kg	3330	ND	73	25-120	5	30	
Anthracene	3080	330	ug/kg	3330	ND	92	55-120	1	25	
Benzidine	ND	660	ug/kg	3330	ND		20-120		30	*M2*
Benzo(a)anthracene	2770	330	ug/kg	3330	ND	83	50-120	0	25	
Benzo(a)pyrene	2850	330	ug/kg	3330	ND	86	45-125	0	25	
Benzo(b)fluoranthene	2960	330	ug/kg	3330	ND	89	45-125	1	30	
Benzo(g,h,i)perylene	3310	330	ug/kg	3330	ND	99	25-130	1	30	
Benzo(k)fluoranthene	3080	330	ug/kg	3330	ND	92	45-125	0	30	
Benzoic acid	2230	830	ug/kg	3330	387	55	20-120	4	30	
Benzyl alcohol	2930	330	ug/kg	3330	ND	88	20-120	1	30	
4-Bromophenyl phenyl ether	3190	330	ug/kg	3330	ND	96	45-120	3	20	
Butyl benzyl phthalate	3020	330	ug/kg	3330	ND	91	45-125	2	25	
4-Chloro-3-methylphenol	3040	330	ug/kg	3330	ND	91	50-125	1	25	
4-Chloroaniline	1970	330	ug/kg	3330	ND	59	20-120	10	30	
Bis(2-chloroethoxy)methane	2630	330	ug/kg	3330	ND	79	45-120	1	25	
Bis(2-chloroethyl)ether	2540	170	ug/kg	3330	ND	76	35-110	0	25	
Bis(2-chloroisopropyl)ether	2710	330	ug/kg	3330	ND	81	40-120	1	25	
2-Chloronaphthalene	2550	330	ug/kg	3330	ND	77	45-120	1	20	
2-Chlorophenol	2820	330	ug/kg	3330	ND	85	40-120	2	20	

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Patty Mata
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING
17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L03070 Extracted: 12/03/08										
Matrix Spike Dup Analyzed: 12/03/2008 (8L03070-MSD1)					**Source: IRL0275-02**					
4-Chlorophenyl phenyl ether	2820	330	ug/kg	3330	ND	85	50-120	3	25	
Chrysene	2780	330	ug/kg	3330	ND	84	55-120	1	25	
Dibenz(a,h)anthracene	2720	420	ug/kg	3330	ND	82	25-135	2	30	
Dibenzofuran	2710	330	ug/kg	3330	ND	81	50-120	1	25	
Di-n-butyl phthalate	3240	330	ug/kg	3330	ND	97	50-125	3	25	
1,2-Dichlorobenzene	2390	330	ug/kg	3330	ND	72	40-120	1	25	
1,3-Dichlorobenzene	2230	330	ug/kg	3330	ND	67	35-120	2	25	
1,4-Dichlorobenzene	2280	330	ug/kg	3330	ND	68	35-120	2	25	
3,3'-Dichlorobenzidine	2150	830	ug/kg	3330	ND	65	20-130	9	25	
2,4-Dichlorophenol	2870	330	ug/kg	3330	ND	86	45-120	1	25	
Diethyl phthalate	2770	330	ug/kg	3330	ND	83	50-125	1	25	
2,4-Dimethylphenol	2730	330	ug/kg	3330	ND	82	30-120	1	25	
Dimethyl phthalate	2810	330	ug/kg	3330	ND	84	45-125	1	25	
4,6-Dinitro-2-methylphenol	2720	420	ug/kg	3330	ND	82	35-120	3	25	
2,4-Dinitrophenol	2370	660	ug/kg	3330	ND	71	20-120	1	25	
2,4-Dinitrotoluene	2880	330	ug/kg	3330	ND	86	50-125	2	25	
2,6-Dinitrotoluene	2880	330	ug/kg	3330	ND	86	50-125	1	20	
Di-n-octyl phthalate	3230	330	ug/kg	3330	ND	97	50-135	3	25	
1,2-Diphenylhydrazine/Azobenzene	2800	330	ug/kg	3330	ND	84	50-125	3	25	
Bis(2-ethylhexyl)phthalate	3060	330	ug/kg	3330	ND	92	45-130	3	25	
Fluoranthene	3080	330	ug/kg	3330	ND	92	45-120	1	25	
Fluorene	2810	330	ug/kg	3330	ND	84	50-120	1	25	
Hexachlorobenzene	3130	330	ug/kg	3330	ND	94	50-120	3	25	
Hexachlorobutadiene	2380	330	ug/kg	3330	ND	72	40-120	0	25	
Hexachlorocyclopentadiene	2090	830	ug/kg	3330	ND	63	20-125	4	30	
Hexachloroethane	2250	330	ug/kg	3330	ND	68	35-120	2	30	
Indeno(1,2,3-cd)pyrene	2700	330	ug/kg	3330	ND	81	20-130	2	30	
Isophorone	2620	330	ug/kg	3330	ND	79	40-120	0	25	
2-Methylnaphthalene	2730	330	ug/kg	3330	ND	82	40-120	4	20	
2-Methylphenol	2930	330	ug/kg	3330	ND	88	40-120	1	25	
4-Methylphenol	3040	330	ug/kg	3330	ND	91	45-120	0	25	
Naphthalene	2500	330	ug/kg	3330	ND	75	40-120	3	25	
2-Nitroaniline	2920	330	ug/kg	3330	ND	88	45-120	1	25	
3-Nitroaniline	2410	330	ug/kg	3330	ND	72	30-120	5	25	
4-Nitroaniline	2720	830	ug/kg	3330	ND	81	40-125	2	30	
Nitrobenzene	2540	330	ug/kg	3330	ND	76	40-120	1	25	

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Patty Mata
Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L03070 Extracted: 12/03/08										
Matrix Spike Dup Analyzed: 12/03/2008 (8L03070-MSD1)					**Source: IRL0275-02**					
2-Nitrophenol	2600	330	ug/kg	3330	ND	78	40-120	0	25	
4-Nitrophenol	2980	830	ug/kg	3330	ND	89	35-125	1	30	
N-Nitroso-di-n-propylamine	2810	250	ug/kg	3330	ND	84	35-120	0	25	
N-Nitrosodimethylamine	2140	330	ug/kg	3330	ND	64	25-125	2	25	
N-Nitrosodiphenylamine	3190	330	ug/kg	3330	ND	96	45-125	1	25	
Pentachlorophenol	3090	830	ug/kg	3330	ND	93	30-120	1	25	
Phenanthrene	3050	330	ug/kg	3330	ND	91	50-120	0	25	
Phenol	2940	330	ug/kg	3330	ND	88	40-120	1	25	
Pyrene	2970	330	ug/kg	3330	ND	89	40-125	0	30	
1,2,4-Trichlorobenzene	2400	330	ug/kg	3330	ND	72	40-120	0	25	
2,4,5-Trichlorophenol	2830	330	ug/kg	3330	ND	85	45-120	1	20	
2,4,6-Trichlorophenol	2740	330	ug/kg	3330	ND	82	45-120	0	25	
Surrogate: 2,4,6-Tribromophenol	*5860*		*ug/kg*	*6670*		*88*	*35-125*			
Surrogate: 2-Fluorobiphenyl	*2450*		*ug/kg*	*3330*		*73*	*35-120*			
Surrogate: 2-Fluorophenol	*5590*		*ug/kg*	*6670*		*84*	*25-120*			
Surrogate: Nitrobenzene-d5	*2430*		*ug/kg*	*3330*		*73*	*30-120*			
Surrogate: Phenol-d6	*5800*		*ug/kg*	*6670*		*87*	*35-120*			
Surrogate: Terphenyl-d14	*2830*		*ug/kg*	*3330*		*85*	*40-135*			

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Patty Mata
Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

DATA QUALIFIERS AND DEFINITIONS

M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
MNR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
RL2	Reporting limit raised due to high concentrations of hydrocarbons.
Z	Due to sample matrix effects, the surrogate recovery was below the acceptance limits.
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
Z9	Unable to calculate surrogate recovery due to matrix interference.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 1,2-Diphenylhydrazine:

The result for 1,2-Diphenylhydrazine is based upon the reading of its breakdown product, Azobenzene.

For Hydrocarbon Distribution Analyses:

The reporting limits for the individual carbon distribution ranges are derived by proportioning the individual ranges relative to the total carbon range, not to fall below the method detection limit of the total range.

For Extractable Fuel Hydrocarbons (EFH, DRO, ORO) :

Unless otherwise noted, Extractable Fuel Hydrocarbons (EFH, DRO, ORO) are quantitated against a Diesel Fuel Standard.

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Patty Mata
Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0275

Sampled: 12/02/08
Received: 12/02/08

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 8015 MOD.	Soil	X	X
EPA 8260B	Soil	X	X
EPA 8270C	Soil	X	X
None	Soil		

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Irvine

Patty Mata
Project Manager

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2620 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY FORM

IRL0275 Page 1 of 3

TAL-5013(1007)

Client Name/Address: Northgate Environmental Mgmt 1100 Quail #102 Newport Beach
Project Manager: Derrick Willis
Sampler: Dana Brown
Project/PO Number: 2024.01
Phone Number: (949) 375-7004
Fax Number (949) 315-3365

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Analysis Required: BTEX	TPH (GC-FID)	SVOCs	diphenyl/benzidine/hydrazine			Special Instructions
I-FRA-1 (4-5)	S	1-T+3-V	4	12-2-08	08:10		A	A	A	A			FAX COC to Derrick Willis upon Reception.
I-FRA-1 (9-10)	S				08:30		A	A	A	A			
I-FRA-1 (14-15)					08:36		H	H	H	H			
I-FRA-1 (19-20)					08:42		H	H	H	H			
I-FRA-2 (4-5)					09:31		A	A		A			
I-FRA-2 (9-10)					09:35		A	A		A			
I-FRA-2 (14-15)					09:42		A	A		A			
I-FRA-2 (19-20)					09:48		A	A		A			
I-FRA-3 (4-5)					10:17		A	A		A			
I-FRA-3 (9-10)					10:52		A	A		A			
I-FRA-3 (14-15)					11:14		A	A		A			
I-FRA-3 (19-20)					11:20		A	A		A			
I-ET (4-5)					12:10		A	A		A			
I-ET (10-11)					12:48		A	A		A			

Relinquished By: Date/Time: 12-2-08 17:00 — Received By: Date/Time: 12-2-08 1700
Relinquished By: Date/Time: 12-2-08 1915 — Received By: Date/Time:
Relinquished By: Date/Time: — Received in Lab By: Date/Time: 12/2/08 6:15

Turnaround Time: (Check) same day ___ 72 hours ___ 24 hours ___ 5 days ___ 48 hours X normal ___
Sample Integrity: (Check) Intact X on ice X 3/4.3°

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY FORM

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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

TAL-0013(1007)

Client Name/Address: Northgate Environmental Mgmt 1100 Quail, #102 Newport Beach, CA

Project/PO Number: 2024.01

Project Manager: Derrick Willis

Phone Number: (949) 375-7004

Sampler: Dana Brown

Fax Number: (949) 315-3365

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	BTEX	TPH (C15-C36)	diphenyloxide/ diphenyl	Special Instructions
I_ET (0-1)	Soil	1-T+3V	4	12-2-08	12:35		A	A	A	FAX COC TO Derrick Willis ON reception
I_24F-1 (0-1)					13:31		A	A	A	
I_24F-1 (5-6)					13:33		A	A	A	
I_24F-1 (10-11)					13:35		A	A	A	
I_24F-2 (0-1)					13:40		A	A	A	
I_24F-2 (5-6)					13:45		A	A	A	
I_24F-2 (10-11)					13:50		A	A	A	
I_20G (0-1)					14:27		A	A	A	
I_20G (5-6)					14:32		A	A	A	
I_20G (10-11)					14:34		A	A	A	
I_19E-1 (0-1)					15:11		A	A	A	
I_19E-1 (5-6)					15:12		A	A	A	
I-19E-1 (10-11)					15:14		A	A	A	
I-19E-2 (0-1)					15:24		A	A	A	

Relinquished By: 12/2/08 Date/Time: 17:00 — Received By: Date/Time: 12-2-08 1700

Relinquished By: Date/Time: 12-2-08 1915 — Received By: Date/Time:

Relinquished By: Date/Time: — Received in Lab By: Date/Time: 12/2/08 1915

Turnaround Time: (Check) same day ____ 72 hours ____ 24 hours ____ 5 days ____ 48 hours X normal ____

Sample Integrity: (Check) Intact X on ice C 3/4.5

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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CHAIN OF CUSTODY FORM

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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

TAL-0013(1007)

Client Name/Address: Northgate Environmental Management 1100 Quail #102, Newport Beach

Project/PO Number: 2024.01

Project Manager: Derrick Willis

Phone Number: (949) 375-7004

Sampler: Dana R. Brown

Fax Number: (949) 315-3365

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	BTEX	TPH (C15-C36)	diphenyloxide/ diphenyl	Special Instructions
I_19E-2 (5-6)	Soil	1-T+3V	4	12-2-08	15:23		A	A	A	FAX COC TO Derrick Willis upon reception
I-19E-2 (10-11)					15:28		A	A	A	
I_23C (0-1)					16:13		A	A	A	
I_23C (5-6)					16:16		A	A	A	
I_23C (10-11)					16:19		A	A	A	
TB-120208	Water	3-V	3	12-2-08	16:20		H	H	H	

Relinquished By: 12/2/08 Date/Time: 17:00 — Received By: Date/Time: 12-2-08 17:00

Relinquished By: Date/Time: 12-2-08 1915 — Received By: Date/Time:

Relinquished By: Date/Time: — Received in Lab By: Date/Time: 12/2/08 1915

Turnaround Time: (Check) same day ____ 72 hours ____ 24 hours ____ 5 days ____ 48 hours X normal ____

Sample Integrity: (Check) Intact X on ice C 3/4.5

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

LABORATORY REPORT

Prepared For: Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project: Solar Energy Generating System
2024.01.01S-01

Sampled: 12/03/08
Received: 12/03/08
Issued: 12/08/08 09:02

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 6 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

LABORATORY ID	CLIENT ID	MATRIX
IRL0459-01	I_23 B/C (0-1)	Soil
IRL0459-02	I_23 B/C (5-6)	Soil
IRL0459-03	I_23 B/C (10-11)	Soil
IRL0459-04	I_23 B (0-1)	Soil
IRL0459-05	I_23 B (5-6)	Soil
IRL0459-06	I_23 B (10-11)	Soil
IRL0459-07	I_36 B (0-1)	Soil
IRL0459-08	I_36 B (5-6)	Soil
IRL0459-09	I_36 B (10-11)	Soil
IRL0459-10	I_73D (0-1)	Soil
IRL0459-11	I_73D (5-6)	Soil
IRL0459-12	I_73D (10-11)	Soil
IRL0459-13	I_73D (15-16)	Soil
IRL0459-14	I_81E (0-1)	Soil
IRL0459-15	I_81E (5-6)	Soil
IRL0459-16	I_81E (10-11)	Soil
IRL0459-17	I_55E (0-1)	Soil
IRL0459-18	I_55E (5-6)	Soil
IRL0459-19	I_55E (10-11)	Soil
IRL0459-20	EY-1 (0-1)	Soil
IRL0459-21	EY-1 (5-6)	Soil
IRL0459-22	EY-2 (0-1)	Soil
IRL0459-23	EY-2 (5-6)	Soil

TestAmerica Irvine

Aaron Harris For Patty Mata
Project Manager

TestAmerica
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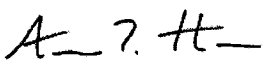
Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

LABORATORY ID	CLIENT ID	MATRIX
IRL0459-24	EY-3 (0-1)	Soil
IRL0459-25	EY-3 (5-6)	Soil
IRL0459-26	EY-4 (0-1)	Soil
IRL0459-27	EY-4 (5-6)	Soil
IRL0459-28	EY-5 (0-1)	Soil
IRL0459-29	EY-5 (5-6)	Soil
IRL0459-30	II_87T (0-1)	Soil
IRL0459-31	II_87T (5-6)	Soil
IRL0459-32	II_40K (0-1)	Soil
IRL0459-33	II_40K (5-6)	Soil
IRL0459-34	II_40K (10-11)	Soil
IRL0459-35	TB-120308	Soil

Reviewed By:



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Aaron Harris For Patty Mata
Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

EXTRACTABLE FUEL HYDROCARBONS (CADHS/8015 Modified)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-22 (EY-2 (0-1) - Soil)								
Reporting Units: mg/kg								
EFH (C13 - C22)	EPA 8015 MOD.	8L04027	100	**1600**	20	12/4/2008	12/5/2008	
EFH (C13 - C40)	EPA 8015 MOD.	8L04027	100	**13000**	20	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*1850 %*				*Z3*
Sample ID: IRL0459-23 (EY-2 (5-6) - Soil)								
Reporting Units: mg/kg								
EFH (C13 - C22)	EPA 8015 MOD.	8L04027	5.0	ND	1	12/4/2008	12/5/2008	
EFH (C13 - C40)	EPA 8015 MOD.	8L04027	5.0	ND	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*73 %*				
Sample ID: IRL0459-26 (EY-4 (0-1) - Soil)								
Reporting Units: mg/kg								
EFH (C13 - C22)	EPA 8015 MOD.	8L04027	5.0	**100**	1	12/4/2008	12/5/2008	
EFH (C13 - C40)	EPA 8015 MOD.	8L04027	5.0	**140**	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*111 %*				
Sample ID: IRL0459-27 (EY-4 (5-6) - Soil)								
Reporting Units: mg/kg								
EFH (C13 - C22)	EPA 8015 MOD.	8L04027	5.0	ND	1	12/4/2008	12/5/2008	
EFH (C13 - C40)	EPA 8015 MOD.	8L04027	5.0	ND	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*89 %*				
Sample ID: IRL0459-28 (EY-5 (0-1) - Soil)								
Reporting Units: mg/kg								
EFH (C13 - C22)	EPA 8015 MOD.	8L04027	620	**3400**	125	12/4/2008	12/5/2008	
EFH (C13 - C40)	EPA 8015 MOD.	8L04027	620	**21000**	125	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*2300 %*				*Z3*
Sample ID: IRL0459-29 (EY-5 (5-6) - Soil)								
Reporting Units: mg/kg								
EFH (C13 - C22)	EPA 8015 MOD.	8L04027	5.0	ND	1	12/4/2008	12/5/2008	
EFH (C13 - C40)	EPA 8015 MOD.	8L04027	5.0	**9.4**	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*78 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-01 (I_23 B/C (0-1) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	10	ND	5	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	10	ND	5	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*				*Z3*
Sample ID: IRL0459-02 (I_23 B/C (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*83 %*				
Sample ID: IRL0459-03 (I_23 B/C (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*85 %*				
Sample ID: IRL0459-04 (I_23 B (0-1) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	10	ND	5	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	10	ND	5	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*				*Z3*
Sample ID: IRL0459-05 (I_23 B (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*92 %*				
Sample ID: IRL0459-06 (I_23 B (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*99 %*				
Sample ID: IRL0459-07 (I_36 B (0-1) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	100	ND	50	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	100	ND	50	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*813 %*				*Z3*

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2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-08 (I_36 B (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
Surrogate: n-Octacasane (40-125%)				*102 %*				
Sample ID: IRL0459-09 (I_36 B (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*88 %*				
Sample ID: IRL0459-10 (I_73D (0-1) - Soil)								RL2
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	100	ND	50	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	100	ND	50	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*432 %*				*Z3*
Sample ID: IRL0459-11 (I_73D (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*88 %*				
Sample ID: IRL0459-12 (I_73D (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*83 %*				
Sample ID: IRL0459-13 (I_73D (15-16) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*102 %*				
Sample ID: IRL0459-14 (I_81E (0-1) - Soil)								RL2
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	10	ND	5	12/4/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	10	ND	5	12/4/2008	12/4/2008	M1
Surrogate: n-Octacosane (40-125%)				*123 %*				*Z3*

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2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-15 (I_81E (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*71 %*				
Sample ID: IRL0459-16 (I_81E (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*95 %*				
Sample ID: IRL0459-17 (I_55E (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*99 %*				
Sample ID: IRL0459-18 (I_55E (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*100 %*				
Sample ID: IRL0459-19 (I_55E (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*97 %*				
Sample ID: IRL0459-20 (EY-1 (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04029	40	ND	20	12/4/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04029	40	**110**	20	12/4/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*106 %*				*Z3*
Sample ID: IRL0459-21 (EY-1 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*81 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-22 (EY-2 (0-1) - Soil)								RL2
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04029	20	ND	10	12/4/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04029	20	ND	10	12/4/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*				Z3
Sample ID: IRL0459-23 (EY-2 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*88 %*				
Sample ID: IRL0459-24 (EY-3 (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*89 %*				
Sample ID: IRL0459-25 (EY-3 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*76 %*				
Sample ID: IRL0459-26 (EY-4 (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*66 %*				
Sample ID: IRL0459-27 (EY-4 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*79 %*				
Sample ID: IRL0459-28 (EY-5 (0-1) - Soil)								RL2
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04029	50	ND	25	12/4/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04029	50	ND	25	12/4/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*				Z3

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Sampled: 12/03/08
Received: 12/03/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-29 (EY-5 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*83 %*				
Sample ID: IRL0459-30 (II_87T (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04084	2.0	ND	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*91 %*				
Sample ID: IRL0459-31 (II_87T (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*70 %*				
Sample ID: IRL0459-32 (II_40K (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04029	2.0	5.1	1	12/4/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*81 %*				
Sample ID: IRL0459-33 (II_40K (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*82 %*				
Sample ID: IRL0459-34 (II_40K (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L04029	2.0	ND	1	12/4/2008	12/4/2008	
Surrogate: n-Octacosane (40-125%)				*71 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

VOLATILE HYDROCARBON DISTRIBUTION (EPA 8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-22 (EY-2 (0-1) - Soil)								
Reporting Units: mg/kg								
C4-C5	EPA 8015B MOD	8L04113	0.059	ND	0.978	12/4/2008	12/4/2008	
GRO (C4 - C12)	EPA 8015B MOD	8L04113	0.39	ND	0.978	12/4/2008	12/4/2008	
C6	EPA 8015B MOD	8L04113	0.059	ND	0.978	12/4/2008	12/4/2008	
C7	EPA 8015B MOD	8L04113	0.059	ND	0.978	12/4/2008	12/4/2008	
C8	EPA 8015B MOD	8L04113	0.059	ND	0.978	12/4/2008	12/4/2008	
C9	EPA 8015B MOD	8L04113	0.059	ND	0.978	12/4/2008	12/4/2008	
C10	EPA 8015B MOD	8L04113	0.059	ND	0.978	12/4/2008	12/4/2008	
C11	EPA 8015B MOD	8L04113	0.059	ND	0.978	12/4/2008	12/4/2008	
C12	EPA 8015B MOD	8L04113	0.059	ND	0.978	12/4/2008	12/4/2008	
Surrogate: 4-BFB (FID) (65-140%)				*99 %*				
Sample ID: IRL0459-23 (EY-2 (5-6) - Soil)								
Reporting Units: mg/kg								
C4-C5	EPA 8015B MOD	8L04113	0.063	ND	1.06	12/4/2008	12/4/2008	
GRO (C4 - C12)	EPA 8015B MOD	8L04113	0.42	ND	1.06	12/4/2008	12/4/2008	
C6	EPA 8015B MOD	8L04113	0.063	ND	1.06	12/4/2008	12/4/2008	
C7	EPA 8015B MOD	8L04113	0.063	ND	1.06	12/4/2008	12/4/2008	
C8	EPA 8015B MOD	8L04113	0.063	ND	1.06	12/4/2008	12/4/2008	
C9	EPA 8015B MOD	8L04113	0.063	ND	1.06	12/4/2008	12/4/2008	
C10	EPA 8015B MOD	8L04113	0.063	ND	1.06	12/4/2008	12/4/2008	
C11	EPA 8015B MOD	8L04113	0.063	ND	1.06	12/4/2008	12/4/2008	
C12	EPA 8015B MOD	8L04113	0.063	ND	1.06	12/4/2008	12/4/2008	
Surrogate: 4-BFB (FID) (65-140%)				*109 %*				
Sample ID: IRL0459-26 (EY-4 (0-1) - Soil)								
Reporting Units: mg/kg								
C4-C5	EPA 8015B MOD	8L04113	0.054	ND	0.894	12/4/2008	12/4/2008	
GRO (C4 - C12)	EPA 8015B MOD	8L04113	0.36	ND	0.894	12/4/2008	12/4/2008	
C6	EPA 8015B MOD	8L04113	0.054	ND	0.894	12/4/2008	12/4/2008	
C7	EPA 8015B MOD	8L04113	0.054	ND	0.894	12/4/2008	12/4/2008	
C8	EPA 8015B MOD	8L04113	0.054	ND	0.894	12/4/2008	12/4/2008	
C9	EPA 8015B MOD	8L04113	0.054	ND	0.894	12/4/2008	12/4/2008	
C10	EPA 8015B MOD	8L04113	0.054	ND	0.894	12/4/2008	12/4/2008	
C11	EPA 8015B MOD	8L04113	0.054	ND	0.894	12/4/2008	12/4/2008	
C12	EPA 8015B MOD	8L04113	0.054	ND	0.894	12/4/2008	12/4/2008	
Surrogate: 4-BFB (FID) (65-140%)				*111 %*				

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Northgate Environmental Management
1100 Quail Street Suite 102
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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

VOLATILE HYDROCARBON DISTRIBUTION (EPA 8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-27 (EY-4 (5-6) - Soil)								
Reporting Units: mg/kg								
C4-C5	EPA 8015B MOD	8L04113	0.067	ND	1.12	12/4/2008	12/4/2008	
GRO (C4 - C12)	EPA 8015B MOD	8L04113	0.45	ND	1.12	12/4/2008	12/4/2008	
C6	EPA 8015B MOD	8L04113	0.067	ND	1.12	12/4/2008	12/4/2008	
C7	EPA 8015B MOD	8L04113	0.067	ND	1.12	12/4/2008	12/4/2008	
C8	EPA 8015B MOD	8L04113	0.067	ND	1.12	12/4/2008	12/4/2008	
C9	EPA 8015B MOD	8L04113	0.067	ND	1.12	12/4/2008	12/4/2008	
C10	EPA 8015B MOD	8L04113	0.067	ND	1.12	12/4/2008	12/4/2008	
C11	EPA 8015B MOD	8L04113	0.067	ND	1.12	12/4/2008	12/4/2008	
C12	EPA 8015B MOD	8L04113	0.067	ND	1.12	12/4/2008	12/4/2008	
Surrogate: 4-BFB (FID) (65-140%)				*109 %*				
Sample ID: IRL0459-28 (EY-5 (0-1) - Soil)								
Reporting Units: mg/kg								
C4-C5	EPA 8015B MOD	8L06001	0.051	ND	0.858	12/6/2008	12/6/2008	
GRO (C4 - C12)	EPA 8015B MOD	8L06001	0.34	ND	0.858	12/6/2008	12/6/2008	
C6	EPA 8015B MOD	8L06001	0.051	ND	0.858	12/6/2008	12/6/2008	
C7	EPA 8015B MOD	8L06001	0.051	ND	0.858	12/6/2008	12/6/2008	
C8	EPA 8015B MOD	8L06001	0.051	ND	0.858	12/6/2008	12/6/2008	
C9	EPA 8015B MOD	8L06001	0.051	ND	0.858	12/6/2008	12/6/2008	
C10	EPA 8015B MOD	8L06001	0.051	ND	0.858	12/6/2008	12/6/2008	
C11	EPA 8015B MOD	8L06001	0.051	ND	0.858	12/6/2008	12/6/2008	
C12	EPA 8015B MOD	8L06001	0.051	ND	0.858	12/6/2008	12/6/2008	
Surrogate: 4-BFB (FID) (65-140%)				*103 %*				
Sample ID: IRL0459-29 (EY-5 (5-6) - Soil)								
Reporting Units: mg/kg								
C4-C5	EPA 8015B MOD	8L06001	0.048	ND	0.8	12/6/2008	12/6/2008	
GRO (C4 - C12)	EPA 8015B MOD	8L06001	0.32	ND	0.8	12/6/2008	12/6/2008	
C6	EPA 8015B MOD	8L06001	0.048	ND	0.8	12/6/2008	12/6/2008	
C7	EPA 8015B MOD	8L06001	0.048	ND	0.8	12/6/2008	12/6/2008	
C8	EPA 8015B MOD	8L06001	0.048	ND	0.8	12/6/2008	12/6/2008	
C9	EPA 8015B MOD	8L06001	0.048	ND	0.8	12/6/2008	12/6/2008	
C10	EPA 8015B MOD	8L06001	0.048	ND	0.8	12/6/2008	12/6/2008	
C11	EPA 8015B MOD	8L06001	0.048	ND	0.8	12/6/2008	12/6/2008	
C12	EPA 8015B MOD	8L06001	0.048	ND	0.8	12/6/2008	12/6/2008	
Surrogate: 4-BFB (FID) (65-140%)				*104 %*				

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-01 (I_23 B/C (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Xylenes, Total	EPA 8260B	8L04011	3.5	ND	0.876	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*93 %*				
Sample ID: IRL0459-02 (I_23 B/C (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04011	1.9	ND	0.975	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04011	1.9	ND	0.975	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04011	1.9	ND	0.975	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04011	1.9	ND	0.975	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04011	1.9	ND	0.975	12/4/2008	12/4/2008	
Xylenes, Total	EPA 8260B	8L04011	3.9	ND	0.975	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0459-03 (I_23 B/C (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04011	1.9	ND	0.949	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04011	1.9	ND	0.949	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04011	1.9	ND	0.949	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04011	1.9	ND	0.949	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04011	1.9	ND	0.949	12/4/2008	12/4/2008	
Xylenes, Total	EPA 8260B	8L04011	3.8	ND	0.949	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*96 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-04 (I_23 B (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04011	1.8	ND	0.879	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04011	1.8	ND	0.879	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04011	1.8	ND	0.879	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04011	1.8	ND	0.879	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04011	1.8	ND	0.879	12/4/2008	12/4/2008	
Xylenes, Total	EPA 8260B	8L04011	3.5	ND	0.879	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*103 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				
Sample ID: IRL0459-05 (I_23 B (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04011	2.3	ND	1.16	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04011	2.3	ND	1.16	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04011	2.3	ND	1.16	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04011	2.3	ND	1.16	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04011	2.3	ND	1.16	12/4/2008	12/4/2008	
Xylenes, Total	EPA 8260B	8L04011	4.6	ND	1.16	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*102 %*				
Surrogate: Toluene-d8 (80-120%)				*100 %*				
Sample ID: IRL0459-06 (I_23 B (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04011	1.6	ND	0.791	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04011	1.6	ND	0.791	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04011	1.6	ND	0.791	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04011	1.6	ND	0.791	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04011	1.6	ND	0.791	12/4/2008	12/4/2008	
Xylenes, Total	EPA 8260B	8L04011	3.2	ND	0.791	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*102 %*				
Surrogate: Toluene-d8 (80-120%)				*98 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-07 (I_36 B (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04103	1.7	ND	0.835	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04103	1.7	ND	0.835	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04103	1.7	ND	0.835	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04103	1.7	ND	0.835	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04103	1.7	ND	0.835	12/4/2008	12/4/2008	
Xylenes, Total	EPA 8260B	8L04103	3.3	ND	0.835	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*63 %*				Z
Surrogate: Dibromofluoromethane (80-135%)				*119 %*				
Surrogate: Toluene-d8 (80-120%)				*71 %*				Z
Sample ID: IRL0459-08 (I_36 B (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04103	2.1	ND	1.07	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04103	2.1	ND	1.07	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04103	2.1	ND	1.07	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04103	2.1	ND	1.07	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04103	2.1	ND	1.07	12/4/2008	12/4/2008	
Xylenes, Total	EPA 8260B	8L04103	4.3	ND	1.07	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*95 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*96 %*				
Sample ID: IRL0459-09 (I_36 B (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04103	1.9	ND	0.947	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04103	1.9	ND	0.947	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04103	1.9	ND	0.947	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04103	1.9	ND	0.947	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04103	1.9	ND	0.947	12/4/2008	12/4/2008	
Xylenes, Total	EPA 8260B	8L04103	3.8	ND	0.947	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-10 (I_73D (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05039	1.6	ND	0.785	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05039	1.6	ND	0.785	12/5/2008	12/5/2008	I
Toluene	EPA 8260B	8L05039	1.6	ND	0.785	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05039	1.6	ND	0.785	12/5/2008	12/5/2008	I
o-Xylene	EPA 8260B	8L05039	1.6	ND	0.785	12/5/2008	12/5/2008	I
Xylenes, Total	EPA 8260B	8L05039	3.1	ND	0.785	12/5/2008	12/5/2008	I
Surrogate: 4-Bromofluorobenzene (75-120%)				*67 %*				Z
Surrogate: Dibromofluoromethane (80-135%)				*116 %*				
Surrogate: Toluene-d8 (80-120%)				*70 %*				Z
Sample ID: IRL0459-11 (I_73D (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04103	1.7	ND	0.87	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04103	1.7	ND	0.87	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04103	1.7	ND	0.87	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04103	1.7	ND	0.87	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04103	1.7	ND	0.87	12/4/2008	12/4/2008	
Xylenes, Total	EPA 8260B	8L04103	3.5	ND	0.87	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*90 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0459-12 (I_73D (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04103	1.9	ND	0.942	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04103	1.9	ND	0.942	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04103	1.9	ND	0.942	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04103	1.9	ND	0.942	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04103	1.9	ND	0.942	12/4/2008	12/4/2008	
Xylenes, Total	EPA 8260B	8L04103	3.8	ND	0.942	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-13 (I_73D (15-16) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04103	1.9	ND	0.929	12/4/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L04103	1.9	ND	0.929	12/4/2008	12/5/2008	
Toluene	EPA 8260B	8L04103	1.9	ND	0.929	12/4/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L04103	1.9	ND	0.929	12/4/2008	12/5/2008	
o-Xylene	EPA 8260B	8L04103	1.9	ND	0.929	12/4/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L04103	3.7	ND	0.929	12/4/2008	12/5/2008	
Surrogate: 4-Bramofluorobenzene (75-120%)				*90 %*				
Surrogate: Dibromofluoromethane (80-135%)				*103 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				
Sample ID: IRL0459-14 (I_81E (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05039	1.9	ND	0.935	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05039	1.9	ND	0.935	12/5/2008	12/5/2008	
Toluene	EPA 8260B	8L05039	1.9	ND	0.935	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05039	1.9	ND	0.935	12/5/2008	12/5/2008	
o-Xylene	EPA 8260B	8L05039	1.9	ND	0.935	12/5/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L05039	3.7	ND	0.935	12/5/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*73 %*				*Z*
Surrogate: Dibromofluoromethane (80-135%)				*102 %*				
Surrogate: Toluene-d8 (80-120%)				*80 %*				
Sample ID: IRL0459-15 (I_81E (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04103	1.8	ND	0.893	12/4/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L04103	1.8	ND	0.893	12/4/2008	12/5/2008	
Toluene	EPA 8260B	8L04103	1.8	ND	0.893	12/4/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L04103	1.8	ND	0.893	12/4/2008	12/5/2008	
o-Xylene	EPA 8260B	8L04103	1.8	ND	0.893	12/4/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L04103	3.6	ND	0.893	12/4/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*96 %*				

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-16 (I_81E (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04103	2.2	ND	1.1	12/4/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L04103	2.2	ND	1.1	12/4/2008	12/5/2008	
Toluene	EPA 8260B	8L04103	2.2	ND	1.1	12/4/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L04103	2.2	ND	1.1	12/4/2008	12/5/2008	
o-Xylene	EPA 8260B	8L04103	2.2	ND	1.1	12/4/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L04103	4.4	ND	1.1	12/4/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*95 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*100 %*				
Sample ID: IRL0459-17 (I_55E (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04103	1.9	ND	0.965	12/4/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L04103	1.9	ND	0.965	12/4/2008	12/5/2008	
Toluene	EPA 8260B	8L04103	1.9	ND	0.965	12/4/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L04103	1.9	ND	0.965	12/4/2008	12/5/2008	
o-Xylene	EPA 8260B	8L04103	1.9	ND	0.965	12/4/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L04103	3.9	ND	0.965	12/4/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*95 %*				
Surrogate: Toluene-d8 (80-120%)				*96 %*				
Sample ID: IRL0459-18 (I_55E (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04103	1.8	ND	0.919	12/4/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L04103	1.8	ND	0.919	12/4/2008	12/5/2008	
Toluene	EPA 8260B	8L04103	1.8	ND	0.919	12/4/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L04103	1.8	ND	0.919	12/4/2008	12/5/2008	
o-Xylene	EPA 8260B	8L04103	1.8	ND	0.919	12/4/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L04103	3.7	ND	0.919	12/4/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-135%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*99 %*				

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-19 (I_55E (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04103	2.1	ND	1.03	12/4/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L04103	2.1	ND	1.03	12/4/2008	12/5/2008	
Toluene	EPA 8260B	8L04103	2.1	ND	1.03	12/4/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L04103	2.1	ND	1.03	12/4/2008	12/5/2008	
o-Xylene	EPA 8260B	8L04103	2.1	ND	1.03	12/4/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L04103	4.1	ND	1.03	12/4/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*100 %*				
Sample ID: IRL0459-20 (EY-1 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
Bromobenzene	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
Bromochloromethane	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
Bromodichloromethane	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
Bromoform	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
Bromomethane	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
n-Butylbenzene	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
sec-Butylbenzene	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
tert-Butylbenzene	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
Carbon tetrachloride	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
Chlorobenzene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
Chloroethane	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
Chloroform	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
Chloromethane	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
2-Chlorotoluene	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
4-Chlorotoluene	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
1,2-Dibromo-3-chloropropane	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
Dibromochloromethane	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
1,2-Dibromoethane (EDB)	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
Dibromomethane	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
1,2-Dichlorobenzene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
1,3-Dichlorobenzene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
1,4-Dichlorobenzene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
Dichlorodifluoromethane	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
1,1-Dichloroethane	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
1,2-Dichloroethane	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
1,1-Dichloroethene	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
cis-1,2-Dichloroethene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
trans-1,2-Dichloroethene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-20 (EY-1 (0-1) - Soil) - cont.								
Reporting Units: ug/kg								
1,2-Dichloropropane	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
1,3-Dichloropropane	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
2,2-Dichloropropane	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
cis-1,3-Dichloropropene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
trans-1,3-Dichloropropene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
1,1-Dichloropropene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
Hexachlorobutadiene	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
Isopropylbenzene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
p-Isopropyltoluene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
Methylene chloride	EPA 8260B	8L04011	17	ND	0.862	12/4/2008	12/4/2008	
Naphthalene	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
n-Propylbenzene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
Styrene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
1,1,1,2-Tetrachloroethane	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
1,1,2,2-Tetrachloroethane	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
Tetrachloroethene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
1,2,3-Trichlorobenzene	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
1,2,4-Trichlorobenzene	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
1,1,1-Trichloroethane	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
1,1,2-Trichloroethane	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
Trichloroethene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
Trichlorofluoromethane	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
1,2,3-Trichloropropane	EPA 8260B	8L04011	8.6	ND	0.862	12/4/2008	12/4/2008	
1,2,4-Trimethylbenzene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
1,3,5-Trimethylbenzene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
Vinyl chloride	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04011	1.7	ND	0.862	12/4/2008	12/4/2008	
Di-isopropyl Ether (DIPE)	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	8L04011	4.3	ND	0.862	12/4/2008	12/4/2008	
tert-Butanol (TBA)	EPA 8260B	8L04011	86	ND	0.862	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*100 %*				
Surrogate: Dibromofluoromethane (80-135%)				*95 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Sample ID: *IRL0459-21 (EY-1 (5-6) - Soil)*

Reporting Units: ug/kg

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Benzene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
Bromobenzene	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
Bromochloromethane	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
Bromodichloromethane	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
Bromoform	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
Bromomethane	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
n-Butylbenzene	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
sec-Butylbenzene	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
tert-Butylbenzene	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
Carbon tetrachloride	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
Chlorobenzene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
Chloroethane	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
Chloroform	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
Chloromethane	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
2-Chlorotoluene	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
4-Chlorotoluene	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
1,2-Dibromo-3-chloropropane	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
Dibromochloromethane	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
1,2-Dibromoethane (EDB)	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
Dibromomethane	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
1,2-Dichlorobenzene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
1,3-Dichlorobenzene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
1,4-Dichlorobenzene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
Dichlorodifluoromethane	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
1,1-Dichloroethane	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
1,2-Dichloroethane	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
1,1-Dichloroethene	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
cis-1,2-Dichloroethene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
trans-1,2-Dichloroethene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
1,2-Dichloropropane	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
1,3-Dichloropropane	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
2,2-Dichloropropane	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
cis-1,3-Dichloropropene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
trans-1,3-Dichloropropene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
1,1-Dichloropropene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
Hexachlorobutadiene	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
Isopropylbenzene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
p-Isopropyltoluene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
Methylene chloride	EPA 8260B	8L04011	22	ND	1.11	12/4/2008	12/4/2008	
Naphthalene	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Sample ID: IRL0459-21 (EY-1 (5-6) - Soil) - cont.

Reporting Units: ug/kg

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
n-Propylbenzene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
Styrene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
1,1,1,2-Tetrachloroethane	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
1,1,2,2-Tetrachloroethane	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
Tetrachloroethene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
1,2,3-Trichlorobenzene	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
1,2,4-Trichlorobenzene	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
1,1,1-Trichloroethane	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
1,1,2-Trichloroethane	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
Trichloroethene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
Trichlorofluoromethane	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
1,2,3-Trichloropropane	EPA 8260B	8L04011	11	ND	1.11	12/4/2008	12/4/2008	
1,2,4-Trimethylbenzene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
1,3,5-Trimethylbenzene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
Vinyl chloride	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04011	2.2	ND	1.11	12/4/2008	12/4/2008	
Di-isopropyl Ether (DIPE)	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	8L04011	5.6	ND	1.11	12/4/2008	12/4/2008	
tert-Butanol (TBA)	EPA 8260B	8L04011	110	ND	1.11	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*96 %*				
Surrogate: Dibromofluoromethane (80-135%)				*96 %*				
Surrogate: Toluene-d8 (80-120%)				*98 %*				

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Project Manager

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17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-22 (EY-2 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Bromobenzene	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
Bromochloromethane	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
Bromodichloromethane	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Bromoform	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
Bromomethane	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
n-Butylbenzene	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
sec-Butylbenzene	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
tert-Butylbenzene	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
Carbon tetrachloride	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
Chlorobenzene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Chloroethane	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
Chloroform	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Chloromethane	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
2-Chlorotoluene	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
4-Chlorotoluene	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
1,2-Dibromo-3-chloropropane	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
Dibromochloromethane	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
1,2-Dibromoethane (EDB)	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Dibromomethane	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
1,2-Dichlorobenzene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
1,3-Dichlorobenzene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
1,4-Dichlorobenzene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Dichlorodifluoromethane	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
1,1-Dichloroethane	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
1,2-Dichloroethane	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
1,1-Dichloroethene	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
cis-1,2-Dichloroethene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
trans-1,2-Dichloroethene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
1,2-Dichloropropane	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
1,3-Dichloropropane	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
2,2-Dichloropropane	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
cis-1,3-Dichloropropene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
trans-1,3-Dichloropropene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
1,1-Dichloropropene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Hexachlorobutadiene	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
Isopropylbenzene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
p-Isopropyltoluene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Methylene chloride	EPA 8260B	8L04011	18	ND	0.876	12/4/2008	12/4/2008	
Naphthalene	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-22 (EY-2 (0-1) - Soil) - cont.								
Reporting Units: ug/kg								
n-Propylbenzene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Styrene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
1,1,1,2-Tetrachloroethane	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
1,1,2,2-Tetrachloroethane	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Tetrachloroethene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
1,2,3-Trichlorobenzene	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
1,2,4-Trichlorobenzene	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
1,1,1-Trichloroethane	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
1,1,2-Trichloroethane	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Trichloroethene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Trichlorofluoromethane	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
1,2,3-Trichloropropane	EPA 8260B	8L04011	8.8	ND	0.876	12/4/2008	12/4/2008	
1,2,4-Trimethylbenzene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
1,3,5-Trimethylbenzene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Vinyl chloride	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04011	1.8	ND	0.876	12/4/2008	12/4/2008	
Di-isopropyl Ether (DIPE)	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	8L04011	4.4	ND	0.876	12/4/2008	12/4/2008	
tert-Butanol (TBA)	EPA 8260B	8L04011	88	ND	0.876	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-23 (EY-2 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
Bromobenzene	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
Bromochloromethane	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
Bromodichloromethane	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
Bromoform	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
Bromomethane	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
n-Butylbenzene	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
sec-Butylbenzene	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
tert-Butylbenzene	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
Carbon tetrachloride	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
Chlorobenzene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
Chloroethane	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
Chloroform	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
Chloromethane	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
2-Chlorotoluene	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
4-Chlorotoluene	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
1,2-Dibromo-3-chloropropane	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
Dibromochloromethane	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
1,2-Dibromoethane (EDB)	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
Dibromomethane	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
1,2-Dichlorobenzene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
1,3-Dichlorobenzene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
1,4-Dichlorobenzene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
Dichlorodifluoromethane	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
1,1-Dichloroethane	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
1,2-Dichloroethane	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
1,1-Dichloroethene	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
cis-1,2-Dichloroethene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
trans-1,2-Dichloroethene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
1,2-Dichloropropane	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
1,3-Dichloropropane	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
2,2-Dichloropropane	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
cis-1,3-Dichloropropene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
trans-1,3-Dichloropropene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
1,1-Dichloropropene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
Hexachlorobutadiene	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
Isopropylbenzene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
p-Isopropyltoluene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
Methylene chloride	EPA 8260B	8L04011	21	ND	1.03	12/4/2008	12/4/2008	
Naphthalene	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-23 (EY-2 (5-6) - Soil) - cont.								
Reporting Units: ug/kg								
n-Propylbenzene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
Styrene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
1,1,1,2-Tetrachloroethane	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
1,1,2,2-Tetrachloroethane	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
Tetrachloroethene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
1,2,3-Trichlorobenzene	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
1,2,4-Trichlorobenzene	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
1,1,1-Trichloroethane	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
1,1,2-Trichloroethane	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
Trichloroethene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
Trichlorofluoromethane	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
1,2,3-Trichloropropane	EPA 8260B	8L04011	10	ND	1.03	12/4/2008	12/4/2008	
1,2,4-Trimethylbenzene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
1,3,5-Trimethylbenzene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
Vinyl chloride	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04011	2.1	ND	1.03	12/4/2008	12/4/2008	
Di-isopropyl Ether (DIPE)	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	8L04011	5.2	ND	1.03	12/4/2008	12/4/2008	
tert-Butanol (TBA)	EPA 8260B	8L04011	100	ND	1.03	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*95 %*				
Surrogate: Dibromofluoromethane (80-135%)				*96 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				

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Aaron Harris For Patty Mata
Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-24 (EY-3 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
Bromobenzene	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
Bromochloromethane	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
Bromodichloromethane	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
Bromoform	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
Bromomethane	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
n-Butylbenzene	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
sec-Butylbenzene	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
tert-Butylbenzene	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
Carbon tetrachloride	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
Chlorobenzene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
Chloroethane	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
Chloroform	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
Chloromethane	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
2-Chlorotoluene	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
4-Chlorotoluene	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
1,2-Dibromo-3-chloropropane	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
Dibromochloromethane	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
1,2-Dibromoethane (EDB)	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
Dibromomethane	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
1,2-Dichlorobenzene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
1,3-Dichlorobenzene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
1,4-Dichlorobenzene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
Dichlorodifluoromethane	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
1,1-Dichloroethane	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
1,2-Dichloroethane	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
1,1-Dichloroethene	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
cis-1,2-Dichloroethene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
trans-1,2-Dichloroethene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
1,2-Dichloropropane	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
1,3-Dichloropropane	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
2,2-Dichloropropane	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
cis-1,3-Dichloropropene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
trans-1,3-Dichloropropene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
1,1-Dichloropropene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
Hexachlorobutadiene	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
Isopropylbenzene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
p-Isopropyltoluene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
Methylene chloride	EPA 8260B	8L04011	20	ND	0.998	12/4/2008	12/4/2008	
Naphthalene	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	

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Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-24 (EY-3 (0-1) - Soil) - cont.								
Reporting Units: ug/kg								
n-Propylbenzene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
Styrene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
1,1,1,2-Tetrachloroethane	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
1,1,2,2-Tetrachloroethane	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
Tetrachloroethene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
1,2,3-Trichlorobenzene	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
1,2,4-Trichlorobenzene	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
1,1,1-Trichloroethane	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
1,1,2-Trichloroethane	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
Trichloroethene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
Trichlorofluoromethane	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
1,2,3-Trichloropropane	EPA 8260B	8L04011	10	ND	0.998	12/4/2008	12/4/2008	
1,2,4-Trimethylbenzene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
1,3,5-Trimethylbenzene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
Vinyl chloride	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04011	2.0	ND	0.998	12/4/2008	12/4/2008	
Di-isopropyl Ether (DIPE)	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	8L04011	5.0	ND	0.998	12/4/2008	12/4/2008	
tert-Butanol (TBA)	EPA 8260B	8L04011	100	ND	0.998	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*96 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*98 %*				

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-25 (EY-3 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
Bromobenzene	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
Bromochloromethane	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
Bromodichloromethane	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
Bromoform	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
Bromomethane	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
n-Butylbenzene	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
sec-Butylbenzene	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
tert-Butylbenzene	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
Carbon tetrachloride	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
Chlorobenzene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
Chloroethane	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
Chloroform	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
Chloromethane	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
2-Chlorotoluene	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
4-Chlorotoluene	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
1,2-Dibromo-3-chloropropane	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
Dibromochloromethane	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
1,2-Dibromoethane (EDB)	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
Dibromomethane	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
1,2-Dichlorobenzene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
1,3-Dichlorobenzene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
1,4-Dichlorobenzene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
Dichlorodifluoromethane	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
1,1-Dichloroethane	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
1,2-Dichloroethane	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
1,1-Dichloroethene	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
cis-1,2-Dichloroethene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
trans-1,2-Dichloroethene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
1,2-Dichloropropane	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
1,3-Dichloropropane	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
2,2-Dichloropropane	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
cis-1,3-Dichloropropene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
trans-1,3-Dichloropropene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
1,1-Dichloropropene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
Hexachlorobutadiene	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
Isopropylbenzene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
p-Isopropyltoluene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
Methylene chloride	EPA 8260B	8L04011	22	ND	1.09	12/4/2008	12/4/2008	
Naphthalene	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-25 (EY-3 (5-6) - Soil) - cont.								
Reporting Units: ug/kg								
n-Propylbenzene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
Styrene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
1,1,1,2-Tetrachloroethane	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
1,1,2,2-Tetrachloroethane	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
Tetrachloroethene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
1,2,3-Trichlorobenzene	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
1,2,4-Trichlorobenzene	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
1,1,1-Trichloroethane	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
1,1,2-Trichloroethane	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
Trichloroethene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
Trichlorofluoromethane	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
1,2,3-Trichloropropane	EPA 8260B	8L04011	11	ND	1.09	12/4/2008	12/4/2008	
1,2,4-Trimethylbenzene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
1,3,5-Trimethylbenzene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
Vinyl chloride	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04011	2.2	ND	1.09	12/4/2008	12/4/2008	
Di-isopropyl Ether (DIPE)	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	8L04011	5.5	ND	1.09	12/4/2008	12/4/2008	
tert-Butanol (TBA)	EPA 8260B	8L04011	110	ND	1.09	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-135%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				

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Aaron Harris For Patty Mata
Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-26 (EY-4 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
Bromobenzene	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
Bromochloromethane	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
Bromodichloromethane	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
Bromoform	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
Bromomethane	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
n-Butylbenzene	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
sec-Butylbenzene	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
tert-Butylbenzene	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
Carbon tetrachloride	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
Chlorobenzene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
Chloroethane	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
Chloroform	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
Chloromethane	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
2-Chlorotoluene	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
4-Chlorotoluene	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
1,2-Dibromo-3-chloropropane	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
Dibromochloromethane	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
1,2-Dibromoethane (EDB)	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
Dibromomethane	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
1,2-Dichlorobenzene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
1,3-Dichlorobenzene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
1,4-Dichlorobenzene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
Dichlorodifluoromethane	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
1,1-Dichloroethane	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
1,2-Dichloroethane	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
1,1-Dichloroethene	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
cis-1,2-Dichloroethene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
trans-1,2-Dichloroethene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
1,2-Dichloropropane	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
1,3-Dichloropropane	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
2,2-Dichloropropane	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
cis-1,3-Dichloropropene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
trans-1,3-Dichloropropene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
1,1-Dichloropropene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
Hexachlorobutadiene	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
Isopropylbenzene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
p-Isopropyltoluene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
Methylene chloride	EPA 8260B	8L04011	19	ND	0.928	12/4/2008	12/4/2008	
Naphthalene	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	

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Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING
17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-26 (EY-4 (0-1) - Soil) - cont.								
Reporting Units: ug/kg								
n-Propylbenzene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
Styrene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
1,1,1,2-Tetrachloroethane	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
1,1,2,2-Tetrachloroethane	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
Tetrachloroethene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
1,2,3-Trichlorobenzene	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
1,2,4-Trichlorobenzene	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
1,1,1-Trichloroethane	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
1,1,2-Trichloroethane	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
Trichloroethene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
Trichlorofluoromethane	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
1,2,3-Trichloropropane	EPA 8260B	8L04011	9.3	ND	0.928	12/4/2008	12/4/2008	
1,2,4-Trimethylbenzene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
1,3,5-Trimethylbenzene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
Vinyl chloride	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04011	1.9	ND	0.928	12/4/2008	12/4/2008	
Di-isopropyl Ether (DIPE)	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	8L04011	4.6	ND	0.928	12/4/2008	12/4/2008	
tert-Butanol (TBA)	EPA 8260B	8L04011	93	ND	0.928	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*103 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-27 (EY-4 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
Bromobenzene	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
Bromochloromethane	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
Bromodichloromethane	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
Bromoform	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
Bromomethane	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
n-Butylbenzene	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
sec-Butylbenzene	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
tert-Butylbenzene	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
Carbon tetrachloride	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
Chlorobenzene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
Chloroethane	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
Chloroform	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
Chloromethane	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
2-Chlorotoluene	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
4-Chlorotoluene	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
1,2-Dibromo-3-chloropropane	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
Dibromochloromethane	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
1,2-Dibromoethane (EDB)	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
Dibromomethane	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
1,2-Dichlorobenzene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
1,3-Dichlorobenzene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
1,4-Dichlorobenzene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
Dichlorodifluoromethane	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
1,1-Dichloroethane	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
1,2-Dichloroethane	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
1,1-Dichloroethene	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
cis-1,2-Dichloroethene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
trans-1,2-Dichloroethene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
1,2-Dichloropropane	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
1,3-Dichloropropane	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
2,2-Dichloropropane	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
cis-1,3-Dichloropropene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
trans-1,3-Dichloropropene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
1,1-Dichloropropene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
Hexachlorobutadiene	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
Isopropylbenzene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
p-Isopropyltoluene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
Methylene chloride	EPA 8260B	8L04011	20	ND	1.02	12/4/2008	12/4/2008	
Naphthalene	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-27 (EY-4 (5-6) - Soil) - cont.								
Reporting Units: ug/kg								
n-Propylbenzene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
Styrene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
1,1,1,2-Tetrachloroethane	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
1,1,2,2-Tetrachloroethane	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
Tetrachloroethene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
1,2,3-Trichlorobenzene	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
1,2,4-Trichlorobenzene	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
1,1,1-Trichloroethane	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
1,1,2-Trichloroethane	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
Trichloroethene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
Trichlorofluoromethane	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
1,2,3-Trichloropropane	EPA 8260B	8L04011	10	ND	1.02	12/4/2008	12/4/2008	
1,2,4-Trimethylbenzene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
1,3,5-Trimethylbenzene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
Vinyl chloride	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04011	2.0	ND	1.02	12/4/2008	12/4/2008	
Di-isopropyl Ether (DIPE)	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	8L04011	5.1	ND	1.02	12/4/2008	12/4/2008	
tert-Butanol (TBA)	EPA 8260B	8L04011	100	ND	1.02	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*96 %*				

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Project Manager

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-28 (EY-5 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
Bromobenzene	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
Bromochloromethane	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
Bromodichloromethane	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
Bromoform	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
Bromomethane	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
n-Butylbenzene	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
sec-Butylbenzene	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
tert-Butylbenzene	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
Carbon tetrachloride	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
Chlorobenzene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
Chloroethane	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
Chloroform	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
Chloromethane	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
2-Chlorotoluene	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
4-Chlorotoluene	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
1,2-Dibromo-3-chloropropane	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
Dibromochloromethane	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
1,2-Dibromoethane (EDB)	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
Dibromomethane	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
1,2-Dichlorobenzene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
1,3-Dichlorobenzene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
1,4-Dichlorobenzene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
Dichlorodifluoromethane	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
1,1-Dichloroethane	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
1,2-Dichloroethane	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
1,1-Dichloroethene	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
cis-1,2-Dichloroethene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
trans-1,2-Dichloroethene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
1,2-Dichloropropane	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
1,3-Dichloropropane	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
2,2-Dichloropropane	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
cis-1,3-Dichloropropene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
trans-1,3-Dichloropropene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
1,1-Dichloropropene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
Hexachlorobutadiene	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
Isopropylbenzene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
p-Isopropyltoluene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
Methylene chloride	EPA 8260B	8L04011	17	ND	0.832	12/4/2008	12/4/2008	
Naphthalene	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-28 (EY-5 (0-1) - Soil) - cont.								
Reporting Units: ug/kg								
n-Propylbenzene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
Styrene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
1,1,1,2-Tetrachloroethane	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
1,1,2,2-Tetrachloroethane	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
Tetrachloroethene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
1,2,3-Trichlorobenzene	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
1,2,4-Trichlorobenzene	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
1,1,1-Trichloroethane	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
1,1,2-Trichloroethane	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
Trichloroethene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
Trichlorofluoromethane	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
1,2,3-Trichloropropane	EPA 8260B	8L04011	8.3	ND	0.832	12/4/2008	12/4/2008	
1,2,4-Trimethylbenzene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
1,3,5-Trimethylbenzene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
Vinyl chloride	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04011	1.7	ND	0.832	12/4/2008	12/4/2008	
Di-isopropyl Ether (DIPE)	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	8L04011	4.2	ND	0.832	12/4/2008	12/4/2008	
tert-Butanol (TBA)	EPA 8260B	8L04011	83	ND	0.832	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-29 (EY-5 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
Bromobenzene	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
Bromochloromethane	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
Bromodichloromethane	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
Bromoform	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
Bromomethane	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
n-Butylbenzene	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
sec-Butylbenzene	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
tert-Butylbenzene	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
Carbon tetrachloride	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
Chlorobenzene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
Chloroethane	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
Chloroform	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
Chloromethane	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
2-Chlorotoluene	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
4-Chlorotoluene	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
1,2-Dibromo-3-chloropropane	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
Dibromochloromethane	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
1,2-Dibromoethane (EDB)	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
Dibromomethane	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
1,2-Dichlorobenzene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
1,3-Dichlorobenzene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
1,4-Dichlorobenzene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
Dichlorodifluoromethane	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
1,1-Dichloroethane	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
1,2-Dichloroethane	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
1,1-Dichloroethene	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
cis-1,2-Dichloroethene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
trans-1,2-Dichloroethene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
1,2-Dichloropropane	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
1,3-Dichloropropane	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
2,2-Dichloropropane	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
cis-1,3-Dichloropropene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
trans-1,3-Dichloropropene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
1,1-Dichloropropene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
Ethylbenzene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
Hexachlorobutadiene	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
Isopropylbenzene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
p-Isopropyltoluene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
Methylene chloride	EPA 8260B	8L04011	17	ND	0.85	12/4/2008	12/4/2008	
Naphthalene	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-29 (EY-5 (5-6) - Soil) - cont.								
Reporting Units: ug/kg								
n-Propylbenzene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
Styrene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
1,1,1,2-Tetrachloroethane	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
1,1,2,2-Tetrachloroethane	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
Tetrachloroethene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
Toluene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
1,2,3-Trichlorobenzene	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
1,2,4-Trichlorobenzene	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
1,1,1-Trichloroethane	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
1,1,2-Trichloroethane	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
Trichloroethene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
Trichlorofluoromethane	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
1,2,3-Trichloropropane	EPA 8260B	8L04011	8.5	ND	0.85	12/4/2008	12/4/2008	
1,2,4-Trimethylbenzene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
1,3,5-Trimethylbenzene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
Vinyl chloride	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
m,p-Xylenes	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
o-Xylene	EPA 8260B	8L04011	1.7	ND	0.85	12/4/2008	12/4/2008	
Di-isopropyl Ether (DIPE)	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	8L04011	4.3	ND	0.85	12/4/2008	12/4/2008	
tert-Butanol (TBA)	EPA 8260B	8L04011	85	ND	0.85	12/4/2008	12/4/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*99 %*				

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Project Manager

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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-30 (II_87T (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04103	1.8	ND	0.909	12/4/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L04103	1.8	ND	0.909	12/4/2008	12/5/2008	
Toluene	EPA 8260B	8L04103	1.8	ND	0.909	12/4/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L04103	1.8	ND	0.909	12/4/2008	12/5/2008	
o-Xylene	EPA 8260B	8L04103	1.8	ND	0.909	12/4/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L04103	3.6	ND	0.909	12/4/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*95 %*				
Surrogate: Dibromofluoromethane (80-135%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				
Sample ID: IRL0459-31 (II_87T (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04103	2.3	ND	1.15	12/4/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L04103	2.3	ND	1.15	12/4/2008	12/5/2008	
Toluene	EPA 8260B	8L04103	2.3	ND	1.15	12/4/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L04103	2.3	ND	1.15	12/4/2008	12/5/2008	
o-Xylene	EPA 8260B	8L04103	2.3	ND	1.15	12/4/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L04103	4.6	ND	1.15	12/4/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*95 %*				
Surrogate: Dibromofluoromethane (80-135%)				*103 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				
Sample ID: IRL0459-32 (II_40K (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04103	2.1	ND	1.04	12/4/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L04103	2.1	ND	1.04	12/4/2008	12/5/2008	
Toluene	EPA 8260B	8L04103	2.1	ND	1.04	12/4/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L04103	2.1	ND	1.04	12/4/2008	12/5/2008	
o-Xylene	EPA 8260B	8L04103	2.1	ND	1.04	12/4/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L04103	4.2	ND	1.04	12/4/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-135%)				*103 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-33 (II_40K (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05039	2.3	ND	1.15	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05039	2.3	ND	1.15	12/5/2008	12/5/2008	
Toluene	EPA 8260B	8L05039	2.3	ND	1.15	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05039	2.3	ND	1.15	12/5/2008	12/5/2008	
o-Xylene	EPA 8260B	8L05039	2.3	ND	1.15	12/5/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L05039	4.6	ND	1.15	12/5/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*95 %*				
Surrogate: Dibromofluoromethane (80-135%)				*94 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0459-34 (II_40K (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L04103	1.9	ND	0.956	12/4/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L04103	1.9	ND	0.956	12/4/2008	12/5/2008	
Toluene	EPA 8260B	8L04103	1.9	ND	0.956	12/4/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L04103	1.9	ND	0.956	12/4/2008	12/5/2008	
o-Xylene	EPA 8260B	8L04103	1.9	ND	0.956	12/4/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L04103	3.8	ND	0.956	12/4/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogote: Dibromofluoromethane (80-135%)				*103 %*				
Surrogate: Toluene-d8 (80-120%)				*99 %*				

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Project Manager

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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-01 (I_23 B/C (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	50	**4400**	10	100	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	35	ND	10	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	35	ND	10	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	35	**42**	10	1	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	35	**79**	10	2	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	35	**210**	10	5	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	35	**360**	10	8	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	35	**550**	10	13	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	35	**370**	10	8	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	35	**880**	10	20	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	35	**590**	10	13	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	35	**590**	10	13	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	35	**370**	10	8	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	35	**180**	10	4	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	35	**110**	10	3	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	35	ND	10	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*827 %*					*Z3*
Sample ID: IRL0459-02 (I_23 B/C (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*77 %*					

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Project Manager

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-03 (I_23 B/C (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*84 %*					
Sample ID: IRL0459-04 (I_23 B (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	50	**11000**	10	100	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	35	ND	10	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	35	ND	10	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	35	**78**	10	1	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	35	**170**	10	2	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	35	**140**	10	1	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	35	**910**	10	8	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	35	**1400**	10	13	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	35	**1100**	10	10	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	35	**2500**	10	23	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	35	**1700**	10	15	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	35	**1200**	10	11	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	35	**770**	10	7	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	35	**390**	10	4	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	35	**190**	10	2	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	35	ND	10	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*2050 %*					*Z3*

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-05 (I_23 B (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*81 %*					
Sample ID: IRL0459-06 (I_23 B (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-06 (I_23 B (10-11) - Soil) - cont.									
Reporting Units: mg/kg									
Surrogate: n-Octacosane (40-125%)				*88 %*					
Sample ID: IRL0459-07 (I_36 B (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	500	**25000**	100	100	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	350	ND	100	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	350	ND	100	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	350	**350**	100	1	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	350	**390**	100	2	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	350	**1400**	100	6	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	350	**2400**	100	10	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	350	**3400**	100	14	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	350	**2300**	100	9	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	350	**4700**	100	19	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	350	**3300**	100	13	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	350	**2400**	100	10	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	350	**3200**	100	13	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	350	ND	100	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	350	**740**	100	3	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	350	ND	100	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*10400 %*					*Z3*
Sample ID: IRL0459-08 (I_36 B (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	

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Northgate Environmental Management
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Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-08 (I_36 B (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*94 %*					
Sample ID: IRL0459-09 (I_36 B (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	5.0	**34**	1	100	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	3.5	**4.8**	1	14	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	3.5	**4.5**	1	13	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	3.5	**4.5**	1	13	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	3.5	**4.2**	1	12	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*92 %*					
Sample ID: IRL0459-10 (I_73D (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	500	**23000**	100	100	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	350	ND	100	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	350	ND	100	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	350	ND	100	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	350	**470**	100	2	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	350	**1200**	100	5	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	350	**1900**	100	8	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	350	**2700**	100	12	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	350	**2100**	100	9	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	350	**4300**	100	19	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	350	**3500**	100	15	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	350	**3000**	100	13	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	350	**1800**	100	8	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	350	**1000**	100	4	12/4/2008	12/5/2008	

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Project Manager

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Northgate Environmental Management
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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-10 (I_73D (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	350	**580**	100	3	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	350	ND	100	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*3430 %*					*Z3*
Sample ID: IRL0459-11 (I_73D (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*68 %*					
Sample ID: IRL0459-12 (I_73D (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-12 (I_73D (10-11) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*98 %*					
Sample ID: IRL0459-13 (I_73D (15-16) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	5.0	**130**	1	100	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	3.5	**3.7**	1	3	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	3.5	**7.0**	1	5	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	3.5	**12**	1	9	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	3.5	**18**	1	14	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	3.5	**9.8**	1	8	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	3.5	**27**	1	21	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	3.5	**15**	1	12	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	3.5	**16**	1	12	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	3.5	**9.5**	1	7	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	3.5	**6.3**	1	5	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	3.5	**3.8**	1	3	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*159 %*					*ZX*
Sample ID: IRL0459-14 (I_81E (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	50	**7600**	10	100	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	35	ND	10	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	35	**35**	10	0	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	35	**81**	10	1	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	35	**140**	10	2	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	35	**360**	10	5	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	35	**670**	10	9	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	35	**960**	10	13	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	35	**730**	10	10	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	35	**1600**	10	21	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	35	**1200**	10	16	12/4/2008	12/5/2008	

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17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-14 (I_81E (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	35	**820**	10	11	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	35	**530**	10	7	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	35	**330**	10	4	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	35	**160**	10	2	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	35	ND	10	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*1470 %*					*Z3*
Sample ID: IRL0459-15 (I_81E (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	5.0	**630**	1	100	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	3.5	**4.0**	1	1	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	3.5	**7.7**	1	1	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	3.5	**13**	1	2	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	3.5	**31**	1	5	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	3.5	**52**	1	8	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	3.5	**79**	1	13	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	3.5	**52**	1	8	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	3.5	**130**	1	21	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	3.5	**97**	1	15	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	3.5	**68**	1	11	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	3.5	**50**	1	8	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	3.5	**27**	1	4	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	3.5	**14**	1	2	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*365 %*					*ZX*
Sample ID: IRL0459-16 (I_81E (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-16 (I_81E (10-11) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*90 %*					
Sample ID: IRL0459-17 (I_55E (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	5.0	18	1	100	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	3.5	3.6	1	20	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*96 %*					
Sample ID: IRL0459-18 (I_55E (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-18 (I_55E (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*93 %*					
Sample ID: IRL0459-19 (I_55E (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*89 %*					

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Project Manager

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Attention: Derrick Willis

Project ID: Solar Energy Generating System 2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-20 (EY-1 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04027	75	150	15	100	12/4/2008	12/6/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04027	52	92	15	61	12/4/2008	12/6/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04027	52	ND	15	N/A	12/4/2008	12/6/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04027	52	ND	15	N/A	12/4/2008	12/6/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04027	52	ND	15	N/A	12/4/2008	12/6/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04027	52	ND	15	N/A	12/4/2008	12/6/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04027	52	ND	15	N/A	12/4/2008	12/6/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04027	52	ND	15	N/A	12/4/2008	12/6/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04027	52	ND	15	N/A	12/4/2008	12/6/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04027	52	ND	15	N/A	12/4/2008	12/6/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04027	52	ND	15	N/A	12/4/2008	12/6/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04027	52	ND	15	N/A	12/4/2008	12/6/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04027	52	ND	15	N/A	12/4/2008	12/6/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04027	52	ND	15	N/A	12/4/2008	12/6/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04027	52	ND	15	N/A	12/4/2008	12/6/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04027	52	ND	15	N/A	12/4/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*110 %*					*Z3*
Sample ID: IRL0459-21 (EY-1 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04027	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System 2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-21 (EY-1 (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
Surrogate: n-Octacosane (40-125%)				*89 %*					
Sample ID: IRL0459-22 (EY-2 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04027	100	**13000**	20	100	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04027	70	ND	20	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04027	70	**84**	20	1	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04027	70	**140**	20	1	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04027	70	**350**	20	3	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04027	70	**990**	20	8	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04027	70	**1600**	20	12	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04027	70	**2000**	20	15	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04027	70	**1200**	20	9	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04027	70	**1900**	20	15	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04027	70	**1200**	20	9	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04027	70	**1100**	20	8	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04027	70	**770**	20	6	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04027	70	**810**	20	6	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04027	70	**600**	20	5	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04027	70	**130**	20	1	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*1850 %*					*Z3*
Sample ID: IRL0459-23 (EY-2 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04027	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-23 (EY-2 (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C41 - C44)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*73 %*					
Sample ID: IRL0459-24 (EY-3 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04027	5.0	ND	1	N/A	12/4/2008	12/6/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/6/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/6/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/6/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/6/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/6/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/6/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/6/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/6/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/6/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/6/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/6/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/6/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/6/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/6/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*75 %*					
Sample ID: IRL0459-25 (EY-3 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04027	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	

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Northgate Environmental Management
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Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-25 (EY-3 (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C35 - C36)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*88 %*					
Sample ID: IRL0459-26 (EY-4 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04027	5.0	**140**	1	100	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04027	3.5	**4.9**	1	4	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04027	3.5	**21**	1	15	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04027	3.5	**28**	1	20	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04027	3.5	**22**	1	16	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04027	3.5	**24**	1	17	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04027	3.5	**15**	1	11	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04027	3.5	**8.3**	1	6	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04027	3.5	**3.7**	1	3	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04027	3.5	**4.6**	1	3	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*111 %*					
Sample ID: IRL0459-27 (EY-4 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04027	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	

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Aaron Harris For Patty Mata
Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-27 (EY-4 (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C31 - C32)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*89 %*					
Sample ID: IRL0459-28 (EY-5 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04027	620	**22000**	125	100	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04027	440	ND	125	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04027	440	ND	125	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04027	440	ND	125	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04027	440	**660**	125	3	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04027	440	**2600**	125	12	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04027	440	**3700**	125	17	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04027	440	**3900**	125	18	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04027	440	**2000**	125	9	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04027	440	**1800**	125	8	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04027	440	**1400**	125	6	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04027	440	**1800**	125	8	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04027	440	**1400**	125	6	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04027	440	**1000**	125	5	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04027	440	**1100**	125	5	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04027	440	ND	125	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*2300 %*					*Z3*

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-29 (EY-5 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04027	5.0	9.9	1	100	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*78 %*					
Sample ID: IRL0459-30 (IL_87T (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04083	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04083	3.5	ND	1	N/A	12/4/2008	12/5/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor		Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-30 (II_87T (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
Surrogate: n-Octacosane (40-125%)				*79 %*					
Sample ID: IRL0459-31 (II_87T (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04027	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*81 %*					
Sample ID: IRL0459-32 (II_40K (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04027	5.0	**9.7**	1	100	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04027	3.5	**6.5**	1	67	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-32 (II_40K (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C37 - C38)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*80 %*					
Sample ID: IRL0459-33 (II_40K (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04027	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*83 %*					
Sample ID: IRL0459-34 (II_40K (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L04027	5.0	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0459-34 (II_40K (10-11) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C31 - C32)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L04027	3.5	ND	1	N/A	12/4/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*87 %*					

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

METHOD BLANK/QC DATA

EXTRACTABLE FUEL HYDROCARBONS (CADHS/8015 Modified)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L04027 Extracted: 12/04/08										
Blank Analyzed: 12/04/2008 (8L04027-BLK1)										
EFH (C13 - C22)	ND	5.0	mg/kg							
EFH (C13 - C40)	ND	5.0	mg/kg							
Surrogate: n-Octacosane	*4.89*		*mg/kg*	*6.67*		*73*	*40-125*			
LCS Analyzed: 12/04/2008 (8L04027-BS1)										
EFH (C13 - C40)	19.5	5.0	mg/kg	25.0		78	45-115			
Surrogate: n-Octacosane	*5.63*		*mg/kg*	*6.67*		*84*	*40-125*			
Matrix Spike Analyzed: 12/04/2008 (8L04027-MS1)					**Source: IRL0459-21**					
EFH (C13 - C40)	20.9	5.0	mg/kg	25.0	ND	84	40-120			
Surrogate: n-Octacosane	*5.65*		*mg/kg*	*6.67*		*85*	*40-125*			
Matrix Spike Dup Analyzed: 12/05/2008 (8L04027-MSD1)					**Source: IRL0459-21**					
EFH (C13 - C40)	21.5	5.0	mg/kg	25.0	ND	86	40-120	3	30	
Surrogate: n-Octacosane	*5.81*		*mg/kg*	*6.67*		*87*	*40-125*			

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2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

METHOD BLANK/QC DATA

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L04029 Extracted: 12/04/08										
Blank Analyzed: 12/04/2008 (8L04029-BLK1)										
1,1'-Biphenyl	ND	2.0	mg/kg							
1,1'-Oxybisbenzene	ND	2.0	mg/kg							
Surrogate: n-Octacosane	*5.40*		*mg/kg*	*6.67*		*81*	*40-125*			
LCS Analyzed: 12/04/2008 (8L04029-BS1)										
1,1'-Biphenyl	2.39	2.0	mg/kg	3.33		72	50-115			
1,1'-Oxybisbenzene	2.40	2.0	mg/kg	3.33		72	50-115			
Surrogate: n-Octacosane	*4.98*		*mg/kg*	*6.67*		*75*	*40-125*			
Matrix Spike Analyzed: 12/04/2008 (8L04029-MS1)					**Source: IRL0459-27**					
1,1'-Biphenyl	2.51	2.0	mg/kg	3.33	ND	75	35-120			
1,1'-Oxybisbenzene	2.52	2.0	mg/kg	3.33	ND	75	35-120			
Surrogate: n-Octacosane	*5.30*		*mg/kg*	*6.67*		*79*	*40-125*			
Matrix Spike Dup Analyzed: 12/04/2008 (8L04029-MSD1)					**Source: IRL0459-27**					
1,1'-Biphenyl	2.58	2.0	mg/kg	3.33	ND	77	35-120	3	30	
1,1'-Oxybisbenzene	2.59	2.0	mg/kg	3.33	ND	78	35-120	3	30	
Surrogate: n-Octacosane	*5.56*		*mg/kg*	*6.67*		*83*	*40-125*			
Batch: 8L04084 Extracted: 12/04/08										
Blank Analyzed: 12/04/2008 (8L04084-BLK1)										
1,1'-Biphenyl	ND	2.0	mg/kg							
1,1'-Oxybisbenzene	ND	2.0	mg/kg							
Surrogate: n-Octacosane	*5.16*		*mg/kg*	*6.67*		*77*	*40-125*			
LCS Analyzed: 12/04/2008 (8L04084-BS1)										
1,1'-Biphenyl	2.89	2.0	mg/kg	3.33		87	50-115			
1,1'-Oxybisbenzene	2.89	2.0	mg/kg	3.33		87	50-115			
Surrogate: n-Octacosane	*6.26*		*mg/kg*	*6.67*		*94*	*40-125*			

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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

METHOD BLANK/QC DATA

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L04084 Extracted: 12/04/08										
Matrix Spike Analyzed: 12/04/2008 (8L04084-MS1)					**Source: IRL0459-14**					
1,1'-Biphenyl	2.94	4.0	mg/kg	3.33	ND	88	35-120			
1,1'-Oxybisbenzene	6.93	4.0	mg/kg	3.33	ND	208	35-120			*M1*
Surrogate: n-Octacosane	*0.00*		*mg/kg*	*6.67*			*40-125*			*Z9*
Matrix Spike Dup Analyzed: 12/04/2008 (8L04084-MSD1)					**Source: IRL0459-14**					
1,1'-Biphenyl	3.03	4.0	mg/kg	3.33	ND	91	35-120	3	30	
1,1'-Oxybisbenzene	7.17	4.0	mg/kg	3.33	ND	215	35-120	3	30	*M1*
Surrogate: n-Octacosane	*1.86*		*mg/kg*	*6.67*		*28*	*40-125*			*Z*

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METHOD BLANK/QC DATA

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L04027 Extracted: 12/04/08										
Blank Analyzed: 12/04/2008 (8L04027-BLK1)										
EFH (C13 - C44)	ND	5.0	mg/kg							
EFH (C13 - C28)	ND	5.0	mg/kg							
Surrogate: n-Octacosane	*4.89*		*mg/kg*	*6.67*		*73*	*40-125*			
LCS Analyzed: 12/04/2008 (8L04027-BS1)										
EFH (C13 - C28)	19.5	5.0	mg/kg	25.0		78	45-115			
Surrogate: n-Octacosane	*5.63*		*mg/kg*	*6.67*		*84*	*40-125*			
Matrix Spike Analyzed: 12/04/2008 (8L04027-MS1)					**Source: IRL0459-21**					
EFH (C13 - C44)	20.9	5.0	mg/kg	33.3	ND	63	40-120			
Surrogate: n-Octacosane	*5.65*		*mg/kg*	*6.67*		*85*	*40-125*			
Matrix Spike Dup Analyzed: 12/05/2008 (8L04027-MSD1)					**Source: IRL0459-21**					
EFH (C13 - C44)	21.5	5.0	mg/kg	33.3	ND	64	40-120	3	30	
Surrogate: n-Octacosane	*5.81*		*mg/kg*	*6.67*		*87*	*40-125*			
Batch: 8L04083 Extracted: 12/04/08										
Blank Analyzed: 12/05/2008 (8L04083-BLK1)										
EFH (C13 - C44)	ND	5.0	mg/kg							
EFH (C13 - C28)	ND	5.0	mg/kg							
Surrogate: n-Octacosane	*5.67*		*mg/kg*	*6.67*		*85*	*40-125*			
LCS Analyzed: 12/05/2008 (8L04083-BS1)										
EFH (C13 - C28)	22.9	5.0	mg/kg	25.0		91	45-115			
Surrogate: n-Octacosane	*6.01*		*mg/kg*	*6.67*		*90*	*40-125*			

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HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L04083 Extracted: 12/04/08										
Matrix Spike Analyzed: 12/05/2008 (8L04083-MS1)					**Source: IRL0459-02**					
EFH (C13 - C44)	23.0	5.0	mg/kg	33.3	ND	69	40-120			
Surrogate: n-Octacosane	*5.80*		*mg/kg*	*6.67*		*87*	*40-125*			
Matrix Spike Dup Analyzed: 12/05/2008 (8L04083-MSD1)					**Source: IRL0459-02**					
EFH (C13 - C44)	23.3	5.0	mg/kg	33.3	ND	70	40-120	1	30	
Surrogate: n-Octacosane	*5.65*		*mg/kg*	*6.67*		*85*	*40-125*			

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METHOD BLANK/QC DATA

VOLATILE HYDROCARBON DISTRIBUTION (EPA 8015 Mod.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L04113 Extracted: 12/04/08										
Blank Analyzed: 12/04/2008 (8L04113-BLK1)										
C4-C5	ND	0.060	mg/kg							
GRO (C4 - C12)	ND	0.40	mg/kg							
C6	ND	0.060	mg/kg							
C7	ND	0.060	mg/kg							
C8	ND	0.060	mg/kg							
C9	ND	0.060	mg/kg							
C10	ND	0.060	mg/kg							
C11	ND	0.060	mg/kg							
C12	ND	0.060	mg/kg							
Surrogate: 4-BFB (FID)	*0.0223*		*mg/kg*	*0.0200*		*112*	*65-140*			
LCS Analyzed: 12/05/2008 (8L04113-BS1)										
GRO (C4 - C12)	1.65	0.40	mg/kg	1.60		103	70-135			
Surrogate: 4-BFB (FID)	*0.0271*		*mg/kg*	*0.0200*		*135*	*65-140*			
LCS Dup Analyzed: 12/04/2008 (8L04113-BSD1)										
GRO (C4 - C12)	1.70	0.40	mg/kg	1.60		106	70-135	3	20	
Surrogate: 4-BFB (FID)	*0.0213*		*mg/kg*	*0.0200*		*106*	*65-140*			
Batch: 8L06001 Extracted: 12/06/08										
Blank Analyzed: 12/06/2008 (8L06001-BLK1)										
C4-C5	ND	0.060	mg/kg							
GRO (C4 - C12)	ND	0.40	mg/kg							
C6	ND	0.060	mg/kg							
C7	ND	0.060	mg/kg							
C8	ND	0.060	mg/kg							
C9	ND	0.060	mg/kg							
C10	ND	0.060	mg/kg							
C11	ND	0.060	mg/kg							
C12	ND	0.060	mg/kg							
Surrogate: 4-BFB (FID)	*0.0216*		*mg/kg*	*0.0200*		*108*	*65-140*			

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VOLATILE HYDROCARBON DISTRIBUTION (EPA 8015 Mod.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L06001 Extracted: 12/06/08										
LCS Analyzed: 12/06/2008 (8L06001-BS1)										
GRO (C4 - C12)	1.66	0.40	mg/kg	1.60		104	70-135			
Surrogate: 4-BFB (FID)	*0.0321*		*mg/kg*	*0.0200*		*161*	*65-140*			*Z2*
Matrix Spike Analyzed: 12/06/2008 (8L06001-MS1)					**Source: IRL0635-01**					
GRO (C4 - C12)	0.444	0.34	mg/kg	0.375	ND	118	60-140			
Surrogate: 4-BFB (FID)	*0.0219*		*mg/kg*	*0.0171*		*128*	*65-140*			
Matrix Spike Dup Analyzed: 12/06/2008 (8L06001-MSD1)					**Source: IRL0635-01**					
GRO (C4 - C12)	0.405	0.33	mg/kg	0.367	ND	111	60-140	9	30	
Surrogate: 4-BFB (FID)	*0.0185*		*mg/kg*	*0.0167*		*111*	*65-140*			

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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L04011 Extracted: 12/04/08										
Blank Analyzed: 12/04/2008 (8L04011-BLK1)										
Benzene	ND	2.0	ug/kg							
Benzene	ND	2.0	ug/kg							
Bromobenzene	ND	5.0	ug/kg							
Bromochloromethane	ND	5.0	ug/kg							
Bromodichloromethane	ND	2.0	ug/kg							
Bromoform	ND	5.0	ug/kg							
Bromomethane	ND	5.0	ug/kg							
n-Butylbenzene	ND	5.0	ug/kg							
sec-Butylbenzene	ND	5.0	ug/kg							
tert-Butylbenzene	ND	5.0	ug/kg							
Carbon tetrachloride	ND	5.0	ug/kg							
Chlorobenzene	ND	2.0	ug/kg							
Chloroethane	ND	5.0	ug/kg							
Chloroform	ND	2.0	ug/kg							
Chloromethane	ND	5.0	ug/kg							
2-Chlorotoluene	ND	5.0	ug/kg							
4-Chlorotoluene	ND	5.0	ug/kg							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/kg							
Dibromochloromethane	ND	2.0	ug/kg							
1,2-Dibromoethane (EDB)	ND	2.0	ug/kg							
Dibromomethane	ND	2.0	ug/kg							
1,2-Dichlorobenzene	ND	2.0	ug/kg							
1,3-Dichlorobenzene	ND	2.0	ug/kg							
1,4-Dichlorobenzene	ND	2.0	ug/kg							
Dichlorodifluoromethane	ND	5.0	ug/kg							
1,1-Dichloroethane	ND	2.0	ug/kg							
1,2-Dichloroethane	ND	2.0	ug/kg							
1,1-Dichloroethene	ND	5.0	ug/kg							
cis-1,2-Dichloroethene	ND	2.0	ug/kg							
trans-1,2-Dichloroethene	ND	2.0	ug/kg							
1,2-Dichloropropane	ND	2.0	ug/kg							
1,3-Dichloropropane	ND	2.0	ug/kg							
2,2-Dichloropropane	ND	2.0	ug/kg							
cis-1,3-Dichloropropene	ND	2.0	ug/kg							
trans-1,3-Dichloropropene	ND	2.0	ug/kg							
1,1-Dichloropropene	ND	2.0	ug/kg							

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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L04011 Extracted: 12/04/08										
Blank Analyzed: 12/04/2008 (8L04011-BLK1)										
Ethylbenzene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Hexachlorobutadiene	ND	5.0	ug/kg							
Isopropylbenzene	ND	2.0	ug/kg							
p-Isopropyltoluene	ND	2.0	ug/kg							
Methylene chloride	ND	20	ug/kg							
Naphthalene	ND	5.0	ug/kg							
n-Propylbenzene	ND	2.0	ug/kg							
Styrene	ND	2.0	ug/kg							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg							
1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg							
Tetrachloroethene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
1,2,3-Trichlorobenzene	ND	5.0	ug/kg							
1,2,4-Trichlorobenzene	ND	5.0	ug/kg							
1,1,1-Trichloroethane	ND	2.0	ug/kg							
1,1,2-Trichloroethane	ND	2.0	ug/kg							
Trichloroethene	ND	2.0	ug/kg							
Trichlorofluoromethane	ND	5.0	ug/kg							
1,2,3-Trichloropropane	ND	10	ug/kg							
1,2,4-Trimethylbenzene	ND	2.0	ug/kg							
1,3,5-Trimethylbenzene	ND	2.0	ug/kg							
Vinyl chloride	ND	5.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Di-isopropyl Ether (DIPE)	ND	5.0	ug/kg							
Ethyl tert-Butyl Ether (ETBE)	ND	5.0	ug/kg							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	ug/kg							
tert-Amyl Methyl Ether (TAME)	ND	5.0	ug/kg							
tert-Butanol (TBA)	ND	100	ug/kg							
Surrogate: 4-Bromofluorobenzene	*46.0*		*ug/kg*	*50.0*		*92*	*75-120*			
Surrogate: 4-Bromofluorobenzene	*46.0*		*ug/kg*	*50.0*		*92*	*75-120*			

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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L04011 Extracted: 12/04/08										
Blank Analyzed: 12/04/2008 (8L04011-BLK1)										
Surrogate: Dibromofluoromethane	*49.1*		*ug/kg*	*50.0*		*98*	*80-135*			
Surrogate: Dibromofluoromethane	*49.1*		*ug/kg*	*50.0*		*98*	*80-135*			
Surrogate: Toluene-d8	*47.2*		*ug/kg*	*50.0*		*94*	*80-120*			
Surrogate: Toluene-d8	*47.2*		*ug/kg*	*50.0*		*94*	*80-120*			
LCS Analyzed: 12/04/2008 (8L04011-BS1)										MNR1
Benzene	47.8	2.0	ug/kg	50.0		96	65-120			
Benzene	47.8	2.0	ug/kg	50.0		96	65-120			
Bromobenzene	52.2	5.0	ug/kg	50.0		104	70-120			
Bromochloromethane	53.0	5.0	ug/kg	50.0		106	75-145			
Bromodichloromethane	52.3	2.0	ug/kg	50.0		105	75-135			
Bromoform	55.6	5.0	ug/kg	50.0		111	75-135			
Bromomethane	43.4	5.0	ug/kg	50.0		87	65-140			
n-Butylbenzene	47.9	5.0	ug/kg	50.0		96	65-115			
sec-Butylbenzene	45.6	5.0	ug/kg	50.0		91	70-120			
tert-Butylbenzene	46.4	5.0	ug/kg	50.0		93	60-110			
Carbon tetrachloride	46.5	5.0	ug/kg	50.0		93	65-130			
Chlorobenzene	53.0	2.0	ug/kg	50.0		106	70-120			
Chloroethane	33.6	5.0	ug/kg	50.0		67	60-135			
Chloroform	43.5	2.0	ug/kg	50.0		87	70-140			
Chloromethane	41.5	5.0	ug/kg	50.0		83	45-135			
2-Chlorotoluene	44.3	5.0	ug/kg	50.0		89	60-115			
4-Chlorotoluene	45.7	5.0	ug/kg	50.0		91	65-115			
1,2-Dibromo-3-chloropropane	72.0	5.0	ug/kg	50.0		144	75-150			
Dibromochloromethane	58.5	2.0	ug/kg	50.0		117	75-135			
1,2-Dibromoethane (EDB)	62.9	2.0	ug/kg	50.0		126	85-140			
Dibromomethane	60.0	2.0	ug/kg	50.0		120	80-145			
1,2-Dichlorobenzene	53.3	2.0	ug/kg	50.0		107	75-125			
1,3-Dichlorobenzene	50.0	2.0	ug/kg	50.0		100	70-115			
1,4-Dichlorobenzene	50.8	2.0	ug/kg	50.0		102	70-120			
Dichlorodifluoromethane	42.9	5.0	ug/kg	50.0		86	35-160			
1,1-Dichloroethane	45.4	2.0	ug/kg	50.0		91	65-135			
1,2-Dichloroethane	55.0	2.0	ug/kg	50.0		110	80-140			
1,1-Dichloroethene	47.4	5.0	ug/kg	50.0		95	55-130			
cis-1,2-Dichloroethene	50.4	2.0	ug/kg	50.0		101	65-135			
trans-1,2-Dichloroethene	47.1	2.0	ug/kg	50.0		94	65-135			

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L04011 Extracted: 12/04/08										
LCS Analyzed: 12/04/2008 (8L04011-BS1)										MNR1
1,2-Dichloropropane	52.4	2.0	ug/kg	50.0		105	65-130			
1,3-Dichloropropane	58.4	2.0	ug/kg	50.0		117	80-135			
2,2-Dichloropropane	43.9	2.0	ug/kg	50.0		88	65-140			
cis-1,3-Dichloropropene	63.6	2.0	ug/kg	50.0		127	75-135			
trans-1,3-Dichloropropene	52.4	2.0	ug/kg	50.0		105	75-145			
1,1-Dichloropropene	49.8	2.0	ug/kg	50.0		100	80-120			
Ethylbenzene	50.7	2.0	ug/kg	50.0		101	70-120			
Ethylbenzene	50.7	2.0	ug/kg	50.0		101	70-120			
Hexachlorobutadiene	50.1	5.0	ug/kg	50.0		100	60-135			
Isopropylbenzene	45.7	2.0	ug/kg	50.0		91	55-120			
p-Isopropyltoluene	46.4	2.0	ug/kg	50.0		93	70-120			
Methylene chloride	45.0	20	ug/kg	50.0		90	60-140			
Naphthalene	71.7	5.0	ug/kg	50.0		143	70-160			
n-Propylbenzene	45.5	2.0	ug/kg	50.0		91	60-115			
Styrene	54.0	2.0	ug/kg	50.0		108	70-130			
1,1,1,2-Tetrachloroethane	52.5	5.0	ug/kg	50.0		105	75-130			
1,1,2,2-Tetrachloroethane	67.2	2.0	ug/kg	50.0		134	75-150			
Tetrachloroethene	50.4	2.0	ug/kg	50.0		101	65-130			
Toluene	46.2	2.0	ug/kg	50.0		92	70-120			
Toluene	46.2	2.0	ug/kg	50.0		92	70-120			
1,2,3-Trichlorobenzene	61.5	5.0	ug/kg	50.0		123	75-145			
1,2,4-Trichlorobenzene	59.2	5.0	ug/kg	50.0		118	70-145			
1,1,1-Trichloroethane	43.9	2.0	ug/kg	50.0		88	70-130			
1,1,2-Trichloroethane	62.4	2.0	ug/kg	50.0		125	80-145			
Trichloroethene	50.1	2.0	ug/kg	50.0		100	65-120			
Trichlorofluoromethane	42.5	5.0	ug/kg	50.0		85	60-145			
1,2,3-Trichloropropane	59.6	10	ug/kg	50.0		119	65-150			
1,2,4-Trimethylbenzene	47.2	2.0	ug/kg	50.0		94	65-115			
1,3,5-Trimethylbenzene	46.1	2.0	ug/kg	50.0		92	65-115			
Vinyl chloride	42.6	5.0	ug/kg	50.0		85	45-135			
m,p-Xylenes	103	2.0	ug/kg	100		103	65-120			
m,p-Xylenes	103	2.0	ug/kg	100		103	65-120			
o-Xylene	52.3	2.0	ug/kg	50.0		105	70-125			
o-Xylene	52.3	2.0	ug/kg	50.0		105	70-125			
Xylenes, Total	155	4.0	ug/kg	150		103	65-125			
Di-isopropyl Ether (DIPE)	46.9	5.0	ug/kg	50.0		94	75-140			

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Aaron Harris For Patty Mata
Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L04011 Extracted: 12/04/08										
LCS Analyzed: 12/04/2008 (8L04011-BS1)										MNR1
Ethyl tert-Butyl Ether (ETBE)	52.2	5.0	ug/kg	50.0		104	70-150			
Methyl-tert-butyl Ether (MTBE)	55.1	5.0	ug/kg	50.0		110	75-150			
tert-Amyl Methyl Ether (TAME)	55.3	5.0	ug/kg	50.0		111	75-150			
tert-Butanol (TBA)	263	100	ug/kg	250		105	70-125			
Surrogate: 4-Bromofluorobenzene	*50.2*		*ug/kg*	*50.0*		*100*	*75-120*			
Surrogate: 4-Bromofluorobenzene	*50.2*		*ug/kg*	*50.0*		*100*	*75-120*			
Surrogate: Dibromofluoromethane	*47.0*		*ug/kg*	*50.0*		*94*	*80-135*			
Surrogate: Dibromofluoromethane	*47.0*		*ug/kg*	*50.0*		*94*	*80-135*			
Surrogate: Toluene-d8	*48.7*		*ug/kg*	*50.0*		*97*	*80-120*			
Surrogate: Toluene-d8	*48.7*		*ug/kg*	*50.0*		*97*	*80-120*			
LCS Dup Analyzed: 12/04/2008 (8L04011-BSD1)										
Benzene	48.1	2.0	ug/kg	50.0		96	65-120	1	20	
Benzene	48.1	2.0	ug/kg	50.0		96	65-120	1	30	
Bromobenzene	53.4	5.0	ug/kg	50.0		107	70-120	2	20	
Bromochloromethane	54.6	5.0	ug/kg	50.0		109	75-145	3	20	
Bromodichloromethane	52.5	2.0	ug/kg	50.0		105	75-135	0	20	
Bromoform	51.3	5.0	ug/kg	50.0		103	75-135	8	25	
Bromomethane	43.9	5.0	ug/kg	50.0		88	65-140	1	20	
n-Butylbenzene	48.8	5.0	ug/kg	50.0		98	65-115	2	20	
sec-Butylbenzene	48.1	5.0	ug/kg	50.0		96	70-120	5	20	
tert-Butylbenzene	48.0	5.0	ug/kg	50.0		96	60-110	3	20	
Carbon tetrachloride	47.6	5.0	ug/kg	50.0		95	65-130	2	20	
Chlorobenzene	49.9	2.0	ug/kg	50.0		100	70-120	6	20	
Chloroethane	45.0	5.0	ug/kg	50.0		90	60-135	29	25	*R-7*
Chloroform	44.4	2.0	ug/kg	50.0		89	70-140	2	20	
Chloromethane	43.7	5.0	ug/kg	50.0		87	45-135	5	25	
2-Chlorotoluene	47.4	5.0	ug/kg	50.0		95	60-115	7	20	
4-Chlorotoluene	48.0	5.0	ug/kg	50.0		96	65-115	5	20	
1,2-Dibromo-3-chloropropane	70.6	5.0	ug/kg	50.0		141	75-150	2	30	
Dibromochloromethane	54.5	2.0	ug/kg	50.0		109	75-135	7	20	
1,2-Dibromoethane (EDB)	59.2	2.0	ug/kg	50.0		118	85-140	6	20	
Dibromomethane	59.9	2.0	ug/kg	50.0		120	80-145	0	20	
1,2-Dichlorobenzene	52.3	2.0	ug/kg	50.0		105	75-125	2	20	
1,3-Dichlorobenzene	52.2	2.0	ug/kg	50.0		104	70-115	4	20	
1,4-Dichlorobenzene	51.7	2.0	ug/kg	50.0		103	70-120	2	20	

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Aaron Harris For Patty Mata
Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L04011 Extracted: 12/04/08										
LCS Dup Analyzed: 12/04/2008 (8L04011-BSD1)										
Dichlorodifluoromethane	43.8	5.0	ug/kg	50.0		88	35-160	2	30	
1,1-Dichloroethane	45.6	2.0	ug/kg	50.0		91	65-135	0	20	
1,2-Dichloroethane	55.3	2.0	ug/kg	50.0		111	80-140	0	20	
1,1-Dichloroethene	49.4	5.0	ug/kg	50.0		99	55-130	4	20	
cis-1,2-Dichloroethene	50.1	2.0	ug/kg	50.0		100	65-135	1	20	
trans-1,2-Dichloroethene	49.1	2.0	ug/kg	50.0		98	65-135	4	20	
1,2-Dichloropropane	51.5	2.0	ug/kg	50.0		103	65-130	2	20	
1,3-Dichloropropane	55.7	2.0	ug/kg	50.0		111	80-135	5	20	
2,2-Dichloropropane	42.6	2.0	ug/kg	50.0		85	65-140	3	20	
cis-1,3-Dichloropropene	65.8	2.0	ug/kg	50.0		132	75-135	3	20	
trans-1,3-Dichloropropene	52.9	2.0	ug/kg	50.0		106	75-145	1	20	
1,1-Dichloropropene	52.1	2.0	ug/kg	50.0		104	80-120	5	20	
Ethylbenzene	47.7	2.0	ug/kg	50.0		95	70-120	6	20	
Ethylbenzene	47.7	2.0	ug/kg	50.0		95	70-120	6	30	
Hexachlorobutadiene	51.0	5.0	ug/kg	50.0		102	60-135	2	20	
Isopropylbenzene	47.7	2.0	ug/kg	50.0		95	55-120	4	20	
p-Isopropyltoluene	48.7	2.0	ug/kg	50.0		97	70-120	5	20	
Methylene chloride	46.6	20	ug/kg	50.0		93	60-140	3	20	
Naphthalene	72.9	5.0	ug/kg	50.0		146	70-160	2	25	
n-Propylbenzene	46.2	2.0	ug/kg	50.0		92	60-115	1	20	
Styrene	49.0	2.0	ug/kg	50.0		98	70-130	10	20	
1,1,1,2-Tetrachloroethane	49.4	5.0	ug/kg	50.0		99	75-130	6	20	
1,1,2,2-Tetrachloroethane	68.3	2.0	ug/kg	50.0		137	75-150	2	30	
Tetrachloroethene	47.2	2.0	ug/kg	50.0		94	65-130	6	20	
Toluene	50.3	2.0	ug/kg	50.0		101	70-120	9	30	
Toluene	50.3	2.0	ug/kg	50.0		101	70-120	9	20	
1,2,3-Trichlorobenzene	61.6	5.0	ug/kg	50.0		123	75-145	0	20	
1,2,4-Trichlorobenzene	60.6	5.0	ug/kg	50.0		121	70-145	2	20	
1,1,1-Trichloroethane	44.8	2.0	ug/kg	50.0		90	70-130	2	20	
1,1,2-Trichloroethane	63.0	2.0	ug/kg	50.0		126	80-145	1	20	
Trichloroethene	52.1	2.0	ug/kg	50.0		104	65-120	4	20	
Trichlorofluoromethane	44.7	5.0	ug/kg	50.0		89	60-145	5	25	
1,2,3-Trichloropropane	63.0	10	ug/kg	50.0		126	65-150	6	25	
1,2,4-Trimethylbenzene	48.8	2.0	ug/kg	50.0		98	65-115	3	20	
1,3,5-Trimethylbenzene	47.4	2.0	ug/kg	50.0		95	65-115	3	20	
Vinyl chloride	42.8	5.0	ug/kg	50.0		86	45-135	0	25	

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Aaron Harris For Patty Mata
Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L04011 Extracted: 12/04/08										
LCS Dup Analyzed: 12/04/2008 (8L04011-BSD1)										
m,p-Xylenes	95.9	2.0	ug/kg	100		96	65-120	7	30	
m,p-Xylenes	95.9	2.0	ug/kg	100		96	65-120	7	20	
o-Xylene	49.3	2.0	ug/kg	50.0		99	70-125	6	30	
o-Xylene	49.3	2.0	ug/kg	50.0		99	70-125	6	20	
Xylenes, Total	145	4.0	ug/kg	150		97	65-125	7	20	
Di-isopropyl Ether (DIPE)	48.5	5.0	ug/kg	50.0		97	75-140	3	20	
Ethyl tert-Butyl Ether (ETBE)	52.1	5.0	ug/kg	50.0		104	70-150	0	20	
Methyl-tert-butyl Ether (MTBE)	55.8	5.0	ug/kg	50.0		112	75-150	1	20	
tert-Amyl Methyl Ether (TAME)	55.4	5.0	ug/kg	50.0		111	75-150	0	20	
tert-Butanol (TBA)	259	100	ug/kg	250		104	70-125	2	20	
Surrogate: 4-Bromofluorobenzene	*46.7*		*ug/kg*	*50.0*		*93*	*75-120*			
Surrogate: 4-Bromofluorobenzene	*46.7*		*ug/kg*	*50.0*		*93*	*75-120*			
Surrogate: Dibromofluoromethane	*47.3*		*ug/kg*	*50.0*		*95*	*80-135*			
Surrogate: Dibromofluoromethane	*47.3*		*ug/kg*	*50.0*		*95*	*80-135*			
Surrogate: Toluene-d8	*49.9*		*ug/kg*	*50.0*		*100*	*80-120*			
Surrogate: Toluene-d8	*49.9*		*ug/kg*	*50.0*		*100*	*80-120*			
Batch: 8L04103 Extracted: 12/04/08										
Blank Analyzed: 12/04/2008 (8L04103-BLK1)										
Benzene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Surrogate: 4-Bromofluorohenzene	*47.4*		*ug/kg*	*50.0*		*95*	*75-120*			
Surrogate: Dibromofluoromethane	*51.5*		*ug/kg*	*50.0*		*103*	*80-135*			
Surrogate: Toluene-d8	*49.6*		*ug/kg*	*50.0*		*99*	*80-120*			

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Project Manager

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L04103 Extracted: 12/04/08										
LCS Analyzed: 12/04/2008 (8L04103-BS1)										MNR1
Benzene	50.7	2.0	ug/kg	50.0		101	65-120			
Ethylbenzene	52.2	2.0	ug/kg	50.0		104	70-120			
Toluene	52.3	2.0	ug/kg	50.0		105	70-120			
m,p-Xylenes	107	2.0	ug/kg	100		107	65-120			
o-Xylene	54.6	2.0	ug/kg	50.0		109	70-125			
Xylenes, Total	162	4.0	ug/kg	150		108	65-125			
Surrogate: 4-Bromofluorobenzene	*48.3*		*ug/kg*	*50.0*		*97*	*75-120*			
Surrogate: Dibromofluoromethane	*50.8*		*ug/kg*	*50.0*		*102*	*80-135*			
Surrogate: Toluene-d8	*49.0*		*ug/kg*	*50.0*		*98*	*80-120*			
LCS Dup Analyzed: 12/04/2008 (8L04103-BSD1)										
Benzene	51.2	2.0	ug/kg	50.0		102	65-120	1	30	
Ethylbenzene	50.2	2.0	ug/kg	50.0		100	70-120	4	30	
Toluene	50.8	2.0	ug/kg	50.0		102	70-120	3	30	
m,p-Xylenes	98.2	2.0	ug/kg	100		98	65-120	9	30	
o-Xylene	51.3	2.0	ug/kg	50.0		103	70-125	6	30	
Xylenes, Total	149	4.0	ug/kg	150		100	65-125	8	20	
Surrogate: 4-Bromofluorobenzene	*46.1*		*ug/kg*	*50.0*		*92*	*75-120*			
Surrogate: Dibromofluoromethane	*50.5*		*ug/kg*	*50.0*		*101*	*80-135*			
Surrogate: Toluene-d8	*49.4*		*ug/kg*	*50.0*		*99*	*80-120*			
Batch: 8L05039 Extracted: 12/05/08										
Blank Analyzed: 12/05/2008 (8L05039-BLK1)										
Benzene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*46.7*		*ug/kg*	*50.0*		*93*	*75-120*			
Surrogate: Dibromofluoromethane	*47.6*		*ug/kg*	*50.0*		*95*	*80-135*			
Surrogate: Toluene-d8	*47.5*		*ug/kg*	*50.0*		*95*	*80-120*			

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Project ID: Solar Energy Generating System 2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L05039 Extracted: 12/05/08										
LCS Analyzed: 12/05/2008 (8L05039-BS1)										MNR1
Benzene	46.0	2.0	ug/kg	50.0		92	65-120			
Ethylbenzene	51.5	2.0	ug/kg	50.0		103	70-120			
Toluene	47.2	2.0	ug/kg	50.0		94	70-120			
m,p-Xylenes	104	2.0	ug/kg	100		104	65-120			
o-Xylene	51.6	2.0	ug/kg	50.0		103	70-125			
Xylenes, Total	156	4.0	ug/kg	150		104	65-125			
Surrogate: 4-Bromofluorobenzene	*48.5*		*ug/kg*	*50.0*		*97*	*75-120*			
Surrogate: Dibromofluoromethane	*49.2*		*ug/kg*	*50.0*		*98*	*80-135*			
Surrogate: Toluene-d8	*47.1*		*ug/kg*	*50.0*		*94*	*80-120*			
LCS Dup Analyzed: 12/05/2008 (8L05039-BSD1)										
Benzene	44.7	2.0	ug/kg	50.0		89	65-120	3	30	
Ethylbenzene	50.1	2.0	ug/kg	50.0		100	70-120	3	30	
Toluene	46.1	2.0	ug/kg	50.0		92	70-120	2	30	
m,p-Xylenes	101	2.0	ug/kg	100		101	65-120	3	30	
o-Xylene	50.3	2.0	ug/kg	50.0		101	70-125	3	30	
Xylenes, Total	152	4.0	ug/kg	150		101	65-125	3	20	
Surrogate: 4-Bromofluorobenzene	*48.5*		*ug/kg*	*50.0*		*97*	*75-120*			
Surrogate: Dibromofluoromethane	*48.8*		*ug/kg*	*50.0*		*98*	*80-135*			
Surrogate: Toluene-d8	*47.3*		*ug/kg*	*50.0*		*95*	*80-120*			

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System 2024.01.01S-01
Report Number: IRL0459
Sampled: 12/03/08
Received: 12/03/08

DATA QUALIFIERS AND DEFINITIONS

I	Internal Standard recovery was outside of method limits. Matrix interference was confirmed.
M1	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
MNR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
R-7	LFB/LFBD RPD exceeded the acceptance limit. Recovery met acceptance criteria.
RL2	Reporting limit raised due to high concentrations of hydrocarbons.
Z	Due to sample matrix effects, the surrogate recovery was below the acceptance limits.
Z2	Surrogate recovery was above the acceptance limits. Data not impacted.
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
Z9	Unable to calculate surrogate recovery due to matrix interference.
ZX	Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD. The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For Hydrocarbon Distribution Analyses:

The reporting limits for the individual carbon distribution ranges are derived by proportioning the individual ranges relative to the total carbon range, not to fall below the method detection limit of the total range.

For GRO (C4-C12):

GRO (C4-C12) is quantitated against a gasoline standard. Quantitation begins immediately following the methanol peak.

For Extractable Fuel Hydrocarbons (EFH, DRO, ORO) :

Unless otherwise noted, Extractable Fuel Hydrocarbons (EFH, DRO, ORO) are quantitated against a Diesel Fuel Standard.

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Project Manager

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0459

Sampled: 12/03/08
Received: 12/03/08

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 8015 MOD.	Soil	X	X
EPA 8015B MOD	Soil	X	X
EPA 8260B	Soil	X	X
None	Soil		

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Irvine

Aaron Harris For Patty Mata
Project Manager

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9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
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THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY FORM

IRL0459 Page 1 of 2

TAL-0013(1007)

Client Name/Address: Northgate Environmental Management, 1100 Quail, #102, Newport Beach
Project/PO Number: 2024.01
Project Manager: Derrick Willis
Phone Number: (949) 375-7004
Sampler: Dana R. Brown
Fax Number(949) 315-3365

Analysis Required: BTEX; TPH (EPA 8015); Diesel/Motor Oil; Benzene/Toluene/Ethylbenzene/Xylenes

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives
I-23 B/C (0-1)	Soil	1-T+3V	4	12-3-08	07:59	A
I-23 B/C (5-6)					08:04	A
I-23 B/C (10-11)					08:05	A
I-23 B (0-1)					08:22	A
I-23 B (5-6)					09:24	A
I-23 B (10-11)					08:32	A
I-36 B (0-1)					09:10	A
I-36 B (5-6)					09:12	A
I-36 B (10-11)					09:14	A
I-73 D (0-1)					10:22	A
I-73 D (5-6)					10:24	A
I-73 D (10-11)					10:26	A
I-73 D (15-16)					10:54	A
I-81 G (0-1)	✓	✓	✓	✓	11:29	A

Relinquished By: — Date/Time: 12/3/08 — Received By: — Date/Time: 12-3-08 1710
Relinquished By: — Date/Time: 12-3-08 1835 — Received By: — Date/Time: 12/3/ 2010
Relinquished By: — Date/Time: 12-3-08 2010 — Received in Lab By: — Date/Time: 12-3-08 2010

FAX COC to Derrick Willis upon receipt.
A=Analyze
H=Hold
Special Instructions

Turnaround Time: (Check)
same day ____ 72 hours ____
24 hours ____ 5 days ____
48 hours ✓ normal ____

Sample Integrity: (Check)
Intact ✓ on Ice ✓

12.5°C

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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TAL-0013(1007)

Client Name/Address: Northgate Environmental, 1100 Quail #102 Newport Beach, CA

Project/PO Number: 2024.01

Project Manager: Derrick Willis

Phone Number: (949) 375-7004

Sampler: Dana R. Brown

Fax Number: (949) 315-3365

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	BTEX	TPH (C15-C44)	Diphenyl oxide/ biphenyl	BOIS diesel	BOIS gas	VOC's				Special Instructions
I_81E (5-6)	Soil	1-T+3-V	4	12-3-08	11:31		A	A	A							A=Analyze H=Hold FAX COC's to Derrick Willis upon reception
I_81E (10-11)			4		11:34		A	A	A							
I_55E (0-1)			4		12:00		A	A	A							
I_55E (5-6)			4		12:02		A	A	A							
I_55E (10-11)			4		12:09		A	A	A							
EY-1 (0-1)			4		13:20			A	A	H	H	A				
EY-1 (5-6)			4		13:22			A	A	H	H	A				
EY-2 (0-1)		1-T+6-V	7		13:42			A	A	A	A	A				
EY-2 (5-6)		1-T+6-V	7		13:44			A	A	A	A	A				
EY-3 (0-1)		1-T+3-V	4		14:10			A	A	H	H	A				
EY-3 (5-6)			4		14:14			A	A	H	H	A				
EY-4 (0-1)		1-T+6-V	7		14:55			A	A	A	A	A				
EY-4 (5-6)			7		14:57			A	A	A	A	A				
EY-5 (0-1)					15:36			A	A	A	A	A				

Relinquished By: Dana R. Brown Date/Time: 12/3/08

Received By: Michael Bosco Date/Time: 12-3-08 1710

Relinquished By: Michael Bosco 12-3-08 1835

Received By: Date/Time: 12/3/08

Relinquished By: Date/Time: 12/3/08 2010

Received in Lab By: Date/Time: 12-3-08 2010

Turnaround Time: (Check)
same day ____ 72 hours ____
24 hours ____ 5 days ____
48 hours ____ normal ____

Sample Integrity: (Check)
intact X on ice X

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

5°C 12.5°C

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TAL-0013(1007)

Client Name/Address: Northgate Environmental, 1100 Quail #102 Newport Beach CA

Project/PO Number: 2024.01

Project Manager: Derrick Willis

Phone Number: (949) 375-7004

Sampler: Dana R. Brown

Fax Number: (949) 315-3365

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	BTEX	TPH (C15-C44)	Diphenyl oxide/ biphenyl	BOIS diesel	BOIS gas	VOC's				Special Instructions
EY-5 (5-6)	Soil	1-T+6-V	7	12-3-08	15:42			A	A	A	A	A				A=Analyze H=Hold FAX COC to Derrick Willis ASAP
II_87T (0-1)		1-T+3-V	4		16:13		A	A	A							
II_87T (5-6)			4		16:15		A	A	A							
II_40K (0-1)			4		16:37		A	A	A							
II_40K (5-6)			4		16:39		A	A	A							
II_40K (10-11)			4		16:46		A	A	A							
TB-120308																

Relinquished By: Date/Time: 12-3-08

Received By: Date/Time: 12-3-08 1710

Relinquished By: Date/Time: 12-3-08 1835

Received By: Date/Time: 12/3/08

Relinquished By: Date/Time: 12/3/08 2010

Received In Lab By: Date/Time: 12-3-08 2010

Turnaround Time: (Check)
same day ____ 72 hours ____
24 hours ____ 5 days ____
48 hours X normal ____

Sample Integrity: (Check)
intact X on ice X

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

5C 12.5C

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IRL0459 Page 1 of 3

TAL-0013(1007)

Client Name/Address: Northgate Environmental Management, 1100 Quail, #102, Newport Beach
Project/PO Number: 2024.01
Project Manager: Derrick Willis
Phone Number: (949) 375-7004
Sampler: Dana R. Brown
Fax Number: (949) 315-3365

Analysis Required: BTEX; 8260; TPH (C15-C44); Diphenyloxide/biphenyl

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives
I_23 B/C (0-1)	Soil	1-T+3-V	4	12-3-08	07:59	
I_23 B/C (5-6)					08:04	
I_23 B/C (10-11)					08:05	
I_23 B (0-1)					08:22	
I_23 B (5-6)					08:24	
I_23 B (10-11)					08:32	
I_36 B (0-1)					09:10	
I_36 B (5-6)					09:12	
I_36 B (10-11)					09:14	
I_73 D (0-1)					10:22	
I_73 D (5-6)					10:24	
I_73 D (10-11)					10:26	
I_73 D (15-16)					10:54	
I_81 E (0-1)	↓	↓	↓	↓	11:29	

FAX COC to Derrick Willis upon reception
A = Analyze
H = Hold
Special Instructions

Relinquished By:	Date/Time:	Received By:	Date/Time:
	12/3/08		12-3-08 1710
Michael Bosco	12-3-08 1835		12/3/ 2010
Relinquished By:	Date/Time:	Received in Lab By:	Date/Time:
			12-3-08 2010

Turnaround Time: (Check)
same day ____ 72 hours ____
24 hours ____ 5 days ____
48 hours X normal ____

Sample Integrity: (Check)
Intact X on ice X

5C 12.5c

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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Page 2 of 3

TAL-0013(1007)

Client Name/Address: Northgate Environmental, 1100 Quail #102 Newport Beach, CA
Project/PO Number: 2024.01
Project Manager: Derrick Willis
Phone Number: (949) 375-7004
Sampler: Dana R. Brown
Fax Number: (949) 315-3365

Analysis Required: BTEX; TPH (C15-C44); Diphenyloxide/biphenyl; 8015 diesel; 8015 gas; VOC's

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives
I_81 E (5-6)	Soil	1-T+3-V	4	12-3-08	11:31	
I_81 E (10-11)			4		11:34	
I_55 E (0-1)			4		12:00	
I_55 E (5-6)			4		12:02	
I_55 E (10-11)			4		12:09	
EY-1 (0-1)			4		13:20	
EY-1 (5-6)			4		13:22	
EY-2 (0-1)		1-T+6-V	7		13:42	
EY-2 (5-6)		1-T+6-V	7		13:44	
EY-3 (0-1)		1-T+3V	4		14:10	
EY-3 (5-6)		↓	4		14:14	
EY-4 (0-1)		1-T+6-V	7		14:55	
EY-4 (5-6)		↓	7		14:57	
EY-5 (0-1)	↓	↓		↓	15:36	

A = Analyze
H = Hold
FAX COC's to Derrick Willis upon reception
Special Instructions

Relinquished By:	Date/Time:	Received By:	Date/Time:
	12/3/08	Michael Bosco	12-3-08 1710
Relinquished By:	Date/Time:	Received By:	Date/Time:
Michael Bosco	12-3-08 1835		12/3/08
Relinquished By:	Date/Time:	Received in Lab By:	Date/Time:
	12/3/08 2000		12-3-08 2010

Turnarund Time: (Check)
same day ____ 72 hours ____
24 hours ____ 5 days ____
48 hours ____ normal ____

Sample Integrity: (Check)
intact X on ice X

5°C 12.5°c

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LABORATORY REPORT

Prepared For: Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project: Solar Energy Generating System
2024.01.01S-01

Sampled: 12/04/08
Received: 12/04/08
Issued: 12/09/08 09:02

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 4 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 2°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

ADDITIONAL INFORMATION: Additional 8015B-Therminol test for sample GW-1, requested 12/8/08, will be reported separately. VOA vials for sample GW-1 were not received.

LABORATORY ID	CLIENT ID	MATRIX
IRL0634-01	II_39D (0-1)	Soil
IRL0634-02	II_39D (5-6)	Soil
IRL0634-03	II_39D (10-11)	Soil
IRL0634-04	II_31A (0-1)	Soil
IRL0634-05	II_31A (5-6)	Soil
IRL0634-06	II_31A (10-11)	Soil
IRL0634-07	II_31A (15-16)	Soil
IRL0634-08	II_27A (0-1)	Soil
IRL0634-09	II_27A (10-11)	Soil
IRL0634-10	II_37H (0-1)	Soil

TestAmerica Irvine
Patty Mata
Project Manager

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TAL-0013(1007)

Page 3 of 3

Client Name/Address: Northgate Environmental 1100 Quail #102 Newport Beach CA
Project Manager: Derrick Willis
Sampler: Dave, E. Brown
Phone Number: (949) 325-7100
Fax Number: (949) 325-7324
Project/PO Number: 2024.01

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Analysis Required
EY-S (5-6)	Soil	1-T4oV	7	12-3-08	15:12		BTEX
II_ 8TT (0-1)		1-T4oW	4		16:13		THC(C5-C44) by Fuel/Oxygenates
II_ 8TT (5-6)					16:15		8015 Diesel
II_ 40K (0-1)					16:37		8015 gas
II_ 40K (5-6)					16:39		VOC's
II_ 40K (10-11)					16:46		
9-TB-120308							

Relinquished By: [signature] Date/Time: 12-3-08 Received By: [signature] Date/Time: 12-3-08 1730
Relinquished By: [signature] Date/Time: 12-3-08 1835 Received By: [signature] Date/Time: 12-3-08 ~
Relinquished By: [signature] Date/Time: 12/4/08 0910 Received In Lab By: [signature] Date/Time: 12-3-08 2010

Turnaround Time: (Check) same day ___ 24 hours ___ 48 hours ___ 5 days ___ 72 hours ___ normal ___
Sample Integrity: (Check) intact ___ on ice ___

Special Instructions: A=Analyze H=Hold FAX COC to Derrick.Willis@AS.AP

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

12-5-08

Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

LABORATORY ID	CLIENT ID	MATRIX
IRL0634-11	II_37H (5-6)	Soil
IRL0634-12	II_37H (9-10)	Soil
IRL0634-13	II_27H (0-1)	Soil
IRL0634-14	II_27H (5-6)	Soil
IRL0634-15	TB-120408	Water
IRL0634-16	II_27H (10-11)	Soil
IRL0634-17	II_21I-1 (0-1)	Soil
IRL0634-18	II_21I-1 (5-6)	Soil
IRL0634-19	II_21I-2 (0-1)	Soil
IRL0634-20	II_21I-2 (5-6)	Soil
IRL0634-21	II_10I (0-1)	Soil
IRL0634-22	II_10I (5-6)	Soil
IRL0634-23	II_10I (10-11)	Soil
IRL0634-24	II_5G (0-1)	Soil
IRL0634-25	II_5G (5-6)	Soil
IRL0634-26	II_5G (10-11)	Soil
IRL0634-27	II_14J (0-1)	Soil
IRL0634-28	II_14J (5-6)	Soil
IRL0634-29	II_14J (10-11)	Soil
IRL0634-30	II_14J (15-16)	Soil
IRL0634-31	II_14J (19-20)	Soil
IRL0634-32	II_36K (0-1)	Soil
IRL0634-33	II_36K (5-6)	Soil
IRL0634-34	II_36K (10-11)	Soil
IRL0634-35	II_36K (15-16)	Soil
IRL0634-36	II_CT-2 (0-1)	Soil
IRL0634-37	II_CT-2 (5-6)	Soil
IRL0634-38	II_CT-2 (10-11)	Soil
IRL0634-39	II_CT-1 (0-1)	Soil
IRL0634-40	II_CT-1 (5-6)	Soil
IRL0634-41	II_CT-1 (10-11)	Soil
IRL0634-42	II_CT-3 (0-1)	Soil
IRL0634-43	II_CT-3 (5-6)	Soil
IRL0634-44	II_CT-3 (10-11)	Soil
IRL0634-46	TB-120408	Soil

Reviewed By:

TestAmerica Irvine

Patty Mata
Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-01 (II_39D (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*94 %*				
Sample ID: IRL0634-02 (II_39D (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*92 %*				
Sample ID: IRL0634-03 (II_39D (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*87 %*				
Sample ID: IRL0634-04 (II_31A (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	2000	ND	1000	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	2000	**5700**	1000	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*1250 %*				*Z3*
Sample ID: IRL0634-05 (II_31A (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	2000	ND	999	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	2000	**5800**	999	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*723 %*				*Z3*
Sample ID: IRL0634-06 (II_31A (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	20	ND	10	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	20	**72**	10	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*85 %*				*Z3*
Sample ID: IRL0634-07 (II_31A (15-16) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*86 %*				

TestAmerica Irvine

Patty Mata
Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System 2024.01.01S-01
Report Number: IRL0634
Sampled: 12/04/08
Received: 12/04/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-08 (II_27A (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	2.0	**2.0**	1	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*98 %*				
Sample ID: IRL0634-09 (II_27A (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*84 %*				
Sample ID: IRL0634-10 (II_37H (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	4000	ND	2000	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	4000	**8400**	2000	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*1950 %*				*Z3*
Sample ID: IRL0634-11 (II_37H (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	8000	ND	4000	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	8000	**19000**	4000	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*4060 %*				*Z3*
Sample ID: IRL0634-12 (II_37H (9-10) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*92 %*				
Sample ID: IRL0634-13 (II_27H (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	400	**400**	200	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	400	**1100**	200	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*214 %*				*Z3*
Sample ID: IRL0634-14 (II_27H (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*80 %*				

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System 2024.01.01S-01
Report Number: IRL0634
Sampled: 12/04/08
Received: 12/04/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-16 (II_27H (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*86 %*				
Sample ID: IRL0634-17 (II_21I-1 (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*93 %*				
Sample ID: IRL0634-18 (II_21I-1 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*83 %*				
Sample ID: IRL0634-19 (II_21I-2 (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*92 %*				
Sample ID: IRL0634-20 (II_21I-2 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*98 %*				
Sample ID: IRL0634-21 (II_10I (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05015	2.0	ND	1	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*99 %*				
Sample ID: IRL0634-22 (II_10I (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05052	2.0	ND	1	12/5/2008	12/5/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05052	2.0	ND	1	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*70 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-23 (II_10I (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05052	2.0	ND	1	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05052	2.0	ND	1	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*79 %*				
Sample ID: IRL0634-24 (II_5G (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05052	10000	ND	5000	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05052	10000	**16000**	5000	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*302 %*				*Z3*
Sample ID: IRL0634-25 (II_5G (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05052	2.0	ND	1	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05052	2.0	ND	1	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*69 %*				
Sample ID: IRL0634-26 (II_5G (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05052	2.0	ND	1	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05052	2.0	ND	1	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*72 %*				
Sample ID: IRL0634-27 (II_14J (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05052	4000	ND	2000	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05052	4000	**8600**	2000	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*446 %*				*Z3*
Sample ID: IRL0634-28 (II_14J (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05052	2000	ND	998	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05052	2000	**3100**	998	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*196 %*				*Z3*
Sample ID: IRL0634-29 (II_14J (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05052	2000	ND	1000	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05052	2000	**4400**	1000	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*190 %*				*Z3*

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-30 (II_14J (15-16) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05052	2.0	ND	1	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05052	2.0	**3.5**	1	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*72 %*				
Sample ID: IRL0634-31 (II_14J (19-20) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05052	2.0	ND	1	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05052	2.0	ND	1	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*73 %*				
Sample ID: IRL0634-32 (II_36K (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05052	6000	ND	3000	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05052	6000	**12000**	3000	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*374 %*				*Z3*
Sample ID: IRL0634-33 (II_36K (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05052	2000	ND	1000	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05052	2000	**2500**	1000	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*116 %*				*Z3*
Sample ID: IRL0634-34 (II_36K (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05052	2.0	ND	1	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05052	2.0	ND	1	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*72 %*				
Sample ID: IRL0634-35 (II_36K (15-16) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L05052	2.0	ND	1	12/5/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L05052	2.0	ND	1	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*77 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-01 (II_39D (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05039	1.8	ND	0.876	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05039	1.8	ND	0.876	12/5/2008	12/5/2008	
Toluene	EPA 8260B	8L05039	1.8	ND	0.876	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05039	1.8	ND	0.876	12/5/2008	12/5/2008	
o-Xylene	EPA 8260B	8L05039	1.8	ND	0.876	12/5/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L05039	3.5	ND	0.876	12/5/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*94 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0634-02 (II_39D (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05039	2.1	ND	1.03	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05039	2.1	ND	1.03	12/5/2008	12/5/2008	
Toluene	EPA 8260B	8L05039	2.1	ND	1.03	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05039	2.1	ND	1.03	12/5/2008	12/5/2008	
o-Xylene	EPA 8260B	8L05039	2.1	ND	1.03	12/5/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L05039	4.1	ND	1.03	12/5/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0634-03 (II_39D (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05039	1.6	ND	0.812	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05039	1.6	ND	0.812	12/5/2008	12/5/2008	
Toluene	EPA 8260B	8L05039	1.6	ND	0.812	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05039	1.6	ND	0.812	12/5/2008	12/5/2008	
o-Xylene	EPA 8260B	8L05039	1.6	ND	0.812	12/5/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L05039	3.2	ND	0.812	12/5/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-04 (II_31A (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06014	1.6	ND	0.796	12/6/2008	12/6/2008	I
Ethylbenzene	EPA 8260B	8L06014	1.6	**3.6**	0.796	12/6/2008	12/6/2008	I
Toluene	EPA 8260B	8L06014	1.6	ND	0.796	12/6/2008	12/6/2008	I
m,p-Xylenes	EPA 8260B	8L06014	1.6	ND	0.796	12/6/2008	12/6/2008	I
o-Xylene	EPA 8260B	8L06014	1.6	ND	0.796	12/6/2008	12/6/2008	I
Xylenes, Total	EPA 8260B	8L06014	3.2	ND	0.796	12/6/2008	12/6/2008	I
Surrogate: 4-Bromofluorobenzene (75-120%)				*63 %*				*Z*
Surrogate: Dibromofluoromethane (80-135%)				*142 %*				*ZX*
Surrogate: Toluene-d8 (80-120%)				*70 %*				*Z*
Sample ID: IRL0634-05 (II_31A (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06014	1.8	ND	0.88	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06014	1.8	ND	0.88	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06014	1.8	ND	0.88	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06014	1.8	ND	0.88	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06014	1.8	ND	0.88	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06014	3.5	ND	0.88	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*77 %*				
Surrogate: Dibromofluoromethane (80-135%)				*105 %*				
Surrogate: Toluene-d8 (80-120%)				*81 %*				
Sample ID: IRL0634-06 (II_31A (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06014	1.9	ND	0.965	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06014	1.9	ND	0.965	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06014	1.9	ND	0.965	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06014	1.9	ND	0.965	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06014	1.9	ND	0.965	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06014	3.9	ND	0.965	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*75 %*				
Surrogate: Dibromofluoromethane (80-135%)				*109 %*				
Surrogate: Toluene-d8 (80-120%)				*81 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-07 (II_31A (15-16) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06014	1.9	ND	0.936	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06014	1.9	ND	0.936	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06014	1.9	ND	0.936	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06014	1.9	ND	0.936	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06014	1.9	ND	0.936	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06014	3.7	ND	0.936	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*96 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0634-08 (II_27A (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05039	1.6	ND	0.792	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05039	1.6	ND	0.792	12/5/2008	12/5/2008	
Toluene	EPA 8260B	8L05039	1.6	ND	0.792	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05039	1.6	ND	0.792	12/5/2008	12/5/2008	
o-Xylene	EPA 8260B	8L05039	1.6	ND	0.792	12/5/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L05039	3.2	ND	0.792	12/5/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*88 %*				
Sample ID: IRL0634-09 (II_27A (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05039	1.9	ND	0.963	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05039	1.9	ND	0.963	12/5/2008	12/5/2008	
Toluene	EPA 8260B	8L05039	1.9	ND	0.963	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05039	1.9	ND	0.963	12/5/2008	12/5/2008	
o-Xylene	EPA 8260B	8L05039	1.9	ND	0.963	12/5/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L05039	3.9	ND	0.963	12/5/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				

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Northgate Environmental Management
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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-10 (II_37H (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06014	1.6	ND	0.81	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06014	1.6	ND	0.81	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06014	1.6	ND	0.81	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06014	1.6	ND	0.81	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06014	1.6	ND	0.81	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06014	3.2	ND	0.81	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*79 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*89 %*				
Sample ID: IRL0634-11 (II_37H (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	1.7	ND	0.843	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	1.7	**25**	0.843	12/7/2008	12/7/2008	I
Toluene	EPA 8260B	8L07005	1.7	ND	0.843	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	1.7	**1.7**	0.843	12/7/2008	12/7/2008	I
o-Xylene	EPA 8260B	8L07005	1.7	ND	0.843	12/7/2008	12/7/2008	I
Xylenes, Total	EPA 8260B	8L07005	3.4	ND	0.843	12/7/2008	12/7/2008	I
Surrogate: 4-Bromofluorobenzene (75-120%)				*54 %*				Z
Surrogate: Dibromofluoromethane (80-135%)				*109 %*				
Surrogate: Toluene-d8 (80-120%)				*73 %*				Z
Sample ID: IRL0634-12 (II_37H (9-10) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06014	1.9	ND	0.958	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06014	1.9	ND	0.958	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06014	1.9	ND	0.958	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06014	1.9	ND	0.958	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06014	1.9	ND	0.958	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06014	3.8	ND	0.958	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*95 %*				
Surrogate: Dibromofluoromethane (80-135%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*93 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-13 (II_27H (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06014	1.6	ND	0.81	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06014	1.6	ND	0.81	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06014	1.6	ND	0.81	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06014	1.6	ND	0.81	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06014	1.6	ND	0.81	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06014	3.2	ND	0.81	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*95 %*				
Surrogate: Dibromofluoromethane (80-135%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0634-14 (II_27H (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05039	2.2	ND	1.08	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05039	2.2	ND	1.08	12/5/2008	12/5/2008	
Toluene	EPA 8260B	8L05039	2.2	ND	1.08	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05039	2.2	ND	1.08	12/5/2008	12/5/2008	
o-Xylene	EPA 8260B	8L05039	2.2	ND	1.08	12/5/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L05039	4.3	ND	1.08	12/5/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0634-16 (II_27H (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05039	2.1	ND	1.04	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05039	2.1	ND	1.04	12/5/2008	12/5/2008	
Toluene	EPA 8260B	8L05039	2.1	ND	1.04	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05039	2.1	ND	1.04	12/5/2008	12/5/2008	
o-Xylene	EPA 8260B	8L05039	2.1	ND	1.04	12/5/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L05039	4.2	ND	1.04	12/5/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*96 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				

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2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-17 (II_21I-1 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05039	1.6	ND	0.775	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05039	1.6	ND	0.775	12/5/2008	12/5/2008	
Toluene	EPA 8260B	8L05039	1.6	ND	0.775	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05039	1.6	ND	0.775	12/5/2008	12/5/2008	
o-Xylene	EPA 8260B	8L05039	1.6	ND	0.775	12/5/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L05039	3.1	ND	0.775	12/5/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-135%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0634-18 (II_21I-1 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05039	1.9	ND	0.929	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05039	1.9	ND	0.929	12/5/2008	12/5/2008	
Toluene	EPA 8260B	8L05039	1.9	ND	0.929	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05039	1.9	ND	0.929	12/5/2008	12/5/2008	
o-Xylene	EPA 8260B	8L05039	1.9	ND	0.929	12/5/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L05039	3.7	ND	0.929	12/5/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				
Sample ID: IRL0634-19 (II_21I-2 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05039	1.6	ND	0.803	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05039	1.6	ND	0.803	12/5/2008	12/5/2008	
Toluene	EPA 8260B	8L05039	1.6	ND	0.803	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05039	1.6	ND	0.803	12/5/2008	12/5/2008	
o-Xylene	EPA 8260B	8L05039	1.6	ND	0.803	12/5/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L05039	3.2	ND	0.803	12/5/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-135%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				

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Received: 12/04/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-20 (II_21I-2 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05039	1.9	ND	0.954	12/5/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L05039	1.9	ND	0.954	12/5/2008	12/6/2008	
Toluene	EPA 8260B	8L05039	1.9	ND	0.954	12/5/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L05039	1.9	ND	0.954	12/5/2008	12/6/2008	
o-Xylene	EPA 8260B	8L05039	1.9	ND	0.954	12/5/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L05039	3.8	ND	0.954	12/5/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-135%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0634-21 (II_10I (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05039	1.7	ND	0.852	12/5/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L05039	1.7	ND	0.852	12/5/2008	12/6/2008	
Toluene	EPA 8260B	8L05039	1.7	ND	0.852	12/5/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L05039	1.7	ND	0.852	12/5/2008	12/6/2008	
o-Xylene	EPA 8260B	8L05039	1.7	ND	0.852	12/5/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L05039	3.4	ND	0.852	12/5/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-135%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0634-22 (II_10I (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05039	2.0	ND	1.01	12/5/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L05039	2.0	ND	1.01	12/5/2008	12/6/2008	
Toluene	EPA 8260B	8L05039	2.0	ND	1.01	12/5/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L05039	2.0	ND	1.01	12/5/2008	12/6/2008	
o-Xylene	EPA 8260B	8L05039	2.0	ND	1.01	12/5/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L05039	4.0	ND	1.01	12/5/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*93 %*				

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Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-23 (II_10I (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05034	2.1	ND	1.03	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05034	2.1	ND	1.03	12/5/2008	12/5/2008	
Toluene	EPA 8260B	8L05034	2.1	ND	1.03	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05034	2.1	ND	1.03	12/5/2008	12/5/2008	
o-Xylene	EPA 8260B	8L05034	2.1	ND	1.03	12/5/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L05034	4.1	ND	1.03	12/5/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*97 %*				
Surrogate: Dibromofluoromethane (80-135%)				*94 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				
Sample ID: IRL0634-24 (II_5G (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08024	110	ND	109	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L08024	110	**1300**	109	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L08024	110	**630**	109	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L08024	110	ND	109	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L08024	110	ND	109	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L08024	220	ND	109	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (65-140%)				*80 %*				
Surrogate: Dibromofluoromethane (55-140%)				*99 %*				
Surrogate: Toluene-d8 (60-140%)				*86 %*				
Sample ID: IRL0634-25 (II_5G (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06014	1.7	ND	0.843	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06014	1.7	ND	0.843	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06014	1.7	ND	0.843	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06014	1.7	ND	0.843	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06014	1.7	ND	0.843	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06014	3.4	ND	0.843	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*96 %*				
Surrogate: Toluene-d8 (80-120%)				*90 %*				

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Sampled: 12/04/08
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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-26 (II_5G (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06014	2.1	ND	1.06	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06014	2.1	ND	1.06	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06014	2.1	ND	1.06	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06014	2.1	ND	1.06	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06014	2.1	ND	1.06	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06014	4.2	ND	1.06	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*95 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				
Sample ID: IRL0634-27 (II_14J (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05034	1.7	ND	0.852	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05034	1.7	**160**	0.852	12/5/2008	12/5/2008	I
Toluene	EPA 8260B	8L05034	1.7	**29**	0.852	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05034	1.7	**8.2**	0.852	12/5/2008	12/5/2008	I
o-Xylene	EPA 8260B	8L05034	1.7	**4.9**	0.852	12/5/2008	12/5/2008	I
Xylenes, Total	EPA 8260B	8L05034	3.4	**13**	0.852	12/5/2008	12/5/2008	I
Surrogate: 4-Bromofluorobenzene (75-120%)				*49 %*				*Z*
Surrogate: Dibromofluoromethane (80-135%)				*123 %*				
Surrogate: Toluene-d8 (80-120%)				*73 %*				*Z*
Sample ID: IRL0634-28 (II_14J (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06014	1.9	ND	0.975	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06014	1.9	**30**	0.975	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06014	1.9	**3.0**	0.975	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06014	1.9	**2.5**	0.975	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06014	1.9	ND	0.975	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06014	3.9	**4.2**	0.975	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*75 %*				
Surrogate: Dibromofluoromethane (80-135%)				*107 %*				
Surrogate: Toluene-d8 (80-120%)				*85 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-29 (II_14J (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06014	2.0	ND	0.984	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06014	2.0	**88**	0.984	12/6/2008	12/6/2008	I
Toluene	EPA 8260B	8L06014	2.0	**8.8**	0.984	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06014	2.0	**4.6**	0.984	12/6/2008	12/6/2008	I
o-Xylene	EPA 8260B	8L06014	2.0	**3.0**	0.984	12/6/2008	12/6/2008	I
Xylenes, Total	EPA 8260B	8L06014	3.9	**7.6**	0.984	12/6/2008	12/6/2008	I
Surrogate: 4-Bromofluorobenzene (75-120%)				*70 %*				*Z*
Surrogate: Dibromofluoromethane (80-135%)				*137 %*				*ZX*
Surrogate: Toluene-d8 (80-120%)				*66 %*				*Z*
Sample ID: IRL0634-30 (II_14J (15-16) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06014	2.0	ND	0.994	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06014	2.0	ND	0.994	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06014	2.0	ND	0.994	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06014	2.0	ND	0.994	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06014	2.0	ND	0.994	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06014	4.0	ND	0.994	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*87 %*				
Sample ID: IRL0634-31 (II_14J (19-20) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05034	1.9	ND	0.926	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05034	1.9	ND	0.926	12/5/2008	12/5/2008	
Toluene	EPA 8260B	8L05034	1.9	ND	0.926	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05034	1.9	ND	0.926	12/5/2008	12/5/2008	
o-Xylene	EPA 8260B	8L05034	1.9	ND	0.926	12/5/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L05034	3.7	ND	0.926	12/5/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*95 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634
Sampled: 12/04/08
Received: 12/04/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-32 (II_36K (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08020	1.8	**2.6**	0.887	12/8/2008	12/8/2008	
Ethylbenzene	EPA 8260B	8L08020	1.8	**270**	0.887	12/8/2008	12/8/2008	
Toluene	EPA 8260B	8L08020	1.8	**25**	0.887	12/8/2008	12/8/2008	
m,p-Xylenes	EPA 8260B	8L08020	1.8	**10**	0.887	12/8/2008	12/8/2008	
o-Xylene	EPA 8260B	8L08020	1.8	**2.6**	0.887	12/8/2008	12/8/2008	
Xylenes, Total	EPA 8260B	8L08020	3.5	**13**	0.887	12/8/2008	12/8/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*53 %*				*Z*
Surrogate: Dibromofluoromethane (80-135%)				*134 %*				
Surrogate: Toluene-d8 (80-120%)				*68 %*				*Z*
Sample ID: IRL0634-33 (II_36K (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06014	1.8	ND	0.906	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06014	1.8	ND	0.906	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06014	1.8	ND	0.906	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06014	1.8	ND	0.906	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06014	1.8	ND	0.906	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06014	3.6	ND	0.906	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*96 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0634-34 (II_36K (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05034	1.9	ND	0.975	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05034	1.9	ND	0.975	12/5/2008	12/5/2008	
Toluene	EPA 8260B	8L05034	1.9	ND	0.975	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05034	1.9	ND	0.975	12/5/2008	12/5/2008	
o-Xylene	EPA 8260B	8L05034	1.9	ND	0.975	12/5/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L05034	3.9	ND	0.975	12/5/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*96 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*98 %*				

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2024.01.01S-01
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Sampled: 12/04/08
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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-35 (II_36K (15-16) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L05034	1.9	ND	0.958	12/5/2008	12/5/2008	
Ethylbenzene	EPA 8260B	8L05034	1.9	ND	0.958	12/5/2008	12/5/2008	
Toluene	EPA 8260B	8L05034	1.9	ND	0.958	12/5/2008	12/5/2008	
m,p-Xylenes	EPA 8260B	8L05034	1.9	ND	0.958	12/5/2008	12/5/2008	
o-Xylene	EPA 8260B	8L05034	1.9	ND	0.958	12/5/2008	12/5/2008	
Xylenes, Total	EPA 8260B	8L05034	3.8	ND	0.958	12/5/2008	12/5/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*98 %*				

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Received: 12/04/08

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-36 (II_CT-2 (0-1) - Soil)								
Reporting Units: pH Units								
pH	EPA 9045C	8L05071	0.100	8.26	1	12/5/2008	12/5/2008	
Sample ID: IRL0634-37 (II_CT-2 (5-6) - Soil)								
Reporting Units: pH Units								
pH	EPA 9045C	8L05071	0.100	8.01	1	12/5/2008	12/5/2008	
Sample ID: IRL0634-38 (II_CT-2 (10-11) - Soil)								
Reporting Units: pH Units								
pH	EPA 9045C	8L05071	0.100	8.05	1	12/5/2008	12/5/2008	
Sample ID: IRL0634-39 (II_CT-1 (0-1) - Soil)								
Reporting Units: pH Units								
pH	EPA 9045C	8L05071	0.100	7.61	1	12/5/2008	12/5/2008	
Sample ID: IRL0634-40 (II_CT-1 (5-6) - Soil)								
Reporting Units: pH Units								
pH	EPA 9045C	8L05071	0.100	8.14	1	12/5/2008	12/5/2008	
Sample ID: IRL0634-41 (II_CT-1 (10-11) - Soil)								
Reporting Units: pH Units								
pH	EPA 9045C	8L05071	0.100	7.80	1	12/5/2008	12/5/2008	
Sample ID: IRL0634-42 (II_CT-3 (0-1) - Soil)								
Reporting Units: pH Units								
pH	EPA 9045C	8L05071	0.100	8.63	1	12/5/2008	12/5/2008	
Sample ID: IRL0634-43 (II_CT-3 (5-6) - Soil)								
Reporting Units: pH Units								
pH	EPA 9045C	8L05071	0.100	7.87	1	12/5/2008	12/5/2008	
Sample ID: IRL0634-44 (II_CT-3 (10-11) - Soil)								
Reporting Units: pH Units								
pH	EPA 9045C	8L05071	0.100	8.17	1	12/5/2008	12/5/2008	

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Project ID: Solar Energy Generating System
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Sampled: 12/04/08
Received: 12/04/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-01 (II_39D (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	5.0	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				73 %					
Sample ID: IRL0634-02 (II_39D (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	5.0	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor		Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-02 (II_39D (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
Surrogate: n-Octacosane (40-125%)				*88 %*					
Sample ID: IRL0634-03 (II_39D (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	5.0	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*76 %*					
Sample ID: IRL0634-04 (II_31A (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	5000	**10000**	1000	100	12/5/2008	12/7/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	3500	**7700**	1000	77	12/5/2008	12/7/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-04 (II_31A (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*804 %*					*23*
Sample ID: IRL0634-05 (II_31A (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	5000	**7600**	1000	100	12/5/2008	12/7/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	3500	**5900**	1000	78	12/5/2008	12/7/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	3500	ND	1000	N/A	12/5/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*462 %*					*23*
Sample ID: IRL0634-06 (II_31A (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	50	81	10	100	12/5/2008	12/7/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	35	62	10	77	12/5/2008	12/7/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	35	ND	10	N/A	12/5/2008	12/7/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	35	ND	10	N/A	12/5/2008	12/7/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	35	ND	10	N/A	12/5/2008	12/7/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	35	ND	10	N/A	12/5/2008	12/7/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	35	ND	10	N/A	12/5/2008	12/7/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	35	ND	10	N/A	12/5/2008	12/7/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	35	ND	10	N/A	12/5/2008	12/7/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	35	ND	10	N/A	12/5/2008	12/7/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-06 (II_31A (10-11) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	35	ND	10	N/A	12/5/2008	12/7/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	35	ND	10	N/A	12/5/2008	12/7/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	35	ND	10	N/A	12/5/2008	12/7/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	35	ND	10	N/A	12/5/2008	12/7/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	35	ND	10	N/A	12/5/2008	12/7/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	35	ND	10	N/A	12/5/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*57 %*					*Z3*
Sample ID: IRL0634-07 (II_31A (15-16) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	5.0	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*103 %*					

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-08 (II_27A (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	5.0	**24**	1	100	12/5/2008	12/6/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	3.5	7.4	1	31	12/5/2008	12/6/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	3.5	7.3	1	30	12/5/2008	12/6/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*88 %*					
Sample ID: IRL0634-09 (II_27A (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	5.0	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	

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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor		Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-09 (II_27A (10-11) - Soil) - cont.									
Reporting Units: mg/kg									
Surrogate: n-Octacosane (40-125%)				*62 %*					
Sample ID: IRL0634-10 (II_37H (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	10000	**10000**	2000	100	12/5/2008	12/7/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	7000	**7900**	2000	79	12/5/2008	12/7/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*446 %*					*Z3*
Sample ID: IRL0634-11 (II_37H (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	10000	**20000**	2000	100	12/5/2008	12/7/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	7000	**15000**	2000	75	12/5/2008	12/7/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	

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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-11 (II_37H (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	7000	ND	2000	N/A	12/5/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*1450 %*					*Z3*
Sample ID: IRL0634-12 (II_37H (9-10) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	5.0	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*71 %*					
Sample ID: IRL0634-13 (II_27H (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	2500	**2700**	500	100	12/5/2008	12/7/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	1800	**2200**	500	81	12/5/2008	12/7/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	1800	ND	500	N/A	12/5/2008	12/7/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	1800	ND	500	N/A	12/5/2008	12/7/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	1800	ND	500	N/A	12/5/2008	12/7/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	1800	ND	500	N/A	12/5/2008	12/7/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	1800	ND	500	N/A	12/5/2008	12/7/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	1800	ND	500	N/A	12/5/2008	12/7/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	1800	ND	500	N/A	12/5/2008	12/7/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	1800	ND	500	N/A	12/5/2008	12/7/2008	

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Received: 12/04/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-13 (II_27H (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	1800	ND	500	N/A	12/5/2008	12/7/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	1800	ND	500	N/A	12/5/2008	12/7/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	1800	ND	500	N/A	12/5/2008	12/7/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	1800	ND	500	N/A	12/5/2008	12/7/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	1800	ND	500	N/A	12/5/2008	12/7/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	1800	ND	500	N/A	12/5/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*98 %*					*Z3*
Sample ID: IRL0634-14 (II_27H (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	5.0	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*118 %*					

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634
Sampled: 12/04/08
Received: 12/04/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-16 (II_27H (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	5.0	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/5/2008	
Surrogate: n-Octacosane (40-125%)				*69 %*					
Sample ID: IRL0634-17 (II_21I-1 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	5.0	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor		Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-17 (II_21I-1 (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
Surrogate: n-Octacosane (40-125%)				*61 %*					
Sample ID: IRL0634-18 (II_21I-1 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	5.0	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*104 %*					
Sample ID: IRL0634-19 (II_21I-2 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	5.0	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	

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Northgate Environmental Management
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Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-19 (II_21I-2 (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*65 %*					
Sample ID: IRL0634-20 (II_21I-2 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	5.0	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*72 %*					
Sample ID: IRL0634-21 (II_10I (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05016	5.0	14	1	100	12/5/2008	12/6/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	

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Project Manager

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Northgate Environmental Management
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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-21 (II_10I (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C31 - C32)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05016	3.5	ND	1	N/A	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*71 %*					
Sample ID: IRL0634-22 (II_10I (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05051	5.0	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*71 %*					

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17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-23 (II_10I (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05051	5.0	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*78 %*					
Sample ID: IRL0634-24 (II_5G (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05051	20000	**22000**	4000	100	12/5/2008	12/7/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05051	14000	**20000**	4000	91	12/5/2008	12/7/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	

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HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor		Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-24 (II_5G (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
Surrogate: n-Octacosane (40-125%)				*314 %*					*Z3*
Sample ID: IRL0634-25 (II_5G (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05051	5.0	**5.1**	1	100	12/5/2008	12/6/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05051	3.5	**4.1**	1	80	12/5/2008	12/6/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*80 %*					
Sample ID: IRL0634-26 (II_5G (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05051	5.0	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	

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HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-26 (II_5G (10-11) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C37 - C38)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*81 %*					
Sample ID: IRL0634-27 (II_14J (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05051	5000	**6400**	1000	100	12/5/2008	12/7/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05051	3500	**5100**	1000	80	12/5/2008	12/7/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*325 %*					*Z3*
Sample ID: IRL0634-28 (II_14J (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05051	2500	**5100**	500	100	12/5/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05051	1800	**4300**	500	84	12/5/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05051	1800	ND	500	N/A	12/5/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05051	1800	ND	500	N/A	12/5/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05051	1800	ND	500	N/A	12/5/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05051	1800	ND	500	N/A	12/5/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05051	1800	ND	500	N/A	12/5/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05051	1800	ND	500	N/A	12/5/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05051	1800	ND	500	N/A	12/5/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05051	1800	ND	500	N/A	12/5/2008	12/8/2008	

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HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-28 (II_14J (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C31 - C32)	EPA 8015 MOD.	8L05051	1800	ND	500	N/A	12/5/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05051	1800	ND	500	N/A	12/5/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05051	1800	ND	500	N/A	12/5/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05051	1800	ND	500	N/A	12/5/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05051	1800	ND	500	N/A	12/5/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05051	1800	ND	500	N/A	12/5/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*282 %*					*Z3*
Sample ID: IRL0634-29 (II_14J (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05051	5000	**6900**	1000	100	12/5/2008	12/7/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05051	3500	**6000**	1000	87	12/5/2008	12/7/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*145 %*					*Z3*

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HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-30 (II_14J (15-16) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05051	5.0	**10**	0.999	100	12/5/2008	12/6/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05051	3.5	**7.7**	0.999	77	12/5/2008	12/6/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05051	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05051	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05051	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05051	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05051	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05051	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05051	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05051	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05051	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05051	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05051	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05051	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05051	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05051	3.5	ND	0.999	N/A	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*80 %*					
Sample ID: IRL0634-31 (II_14J (19-20) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05051	5.0	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor		Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-31 (II_14J (19-20) - Soil) - cont.									
Reporting Units: mg/kg									
Surrogate: n-Octacosane (40-125%)				*83 %*					
Sample ID: IRL0634-32 (II_36K (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05051	20000	**25000**	4000	100	12/5/2008	12/7/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05051	14000	**22000**	4000	88	12/5/2008	12/7/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05051	14000	ND	4000	N/A	12/5/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*469 %*					*Z3*
Sample ID: IRL0634-33 (II_36K (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05051	5000	**9500**	1000	100	12/5/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05051	3500	**8300**	1000	87	12/5/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/8/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-33 (II_36K (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C37 - C38)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05051	3500	ND	1000	N/A	12/5/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*336 %*					*Z3*
Sample ID: IRL0634-34 (II_36K (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05051	5.0	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*81 %*					
Sample ID: IRL0634-35 (II_36K (15-16) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L05051	5.0	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-35 (II_36K (15-16) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C31 - C32)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L05051	3.5	ND	1	N/A	12/5/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*66 %*					

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2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

METHOD BLANK/QC DATA

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L05015 Extracted: 12/05/08										
Blank Analyzed: 12/05/2008 (8L05015-BLK1)										
1,1'-Biphenyl	ND	2.0	mg/kg							
1,1'-Oxybisbenzene	ND	2.0	mg/kg							
Surrogate: n-Octacosane	*5.35*		*mg/kg*	*6.67*		*80*	*40-125*			
LCS Analyzed: 12/05/2008 (8L05015-BS1)										
1,1'-Biphenyl	2.81	2.0	mg/kg	3.33		84	50-115			
1,1'-Oxybisbenzene	2.81	2.0	mg/kg	3.33		84	50-115			
Surrogate: n-Octacosane	*6.12*		*mg/kg*	*6.67*		*92*	*40-125*			
Matrix Spike Analyzed: 12/05/2008 (8L05015-MS1)					**Source: IRL0634-02**					
1,1'-Biphenyl	2.78	2.0	mg/kg	3.33	ND	83	35-120			
1,1'-Oxybisbenzene	2.96	2.0	mg/kg	3.33	ND	89	35-120			
Surrogate: n-Octacosane	*6.30*		*mg/kg*	*6.67*		*95*	*40-125*			
Matrix Spike Dup Analyzed: 12/05/2008 (8L05015-MSD1)					**Source: IRL0634-02**					
1,1'-Biphenyl	2.53	2.0	mg/kg	3.33	ND	76	35-120	9	30	
1,1'-Oxybisbenzene	2.53	2.0	mg/kg	3.33	ND	76	35-120	16	30	
Surrogate: n-Octacosane	*5.70*		*mg/kg*	*6.67*		*85*	*40-125*			
Batch: 8L05052 Extracted: 12/05/08										
Blank Analyzed: 12/05/2008 (8L05052-BLK1)										
1,1'-Biphenyl	ND	2.0	mg/kg							
1,1'-Oxybisbenzene	ND	2.0	mg/kg							
Surrogate: n-Octacosane	*3.73*		*mg/kg*	*6.67*		*56*	*40-125*			
LCS Analyzed: 12/05/2008 (8L05052-BS1)										
1,1'-Biphenyl	2.15	2.0	mg/kg	3.33		65	50-115			
1,1'-Oxybisbenzene	2.17	2.0	mg/kg	3.33		65	50-115			
Surrogate: n-Octacosane	*4.86*		*mg/kg*	*6.67*		*73*	*40-125*			

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

METHOD BLANK/QC DATA

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L05052 Extracted: 12/05/08										
Matrix Spike Analyzed: 12/05/2008 (8L05052-MS1)					Source: IRL0634-31					
1,1'-Biphenyl	2.06	2.0	mg/kg	3.33	ND	62	35-120			
1,1'-Oxybisbenzene	2.23	2.0	mg/kg	3.33	ND	67	35-120			
Surrogate: n-Octacosane	*4.70*		*mg/kg*	*6.67*		*70*	*40-125*			
Matrix Spike Dup Analyzed: 12/05/2008 (8L05052-MSD1)					Source: IRL0634-31					
1,1'-Biphenyl	2.19	2.0	mg/kg	3.33	ND	66	35-120	6	30	
1,1'-Oxybisbenzene	2.33	2.0	mg/kg	3.33	ND	70	35-120	5	30	
Surrogate: n-Octacosane	*4.86*		*mg/kg*	*6.67*		*73*	*40-125*			

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Sampled: 12/04/08
Received: 12/04/08

METHOD BLANK/QC DATA

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L05016 Extracted: 12/05/08										
Blank Analyzed: 12/05/2008 (8L05016-BLK1)										
EFH (C13 - C44)	ND	5.0	mg/kg							
EFH (C13 - C28)	ND	5.0	mg/kg							
Surrogate: n-Octacosane	*4.18*		*mg/kg*	*6.67*		*63*	*40-125*			
LCS Analyzed: 12/05/2008 (8L05016-BS1)										
EFH (C13 - C28)	18.7	5.0	mg/kg	25.0		75	45-115			
Surrogate: n-Octacosane	*6.04*		*mg/kg*	*6.67*		*91*	*40-125*			
Matrix Spike Analyzed: 12/05/2008 (8L05016-MS1)					Source: IRL0634-09					
EFH (C13 - C44)	20.5	5.0	mg/kg	33.3	ND	61	40-120			
Surrogate: n-Octacosane	*6.21*		*mg/kg*	*6.67*		*93*	*40-125*			
Matrix Spike Dup Analyzed: 12/05/2008 (8L05016-MSD1)					Source: IRL0634-09					
EFH (C13 - C44)	20.9	5.0	mg/kg	33.3	ND	63	40-120	2	30	
Surrogate: n-Octacosane	*6.28*		*mg/kg*	*6.67*		*94*	*40-125*			
Batch: 8L05051 Extracted: 12/05/08										
Blank Analyzed: 12/06/2008 (8L05051-BLK1)										
EFH (C13 - C44)	ND	5.0	mg/kg							
EFH (C13 - C28)	ND	5.0	mg/kg							
Surrogate: n-Octacosane	*5.21*		*mg/kg*	*6.67*		*78*	*40-125*			
LCS Analyzed: 12/06/2008 (8L05051-BS1)										
EFH (C13 - C28)	17.7	5.0	mg/kg	25.0		71	45-115			
Surrogate: n-Octacosane	*5.01*		*mg/kg*	*6.67*		*75*	*40-125*			

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METHOD BLANK/QC DATA

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L05051 Extracted: 12/05/08										
Matrix Spike Analyzed: 12/06/2008 (8L05051-MS1)					Source: IRL0634-31					
EFH (C13 - C44)	17.1	5.0	mg/kg	33.3	ND	51	40-120			
Surrogate: n-Octacosane	*5.02*		*mg/kg*	*6.67*		*75*	*40-125*			
Matrix Spike Dup Analyzed: 12/06/2008 (8L05051-MSD1)					Source: IRL0634-31					
EFH (C13 - C44)	16.9	5.0	mg/kg	33.3	ND	51	40-120	1	30	
Surrogate: n-Octacosane	*4.76*		*mg/kg*	*6.67*		*71*	*40-125*			

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L05034 Extracted: 12/05/08										
Blank Analyzed: 12/05/2008 (8L05034-BLK1)										
Benzene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*46.8*		*ug/kg*	*50.0*		*94*	*75-120*			
Surrogate: Dibromofluoromethane	*46.9*		*ug/kg*	*50.0*		*94*	*80-135*			
Surrogate: Toluene-d8	*48.1*		*ug/kg*	*50.0*		*96*	*80-120*			
LCS Analyzed: 12/05/2008 (8L05034-BS1)										MNR1
Benzene	53.8	2.0	ug/kg	50.0		108	65-120			
Ethylbenzene	53.4	2.0	ug/kg	50.0		107	70-120			
Toluene	54.7	2.0	ug/kg	50.0		109	70-120			
m,p-Xylenes	106	2.0	ug/kg	100		106	65-120			
o-Xylene	54.5	2.0	ug/kg	50.0		109	70-125			
Xylenes, Total	160	4.0	ug/kg	150		107	65-125			
Surrogate: 4-Bromofluorobenzene	*47.1*		*ug/kg*	*50.0*		*94*	*75-120*			
Surrogate: Dibromofluoromethane	*47.0*		*ug/kg*	*50.0*		*94*	*80-135*			
Surrogate: Toluene-d8	*49.8*		*ug/kg*	*50.0*		*100*	*80-120*			
LCS Dup Analyzed: 12/05/2008 (8L05034-BSD1)										
Benzene	52.3	2.0	ug/kg	50.0		105	65-120	3	30	
Ethylbenzene	54.5	2.0	ug/kg	50.0		109	70-120	2	30	
Toluene	52.8	2.0	ug/kg	50.0		106	70-120	3	30	
m,p-Xylenes	108	2.0	ug/kg	100		108	65-120	2	30	
o-Xylene	55.5	2.0	ug/kg	50.0		111	70-125	2	30	
Xylenes, Total	164	4.0	ug/kg	150		109	65-125	2	20	
Surrogate: 4-Bromofluorobenzene	*48.0*		*ug/kg*	*50.0*		*96*	*75-120*			
Surrogate: Dibromofluoromethane	*47.0*		*ug/kg*	*50.0*		*94*	*80-135*			
Surrogate: Toluene-d8	*48.3*		*ug/kg*	*50.0*		*97*	*80-120*			

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634
Sampled: 12/04/08
Received: 12/04/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L05039 Extracted: 12/05/08										
Blank Analyzed: 12/05/2008 (8L05039-BLK1)										
Benzene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*46.7*		*ug/kg*	*50.0*		*93*	*75-120*			
Surrogate: Dibromofluoromethane	*47.6*		*ug/kg*	*50.0*		*95*	*80-135*			
Surrogate: Toluene-d8	*47.5*		*ug/kg*	*50.0*		*95*	*80-120*			
LCS Analyzed: 12/05/2008 (8L05039-BS1)										MNR1
Benzene	46.0	2.0	ug/kg	50.0		92	65-120			
Ethylbenzene	51.5	2.0	ug/kg	50.0		103	70-120			
Toluene	47.2	2.0	ug/kg	50.0		94	70-120			
m,p-Xylenes	104	2.0	ug/kg	100		104	65-120			
o-Xylene	51.6	2.0	ug/kg	50.0		103	70-125			
Xylenes, Total	156	4.0	ug/kg	150		104	65-125			
Surrogate: 4-Bromofluorobenzene	*48.5*		*ug/kg*	*50.0*		*97*	*75-120*			
Surrogate: Dibromofluoromethane	*49.2*		*ug/kg*	*50.0*		*98*	*80-135*			
Surrogate: Toluene-d8	*47.1*		*ug/kg*	*50.0*		*94*	*80-120*			
LCS Dup Analyzed: 12/05/2008 (8L05039-BSD1)										
Benzene	44.7	2.0	ug/kg	50.0		89	65-120	3	30	
Ethylbenzene	50.1	2.0	ug/kg	50.0		100	70-120	3	30	
Toluene	46.1	2.0	ug/kg	50.0		92	70-120	2	30	
m,p-Xylenes	101	2.0	ug/kg	100		101	65-120	3	30	
o-Xylene	50.3	2.0	ug/kg	50.0		101	70-125	3	30	
Xylenes, Total	152	4.0	ug/kg	150		101	65-125	3	20	
Surrogate: 4-Bromofluorobenzene	*48.5*		*ug/kg*	*50.0*		*97*	*75-120*			
Surrogate: Dibromofluoromethane	*48.8*		*ug/kg*	*50.0*		*98*	*80-135*			
Surrogate: Toluene-d8	*47.3*		*ug/kg*	*50.0*		*95*	*80-120*			

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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L06014 Extracted: 12/06/08										
Blank Analyzed: 12/06/2008 (8L06014-BLK1)										
Benzene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*46.7*		*ug/kg*	*50.0*		*93*	*75-120*			
Surrogate: Dibromofluoromethane	*49.0*		*ug/kg*	*50.0*		*98*	*80-135*			
Surrogate: Toluene-d8	*47.4*		*ug/kg*	*50.0*		*95*	*80-120*			
LCS Analyzed: 12/06/2008 (8L06014-BS1)										MNR1
Benzene	46.0	2.0	ug/kg	50.0		92	65-120			
Ethylbenzene	51.6	2.0	ug/kg	50.0		103	70-120			
Toluene	47.5	2.0	ug/kg	50.0		95	70-120			
m,p-Xylenes	105	2.0	ug/kg	100		105	65-120			
o-Xylene	51.7	2.0	ug/kg	50.0		103	70-125			
Xylenes, Total	157	4.0	ug/kg	150		104	65-125			
Surrogate: 4-Bromofluorobenzene	*48.2*		*ug/kg*	*50.0*		*96*	*75-120*			
Surrogate: Dibromofluoromethane	*49.5*		*ug/kg*	*50.0*		*99*	*80-135*			
Surrogate: Toluene-d8	*47.5*		*ug/kg*	*50.0*		*95*	*80-120*			
LCS Dup Analyzed: 12/06/2008 (8L06014-BSD1)										
Benzene	45.8	2.0	ug/kg	50.0		92	65-120	0	30	
Ethylbenzene	51.3	2.0	ug/kg	50.0		103	70-120	0	30	
Toluene	47.3	2.0	ug/kg	50.0		95	70-120	1	30	
m,p-Xylenes	103	2.0	ug/kg	100		103	65-120	2	30	
o-Xylene	51.1	2.0	ug/kg	50.0		102	70-125	1	30	
Xylenes, Total	154	4.0	ug/kg	150		103	65-125	2	20	
Surrogate: 4-Bromofluorobenzene	*48.0*		*ug/kg*	*50.0*		*96*	*75-120*			
Surrogate: Dibromofluoromethane	*48.7*		*ug/kg*	*50.0*		*97*	*80-135*			
Surrogate: Toluene-d8	*47.6*		*ug/kg*	*50.0*		*95*	*80-120*			

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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L07005 Extracted: 12/07/08										
Blank Analyzed: 12/07/2008 (8L07005-BLK1)										
Benzene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*46.5*		*ug/kg*	*50.0*		*93*	*75-120*			
Surrogate: Dibromofluoromethane	*48.1*		*ug/kg*	*50.0*		*96*	*80-135*			
Surrogate: Toluene-d8	*47.4*		*ug/kg*	*50.0*		*95*	*80-120*			
LCS Analyzed: 12/07/2008 (8L07005-BS1)										MNR1
Benzene	46.8	2.0	ug/kg	50.0		94	65-120			
Ethylbenzene	52.5	2.0	ug/kg	50.0		105	70-120			
Toluene	48.1	2.0	ug/kg	50.0		96	70-120			
m,p-Xylenes	106	2.0	ug/kg	100		106	65-120			
o-Xylene	52.0	2.0	ug/kg	50.0		104	70-125			
Xylenes, Total	158	4.0	ug/kg	150		105	65-125			
Surrogate: 4-Bromofluorobenzene	*47.0*		*ug/kg*	*50.0*		*94*	*75-120*			
Surrogate: Dibromofluoromethane	*49.5*		*ug/kg*	*50.0*		*99*	*80-135*			
Surrogate: Toluene-d8	*47.8*		*ug/kg*	*50.0*		*96*	*80-120*			
LCS Dup Analyzed: 12/07/2008 (8L07005-BSD1)										
Benzene	48.0	2.0	ug/kg	50.0		96	65-120	3	30	
Ethylbenzene	53.7	2.0	ug/kg	50.0		107	70-120	2	30	
Toluene	49.5	2.0	ug/kg	50.0		99	70-120	3	30	
m,p-Xylenes	108	2.0	ug/kg	100		108	65-120	2	30	
o-Xylene	53.3	2.0	ug/kg	50.0		107	70-125	3	30	
Xylenes, Total	161	4.0	ug/kg	150		107	65-125	2	20	
Surrogate: 4-Bromofluorobenzene	*47.2*		*ug/kg*	*50.0*		*94*	*75-120*			
Surrogate: Dibromofluoromethane	*51.9*		*ug/kg*	*50.0*		*104*	*80-135*			
Surrogate: Toluene-d8	*48.0*		*ug/kg*	*50.0*		*96*	*80-120*			

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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L08020 Extracted: 12/08/08										
Blank Analyzed: 12/08/2008 (8L08020-BLK1)										
Benzene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*46.0*		*ug/kg*	*50.0*		*92*	*75-120*			
Surrogate: Dibromofluoromethane	*47.8*		*ug/kg*	*50.0*		*96*	*80-135*			
Surrogate: Toluene-d8	*47.0*		*ug/kg*	*50.0*		*94*	*80-120*			
LCS Analyzed: 12/08/2008 (8L08020-BS1)										MNR1
Benzene	43.8	2.0	ug/kg	50.0		88	65-120			
Ethylbenzene	53.2	2.0	ug/kg	50.0		106	70-120			
Toluene	47.0	2.0	ug/kg	50.0		94	70-120			
m,p-Xylenes	108	2.0	ug/kg	100		108	65-120			
o-Xylene	53.3	2.0	ug/kg	50.0		107	70-125			
Xylenes, Total	161	4.0	ug/kg	150		108	65-125			
Surrogate: 4-Bromofluorobenzene	*47.2*		*ug/kg*	*50.0*		*94*	*75-120*			
Surrogate: Dibromofluoromethane	*48.5*		*ug/kg*	*50.0*		*97*	*80-135*			
Surrogate: Toluene-d8	*47.1*		*ug/kg*	*50.0*		*94*	*80-120*			
LCS Dup Analyzed: 12/08/2008 (8L08020-BSD1)										
Benzene	42.4	2.0	ug/kg	50.0		85	65-120	3	30	
Ethylbenzene	51.5	2.0	ug/kg	50.0		103	70-120	3	30	
Toluene	45.4	2.0	ug/kg	50.0		91	70-120	3	30	
m,p-Xylenes	103	2.0	ug/kg	100		103	65-120	5	30	
o-Xylene	51.4	2.0	ug/kg	50.0		103	70-125	3	30	
Xylenes, Total	155	4.0	ug/kg	150		103	65-125	4	20	
Surrogate: 4-Bromofluorobenzene	*46.6*		*ug/kg*	*50.0*		*93*	*75-120*			
Surrogate: Dibromofluoromethane	*48.5*		*ug/kg*	*50.0*		*97*	*80-135*			
Surrogate: Toluene-d8	*46.8*		*ug/kg*	*50.0*		*94*	*80-120*			

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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L08024 Extracted: 12/08/08										
Blank Analyzed: 12/08/2008 (8L08024-BLK1)										
Benzene	ND	100	ug/kg							
Ethylbenzene	ND	100	ug/kg							
Toluene	ND	100	ug/kg							
m,p-Xylenes	ND	100	ug/kg							
o-Xylene	ND	100	ug/kg							
Xylenes, Total	ND	200	ug/kg							
Di-isopropyl Ether (DIPE)	ND	250	ug/kg							
Ethyl tert-Butyl Ether (ETBE)	ND	250	ug/kg							
Methyl-tert-butyl Ether (MTBE)	ND	250	ug/kg							
tert-Amyl Methyl Ether (TAME)	ND	250	ug/kg							
tert-Butanol (TBA)	ND	5000	ug/kg							
Surrogate: 4-Bromofluorobenzene	*2170*		*ug/kg*	*2500*		*87*	*65-140*			
Surrogate: Dibromofluoromethane	*2060*		*ug/kg*	*2500*		*83*	*55-140*			
Surrogate: Toluene-d8	*2290*		*ug/kg*	*2500*		*91*	*60-140*			
LCS Analyzed: 12/08/2008 (8L08024-BS1)										MNR1
Benzene	2650	100	ug/kg	2500		106	65-120			
Ethylbenzene	2650	100	ug/kg	2500		106	80-120			
Toluene	2690	100	ug/kg	2500		108	80-120			
m,p-Xylenes	5450	100	ug/kg	5000		109	70-125			
o-Xylene	2750	100	ug/kg	2500		110	70-125			
Xylenes, Total	8200	200	ug/kg	7500		109	70-125			
Di-isopropyl Ether (DIPE)	2630	250	ug/kg	2500		105	60-140			
Ethyl tert-Butyl Ether (ETBE)	2610	250	ug/kg	2500		104	60-140			
Methyl-tert-butyl Ether (MTBE)	2510	250	ug/kg	2500		100	55-145			
tert-Amyl Methyl Ether (TAME)	2730	250	ug/kg	2500		109	60-145			
tert-Butanol (TBA)	11700	5000	ug/kg	12500		93	65-140			
Surrogate: 4-Bromofluorobenzene	*2130*		*ug/kg*	*2500*		*85*	*65-140*			
Surrogate: Dibromofluoromethane	*2100*		*ug/kg*	*2500*		*84*	*55-140*			
Surrogate: Toluene-d8	*2180*		*ug/kg*	*2500*		*87*	*60-140*			

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L08024 Extracted: 12/08/08										
LCS Dup Analyzed: 12/08/2008 (8L08024-BSD1)										
Benzene	2770	100	ug/kg	2500		111	65-120	4	20	
Ethylbenzene	2700	100	ug/kg	2500		108	80-120	2	20	
Toluene	2810	100	ug/kg	2500		112	80-120	4	20	
m,p-Xylenes	5620	100	ug/kg	5000		112	70-125	3	20	
o-Xylene	2850	100	ug/kg	2500		114	70-125	3	20	
Xylenes, Total	8470	200	ug/kg	7500		113	70-125	3	20	
Di-isopropyl Ether (DIPE)	2720	250	ug/kg	2500		109	60-140	4	20	
Ethyl tert-Butyl Ether (ETBE)	2780	250	ug/kg	2500		111	60-140	6	20	
Methyl-tert-butyl Ether (MTBE)	2730	250	ug/kg	2500		109	55-145	9	25	
tert-Amyl Methyl Ether (TAME)	2960	250	ug/kg	2500		118	60-145	8	25	
tert-Butanol (TBA)	12100	5000	ug/kg	12500		97	65-140	4	20	
Surrogate: 4-Bromofluorobenzene	*2230*		*ug/kg*	*2500*		*89*	*65-140*			
Surrogate: Dibromofluoromethane	*2180*		*ug/kg*	*2500*		*87*	*55-140*			
Surrogate: Toluene-d8	*2320*		*ug/kg*	*2500*		*93*	*60-140*			

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Received: 12/04/08

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L05071 Extracted: 12/05/08										
Duplicate Analyzed: 12/05/2008 (8L05071-DUP1)					**Source: IRL0600-04**					
pH	12.4	0.100	pH Units		12.4			1	5	
Duplicate Analyzed: 12/05/2008 (8L05071-DUP2)					**Source: IRL0634-44**					
pH	8.12	0.100	pH Units		8.17			1	5	

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DATA QUALIFIERS AND DEFINITIONS

I	Internal Standard recovery was outside of method limits. Matrix interference was confirmed.
MNR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
Z	Due to sample matrix effects, the surrogate recovery was below the acceptance limits.
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
ZX	Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For Hydrocarbon Distribution Analyses:

The reporting limits for the individual carbon distribution ranges are derived by proportioning the individual ranges relative to the total carbon range, not to fall below the method detection limit of the total range.

For Extractable Fuel Hydrocarbons (EFH, DRO, ORO) :

Unless otherwise noted, Extractable Fuel Hydrocarbons (EFH, DRO, ORO) are quantitated against a Diesel Fuel Standard.

TestAmerica Irvine

Patty Mata
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 8015 MOD.	Soil	X	X
EPA 8260B	Soil	X	X
EPA 9045C	Soil	X	X
None	Soil		
None	Water		

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Irvine

Patty Mata
Project Manager

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IRL0634 Page 1 of 4

TAL-0013(1007)

Client Name/Address: Northgate Environmental 1100 Quail, #102, Newport Beach, CA
Project/PO Number: 2024.01
Project Manager: Derrick Willis
Phone Number(949) 375-7004
Sampler: Dana E. Brown
Fax Number(949) 315-3365

Analysis Required: BTEX; TPH (GRO-DRO); Diphenyloxide; Biphenyl

A=Analyze H=Hold
FAX COC to Derrick Willis ASAP
Special Instructions

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives
II_39D (0-1)	Soil	1-T+SV	4	12-4-08	8:04	4°C
II_39D (5-6)					8:06	
II_39D (10-11)					8:10	
II_31A (0-1)					08:37	
II_31A (5-6)					08:41	
II_31A (10-11)					08:44	
II_31A (15-16)					08:49	
II_27A (0-1)					09:29	
II_27A (10-11)					09:33	
II_37H (0-1)					09:57	
II_37H (5-6)					09:54	
II_37H (9-10)					10:02	
II_27H (0-1)					10:47	
II_27H (5-6)	↓	↓	↓	↓	10:49	↓

Relinquished By: Date/Time: 12/4/08
Received By: Date/Time: 12-4-08 1830
Relinquished By: Date/Time: 12/4/08 20:35
Received By: Date/Time: 12-4-08 2035
Relinquished By: Date/Time: 12/4/08 20:35
Received In Lab By: Date/Time: 12/4/08 2035

Turnaround Time: (Check)
same day ____ 72 hours ____
24 hours ____ 5 days ____
48 hours X normal ____

Sample Integrity: (Check)
Intact X on Ice X

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

TAL-0013(1007)

Client Name/Address: Northgate Environmental, 1100 Quail #102, Newport Beach, CA

Project/PO Number: 2024.01

Project Manager: Derrick Willis

Phone Number: (949) 375-7004

Sampler: Dana R. Brown

Fax Number: (949) 315-3365

Analysis Required: BTEX; TPH (C15-C50); diphenyl oxide/biphenyl

A=Analyze, H=Hold
FAX COC to Derrick Willis ASAP
Special Instructions

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives
TB-120408	Water	40ml V	2	12-4-08	11:00	4°C
II_27H (10-11)	Soil	1-T+3-V	4		10:51	
II_21I-1 (0-1)					11:05	
II_21I-1 (5-6)					11:08	
II_21I-2 (0-1)					11:22	
II_21I-2 (5-6)					11:29	
II_10I (0-1)					11:50	
II_10I (5-6)					11:54	
II_10I (10-11)					11:58	
II_5G (0-1)					12:14	
II_5G (5-6)					12:16	
II_5G (10-11)					12:18	
II_14S (0-1)					13:45	
II_14S (5-6)					13:47	

Relinquished By:	Date/Time:	Received By:	Date/Time:
	12-4-08	Michael Dosses	12-4-08 1650
Michael Dosses	12-4-08 1830		12/4/08 19:37
	12/4/08 20:35	Received in Lab By:	12/4/08 20:35

Turnaround Time: (Check)
same day ____ 72 hours ____
24 hours ____ 5 days ____
48 hours X normal ____

Sample Integrity: (Check)
intact X on ice X

2.5°c

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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TAL-0013(1007)

Client Name/Address: Northgate Environmental, 1100 Quail #102, Newport Beach, CA

Project/PO Number: 2024.01

Project Manager: Derrick Willis

Phone Number: (949) 375-7004

Sampler: Dana R Brown

Fax Number: (949) 315-3365

Analysis Required: BTEX; TPH (C15-C50); Diphenyl oxide/biphenyl; pH

A=Analyze, H=Hold
FAX COC to Derrick Willis ASAP
Special Instructions

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives
II_14S (10-11)	Soil	1-T+3-V	4	12-4-08	13:49	4°C
II_14S (15-16)					13:59	
II_14S (19-20)					14:04	
II_36K (0-1)					14:42	
II_36K (5-6)					14:44	
II_36K (10-11)					14:48	
II_36K (15-16)					15:05	
II_CT-2 (0-1)		1-T	1		15:49	
II_CT-2 (5-6)					15:52	
II_CT-2 (10-11)					15:57	
II_CT-1 (0-1)					16:11	
II_CT-1 (5-6)					16:13	
II_CT-1 (10-11)					16:16	
II_CT3 (0-1)					16:25	

Relinquished By:	Date/Time:	Received By:	Date/Time:
	12/4/08	Michael Dosses	12-4-08 1630
Michael Dosses	12-4-08 1830		12/4/08 19:37
	12/4/08 20:35	Received in Lab By:	12/4/08 20:35

Turnaround Time: (Check)
same day ____ 72 hours ____
24 hours ____ 5 days ____
48 hours X normal ____

Sample Integrity: (Check)
intact X on ice X

2.5°c

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LABORATORY REPORT

Prepared For: Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project: Solar Energy Generating System
2024.01.01S-01

Sampled: 12/04/08
Received: 12/04/08
Issued: 12/10/08 12:58

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 4 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 2°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

ADDITIONAL INFORMATION: Only the additional 8015B-Therminol test result for sample GW-1, requested 12/8/08, is included in this report.

LABORATORY ID	CLIENT ID	MATRIX
IRL0634-45	GW-1	Water

Reviewed By:

TestAmerica Irvine
Patty Mata
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING
TAL-0013(1007)

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Page 4 of 4

Client Name/Address: NorthGate Environmental 1100 Quail, #102, Newport Beach, CA
Project Manager: Derrick Willis
Phone Number: (949) 375-7004
Fax Number: (949) 315-3365
Sampler: Dana R. Brown
Project/PO Number: 2024.01
Analysis Required
A = Analyze
H = Hold
FAX COC to Derrick Willis ASAP
Special Instructions

| Sample Description | Sample Matrix | Container Type | # of Cont. | Sampling Date | Sampling Time | Preservatives | | |

Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

THERMINOL (EPA 3510C/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0634-45 (GW-1 - Water)								
Reporting Units: mg/l								
1,1'-Biphenyl	EPA 8015B	8L09059	0.097	ND	0.971	12/9/2008	12/9/2008	
1,1'-Oxybisbenzene	EPA 8015B	8L09059	0.097	ND	0.971	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*67 %*				

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Patty Mata
Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

METHOD BLANK/QC DATA

THERMINOL (EPA 3510C/8015B MOD)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L09059 Extracted: 12/09/08										
Blank Analyzed: 12/09/2008 (8L09059-BLK1)										
1,1'-Biphenyl	ND	0.10	mg/l							
1,1'-Oxybisbenzene	ND	0.10	mg/l							
Surrogate: n-Octacosane	*0.152*		*mg/l*	*0.200*		*76*	*40-125*			
LCS Analyzed: 12/09/2008 (8L09059-BS1)										**MNR1**
1,1'-Biphenyl	0.0743	0.10	mg/l	0.100		74	50-115			
1,1'-Oxybisbenzene	0.0758	0.10	mg/l	0.100		76	50-115			
Surrogate: n-Octacosane	*0.147*		*mg/l*	*0.200*		*74*	*40-115*			
LCS Dup Analyzed: 12/09/2008 (8L09059-BSD1)										
1,1'-Biphenyl	0.0743	0.10	mg/l	0.100		74	50-115	0	30	
1,1'-Oxybisbenzene	0.0756	0.10	mg/l	0.100		76	50-115	0	30	
Surrogate: n-Octacosane	*0.134*		*mg/l*	*0.200*		*67*	*40-115*			

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

DATA QUALIFIERS AND DEFINITIONS

MNR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

RPD Relative Percent Difference

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0634

Sampled: 12/04/08
Received: 12/04/08

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 8015B	Water	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Irvine

Patty Mata
Project Manager

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IRL0634

TAL-0013(1007) Page 1 of 4

Client Name/Address:	Project/PO Number:
Northgate Environmental 1100 Quail #102, Newport Beach CA	2024.01
Project Manager: Derrick Willis	Phone Number (949) 375-7004
Sampler: Dana R. Brown	Fax Number: (949) 315-3365

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	BTEX	TPH (C_{15}-C_{36})	Diphenyloxide/ biphenyl							Analysis Required
II_39D (0-1)	Soil	1-T+3-V	4	12-4-08	8:04	4°C	A	A	A							A=Analyze H=Hold FAX COC to Derrick Willis ASAP
II_39D (5-6)					8:06		A	A	A							
II_39D (10-11)					8:10		A	A	A							
II_31A (0-1)					08:37		A	A	A							
II_31A (5-6)					08:41		A	A	A							
II_31A (10-11)					08:44		A	A	A							
II_31A (15-16)					08:49		A	A	A							
II_27A (0-1)					09:29		A	A	A							
II_27A (10-11)					09:33		A	A	A							
II_37H (0-1)					09:57		A	A	A							
II_37H (5-6)					09:54		A	A	A							
II_37H (9-10)					10:02		A	A	A							
II_27H (0-1)					10:47		A	A	A							
II_27H (5-6)					10:49		A	A	A							Special Instructions

Relinquished By:	Date/Time:	Received By:	Date/Time:	Turnaround Time: (Check)	
	12/4/08	Michael Dozeo	12-4-08 1650	same day ____	72 hours ____
Relinquished By: Michael Dozeo	12-4-08 1830		12/4/08 19:37	24 hours ____	5 days ____
				48 hours X	normal ____
Relinquished By:	12/4/08 20:35	Received in Lab By:	12/4/08 20:35	Sample Integrity: (Check)	
				Intact X	on ice X

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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TAL-0013(1007) Page 2 of 4

Client Name/Address:	Project/PO Number:
Northgate Environmental 1100 Quail #102, Newport Beach, CA	2024.01
Project Manager: Derrick Willis	Phone Number: (949) 375-7004
Sampler: Dana R. Brown	Fax Number: (949) 315-3365

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	BTEX	TPH (C_{15}-C_{36})	diphenyl oxide/ biphenyl							Analysis Required
TB-120408	Water	40ml V	2	12-4-08	11:00	4°C	H	H	H							A=Analyze H=Hold FAX COC to Derrick Willis ASAP
II_27H (10-11)	Soil	1-T+3-V	4		10:51		A	A	A							
II_21I-1 (0-1)					11:05		A	A	A							
II_21I-1 (5-6)					11:08		A	A	A							
II_21I-2 (0-1)					11:22		A	A	A							
II_21I-2 (5-6)					11:29		A	A	A							
II_10I (0-1)					11:50		A	A	A							
II_10I (5-6)					11:54		A	A	A							
II_10I (10-11)					11:58		A	A	A							
II_5G (0-1)					12:14		A	A	A							
II_5G (5-6)					12:16		A	A	A							
II_5G (10-11)					12:18		A	A	A							
II_14S (0-1)					13:45		A	A	A							
II_14S (5-6)					13:47		A	A	A							Special Instructions

Relinquished By:	Date/Time:	Received By:	Date/Time:	Turnaround Time: (Check)	
	12-4-08	Michael Dozeo	12-4-08 1650	same day ____	72 hours ____
Relinquished By: Michael Dozeo	12-4-08 1830		12/4/08 19:37	24 hours ____	5 days ____
				48 hours X	normal ____
Relinquished By:	12/4/08 20:35	Received in Lab By:	12/4/08 20:35	Sample Integrity: (Check)	
				Intact X	on ice X

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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TAL-0013(1007)

Client Name/Address: Northgate Environmental, 1100 Quail #102, Newport Beach, CA

Project/PO Number: 2024.01

Project Manager: Derrick Willis

Phone Number: (949) 375-7004

Sampler: Dana R Brown

Fax Number: (949) 315-3365

Analysis Required: BTEX; TPH(C15-C28); Diphenyl oxide/biphenyl; pH

A=Analyze H=Hold FAX COC to Derrick Willis ASAP

Special Instructions

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	BTEX	TPH(C15-C28)	Diphenyl oxide/biphenyl	pH
II_14S (10-11)	Soil	1-T+3V	4	12-4-08	13:49	4°C	A	A	A	H
II_14S (15-16)	↓	↓	↓	↓	13:59	↓	A	A	A	H
II_14S (19-20)					14:04		A	A	A	H
II_36K (0-1)					14:42		A	A	A	H
II_36K (5-6)					14:44		A	A	A	H
II_36K (10-11)					14:48		A	A	A	H
II_36K (15-16)			↓	↓	15:05		A	A	A	H
II_CT-2 (0-1)		1-T	1		15:49		H	H	H	A
II_CT-2 (5-6)					15:52		H	H	H	A
II_CT-2 (10-11)					15:57		H	H	H	A
II_CT-1 (0-1)					16:11		H	H	H	A
II_CT-1 (5-6)					16:13		H	H	H	A
II_CT-1 (10-11)					16:16		H	H	H	A
II_CT-3 (0-1)	↓	↓	↓	↓	16:25	↓	H	H	H	A

Relinquished By:	Date/Time:	Received By:	Date/Time:	Turnaround Time: (Check)	
	12/4/08	Michael Bocco	12-4-08 1630	same day ____	72 hours ____
Michael Bocco	12-4-08 1830		12/4/08 19:37	24 hours ____	5 days ____
				48 hours X	normal ____
Gary H	12/4/08 20:35		12/4/08 20:35	Sample Integrity: (Check)	
				intact X	on ice X

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2.5°C

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY FORM

17461 Derian Ave., #100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

TAL-0013(1007)

Client Name/Address: Northgate Environmental, 1100 Quail, #102, Newport Beach, CA

Project/PO Number: 2024.01

Project Manager: Derrick Willis

Phone Number: (949) 375-7004

Sampler: Dana R. Brown

Fax Number: (949) 315-3365

Analysis Required: pH

A=Analyze H=Hold FAX COC to Derrick Willis ASAP

Special Instructions

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	pH
II_CT-3 (5-6)	Soil	1-T	1	12-4-08	16:29	4°C	A
II_CT-3 (10-11)	↓	↓	↓		16:42		A
GW-1	Water	2-A+3V		↓	08:00	↓	H

Relinquished By:	Date/Time:	Received By:	Date/Time:	Turnaround Time: (Check)	
	12/4/08	Michael Bocco	12-4-08 1630	same day ____	72 hours ____
Michael Bocco	12-4-08 1830		12/4/08 19:37	24 hours ____	5 days ____
				48 hours X	normal ____
Gary H	12/4/08 20:35		12/4/08 20:35	Sample Integrity: (Check)	
				intact X	on ice X

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

2.5°C

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LABORATORY REPORT

Prepared For: Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project: Solar Energy Generating System
2024.01.01S-01

Sampled: 12/05/08
Received: 12/05/08
Issued: 12/09/08 17:28

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 3 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 3°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

ADDITIONAL INFORMATION: Therminol target compounds were reported as 1,1'-Biphenyl (CAS # 92-52-4) and 1,1'-Oxybisbenzene (CAS # 101-84-8, aka Diphenyl oxide).
Selected surrogate concentrations were diluted below detection limits due to sample dilution for target analyte or matrix interference. The affected surrogate concentrations were flagged with Z3 qualifiers.

LABORATORY ID	CLIENT ID	MATRIX
IRL0780-01	I_61 F-1 (0-1)	Soil
IRL0780-02	I_61 F-1 (5-6)	Soil
IRL0780-03	I_61 F-1 (10-11)	Soil
IRL0780-04	I_61 F-2 (0-1)	Soil
IRL0780-05	I_61 F-2 (5-6)	Soil
IRL0780-06	I_61 F-2 (10-11)	Soil
IRL0780-07	I_4B (0-1)	Soil

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Patty Mata
Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

LABORATORY ID	CLIENT ID	MATRIX
IRL0780-08	I_4B (5-6)	Soil
IRL0780-09	I_4B (10-11)	Soil
IRL0780-10	I_4B (15-16)	Soil
IRL0780-11	I_17B (0-1)	Soil
IRL0780-12	I_17B (5-6)	Soil
IRL0780-13	I_17B (10-11)	Soil
IRL0780-14	I_12B (0-1)	Soil
IRL0780-15	I_12B (5-6)	Soil
IRL0780-16	I_17E (0-1)	Soil
IRL0780-17	I_17E (5-6)	Soil
IRL0780-18	I_17E (10-11)	Soil
IRL0780-19	TB-120508	Water
IRL0780-20	I_28G-1 (0-1)	Soil
IRL0780-21	I_28G-1 (5-6)	Soil
IRL0780-22	I_28G-1 (10-11)	Soil
IRL0780-23	I_28G-2 (0-1)	Soil
IRL0780-24	I_28G-2 (5-6)	Soil
IRL0780-25	I_28G-2 (10-11)	Soil
IRL0780-26	I_29H (0-1)	Soil
IRL0780-27	I_29H (5-6)	Soil
IRL0780-28	I_29H (10-11)	Soil
IRL0780-29	I_SP-1 (0-1)	Soil
IRL0780-30	I_SP-1 (5-6)	Soil
IRL0780-31	I_SP-2 (0-1)	Soil
IRL0780-32	I_SP-2 (5-6)	Soil
IRL0780-33	I_SP-2 (10-11)	Soil
IRL0780-34	II_PB-1 (0-1)	Soil
IRL0780-35	II_PB-1 (10-11)	Soil
IRL0780-36	II_PB-1 (5-6)	Soil
IRL0780-37	II_PB-2 (0-0.5)	Soil

Reviewed By:

TestAmerica Irvine

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-01 (I_61 F-1 (0-1) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	16	ND	8	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	16	ND	8	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*				*Z3*
Sample ID: IRL0780-02 (I_61 F-1 (5-6) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	16	ND	8	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	16	ND	8	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*				*Z3*
Sample ID: IRL0780-03 (I_61 F-1 (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*73 %*				
Sample ID: IRL0780-04 (I_61 F-2 (0-1) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	80	ND	40	12/6/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	80	ND	40	12/6/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*				*Z3*
Sample ID: IRL0780-05 (I_61 F-2 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*71 %*				
Sample ID: IRL0780-06 (I_61 F-2 (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*72 %*				
Sample ID: IRL0780-07 (I_4B (0-1) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	20	ND	10	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	20	ND	10	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*				*Z3*

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Northgate Environmental Management
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Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-08 (I_4B (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*77 %*				
Sample ID: IRL0780-09 (I_4B (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*71 %*				
Sample ID: IRL0780-10 (I_4B (15-16) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	2.0	ND	0.999	12/6/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	2.0	ND	0.999	12/6/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*70 %*				
Sample ID: IRL0780-11 (I_17B (0-1) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	8.0	ND	4	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	8.0	ND	4	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*15 %*				*Z3*
Sample ID: IRL0780-12 (I_17B (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*78 %*				
Sample ID: IRL0780-13 (I_17B (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*73 %*				
Sample ID: IRL0780-14 (I_12B (0-1) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	20	ND	10	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	20	ND	10	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*				*Z3*

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THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-15 (I_12B (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*75 %*				
Sample ID: IRL0780-16 (I_17E (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*75 %*				
Sample ID: IRL0780-17 (I_17E (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*75 %*				
Sample ID: IRL0780-18 (I_17E (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*75 %*				
Sample ID: IRL0780-20 (I_28G-1 (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*86 %*				
Sample ID: IRL0780-21 (I_28G-1 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06027	2.0	ND	1	12/6/2008	12/6/2008	
Surrogate: n-Octacosane (40-125%)				*75 %*				
Sample ID: IRL0780-22 (I_28G-1 (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*72 %*				

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THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-23 (I_28G-2 (0-1) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06032	8.0	ND	4	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06032	8.0	ND	4	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*				*Z3*
Sample ID: IRL0780-24 (I_28G-2 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*79 %*				
Sample ID: IRL0780-25 (I_28G-2 (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*89 %*				
Sample ID: IRL0780-26 (I_29H (0-1) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06032	40	ND	20	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06032	40	ND	20	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*			*	*Z3*
Sample ID: IRL0780-27 (I_29H (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*83 %*				
Sample ID: IRL0780-28 (I_29H (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*85 %*				
Sample ID: IRL0780-29 (I_SP-1 (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*74 %*				

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Sampled: 12/05/08
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THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-30 (I_SP-1 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*67 %*				
Sample ID: IRL0780-31 (I_SP-2 (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*81 %*				
Sample ID: IRL0780-32 (I_SP-2 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*89 %*				
Sample ID: IRL0780-33 (I_SP-2 (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*74 %*				
Sample ID: IRL0780-34 (II_PB-1 (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06032	2000	ND	1000	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06032	2000	**2500**	1000	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*569 %*				*Z3*
Sample ID: IRL0780-35 (II_PB-1 (10-11) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*87 %*				
Sample ID: IRL0780-36 (II_PB-1 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06032	2.0	ND	1	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*121 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-37 (II_PB-2 (0-0.5) - Soil)								**RL2**
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L06032	8.0	ND	4	12/6/2008	12/7/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L06032	8.0	ND	4	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*				*Z3*

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Sampled: 12/05/08
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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-01 (I_61 F-1 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	1.6	ND	0.812	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	1.6	ND	0.812	12/7/2008	12/7/2008	I
Toluene	EPA 8260B	8L07005	1.6	ND	0.812	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	1.6	ND	0.812	12/7/2008	12/7/2008	I
o-Xylene	EPA 8260B	8L07005	1.6	ND	0.812	12/7/2008	12/7/2008	I
Xylenes, Total	EPA 8260B	8L07005	3.2	ND	0.812	12/7/2008	12/7/2008	I
Surrogate: 4-Bromofluorobenzene (75-120%)				*68 %*				*Z*
Surrogate: Dibromofluoromethane (80-135%)				*114 %*				
Surrogate: Toluene-d8 (80-120%)				*65 %*				*Z*
Sample ID: IRL0780-02 (I_61 F-1 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06016	1.9	ND	0.973	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06016	1.9	ND	0.973	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06016	1.9	ND	0.973	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06016	1.9	ND	0.973	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06016	1.9	ND	0.973	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06016	3.9	ND	0.973	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*67 %*				*Z*
Surrogate: Dibromofluoromethane (80-135%)				*105 %*				
Surrogate: Toluene-d8 (80-120%)				*74 %*				*Z*
Sample ID: IRL0780-03 (I_61 F-1 (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06016	1.9	ND	0.958	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06016	1.9	ND	0.958	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06016	1.9	ND	0.958	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06016	1.9	ND	0.958	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06016	1.9	ND	0.958	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06016	3.8	ND	0.958	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*95 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				

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2024.01.01S-01
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Sampled: 12/05/08
Received: 12/05/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-04 (I_61 F-2 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	1.7	ND	0.836	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	1.7	ND	0.836	12/7/2008	12/7/2008	I
Toluene	EPA 8260B	8L07005	1.7	ND	0.836	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	1.7	ND	0.836	12/7/2008	12/7/2008	I
o-Xylene	EPA 8260B	8L07005	1.7	ND	0.836	12/7/2008	12/7/2008	I
Xylenes, Total	EPA 8260B	8L07005	3.3	ND	0.836	12/7/2008	12/7/2008	I
Surrogate: 4-Bromofluorobenzene (75-120%)				*65 %*				*Z*
Surrogate: Dibromofluoromethane (80-135%)				*114 %*				
Surrogate: Toluene-d8 (80-120%)				*70 %*				*Z*
Sample ID: IRL0780-05 (I_61 F-2 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06016	2.8	ND	1.39	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06016	2.8	ND	1.39	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06016	2.8	ND	1.39	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06016	2.8	ND	1.39	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06016	2.8	ND	1.39	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06016	5.5	ND	1.39	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*96 %*				
Surrogate: Dibromofluoromethane (80-135%)				*101 %*				
Surrogate: Toluene-d8 (80-120%)				*96 %*				
Sample ID: IRL0780-06 (I_61 F-2 (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06016	3.2	ND	1.62	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06016	3.2	ND	1.62	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06016	3.2	ND	1.62	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06016	3.2	ND	1.62	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06016	3.2	ND	1.62	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06016	6.5	ND	1.62	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*95 %*				
Surrogate: Dibromofluoromethane (80-135%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*100 %*				

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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-07 (I_4B (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06016	2.0	ND	1.01	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06016	2.0	ND	1.01	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06016	2.0	ND	1.01	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06016	2.0	ND	1.01	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06016	2.0	ND	1.01	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06016	4.0	ND	1.01	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*92 %*				
Sample ID: IRL0780-08 (I_4B (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06016	2.0	ND	0.988	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06016	2.0	ND	0.988	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06016	2.0	ND	0.988	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06016	2.0	ND	0.988	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06016	2.0	ND	0.988	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06016	4.0	ND	0.988	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*96 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*96 %*				
Sample ID: IRL0780-09 (I_4B (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06016	2.0	ND	1.02	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06016	2.0	ND	1.02	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06016	2.0	ND	1.02	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06016	2.0	ND	1.02	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06016	2.0	ND	1.02	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06016	4.1	ND	1.02	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				

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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-10 (I_4B (15-16) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06016	1.9	ND	0.929	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06016	1.9	ND	0.929	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06016	1.9	ND	0.929	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06016	1.9	ND	0.929	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06016	1.9	ND	0.929	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06016	3.7	ND	0.929	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-135%)				*102 %*				
Surrogate: Toluene-d8 (80-120%)				*100 %*				
Sample ID: IRL0780-11 (I_17B (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06016	1.9	ND	0.963	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06016	1.9	ND	0.963	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06016	1.9	ND	0.963	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06016	1.9	ND	0.963	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06016	1.9	ND	0.963	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06016	3.9	ND	0.963	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*90 %*				
Surrogate: Dibromofluoromethane (80-135%)				*102 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				
Sample ID: IRL0780-12 (I_17B (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06016	2.1	ND	1.04	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06016	2.1	ND	1.04	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06016	2.1	ND	1.04	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06016	2.1	ND	1.04	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06016	2.1	ND	1.04	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06016	4.2	ND	1.04	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*97 %*				
Surrogate: Dibromofluoromethane (80-135%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				

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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-13 (I_17B (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06016	2.3	ND	1.17	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06016	2.3	ND	1.17	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06016	2.3	ND	1.17	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06016	2.3	ND	1.17	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06016	2.3	ND	1.17	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06016	4.7	ND	1.17	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*95 %*				
Surrogate: Dibromofluoromethane (80-135%)				*102 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				
Sample ID: IRL0780-14 (I_12B (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06016	1.9	ND	0.967	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06016	1.9	ND	0.967	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06016	1.9	ND	0.967	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06016	1.9	ND	0.967	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06016	1.9	ND	0.967	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06016	3.9	ND	0.967	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*79 %*				
Surrogate: Dibromofluoromethane (80-135%)				*104 %*				
Surrogate: Toluene-d8 (80-120%)				*87 %*				
Sample ID: IRL0780-15 (I_12B (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	2.0	ND	1	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	2.0	ND	1	12/7/2008	12/7/2008	
Toluene	EPA 8260B	8L07005	2.0	ND	1	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	2.0	ND	1	12/7/2008	12/7/2008	
o-Xylene	EPA 8260B	8L07005	2.0	ND	1	12/7/2008	12/7/2008	
Xylenes, Total	EPA 8260B	8L07005	4.0	ND	1	12/7/2008	12/7/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-135%)				*106 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				

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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-16 (I_17E (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	1.7	ND	0.853	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	1.7	ND	0.853	12/7/2008	12/7/2008	
Toluene	EPA 8260B	8L07005	1.7	ND	0.853	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	1.7	ND	0.853	12/7/2008	12/7/2008	
o-Xylene	EPA 8260B	8L07005	1.7	ND	0.853	12/7/2008	12/7/2008	
Xylenes, Total	EPA 8260B	8L07005	3.4	ND	0.853	12/7/2008	12/7/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*89 %*				
Surrogate: Dibromofluoromethane (80-135%)				*104 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0780-17 (I_17E (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	2.1	ND	1.03	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	2.1	ND	1.03	12/7/2008	12/7/2008	
Toluene	EPA 8260B	8L07005	2.1	ND	1.03	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	2.1	ND	1.03	12/7/2008	12/7/2008	
o-Xylene	EPA 8260B	8L07005	2.1	ND	1.03	12/7/2008	12/7/2008	
Xylenes, Total	EPA 8260B	8L07005	4.1	ND	1.03	12/7/2008	12/7/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*90 %*				
Surrogate: Dibromofluoromethane (80-135%)				*109 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0780-18 (I_17E (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	2.2	ND	1.11	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	2.2	ND	1.11	12/7/2008	12/7/2008	
Toluene	EPA 8260B	8L07005	2.2	ND	1.11	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	2.2	ND	1.11	12/7/2008	12/7/2008	
o-Xylene	EPA 8260B	8L07005	2.2	ND	1.11	12/7/2008	12/7/2008	
Xylenes, Total	EPA 8260B	8L07005	4.4	ND	1.11	12/7/2008	12/7/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*89 %*				
Surrogate: Dibromofluoromethane (80-135%)				*109 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-20 (I_28G-1 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	1.9	ND	0.949	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	1.9	ND	0.949	12/7/2008	12/7/2008	
Toluene	EPA 8260B	8L07005	1.9	ND	0.949	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	1.9	ND	0.949	12/7/2008	12/7/2008	
o-Xylene	EPA 8260B	8L07005	1.9	ND	0.949	12/7/2008	12/7/2008	
Xylenes, Total	EPA 8260B	8L07005	3.8	ND	0.949	12/7/2008	12/7/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*90 %*				
Surrogate: Dibromofluoromethane (80-135%)				*105 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				
Sample ID: IRL0780-21 (I_28G-1 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06014	2.0	ND	1.01	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06014	2.0	ND	1.01	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06014	2.0	ND	1.01	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06014	2.0	ND	1.01	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06014	2.0	ND	1.01	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06014	4.0	ND	1.01	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogote: Dibromofluoromethane (80-135%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				
Sample ID: IRL0780-22 (I_28G-1 (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06014	2.1	ND	1.03	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06014	2.1	ND	1.03	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06014	2.1	ND	1.03	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06014	2.1	ND	1.03	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06014	2.1	ND	1.03	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06014	4.1	ND	1.03	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-23 (I_28G-2 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L06014	2.3	ND	1.14	12/6/2008	12/6/2008	
Ethylbenzene	EPA 8260B	8L06014	2.3	ND	1.14	12/6/2008	12/6/2008	
Toluene	EPA 8260B	8L06014	2.3	ND	1.14	12/6/2008	12/6/2008	
m,p-Xylenes	EPA 8260B	8L06014	2.3	ND	1.14	12/6/2008	12/6/2008	
o-Xylene	EPA 8260B	8L06014	2.3	ND	1.14	12/6/2008	12/6/2008	
Xylenes, Total	EPA 8260B	8L06014	4.6	ND	1.14	12/6/2008	12/6/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				
Sample ID: IRL0780-24 (I_28G-2 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	2.0	ND	0.99	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	2.0	ND	0.99	12/7/2008	12/7/2008	
Toluene	EPA 8260B	8L07005	2.0	ND	0.99	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	2.0	ND	0.99	12/7/2008	12/7/2008	
o-Xylene	EPA 8260B	8L07005	2.0	ND	0.99	12/7/2008	12/7/2008	
Xylenes, Total	EPA 8260B	8L07005	4.0	ND	0.99	12/7/2008	12/7/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0780-25 (I_28G-2 (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	1.9	ND	0.971	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	1.9	ND	0.971	12/7/2008	12/7/2008	
Toluene	EPA 8260B	8L07005	1.9	ND	0.971	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	1.9	ND	0.971	12/7/2008	12/7/2008	
o-Xylene	EPA 8260B	8L07005	1.9	ND	0.971	12/7/2008	12/7/2008	
Xylenes, Total	EPA 8260B	8L07005	3.9	ND	0.971	12/7/2008	12/7/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogote: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-26 (I_29H (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	1.7	ND	0.852	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	1.7	ND	0.852	12/7/2008	12/7/2008	I
Toluene	EPA 8260B	8L07005	1.7	ND	0.852	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	1.7	ND	0.852	12/7/2008	12/7/2008	I
o-Xylene	EPA 8260B	8L07005	1.7	ND	0.852	12/7/2008	12/7/2008	I
Xylenes, Total	EPA 8260B	8L07005	3.4	ND	0.852	12/7/2008	12/7/2008	I
Surrogate: 4-Bromofluorobenzene (75-120%)				*55 %*				*Z*
Surrogate: Dibromofluoromethane (80-135%)				*116 %*				
Surrogate: Toluene-d8 (80-120%)				*60 %*				*Z*
Sample ID: IRL0780-27 (I_29H (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	1.9	ND	0.949	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	1.9	ND	0.949	12/7/2008	12/7/2008	
Toluene	EPA 8260B	8L07005	1.9	ND	0.949	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	1.9	ND	0.949	12/7/2008	12/7/2008	
o-Xylene	EPA 8260B	8L07005	1.9	ND	0.949	12/7/2008	12/7/2008	
Xylenes, Total	EPA 8260B	8L07005	3.8	ND	0.949	12/7/2008	12/7/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*95 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				
Sample ID: IRL0780-28 (I_29H (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	2.4	ND	1.2	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	2.4	ND	1.2	12/7/2008	12/7/2008	
Toluene	EPA 8260B	8L07005	2.4	ND	1.2	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	2.4	ND	1.2	12/7/2008	12/7/2008	
o-Xylene	EPA 8260B	8L07005	2.4	ND	1.2	12/7/2008	12/7/2008	
Xylenes, Total	EPA 8260B	8L07005	4.8	ND	1.2	12/7/2008	12/7/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*96 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-29 (I_SP-1 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	1.8	ND	0.896	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	1.8	ND	0.896	12/7/2008	12/7/2008	
Toluene	EPA 8260B	8L07005	1.8	ND	0.896	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	1.8	ND	0.896	12/7/2008	12/7/2008	
o-Xylene	EPA 8260B	8L07005	1.8	ND	0.896	12/7/2008	12/7/2008	
Xylenes, Total	EPA 8260B	8L07005	3.6	ND	0.896	12/7/2008	12/7/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0780-30 (I_SP-1 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	1.9	ND	0.933	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	1.9	ND	0.933	12/7/2008	12/7/2008	
Toluene	EPA 8260B	8L07005	1.9	ND	0.933	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	1.9	ND	0.933	12/7/2008	12/7/2008	
o-Xylene	EPA 8260B	8L07005	1.9	ND	0.933	12/7/2008	12/7/2008	
Xylenes, Total	EPA 8260B	8L07005	3.7	ND	0.933	12/7/2008	12/7/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0780-31 (I_SP-2 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	1.9	ND	0.975	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	1.9	ND	0.975	12/7/2008	12/7/2008	
Toluene	EPA 8260B	8L07005	1.9	ND	0.975	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	1.9	ND	0.975	12/7/2008	12/7/2008	
o-Xylene	EPA 8260B	8L07005	1.9	ND	0.975	12/7/2008	12/7/2008	
Xylenes, Total	EPA 8260B	8L07005	3.9	ND	0.975	12/7/2008	12/7/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				

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2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-32 (I_SP-2 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	1.7	ND	0.829	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	1.7	ND	0.829	12/7/2008	12/7/2008	
Toluene	EPA 8260B	8L07005	1.7	ND	0.829	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	1.7	ND	0.829	12/7/2008	12/7/2008	
o-Xylene	EPA 8260B	8L07005	1.7	ND	0.829	12/7/2008	12/7/2008	
Xylenes, Total	EPA 8260B	8L07005	3.3	ND	0.829	12/7/2008	12/7/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*102 %*				
Surrogate: Toluene-d8 (80-120%)				*96 %*				
Sample ID: IRL0780-33 (I_SP-2 (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L07005	2.2	ND	1.11	12/7/2008	12/7/2008	
Ethylbenzene	EPA 8260B	8L07005	2.2	ND	1.11	12/7/2008	12/7/2008	
Toluene	EPA 8260B	8L07005	2.2	ND	1.11	12/7/2008	12/7/2008	
m,p-Xylenes	EPA 8260B	8L07005	2.2	ND	1.11	12/7/2008	12/7/2008	
o-Xylene	EPA 8260B	8L07005	2.2	ND	1.11	12/7/2008	12/7/2008	
Xylenes, Total	EPA 8260B	8L07005	4.5	ND	1.11	12/7/2008	12/7/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				
Sample ID: IRL0780-34 (II_PB-1 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08020	1.9	ND	0.94	12/8/2008	12/8/2008	
Ethylbenzene	EPA 8260B	8L08020	1.9	ND	0.94	12/8/2008	12/8/2008	
Toluene	EPA 8260B	8L08020	1.9	ND	0.94	12/8/2008	12/8/2008	
m,p-Xylenes	EPA 8260B	8L08020	1.9	ND	0.94	12/8/2008	12/8/2008	
o-Xylene	EPA 8260B	8L08020	1.9	ND	0.94	12/8/2008	12/8/2008	
Xylenes, Total	EPA 8260B	8L08020	3.8	ND	0.94	12/8/2008	12/8/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*87 %*				
Surrogate: Dibromofluoromethane (80-135%)				*101 %*				
Surrogate: Toluene-d8 (80-120%)				*92 %*				

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-35 (II_PB-1 (10-11) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08020	2.3	ND	1.13	12/8/2008	12/8/2008	
Ethylbenzene	EPA 8260B	8L08020	2.3	ND	1.13	12/8/2008	12/8/2008	
Toluene	EPA 8260B	8L08020	2.3	ND	1.13	12/8/2008	12/8/2008	
m,p-Xylenes	EPA 8260B	8L08020	2.3	ND	1.13	12/8/2008	12/8/2008	
o-Xylene	EPA 8260B	8L08020	2.3	ND	1.13	12/8/2008	12/8/2008	
Xylenes, Total	EPA 8260B	8L08020	4.5	ND	1.13	12/8/2008	12/8/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*101 %*				
Surrogate: Toluene-d8 (80-120%)				*93 %*				
Sample ID: IRL0780-36 (II_PB-1 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08020	2.2	ND	1.12	12/8/2008	12/8/2008	
Ethylbenzene	EPA 8260B	8L08020	2.2	ND	1.12	12/8/2008	12/8/2008	
Toluene	EPA 8260B	8L08020	2.2	ND	1.12	12/8/2008	12/8/2008	
m,p-Xylenes	EPA 8260B	8L08020	2.2	ND	1.12	12/8/2008	12/8/2008	
o-Xylene	EPA 8260B	8L08020	2.2	ND	1.12	12/8/2008	12/8/2008	
Xylenes, Total	EPA 8260B	8L08020	4.5	ND	1.12	12/8/2008	12/8/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*96 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				
Sample ID: IRL0780-37 (II_PB-2 (0-0.5) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08020	1.8	ND	0.887	12/8/2008	12/8/2008	
Ethylbenzene	EPA 8260B	8L08020	1.8	ND	0.887	12/8/2008	12/8/2008	
Toluene	EPA 8260B	8L08020	1.8	ND	0.887	12/8/2008	12/8/2008	
m,p-Xylenes	EPA 8260B	8L08020	1.8	ND	0.887	12/8/2008	12/8/2008	
o-Xylene	EPA 8260B	8L08020	1.8	ND	0.887	12/8/2008	12/8/2008	
Xylenes, Total	EPA 8260B	8L08020	3.5	ND	0.887	12/8/2008	12/8/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*76 %*				*1*
Surrogate: Dibromofluoromethane (80-135%)				*135 %*				
Surrogate: Toluene-d8 (80-120%)				*73 %*				*Z*

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Project ID: Solar Energy Generating System
2024.01.01S-01
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Sampled: 12/05/08
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POLYCHLORINATED BIPHENYLS (EPA 3545/8082)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-37 (II_PB-2 (0-0.5) - Soil)								
Reporting Units: ug/kg								
Aroclor 1016	EPA 8082	8L08043	50	ND	0.998	12/8/2008	12/8/2008	
Aroclor 1221	EPA 8082	8L08043	50	ND	0.998	12/8/2008	12/8/2008	
Aroclor 1232	EPA 8082	8L08043	50	ND	0.998	12/8/2008	12/8/2008	
Aroclor 1242	EPA 8082	8L08043	50	ND	0.998	12/8/2008	12/8/2008	
Aroclor 1248	EPA 8082	8L08043	50	ND	0.998	12/8/2008	12/8/2008	
Aroclor 1254	EPA 8082	8L08043	50	ND	0.998	12/8/2008	12/8/2008	
Aroclor 1260	EPA 8082	8L08043	50	ND	0.998	12/8/2008	12/8/2008	
Surrogate: Decachlorobiphenyl (45-120%)				*80 %*				

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-01 (I_61 F-1 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	200	**16000**	40	100	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	140	ND	40	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	140	ND	40	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	140	ND	40	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	140	**290**	40	2	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	140	**750**	40	5	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	140	**1400**	40	9	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	140	**2300**	40	14	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	140	**1700**	40	11	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	140	**4000**	40	25	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	140	**2500**	40	16	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	140	**1300**	40	8	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	140	**620**	40	4	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	140	**740**	40	5	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	140	ND	40	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	140	ND	40	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*3460 %*					*Z3*
Sample ID: IRL0780-02 (I_61 F-1 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	200	**16000**	40	100	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	140	ND	40	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	140	ND	40	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	140	**140**	40	1	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	140	**330**	40	2	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	140	**750**	40	5	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	140	**1400**	40	9	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	140	**2100**	40	13	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	140	**1500**	40	9	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	140	**3600**	40	23	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	140	**2500**	40	16	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	140	**1900**	40	12	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	140	**1200**	40	8	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	140	**270**	40	2	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	140	**220**	40	1	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	140	ND	40	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*2860 %*					*Z3*

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-03 (I_61 F-1 (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	5.0	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*64 %*					
Sample ID: IRL0780-04 (I_61 F-2 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	200	**28000**	40	100	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	140	**170**	40	1	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	140	**260**	40	1	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	140	**490**	40	2	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	140	**860**	40	3	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	140	**1600**	40	6	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	140	**2700**	40	10	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	140	**3800**	40	14	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	140	**2500**	40	9	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	140	**5800**	40	21	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	140	**4000**	40	14	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	140	**2400**	40	9	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	140	**1700**	40	6	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	140	**810**	40	3	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	140	**370**	40	1	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	140	**140**	40	1	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*5920 %*					*Z3*

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-05 (I_61 F-2 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	5.0	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
Surrogate: n-Octacosane (40-125%)				*69 %*					
Sample ID: IRL0780-06 (I_61 F-2 (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	5.0	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/7/2008	

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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780
Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor		Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-06 (I_61 F-2 (10-11) - Soil) - cont.									
Reporting Units: mg/kg									
Surrogate: n-Octacosane (40-125%)				*68 %*					
Sample ID: IRL0780-07 (I_4B (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	200	**17000**	40	100	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	140	ND	40	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	140	ND	40	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	140	**200**	40	1	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	140	**380**	40	2	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	140	**840**	40	5	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	140	**1400**	40	8	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	140	**2200**	40	13	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	140	**1600**	40	9	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	140	**3900**	40	23	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	140	**2000**	40	12	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	140	**1900**	40	11	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	140	**1300**	40	8	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	140	**870**	40	5	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	140	ND	40	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	140	ND	40	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*3280 %*					*Z3*
Sample ID: IRL0780-08 (I_4B (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	5.0	**5.9**	1	100	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780
Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-08 (I_4B (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*78 %*					
Sample ID: IRL0780-09 (I_4B (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	5.0	**32**	1	100	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	3.5	**3.5**	1	11	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	3.5	**5.4**	1	17	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	3.5	**8.7**	1	27	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	3.5	**5.3**	1	17	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*95 %*					
Sample ID: IRL0780-10 (I_4B (15-16) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	5.0	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-10 (I_4B (15-16) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*66 %*					
Sample ID: IRL0780-11 (I_17B (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	25	**4800**	5	100	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	18	ND	5	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	18	**39**	5	1	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	18	**77**	5	2	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	18	**140**	5	3	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	18	**280**	5	6	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	18	**510**	5	11	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	18	**770**	5	16	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	18	**560**	5	12	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	18	**990**	5	21	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	18	**470**	5	10	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	18	**480**	5	10	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	18	**270**	5	6	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	18	**130**	5	3	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	18	**61**	5	1	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	18	ND	5	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*1950 %*					*Z3*
Sample ID: IRL0780-12 (I_17B (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	5.0	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	

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17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-12 (I_17B (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*65 %*					
Sample ID: IRL0780-13 (I_17B (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	5.0	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*71 %*					
Sample ID: IRL0780-14 (I_12B (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	200	**13000**	40	100	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	140	ND	40	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	140	ND	40	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	140	ND	40	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	140	**250**	40	2	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	140	**610**	40	5	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	140	**1100**	40	8	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	140	**1600**	40	12	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	140	**1100**	40	8	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	140	**2900**	40	22	12/6/2008	12/8/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-14 (I_12B (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	140	**1500**	40	12	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	140	**1600**	40	12	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	140	**880**	40	7	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	140	**520**	40	4	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	140	**240**	40	2	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	140	ND	40	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*1890 %*					*Z3*
Sample ID: IRL0780-15 (I_12B (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	5.0	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*72 %*					

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-16 (I_17E (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	5.0	17	1	100	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	3.5	**3.7**	1	22	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*81 %*					
Sample ID: IRL0780-17 (I_17E (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	5.0	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor		Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-17 (I_17E (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
Surrogate: n-Octacosane (40-125%)				*67 %*					
Sample ID: IRL0780-18 (I_17E (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	5.0	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*69 %*					
Sample ID: IRL0780-20 (I_28G-1 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	5.0	**520**	1	100	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	3.5	**4.5**	1	1	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	3.5	**11**	1	2	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	3.5	**27**	1	5	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	3.5	**50**	1	10	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	3.5	**78**	1	15	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	3.5	**50**	1	10	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	3.5	**120**	1	23	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	3.5	**94**	1	18	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	3.5	**45**	1	9	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	3.5	**20**	1	4	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	3.5	**19**	1	4	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	3.5	**8.2**	1	2	12/6/2008	12/8/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-20 (I_28G-1 (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*354 %*					*ZX*
Sample ID: IRL0780-21 (I_28G-1 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06029	5.0	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06029	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*67 %*					
Sample ID: IRL0780-22 (I_28G-1 (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06028	5.0	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-22 (I_28G-1 (10-11) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C35 - C36)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*93 %*					
Sample ID: IRL0780-23 (I_28G-2 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06028	25	**3400**	5	100	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06028	18	ND	5	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06028	18	ND	5	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06028	18	**41**	5	1	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06028	18	**87**	5	3	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06028	18	**210**	5	6	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06028	18	**390**	5	11	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06028	18	**580**	5	17	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06028	18	**400**	5	12	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06028	18	**670**	5	20	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06028	18	**470**	5	14	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06028	18	**170**	5	5	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06028	18	**230**	5	7	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06028	18	**110**	5	3	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06028	18	**45**	5	1	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06028	18	ND	5	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*1130 %*					*Z3*
Sample ID: IRL0780-24 (I_28G-2 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06028	5.0	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-24 (I_28G-2 (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C33 - C34)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*98 %*					
Sample ID: IRL0780-25 (I_28G-2 (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06028	5.0	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*103 %*					
Sample ID: IRL0780-26 (I_29H (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06028	500	**27000**	100	100	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06028	350	ND	100	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06028	350	ND	100	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06028	350	ND	100	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06028	350	**620**	100	2	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06028	350	**1400**	100	5	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06028	350	**2400**	100	9	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06028	350	**3600**	100	13	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06028	350	**2500**	100	9	12/6/2008	12/8/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-26 (I_29H (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C29 - C30)	EPA 8015 MOD.	8L06028	350	**5500**	100	20	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06028	350	**3900**	100	14	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06028	350	**2700**	100	10	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06028	350	**1800**	100	7	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06028	350	**1100**	100	4	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06028	350	**530**	100	2	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06028	350	*ND*	*100*	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*6820 %*					*Z3*
Sample ID: IRL0780-27 (I_29H (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06028	5.0	7.3	1	100	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*93 %*					

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-28 (I_29H (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06028	5.0	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*94 %*					
Sample ID: IRL0780-29 (I_SP-1 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06028	5.0	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780
Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor		Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-29 (I_SP-1 (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
Surrogate: n-Octacosane (40-125%)				*89 %*					
Sample ID: IRL0780-30 (I_SP-1 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06028	5.0	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*92 %*					
Sample ID: IRL0780-31 (I_SP-2 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06028	5.0	**85**	1	100	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06028	3.5	**4.5**	1	5	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06028	3.5	**6.3**	1	7	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06028	3.5	**8.2**	1	10	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06028	3.5	**4.8**	1	6	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06028	3.5	**13**	1	15	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06028	3.5	**11**	1	13	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06028	3.5	**17**	1	20	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06028	3.5	**8.9**	1	10	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780
Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-31 (I_SP-2 (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C39 - C40)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*133 %*					*ZX*
Sample ID: IRL0780-32 (I_SP-2 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06028	5.0	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*99 %*					
Sample ID: IRL0780-33 (I_SP-2 (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06028	5.0	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-33 (I_SP-2 (10-11) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C33 - C34)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*101 %*					
Sample ID: IRL0780-34 (II_PB-1 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06028	2500	**12000**	499	100	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06028	1700	**7700**	499	64	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06028	1700	ND	499	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06028	1700	ND	499	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06028	1700	**2200**	499	18	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06028	1700	ND	499	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06028	1700	ND	499	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06028	1700	ND	499	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06028	1700	ND	499	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06028	1700	ND	499	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06028	1700	ND	499	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06028	1700	ND	499	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06028	1700	ND	499	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06028	1700	ND	499	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06028	1700	ND	499	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06028	1700	ND	499	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*1250 %*					*Z3*
Sample ID: IRL0780-35 (II_PB-1 (10-11) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06028	5.0	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-35 (II_PB-1 (10-11) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C27 - C28)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06028	3.5	ND	1	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*94 %*					
Sample ID: IRL0780-36 (II_PB-1 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06028	5.0	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06028	3.5	ND	0.999	N/A	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*100 %*					

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0780-37 (II_PB-2 (0-0.5) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L06028	25	**2800**	5	100	12/6/2008	12/8/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L06028	18	ND	5	N/A	12/6/2008	12/8/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L06028	18	ND	5	N/A	12/6/2008	12/8/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L06028	18	**29**	5	1	12/6/2008	12/8/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L06028	18	**120**	5	4	12/6/2008	12/8/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L06028	18	**280**	5	10	12/6/2008	12/8/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L06028	18	**440**	5	16	12/6/2008	12/8/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L06028	18	**510**	5	18	12/6/2008	12/8/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L06028	18	**250**	5	9	12/6/2008	12/8/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L06028	18	**550**	5	20	12/6/2008	12/8/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L06028	18	**180**	5	6	12/6/2008	12/8/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L06028	18	**140**	5	5	12/6/2008	12/8/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L06028	18	**120**	5	4	12/6/2008	12/8/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L06028	18	**94**	5	3	12/6/2008	12/8/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L06028	18	**66**	5	**2**	12/6/2008	12/8/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L06028	18	**44**	5	**2**	12/6/2008	12/8/2008	
Surrogate: n-Octacosane (40-125%)				*860 %*					*Z3*

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2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

METHOD BLANK/QC DATA

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L06027 Extracted: 12/06/08										
Blank Analyzed: 12/06/2008 (8L06027-BLK1)										
1,1'-Biphenyl	ND	2.0	mg/kg							
1,1'-Oxybisbenzene	ND	2.0	mg/kg							
Surrogate: n-Octacosane	*5.04*		*mg/kg*	*6.67*		*76*	*40-125*			
LCS Analyzed: 12/06/2008 (8L06027-BS1)										**MNR**
1,1'-Biphenyl	2.33	2.0	mg/kg	3.33		70	50-115			
1,1'-Oxybisbenzene	2.33	2.0	mg/kg	3.33		70	50-115			
Surrogate: n-Octacosane	*4.79*		*mg/kg*	*6.67*		*72*	*40-125*			
Batch: 8L06032 Extracted: 12/06/08										
Blank Analyzed: 12/06/2008 (8L06032-BLK1)										
1,1'-Biphenyl	ND	2.0	mg/kg							
1,1'-Oxybisbenzene	ND	2.0	mg/kg							
Surrogate: n-Octacosane	*4.64*		*mg/kg*	*6.67*		*70*	*40-125*			
LCS Analyzed: 12/07/2008 (8L06032-BS1)										
1,1'-Biphenyl	2.04	2.0	mg/kg	3.33		61	50-115			
1,1'-Oxybisbenzene	2.05	2.0	mg/kg	3.33		62	50-115			
Surrogate: n-Octacosane	*5.07*		*mg/kg*	*6.67*		*76*	*40-125*			
Matrix Spike Analyzed: 12/07/2008 (8L06032-MS1)					**Source: IRL0780-24**					
1,1'-Biphenyl	2.32	2.0	mg/kg	3.33	ND	70	35-120			
1,1'-Oxybisbenzene	2.35	2.0	mg/kg	3.33	ND	70	35-120			
Surrogate: n-Octacosane	*5.45*		*mg/kg*	*6.67*		*82*	*40-125*			
Matrix Spike Dup Analyzed: 12/07/2008 (8L06032-MSD1)					**Source: IRL0780-24**					
1,1'-Biphenyl	1.94	2.0	mg/kg	3.33	ND	58	35-120	18	30	
1,1'-Oxybisbenzene	1.99	2.0	mg/kg	3.33	ND	60	35-120	16	30	
Surrogate: n-Octacosane	*4.68*		*mg/kg*	*6.67*		*70*	*40-125*			

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2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

METHOD BLANK/QC DATA

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L06028 Extracted: 12/06/08										
Blank Analyzed: 12/08/2008 (8L06028-BLK1)										
EFH (C13 - C44)	ND	5.0	mg/kg							
EFH (C13 - C28)	ND	5.0	mg/kg							
Surrogate: n-Octacosane	*6.04*		*mg/kg*	*6.67*		*91*	*40-125*			
LCS Analyzed: 12/08/2008 (8L06028-BS1)										
EFH (C13 - C28)	17.4	5.0	mg/kg	25.0		70	45-115			
Surrogate: n-Octocosane	*5.72*		*mg/kg*	*6.67*		*86*	*40-125*			
Matrix Spike Analyzed: 12/08/2008 (8L06028-MS1)					**Source: IRL0780-22**					
EFH (C13 - C44)	18.9	5.0	mg/kg	33.3	ND	57	40-120			
Surrogate: n-Octacosane	*6.41*		*mg/kg*	*6.67*		*96*	*40-125*			
Matrix Spike Dup Analyzed: 12/08/2008 (8L06028-MSD1)					**Source: IRL0780-22**					
EFH (C13 - C44)	21.2	5.0	mg/kg	33.3	ND	64	40-120	12	30	
Surrogate: n-Octacosane	*6.97*		*mg/kg*	*6.67*		*105*	*40-125*			
Batch: 8L06029 Extracted: 12/06/08										
Blank Analyzed: 12/07/2008 (8L06029-BLK1)										
EFH (C13 - C44)	ND	5.0	mg/kg							
EFH (C13 - C28)	ND	5.0	mg/kg							
Surrogate: n-Octacosane	*3.80*		*mg/kg*	*6.67*		*57*	*40-125*			
LCS Analyzed: 12/07/2008 (8L06029-BS1)										
EFH (C13 - C28)	19.1	5.0	mg/kg	25.0		76	45-115			
Surrogate: n-Octacosane	*4.11*		*mg/kg*	*6.67*		*62*	*40-125*			

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2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

METHOD BLANK/QC DATA

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L06029 Extracted: 12/06/08										
Matrix Spike Analyzed: 12/07/2008 (8L06029-MS1)					**Source: IRL0780-03**					
EFH (C13 - C44)	18.1	5.0	mg/kg	33.3	ND	54	40-120			
Surrogate: n-Octacosane	*4.29*		*mg/kg*	*6.67*		*64*	*40-125*			
Matrix Spike Dup Analyzed: 12/07/2008 (8L06029-MSD1)					**Source: IRL0780-03**					
EFH (C13 - C44)	19.8	5.0	mg/kg	33.3	ND	59	40-120	9	30	
Surrogate: n-Octacosane	*4.53*		*mg/kg*	*6.67*		*68*	*40-125*			

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L06014 Extracted: 12/06/08										
Blank Analyzed: 12/06/2008 (8L06014-BLK1)										
Benzene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*46.7*		*ug/kg*	*50.0*		*93*	*75-120*			
Surrogate: Dibromofluoromethane	*49.0*		*ug/kg*	*50.0*		*98*	*80-135*			
Surrogate: Toluene-d8	*47.4*		*ug/kg*	*50.0*		*95*	*80-120*			
LCS Analyzed: 12/06/2008 (8L06014-BS1)										MNR1
Benzene	46.0	2.0	ug/kg	50.0		92	65-120			
Ethylbenzene	51.6	2.0	ug/kg	50.0		103	70-120			
Toluene	47.5	2.0	ug/kg	50.0		95	70-120			
m,p-Xylenes	105	2.0	ug/kg	100		105	65-120			
o-Xylene	51.7	2.0	ug/kg	50.0		103	70-125			
Xylenes, Total	157	4.0	ug/kg	150		104	65-125			
Surrogate: 4-Bromofluorobenzene	*48.2*		*ug/kg*	*50.0*		*96*	*75-120*			
Surrogate: Dibromofluoromethane	*49.5*		*ug/kg*	*50.0*		*99*	*80-135*			
Surrogate: Toluene-d8	*47.5*		*ug/kg*	*50.0*		*95*	*80-120*			
LCS Dup Analyzed: 12/06/2008 (8L06014-BSD1)										
Benzene	45.8	2.0	ug/kg	50.0		92	65-120	0	30	
Ethylbenzene	51.3	2.0	ug/kg	50.0		103	70-120	0	30	
Toluene	47.3	2.0	ug/kg	50.0		95	70-120	1	30	
m,p-Xylenes	103	2.0	ug/kg	100		103	65-120	2	30	
o-Xylene	51.1	2.0	ug/kg	50.0		102	70-125	1	30	
Xylenes, Total	154	4.0	ug/kg	150		103	65-125	2	20	
Surrogate: 4-Bromofluorobenzene	*48.0*		*ug/kg*	*50.0*		*96*	*75-120*			
Surrogate: Dibromofluoromethane	*48.7*		*ug/kg*	*50.0*		*97*	*80-135*			
Surrogate: Toluene-d8	*47.6*		*ug/kg*	*50.0*		*95*	*80-120*			

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L06016 Extracted: 12/06/08										
Blank Analyzed: 12/06/2008 (8L06016-BLK1)										
Benzene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*46.1*		*ug/kg*	*50.0*		*92*	*75-120*			
Surrogate: Dibromofluoromethane	*49.1*		*ug/kg*	*50.0*		*98*	*80-135*			
Surrogate: Toluene-d8	*47.2*		*ug/kg*	*50.0*		*94*	*80-120*			
LCS Analyzed: 12/06/2008 (8L06016-BS1)										MNR1
Benzene	49.5	2.0	ug/kg	50.0		99	65-120			
Ethylbenzene	48.9	2.0	ug/kg	50.0		98	70-120			
Toluene	51.5	2.0	ug/kg	50.0		103	70-120			
m,p-Xylenes	101	2.0	ug/kg	100		101	65-120			
o-Xylene	52.6	2.0	ug/kg	50.0		105	70-125			
Xylenes, Total	153	4.0	ug/kg	150		102	65-125			
Surrogate: 4-Bromofluorobenzene	*47.8*		*ug/kg*	*50.0*		*96*	*75-120*			
Surrogate: Dibromofluoromethane	*46.7*		*ug/kg*	*50.0*		*93*	*80-135*			
Surrogate: Toluene-d8	*49.1*		*ug/kg*	*50.0*		*98*	*80-120*			
LCS Dup Analyzed: 12/06/2008 (8L06016-BSD1)										
Benzene	50.5	2.0	ug/kg	50.0		101	65-120	2	30	
Ethylbenzene	48.7	2.0	ug/kg	50.0		97	70-120	0	30	
Toluene	50.3	2.0	ug/kg	50.0		101	70-120	2	30	
m,p-Xylenes	99.6	2.0	ug/kg	100		100	65-120	1	30	
o-Xylene	51.5	2.0	ug/kg	50.0		103	70-125	2	30	
Xylenes, Total	151	4.0	ug/kg	150		101	65-125	1	20	
Surrogate: 4-Bromofluorobenzene	*46.7*		*ug/kg*	*50.0*		*93*	*75-120*			
Surrogate: Dibromofluoromethane	*47.6*		*ug/kg*	*50.0*		*95*	*80-135*			
Surrogate: Toluene-d8	*50.3*		*ug/kg*	*50.0*		*101*	*80-120*			

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L07005 Extracted: 12/07/08										
Blank Analyzed: 12/07/2008 (8L07005-BLK1)										
Benzene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*46.5*		*ug/kg*	*50.0*		*93*	*75-120*			
Surrogate: Dibromofluoromethane	*48.1*		*ug/kg*	*50.0*		*96*	*80-135*			
Surrogate: Toluene-d8	*47.4*		*ug/kg*	*50.0*		*95*	*80-120*			
LCS Analyzed: 12/07/2008 (8L07005-BS1)										MNR1
Benzene	46.8	2.0	ug/kg	50.0		94	65-120			
Ethylbenzene	52.5	2.0	ug/kg	50.0		105	70-120			
Toluene	48.1	2.0	ug/kg	50.0		96	70-120			
m,p-Xylenes	106	2.0	ug/kg	100		106	65-120			
o-Xylene	52.0	2.0	ug/kg	50.0		104	70-125			
Xylenes, Total	158	4.0	ug/kg	150		105	65-125			
Surrogate: 4-Bromofluorobenzene	*47.0*		*ug/kg*	*50.0*		*94*	*75-120*			
Surrogate: Dibromofluoromethane	*49.5*		*ug/kg*	*50.0*		*99*	*80-135*			
Surrogate: Toluene-d8	*47.8*		*ug/kg*	*50.0*		*96*	*80-120*			
LCS Dup Analyzed: 12/07/2008 (8L07005-BSD1)										
Benzene	48.0	2.0	ug/kg	50.0		96	65-120	3	30	
Ethylbenzene	53.7	2.0	ug/kg	50.0		107	70-120	2	30	
Toluene	49.5	2.0	ug/kg	50.0		99	70-120	3	30	
m,p-Xylenes	108	2.0	ug/kg	100		108	65-120	2	30	
o-Xylene	53.3	2.0	ug/kg	50.0		107	70-125	3	30	
Xylenes, Total	161	4.0	ug/kg	150		107	65-125	2	20	
Surrogate: 4-Bromofluorobenzene	*47.2*		*ug/kg*	*50.0*		*94*	*75-120*			
Surrogate: Dibromofluoromethane	*51.9*		*ug/kg*	*50.0*		*104*	*80-135*			
Surrogate: Toluene-d8	*48.0*		*ug/kg*	*50.0*		*96*	*80-120*			

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Patty Mata
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING
17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780
Sampled: 12/05/08
Received: 12/05/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L08020 Extracted: 12/08/08										
Blank Analyzed: 12/08/2008 (8L08020-BLK1)										
Benzene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*46.0*		*ug/kg*	*50.0*		*92*	*75-120*			
Surrogate: Dibromofluoromethane	*47.8*		*ug/kg*	*50.0*		*96*	*80-135*			
Surrogate: Toluene-d8	*47.0*		*ug/kg*	*50.0*		*94*	*80-120*			
LCS Analyzed: 12/08/2008 (8L08020-BS1)										MNR1
Benzene	43.8	2.0	ug/kg	50.0		88	65-120			
Ethylbenzene	53.2	2.0	ug/kg	50.0		106	70-120			
Toluene	47.0	2.0	ug/kg	50.0		94	70-120			
m,p-Xylenes	108	2.0	ug/kg	100		108	65-120			
o-Xylene	53.3	2.0	ug/kg	50.0		107	70-125			
Xylenes, Total	161	4.0	ug/kg	150		108	65-125			
Surrogate: 4-Bromofluorobenzene	*47.2*		*ug/kg*	*50.0*		*94*	*75-120*			
Surrogate: Dibromofluoromethane	*48.5*		*ug/kg*	*50.0*		*97*	*80-135*			
Surrogate: Toluene-d8	*47.1*		*ug/kg*	*50.0*		*94*	*80-120*			
LCS Dup Analyzed: 12/08/2008 (8L08020-BSD1)										
Benzene	42.4	2.0	ug/kg	50.0		85	65-120	3	30	
Ethylbenzene	51.5	2.0	ug/kg	50.0		103	70-120	3	30	
Toluene	45.4	2.0	ug/kg	50.0		91	70-120	3	30	
m,p-Xylenes	103	2.0	ug/kg	100		103	65-120	5	30	
o-Xylene	51.4	2.0	ug/kg	50.0		103	70-125	3	30	
Xylenes, Total	155	4.0	ug/kg	150		103	65-125	4	20	
Surrogate: 4-Bromofluorobenzene	*46.6*		*ug/kg*	*50.0*		*93*	*75-120*			
Surrogate: Dibromofluoromethane	*48.5*		*ug/kg*	*50.0*		*97*	*80-135*			
Surrogate: Toluene-d8	*46.8*		*ug/kg*	*50.0*		*94*	*80-120*			

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

METHOD BLANK/QC DATA

POLYCHLORINATED BIPHENYLS (EPA 3545/8082)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L08043 Extracted: 12/08/08										
Blank Analyzed: 12/08/2008 (8L08043-BLK1)										
Aroclor 1016	ND	50	ug/kg							
Aroclor 1221	ND	50	ug/kg							
Aroclor 1232	ND	50	ug/kg							
Aroclor 1242	ND	50	ug/kg							
Aroclor 1248	ND	50	ug/kg							
Aroclor 1254	ND	50	ug/kg							
Aroclor 1260	ND	50	ug/kg							
Surrogate: Decachlorobiphenyl	*32.3*		*ug/kg*	*33.3*		*97*	*45-120*			
LCS Analyzed: 12/08/2008 (8L08043-BS1)										
Aroclor 1016	235	50	ug/kg	267		88	65-115			
Aroclor 1260	244	50	ug/kg	267		91	65-115			
Surrogate: Decachlorobiphenyl	*30.9*		*ug/kg*	*33.3*		*93*	*45-120*			
Matrix Spike Analyzed: 12/08/2008 (8L08043-MS1)					**Source: IRL0600-01**					
Aroclor 1016	284	50	ug/kg	267	ND	107	50-120			
Aroclor 1260	266	50	ug/kg	267	ND	100	50-125			
Surrogate: Decachlorobiphenyl	*28.5*		*ug/kg*	*33.3*		*86*	*45-120*			
Matrix Spike Dup Analyzed: 12/08/2008 (8L08043-MSD1)					**Source: IRL0600-01**					
Aroclor 1016	280	50	ug/kg	267	ND	105	50-120	2	30	
Aroclor 1260	263	50	ug/kg	267	ND	99	50-125	1	30	
Surrogate: Decachlorobiphenyl	*28.7*		*ug/kg*	*33.3*		*86*	*45-120*			

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Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

DATA QUALIFIERS AND DEFINITIONS

I	Internal Standard recovery was outside of method limits. Matrix interference was confirmed.
MNR	No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
MNR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
RL2	Reporting limit raised due to high concentrations of hydrocarbons.
Z	Due to sample matrix effects, the surrogate recovery was below the acceptance limits.
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
ZX	Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For Hydrocarbon Distribution Analyses:

The reporting limits for the individual carbon distribution ranges are derived by proportioning the individual ranges relative to the total carbon range, not to fall below the method detection limit of the total range.

For Extractable Fuel Hydrocarbons (EFH, DRO, ORO) :

Unless otherwise noted, Extractable Fuel Hydrocarbons (EFH, DRO, ORO) are quantitated against a Diesel Fuel Standard.

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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0780

Sampled: 12/05/08
Received: 12/05/08

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 8015 MOD.	Soil	X	X
EPA 8082	Soil	X	X
EPA 8260B	Soil	X	X
None	Water		

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

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8890 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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CHAIN OF CUSTODY FORM

IRL0780 Page 1 of 3

TAL-0013(1007)

Client Name/Address: Northgate Environmental, 1100 Quail #102 Newport Beach, CA
Project Manager: Derrick Willis
Sampler: Dana R. Brown
Project/PO Number: 2024.01
Phone Number: (949) 375-7004
Fax Number: (949) 315-3365

| Sample Description | Sample Matrix | Container Type | # of Cont. | Sampling Date | Sampling Time | Preservatives | BTEX | TPH (GRO + DRO) | Diphenyl Oxidol Biphenyl | | |

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CHAIN OF CUSTODY FORM

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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

TAL-0013(1007)

Client Name/Address: Northgate Environmental 1100 Quail St, #102, Newport Beach, CA

Project/PO Number: 2024.01

Project Manager: Derrick Willis

Phone Number: (949) 375-7005

Sampler: Dana R. Brown

Fax Number: (949) 315-3365

Analysis Required: BTEX; TPH(C15 - C44); diphenyl oxide/ biphenyl

A=Analyze H=Hold FAX COC to Derrick Willis ASAP

Special Instructions

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives
I_12B (0-1)	Soil	1-T+3-V	4	12-5-08	12:05	4°C
I_12B (5-6)	↓	↓	↓	↓	12:07	↓
~~I_12B (10-11)~~						
I_17E (0-1)	Soil	1-T+3-V	4	12-5-08	13:21	4°C
I_17E (5-6)	↓	↓	↓	↓	13:23	↓
I_17E (10-11)	↓	↓	↓	↓	13:35	↓
TB-120508	Water	3-V	3	12-5-08	13:37	4°C
I_28G-1 (0-1)	Soil	1-T+3-V	4	12-5-08	14:14	4°C
I_28G-1 (5-6)	↓	↓	↓	↓	14:16	↓
I_28G-1 (10-11)	↓	↓	↓	↓	14:22	↓
I_28G-2 (0-1)	↓	↓	↓	↓	14:34	↓
I_28G-2 (5-6)	↓	↓	↓	↓	14:36	↓
I_28G-2 (10-11)	↓	↓	↓	↓	14:44	↓
I_29H (0-1)	↓	↓	↓	↓	15:08	↓

Relinquished By: Date/Time: 12/5/08 17:14

Received By: Date/Time: 12/5/08 1714

Relinquished By: Date/Time: 12/5/08 19:35

Received By: Date/Time:

Relinquished By: Date/Time:

Received in Lab By: Date/Time: 12/5/08 1935

Turnaround Time: (Check)
same day ____ 72 hours ____
24 hours ____ 5 days ____
48 hours X normal ____

Sample Integrity: (Check)
Intact ✓ on ice ✓ 3°C

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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CHAIN OF CUSTODY FORM

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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

TAL-0013(1007)

Client Name/Address: Northgate Environmental 1100 Quail #102, Newport Beach, CA

Project/PO Number: 2024.01

Project Manager: Derrick Willis

Phone Number: (949) 375-7005

Sampler: Dana R Brown

Fax Number: (949) 315-3365

Analysis Required: BTEX; TPH(C15 - C44); diphenyl oxide/ biphenyl; PCB's

A=Analyze H=Hold FAX COC to Derrick Willis ASAP

Special Instructions

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives
I_29H (5-6)	Soil	1-T+3-V	4	12-5-08	15:11	4°C
I_29H (10-11)					15:15	
I_SP-1 (0-1)					15:47	
I_SP-1 (5-6)					15:49	
I_SP-2 (0-1)					16:00	
I_SP-2 (5-6)					16:05	
I_SP-2 (10-11)					16:09	
II_PB-1 (0-1)					16:25	
II_PB-1 (10-11)					16:30	
II_PB-1 (5-6)					16:45	
II_PB-2 (0-0.5)					17:05	

Relinquished By: Date/Time: 12/5/08 17:14

Received By: Date/Time: 12/5/08 1714

Relinquished By: Date/Time: 12/5/08 19:35

Received By: Date/Time:

Relinquished By: Date/Time:

Received in Lab By: Date/Time: 12/5/08 1935

Turnaround Time: (Check)
same day ____ 72 hours ____
24 hours ____ 5 days ____
48 hours X normal ____

Sample Integrity: (Check)
Intact ✓ on ice ✓ 3°C

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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LABORATORY REPORT

Prepared For: Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project: Solar Energy Generating System
2024.01.01S-01

Sampled: 12/06/08
Received: 12/08/08
Issued: 12/10/08 12:52

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 2 poges, are included and are an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 5°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
IRL0845-01	II_1P (0-1)	Soil
IRL0845-02	II_1P (5-6)	Soil
IRL0845-03	II_1R (0-1)	Soil
IRL0845-04	II_1R (5-6)	Soil
IRL0845-05	II_SP-1 (0-1)	Soil
IRL0845-06	II_SP-1 (5-6)	Soil
IRL0845-07	II_SP-2 (0-1)	Soil
IRL0845-08	II_SP-2 (5-6)	Soil
IRL0845-09	II_21O (0-1)	Soil
IRL0845-10	II_21O (5-6)	Soil
IRL0845-11	II_23Q (0-1)	Soil

TestAmerica Irvine

Patty Mata
Project Manager

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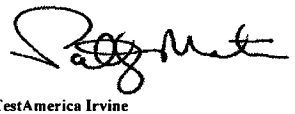
Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

LABORATORY ID	CLIENT ID	MATRIX
IRL0845-12	II_23Q (5-6)	Soil
IRL0845-13	TDA-1 (0-1)	Soil
IRL0845-14	TDA-1 (5-6)	Soil
IRL0845-15	TB-120608	Soil
IRL0845-16	TDA-2 (0-1)	Soil
IRL0845-17	TDA-2 (5-6)	Soil

Reviewed By:



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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0845
Sampled: 12/06/08
Received: 12/08/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-01 (II_1P (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*90 %*				
Sample ID: IRL0845-02 (II_1P (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*68 %*				
Sample ID: IRL0845-03 (II_1R (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*63 %*				
Sample ID: IRL0845-04 (II_1R (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*63 %*				
Sample ID: IRL0845-05 (II_SP-1 (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*69 %*				
Sample ID: IRL0845-06 (II_SP-1 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*69 %*				
Sample ID: IRL0845-07 (II_SP-2 (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*72 %*				

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Northgate Environmental Management
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Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0845
Sampled: 12/06/08
Received: 12/08/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-08 (II_SP-2 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*70 %*				
Sample ID: IRL0845-09 (II_21O (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*95 %*				
Sample ID: IRL0845-10 (II_21O (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*94 %*				
Sample ID: IRL0845-11 (II_23Q (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*97 %*				
Sample ID: IRL0845-12 (II_23Q (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*91 %*				
Sample ID: IRL0845-13 (TDA-1 (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*96 %*				
Sample ID: IRL0845-14 (TDA-1 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*91 %*				

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Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-16 (TDA-2 (0-1) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*87 %*				
Sample ID: IRL0845-17 (TDA-2 (5-6) - Soil)								
Reporting Units: mg/kg								
1,1'-Biphenyl	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
1,1'-Oxybisbenzene	EPA 8015 MOD.	8L08122	2.0	ND	1	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*90 %*				

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2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-01 (II_1P (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08028	1.8	ND	0.906	12/8/2008	12/8/2008	
Ethylbenzene	EPA 8260B	8L08028	1.8	ND	0.906	12/8/2008	12/8/2008	
Toluene	EPA 8260B	8L08028	1.8	ND	0.906	12/8/2008	12/8/2008	
m,p-Xylenes	EPA 8260B	8L08028	1.8	ND	0.906	12/8/2008	12/8/2008	
o-Xylene	EPA 8260B	8L08028	1.8	ND	0.906	12/8/2008	12/8/2008	
Xylenes, Total	EPA 8260B	8L08028	3.6	ND	0.906	12/8/2008	12/8/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-135%)				*95 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				
Sample ID: IRL0845-02 (II_1P (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08028	2.3	ND	1.13	12/8/2008	12/9/2008	
Ethylbenzene	EPA 8260B	8L08028	2.3	ND	1.13	12/8/2008	12/9/2008	
Toluene	EPA 8260B	8L08028	2.3	ND	1.13	12/8/2008	12/9/2008	
m,p-Xylenes	EPA 8260B	8L08028	2.3	ND	1.13	12/8/2008	12/9/2008	
o-Xylene	EPA 8260B	8L08028	2.3	ND	1.13	12/8/2008	12/9/2008	
Xylenes, Total	EPA 8260B	8L08028	4.5	ND	1.13	12/8/2008	12/9/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				
Sample ID: IRL0845-03 (II_1R (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08028	4.5	ND	2.24	12/8/2008	12/8/2008	
Ethylbenzene	EPA 8260B	8L08028	4.5	ND	2.24	12/8/2008	12/8/2008	
Toluene	EPA 8260B	8L08028	4.5	ND	2.24	12/8/2008	12/8/2008	
m,p-Xylenes	EPA 8260B	8L08028	4.5	ND	2.24	12/8/2008	12/8/2008	
o-Xylene	EPA 8260B	8L08028	4.5	ND	2.24	12/8/2008	12/8/2008	
Xylenes, Total	EPA 8260B	8L08028	9.0	ND	2.24	12/8/2008	12/8/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*94 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				

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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-04 (II_1R (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08028	2.1	ND	1.05	12/8/2008	12/8/2008	
Ethylbenzene	EPA 8260B	8L08028	2.1	ND	1.05	12/8/2008	12/8/2008	
Toluene	EPA 8260B	8L08028	2.1	ND	1.05	12/8/2008	12/8/2008	
m,p-Xylenes	EPA 8260B	8L08028	2.1	ND	1.05	12/8/2008	12/8/2008	
o-Xylene	EPA 8260B	8L08028	2.1	ND	1.05	12/8/2008	12/8/2008	
Xylenes, Total	EPA 8260B	8L08028	4.2	ND	1.05	12/8/2008	12/8/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*94 %*				
Surrogate: Toluene-d8 (80-120%)				*93 %*				
Sample ID: IRL0845-05 (II_SP-1 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08028	2.0	ND	0.986	12/8/2008	12/8/2008	
Ethylbenzene	EPA 8260B	8L08028	2.0	ND	0.986	12/8/2008	12/8/2008	
Toluene	EPA 8260B	8L08028	2.0	ND	0.986	12/8/2008	12/8/2008	
m,p-Xylenes	EPA 8260B	8L08028	2.0	ND	0.986	12/8/2008	12/8/2008	
o-Xylene	EPA 8260B	8L08028	2.0	ND	0.986	12/8/2008	12/8/2008	
Xylenes, Total	EPA 8260B	8L08028	3.9	ND	0.986	12/8/2008	12/8/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*93 %*				
Surrogate: Toluene-d8 (80-120%)				*93 %*				
Sample ID: IRL0845-06 (II_SP-1 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08028	2.0	ND	0.982	12/8/2008	12/8/2008	
Ethylbenzene	EPA 8260B	8L08028	2.0	ND	0.982	12/8/2008	12/8/2008	
Toluene	EPA 8260B	8L08028	2.0	ND	0.982	12/8/2008	12/8/2008	
m,p-Xylenes	EPA 8260B	8L08028	2.0	ND	0.982	12/8/2008	12/8/2008	
o-Xylene	EPA 8260B	8L08028	2.0	ND	0.982	12/8/2008	12/8/2008	
Xylenes, Total	EPA 8260B	8L08028	3.9	ND	0.982	12/8/2008	12/8/2008	
Surrogote: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*93 %*				

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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-07 (II_SP-2 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08028	3.2	ND	1.61	12/8/2008	12/9/2008	
Ethylbenzene	EPA 8260B	8L08028	3.2	ND	1.61	12/8/2008	12/9/2008	
Toluene	EPA 8260B	8L08028	3.2	ND	1.61	12/8/2008	12/9/2008	
m,p-Xylenes	EPA 8260B	8L08028	3.2	ND	1.61	12/8/2008	12/9/2008	
o-Xylene	EPA 8260B	8L08028	3.2	ND	1.61	12/8/2008	12/9/2008	
Xylenes, Total	EPA 8260B	8L08028	6.4	ND	1.61	12/8/2008	12/9/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-135%)				*101 %*				
Surrogate: Toluene-d8 (80-120%)				*93 %*				
Sample ID: IRL0845-08 (II_SP-2 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08028	2.0	ND	0.998	12/8/2008	12/8/2008	
Ethylbenzene	EPA 8260B	8L08028	2.0	ND	0.998	12/8/2008	12/8/2008	
Toluene	EPA 8260B	8L08028	2.0	ND	0.998	12/8/2008	12/8/2008	
m,p-Xylenes	EPA 8260B	8L08028	2.0	ND	0.998	12/8/2008	12/8/2008	
o-Xylene	EPA 8260B	8L08028	2.0	ND	0.998	12/8/2008	12/8/2008	
Xylenes, Total	EPA 8260B	8L08028	4.0	ND	0.998	12/8/2008	12/8/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-135%)				*94 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				
Sample ID: IRL0845-09 (II_21O (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08028	1.6	ND	0.821	12/8/2008	12/8/2008	
Ethylbenzene	EPA 8260B	8L08028	1.6	ND	0.821	12/8/2008	12/8/2008	
Toluene	EPA 8260B	8L08028	1.6	ND	0.821	12/8/2008	12/8/2008	
m,p-Xylenes	EPA 8260B	8L08028	1.6	ND	0.821	12/8/2008	12/8/2008	
o-Xylene	EPA 8260B	8L08028	1.6	ND	0.821	12/8/2008	12/8/2008	
Xylenes, Total	EPA 8260B	8L08028	3.3	ND	0.821	12/8/2008	12/8/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-135%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*93 %*				

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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-10 (II_21O (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08028	1.6	ND	0.808	12/8/2008	12/9/2008	
Ethylbenzene	EPA 8260B	8L08028	1.6	ND	0.808	12/8/2008	12/9/2008	
Toluene	EPA 8260B	8L08028	1.6	ND	0.808	12/8/2008	12/9/2008	
m,p-Xylenes	EPA 8260B	8L08028	1.6	ND	0.808	12/8/2008	12/9/2008	
o-Xylene	EPA 8260B	8L08028	1.6	ND	0.808	12/8/2008	12/9/2008	
Xylenes, Total	EPA 8260B	8L08028	3.2	ND	0.808	12/8/2008	12/9/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*93 %*				
Sample ID: IRL0845-11 (II_23Q (0-1) - Soil)								**A-01**
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08028	3.5	ND	1.73	12/8/2008	12/8/2008	I
Ethylbenzene	EPA 8260B	8L08028	3.5	ND	1.73	12/8/2008	12/8/2008	I
Toluene	EPA 8260B	8L08028	3.5	ND	1.73	12/8/2008	12/8/2008	I
m,p-Xylenes	EPA 8260B	8L08028	3.5	ND	1.73	12/8/2008	12/8/2008	I
o-Xylene	EPA 8260B	8L08028	3.5	ND	1.73	12/8/2008	12/8/2008	I
Xylenes, Total	EPA 8260B	8L08028	6.9	ND	1.73	12/8/2008	12/8/2008	I
Surrogate: 4-Bromofluorobenzene (75-120%)				*87 %*				
Surrogate: Dibromofluoromethane (80-135%)				*105 %*				
Surrogate: Toluene-d8 (80-120%)				*93 %*				
Sample ID: IRL0845-12 (II_23Q (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L09025	2.1	ND	1.03	12/9/2008	12/9/2008	
Ethylbenzene	EPA 8260B	8L09025	2.1	ND	1.03	12/9/2008	12/9/2008	
Toluene	EPA 8260B	8L09025	2.1	ND	1.03	12/9/2008	12/9/2008	
m,p-Xylenes	EPA 8260B	8L09025	2.1	ND	1.03	12/9/2008	12/9/2008	
o-Xylene	EPA 8260B	8L09025	2.1	ND	1.03	12/9/2008	12/9/2008	
Xylenes, Total	EPA 8260B	8L09025	4.1	ND	1.03	12/9/2008	12/9/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*95 %*				
Surrogate: Toluene-d8 (80-120%)				*93 %*				

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VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-13 (TDA-1 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08028	2.0	ND	1.01	12/8/2008	12/9/2008	
Ethylbenzene	EPA 8260B	8L08028	2.0	ND	1.01	12/8/2008	12/9/2008	
Toluene	EPA 8260B	8L08028	2.0	ND	1.01	12/8/2008	12/9/2008	
m,p-Xylenes	EPA 8260B	8L08028	2.0	ND	1.01	12/8/2008	12/9/2008	
o-Xylene	EPA 8260B	8L08028	2.0	ND	1.01	12/8/2008	12/9/2008	
Xylenes, Total	EPA 8260B	8L08028	4.1	ND	1.01	12/8/2008	12/9/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*93 %*				
Surrogate: Toluene-d8 (80-120%)				*93 %*				
Sample ID: IRL0845-14 (TDA-1 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08028	2.5	ND	1.24	12/8/2008	12/9/2008	
Ethylbenzene	EPA 8260B	8L08028	2.5	ND	1.24	12/8/2008	12/9/2008	
Toluene	EPA 8260B	8L08028	2.5	ND	1.24	12/8/2008	12/9/2008	
m,p-Xylenes	EPA 8260B	8L08028	2.5	ND	1.24	12/8/2008	12/9/2008	
o-Xylene	EPA 8260B	8L08028	2.5	ND	1.24	12/8/2008	12/9/2008	
Xylenes, Total	EPA 8260B	8L08028	5.0	ND	1.24	12/8/2008	12/9/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-135%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				
Sample ID: IRL0845-16 (TDA-2 (0-1) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L09025	2.2	ND	1.09	12/9/2008	12/9/2008	
Ethylbenzene	EPA 8260B	8L09025	2.2	ND	1.09	12/9/2008	12/9/2008	
Toluene	EPA 8260B	8L09025	2.2	ND	1.09	12/9/2008	12/9/2008	
m,p-Xylenes	EPA 8260B	8L09025	2.2	ND	1.09	12/9/2008	12/9/2008	
o-Xylene	EPA 8260B	8L09025	2.2	ND	1.09	12/9/2008	12/9/2008	
Xylenes, Total	EPA 8260B	8L09025	4.4	ND	1.09	12/9/2008	12/9/2008	
Surrogote: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*96 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-17 (TDA-2 (5-6) - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L08028	1.9	ND	0.942	12/8/2008	12/9/2008	
Ethylbenzene	EPA 8260B	8L08028	1.9	ND	0.942	12/8/2008	12/9/2008	
Toluene	EPA 8260B	8L08028	1.9	4.2	0.942	12/8/2008	12/9/2008	
m,p-Xylenes	EPA 8260B	8L08028	1.9	2.8	0.942	12/8/2008	12/9/2008	
o-Xylene	EPA 8260B	8L08028	1.9	ND	0.942	12/8/2008	12/9/2008	
Xylenes, Total	EPA 8260B	8L08028	3.8	ND	0.942	12/8/2008	12/9/2008	
Surrogate: 4-Bromofluorobenzene (75-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-135%)				*93 %*				
Surrogate: Toluene-d8 (80-120%)				*94 %*				

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2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-01 (II_1P (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L08123	5.0	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*88 %*					
Sample ID: IRL0845-02 (II_1P (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L08123	5.0	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor		Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-02 (II_1P (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
Surrogate: n-Octacosane (40-125%)				*88 %*					
Sample ID: IRL0845-03 (II_1R (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L08123	5.0	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*87 %*					
Sample ID: IRL0845-04 (II_1R (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L08123	5.0	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-04 (II_1R (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C37 - C38)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*83 %*					
Sample ID: IRL0845-05 (II_SP-1 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L08123	5.0	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*87 %*					
Sample ID: IRL0845-06 (II_SP-1 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L08123	5.0	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	

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Received: 12/08/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-06 (II_SP-1 (5-6) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C31 - C32)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*80 %*					
Sample ID: IRL0845-07 (II_SP-2 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L08123	5.0	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*85 %*					

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2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-08 (II_SP-2 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L08123	5.0	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*88 %*					
Sample ID: IRL0845-09 (II_21O (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L08123	5.0	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor		Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-09 (II_21O (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
Surrogate: n-Octacosane (40-125%)				*97 %*					
Sample ID: IRL0845-10 (II_21O (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L08123	5.0	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*90 %*					
Sample ID: IRL0845-11 (II_23Q (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L08123	5.0	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-11 (II_23Q (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C37 - C38)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*70 %*					
Sample ID: IRL0845-12 (II_23Q (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L08123	5.0	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*93 %*					
Sample ID: IRL0845-13 (TDA-1 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L08123	5.0	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-17 (TDA-2 (5-6) - Soil) - cont.								
Reporting Units: mg/kg								
Surrogate: n-Octacosane (40-125%)				68 %				

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

METHOD BLANK/QC DATA

THERMINOL (CADHS LUFT/8015B MOD)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L08122 Extracted: 12/09/08										
Blank Analyzed: 12/09/2008 (8L08122-BLK1)										
1,1'-Biphenyl	ND	2.0	mg/kg							
1,1'-Oxybisbenzene	ND	2.0	mg/kg							
Surrogate: n-Octacosane	*3.92*		*mg/kg*	*6.67*		*59*	*40-125*			
LCS Analyzed: 12/09/2008 (8L08122-BS1)										
1,1'-Biphenyl	2.08	2.0	mg/kg	3.33		63	50-115			
1,1'-Oxybisbenzene	2.13	2.0	mg/kg	3.33		64	50-115			
Surrogate: n-Octacosane	*3.57*		*mg/kg*	*6.67*		*54*	*40-125*			
Matrix Spike Analyzed: 12/09/2008 (8L08122-MS1)					**Source: IRL0845-08**					
1,1'-Biphenyl	2.53	2.0	mg/kg	3.33	ND	76	35-120			
1,1'-Oxybisbenzene	2.59	2.0	mg/kg	3.33	ND	78	35-120			
Surrogate: n-Octacosane	*4.58*		*mg/kg*	*6.67*		*69*	*40-125*			
Matrix Spike Dup Analyzed: 12/09/2008 (8L08122-MSD1)					**Source: IRL0845-08**					
1,1'-Biphenyl	2.46	2.0	mg/kg	3.33	ND	74	35-120	3	30	
1,1'-Oxybisbenzene	2.52	2.0	mg/kg	3.33	ND	76	35-120	3	30	
Surrogate: n-Octacosane	*4.46*		*mg/kg*	*6.67*		*67*	*40-125*			

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-13 (TDA-1 (0-1) - Soil) - cont.									
Reporting Units: mg/kg									
EFH (C31 - C32)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*92 %*					
Sample ID: IRL0845-14 (TDA-1 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L08123	5.0	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*90 %*					

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Patty Mata
Project Manager

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	% of Total	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL0845-16 (TDA-2 (0-1) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L08123	5.0	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
Surrogate: n-Octacosane (40-125%)				*85 %*					
Sample ID: IRL0845-17 (TDA-2 (5-6) - Soil)									
Reporting Units: mg/kg									
EFH (C13 - C44)	EPA 8015 MOD.	8L08123	5.0	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C13 - C14)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C15 - C16)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C17 - C18)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C19 - C20)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C21 - C22)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C23 - C24)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C25 - C26)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C27 - C28)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C29 - C30)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C31 - C32)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C33 - C34)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C35 - C36)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C37 - C38)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C39 - C40)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	
EFH (C41 - C44)	EPA 8015 MOD.	8L08123	3.5	ND	1	N/A	12/9/2008	12/9/2008	

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Patty Mata
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING
17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

METHOD BLANK/QC DATA

HYDROCARBON DISTRIBUTION (CADHS/8015 Mod.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L08123 Extracted: 12/09/08										
Blank Analyzed: 12/09/2008 (8L08123-BLK1)										
EFH (C13 - C44)	ND	5.0	mg/kg							
EFH (C13 - C28)	ND	5.0	mg/kg							
Surrogate: n-Octacosane	*6.00*		*mg/kg*	*6.67*		*90*	*40-125*			
LCS Analyzed: 12/09/2008 (8L08123-BS1)										
EFH (C13 - C28)	23.1	5.0	mg/kg	25.0		92	45-115			
Surrogate: n-Octacosane	*6.48*		*mg/kg*	*6.67*		*97*	*40-125*			
Matrix Spike Analyzed: 12/09/2008 (8L08123-MS1)					**Source: IRL0845-14**					
EFH (C13 - C44)	24.2	5.0	mg/kg	33.3	ND	72	40-120			
Surrogate: n-Octacosane	*6.51*		*mg/kg*	*6.67*		*98*	*40-125*			
Matrix Spike Dup Analyzed: 12/09/2008 (8L08123-MSD1)					**Source: IRL0845-14**					
EFH (C13 - C44)	21.2	5.0	mg/kg	33.3	ND	64	40-120	13	30	
Surrogate: n-Octacosane	*5.80*		*mg/kg*	*6.67*		*87*	*40-125*			

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L08028 Extracted: 12/08/08										
Blank Analyzed: 12/08/2008 (8L08028-BLK1)										
Benzene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*45.8*		*ug/kg*	*50.0*		*92*	*75-120*			
Surrogate: Dibromofluoromethane	*47.0*		*ug/kg*	*50.0*		*94*	*80-135*			
Surrogate: Toluene-d8	*46.9*		*ug/kg*	*50.0*		*94*	*80-120*			
LCS Analyzed: 12/08/2008 (8L08028-BS1)										**MNR1**
Benzene	44.0	2.0	ug/kg	50.0		88	65-120			
Ethylbenzene	49.3	2.0	ug/kg	50.0		99	70-120			
Toluene	45.2	2.0	ug/kg	50.0		90	70-120			
m,p-Xylenes	100	2.0	ug/kg	100		100	65-120			
o-Xylene	49.5	2.0	ug/kg	50.0		99	70-125			
Xylenes, Total	150	4.0	ug/kg	150		100	65-125			
Surrogate: 4-Bromofluorobenzene	*47.3*		*ug/kg*	*50.0*		*95*	*75-120*			
Surrogate: Dibromofluoromethane	*47.9*		*ug/kg*	*50.0*		*96*	*80-135*			
Surrogate: Toluene-d8	*47.1*		*ug/kg*	*50.0*		*94*	*80-120*			
LCS Dup Analyzed: 12/08/2008 (8L08028-BSD1)										
Benzene	46.0	2.0	ug/kg	50.0		92	65-120	4	30	
Ethylbenzene	51.1	2.0	ug/kg	50.0		102	70-120	3	30	
Toluene	47.4	2.0	ug/kg	50.0		95	70-120	5	30	
m,p-Xylenes	103	2.0	ug/kg	100		103	65-120	2	30	
o-Xylene	51.5	2.0	ug/kg	50.0		103	70-125	4	30	
Xylenes, Total	154	4.0	ug/kg	150		103	65-125	3	20	
Surrogate: 4-Bromofluorobenzene	*47.0*		*ug/kg*	*50.0*		*94*	*75-120*			
Surrogate: Dibromofluoromethane	*49.0*		*ug/kg*	*50.0*		*98*	*80-135*			
Surrogate: Toluene-d8	*47.2*		*ug/kg*	*50.0*		*94*	*80-120*			

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Northgate Environmental Management
1100 Quail Street Suite 102
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L09025 Extracted: 12/09/08										
Blank Analyzed: 12/09/2008 (8L09025-BLK1)										
Benzene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*45.7*		*ug/kg*	*50.0*		*91*	*75-120*			
Surrogate: Dibromofluoromethane	*50.1*		*ug/kg*	*50.0*		*100*	*80-135*			
Surrogate: Toluene-d8	*46.9*		*ug/kg*	*50.0*		*94*	*80-120*			
LCS Analyzed: 12/09/2008 (8L09025-BS1)										
Benzene	43.4	2.0	ug/kg	50.0		87	65-120			
Ethylbenzene	49.7	2.0	ug/kg	50.0		99	70-120			
Toluene	45.9	2.0	ug/kg	50.0		92	70-120			
m,p-Xylenes	99.9	2.0	ug/kg	100		100	65-120			
o-Xylene	49.9	2.0	ug/kg	50.0		100	70-125			
Xylenes, Total	150	4.0	ug/kg	150		100	65-125			
Surrogate: 4-Bromofluorobenzene	*47.2*		*ug/kg*	*50.0*		*94*	*75-120*			
Surrogate: Dibromofluoromethane	*49.5*		*ug/kg*	*50.0*		*99*	*80-135*			
Surrogate: Toluene-d8	*46.8*		*ug/kg*	*50.0*		*94*	*80-120*			
LCS Dup Analyzed: 12/09/2008 (8L09025-BSD1)										
Benzene	45.0	2.0	ug/kg	50.0		90	65-120	4	30	
Ethylbenzene	51.5	2.0	ug/kg	50.0		103	70-120	4	30	
Toluene	47.6	2.0	ug/kg	50.0		95	70-120	4	30	
m,p-Xylenes	103	2.0	ug/kg	100		103	65-120	4	30	
o-Xylene	51.6	2.0	ug/kg	50.0		103	70-125	3	30	
Xylenes, Total	155	4.0	ug/kg	150		103	65-125	3	20	
Surrogate: 4-Bromofluorobenzene	*48.0*		*ug/kg*	*50.0*		*96*	*75-120*			
Surrogate: Dibromofluoromethane	*49.0*		*ug/kg*	*50.0*		*98*	*80-135*			
Surrogate: Toluene-d8	*46.9*		*ug/kg*	*50.0*		*94*	*80-120*			

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

DATA QUALIFIERS AND DEFINITIONS

A-01	Only one Sodium Bisulfate VOA available, the duplicate vial leaked prior to receipt. No re-analysis could be done to confirm results.
I	Internal Standard recovery was outside of method limits. Matrix interference was confirmed.
MNR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For Hydrocarbon Distribution Analyses:

The reporting limits for the individual carbon distribution ranges are derived by proportioning the individual ranges relative to the total carbon range, not to fall below the method detection limit of the total range.

For Extractable Fuel Hydrocarbons (EFH, DRO, ORO):

Unless otherwise noted, Extractable Fuel Hydrocarbons (EFH, DRO, ORO) are quantitated against a Diesel Fuel Standard.

TestAmerica Irvine

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Northgate Environmental Management
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Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL0845

Sampled: 12/06/08
Received: 12/08/08

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 8015 MOD.	Soil	X	X
EPA 8260B	Soil	X	X
None	Soil		

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Irvine

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9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd., #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY FORM

IRL0845 Page 1 of 2

TAL-0913(1007)

Client Name / Address: Northgate Environmental 1100 Quail #102, Newport Beach, CA
Project Manager: Derrick Willis
Sampler: Dana R. Brown
Project / PO Number: 2024.01
Phone Number: (949) 375-7004
Fax Number: (949) 315-3365

| Sample Description | Sample Matrix | Container Type | # of Cont. | Sampling Date | Sampling Time | Preservatives | Analysis Required | | |

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax (949) 260-3297

LABORATORY REPORT

Prepared For: Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project: Solar Energy Generating System
2024.01.01S-01

Sampled: 12/11/08
Received: 12/11/08
Issued: 12/12/08 16:14

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 4°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
IRL1275-01	GW-1-121108	Water
IRL1275-02	TB-121108	Water

Reviewed By:

TestAmerica Irvine
Patty Mata
Project Manager

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY FORM

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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

TAL-0013(1007)

Page 2 of 2

Client Name/Address: Northgate Environmental Mgmt. 1100 Quail #102, Newport Beach, CA

Project/PO Number: 2024.01

Project Manager: Derrick Willis

Phone Number: (949) 375-7004

Sampler: Dave Brown

Fax Number: (949) 315-3365

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Analysis Required	Special Instructions
TG-120608	Water	2-V	2	12-6-08	10:06	4°C	BTEX	
TDA-2 (0-1)	Soil	1-T43-V	4	12-6-08	10:22		TPH(C5-C44) Alpha-1 Hexane	
TDA-2 (5-6)	↓	↓	↓	↓	10:27	↓	↓	

Relinquished By: [signature] Date/Time: 12/8/08 10:15 Received By:

Relinquished By: Date/Time: Received By:

Relinquished By: Date/Time: Received In Lab By: [signature] Date/Time: 12/8/08 10:15

Turnaround Time: (Check) same day 72 hours; 24 hours 5 days; 48 hours; normal

Sample Integrity: (Check) intact; on ice 5.1/4.2°

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL1275
Sampled: 12/11/08
Received: 12/11/08

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL1275-01 (GW-1-121108 - Water)								
Reporting Units: ug/l								
Benzene	EPA 8260B	8L11013	0.50	ND	1	12/11/2008	12/11/2008	
Bromobenzene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Bromochloromethane	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Bromodichloromethane	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Bromoform	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Bromomethane	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	L
n-Butylbenzene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
sec-Butylbenzene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
tert-Butylbenzene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Carbon tetrachloride	EPA 8260B	8L11013	0.50	ND	1	12/11/2008	12/11/2008	
Chlorobenzene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Chloroethane	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Chloroform	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Chloromethane	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
2-Chlorotoluene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
4-Chlorotoluene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
1,2-Dibromo-3-chloropropane	EPA 8260B	8L11013	5.0	ND	1	12/11/2008	12/11/2008	
Dibromochloromethane	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
1,2-Dibromoethane (EDB)	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Dibromomethane	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
1,2-Dichlorobenzene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
1,3-Dichlorobenzene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
1,4-Dichlorobenzene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Dichlorodifluoromethane	EPA 8260B	8L11013	2.0	ND	1	12/11/2008	12/11/2008	L
1,1-Dichloroethane	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
1,2-Dichloroethane	EPA 8260B	8L11013	0.50	ND	1	12/11/2008	12/11/2008	
1,1-Dichloroethene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
cis-1,2-Dichloroethene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
trans-1,2-Dichloroethene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
1,2-Dichloropropane	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
1,3-Dichloropropane	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
2,2-Dichloropropane	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
cis-1,3-Dichloropropene	EPA 8260B	8L11013	0.50	ND	1	12/11/2008	12/11/2008	
trans-1,3-Dichloropropene	EPA 8260B	8L11013	0.50	ND	1	12/11/2008	12/11/2008	
1,1-Dichloropropene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Ethylbenzene	EPA 8260B	8L11013	0.50	ND	1	12/11/2008	12/11/2008	
Hexachlorobutadiene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Isopropylbenzene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	C, L
p-Isopropyltoluene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Methylene chloride	EPA 8260B	8L11013	5.0	ND	1	12/11/2008	12/11/2008	
Naphthalene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL1275
Sampled: 12/11/08
Received: 12/11/08

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL1275-01 (GW-1-121108 - Water) - cont.								
Reporting Units: ug/l								
n-Propylbenzene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	L
Styrene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
1,1,1,2-Tetrachloroethane	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
1,1,2,2-Tetrachloroethane	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Tetrachloroethene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Toluene	EPA 8260B	8L11013	0.50	**0.65**	1	12/11/2008	12/11/2008	
1,2,3-Trichlorobenzene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
1,2,4-Trichlorobenzene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
1,1,1-Trichloroethane	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
1,1,2-Trichloroethane	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Trichloroethene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Trichlorofluoromethane	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
1,2,3-Trichloropropane	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
1,2,4-Trimethylbenzene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
1,3,5-Trimethylbenzene	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Vinyl chloride	EPA 8260B	8L11013	0.50	ND	1	12/11/2008	12/11/2008	
m,p-Xylenes	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
o-Xylene	EPA 8260B	8L11013	0.50	ND	1	12/11/2008	12/11/2008	
Di-isopropyl Ether (DIPE)	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	8L11013	1.0	ND	1	12/11/2008	12/11/2008	
tert-Butanol (TBA)	EPA 8260B	8L11013	10	ND	1	12/11/2008	12/11/2008	
Ethanol	EPA 8260B	8L11013	150	ND	1	12/11/2008	12/11/2008	
Surrogate: 4-Bromofluorobenzene (80-120%)				*96 %*				
Surrogate: Dibromofluoromethane (80-120%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*93 %*				

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL1275

Sampled: 12/11/08
Received: 12/11/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L11013 Extracted: 12/11/08										
Blank Analyzed: 12/11/2008 (8L11013-BLK1)										
Benzene	ND	0.50	ug/l							
Bromobenzene	ND	1.0	ug/l							
Bromochloromethane	ND	1.0	ug/l							
Bromodichloromethane	ND	1.0	ug/l							
Bromoform	ND	1.0	ug/l							
Bromomethane	ND	1.0	ug/l							
n-Butylbenzene	ND	1.0	ug/l							
sec-Butylbenzene	ND	1.0	ug/l							
tert-Butylbenzene	ND	1.0	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chlorobenzene	ND	1.0	ug/l							
Chloroethane	ND	1.0	ug/l							
Chloroform	ND	1.0	ug/l							
Chloromethane	ND	1.0	ug/l							
2-Chlorotoluene	ND	1.0	ug/l							
4-Chlorotoluene	ND	1.0	ug/l							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/l							
Dibromochloromethane	ND	1.0	ug/l							
1,2-Dibromoethane (EDB)	ND	1.0	ug/l							
Dibromomethane	ND	1.0	ug/l							
1,2-Dichlorobenzene	ND	1.0	ug/l							
1,3-Dichlorobenzene	ND	1.0	ug/l							
1,4-Dichlorobenzene	ND	1.0	ug/l							
Dichlorodifluoromethane	ND	2.0	ug/l							
1,1-Dichloroethane	ND	1.0	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	1.0	ug/l							
cis-1,2-Dichloroethene	ND	1.0	ug/l							
trans-1,2-Dichloroethene	ND	1.0	ug/l							
1,2-Dichloropropane	ND	1.0	ug/l							
1,3-Dichloropropane	ND	1.0	ug/l							
2,2-Dichloropropane	ND	1.0	ug/l							
cis-1,3-Dichloropropene	ND	0.50	ug/l							
trans-1,3-Dichloropropene	ND	0.50	ug/l							
1,1-Dichloropropene	ND	1.0	ug/l							
Ethylbenzene	ND	0.50	ug/l							

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL1275

Sampled: 12/11/08
Received: 12/11/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L11013 Extracted: 12/11/08										
Blank Analyzed: 12/11/2008 (8L11013-BLK1)										
Hexachlorobutadiene	ND	1.0	ug/l							
Isopropylbenzene	ND	1.0	ug/l							
p-Isopropyltoluene	ND	1.0	ug/l							
Methylene chloride	ND	5.0	ug/l							
Naphthalene	ND	1.0	ug/l							
n-Propylbenzene	ND	1.0	ug/l							
Styrene	ND	1.0	ug/l							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/l							
1,1,2,2-Tetrachloroethane	ND	1.0	ug/l							
Tetrachloroethene	ND	1.0	ug/l							
Toluene	ND	0.50	ug/l							
1,2,3-Trichlorobenzene	ND	1.0	ug/l							
1,2,4-Trichlorobenzene	ND	1.0	ug/l							
1,1,1-Trichloroethane	ND	1.0	ug/l							
1,1,2-Trichloroethane	ND	1.0	ug/l							
Trichloroethene	ND	1.0	ug/l							
Trichlorofluoromethane	ND	1.0	ug/l							
1,2,3-Trichloropropane	ND	1.0	ug/l							
1,2,4-Trimethylbenzene	ND	1.0	ug/l							
1,3,5-Trimethylbenzene	ND	1.0	ug/l							
Vinyl chloride	ND	0.50	ug/l							
m,p-Xylenes	ND	1.0	ug/l							
o-Xylene	ND	0.50	ug/l							
Di-isopropyl Ether (DIPE)	ND	1.0	ug/l							
Ethyl tert-Butyl Ether (ETBE)	ND	1.0	ug/l							
Methyl-tert-butyl Ether (MTBE)	ND	1.0	ug/l							
tert-Amyl Methyl Ether (TAME)	ND	1.0	ug/l							
tert-Butanol (TBA)	ND	10	ug/l							
Ethanol	ND	150	ug/l							
Surrogate: 4-Bromofluorobenzene	*24.0*		*ug/l*	*25.0*		*96*	*80-120*			
Surrogate: Dibromofluoromethane	*25.0*		*ug/l*	*25.0*		*100*	*80-120*			
Surrogate: Toluene-d8	*23.7*		*ug/l*	*25.0*		*95*	*80-120*			

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL1275
Sampled: 12/11/08
Received: 12/11/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L11013 Extracted: 12/11/08										
LCS Analyzed: 12/11/2008 (8L11013-BS1)										
Benzene	24.8	0.50	ug/l	25.0		99	70-120			
Bromobenzene	27.0	1.0	ug/l	25.0		108	75-120			
Bromochloromethane	25.3	1.0	ug/l	25.0		101	70-130			
Bromodichloromethane	29.4	1.0	ug/l	25.0		117	70-135			
Bromoform	24.6	1.0	ug/l	25.0		98	55-130			
Bromomethane	38.3	1.0	ug/l	25.0		153	65-140			*L*
n-Butylbenzene	31.3	1.0	ug/l	25.0		125	70-130			
sec-Butylbenzene	29.8	1.0	ug/l	25.0		119	70-125			
tert-Butylbenzene	28.5	1.0	ug/l	25.0		114	70-125			
Carbon tetrachloride	26.8	0.50	ug/l	25.0		107	65-140			
Chlorobenzene	28.0	1.0	ug/l	25.0		112	75-120			
Chloroethane	26.6	1.0	ug/l	25.0		106	60-140			
Chloroform	27.2	1.0	ug/l	25.0		109	70-130			
Chloromethane	29.5	1.0	ug/l	25.0		118	50-140			
2-Chlorotoluene	31.0	1.0	ug/l	25.0		124	70-125			
4-Chlorotoluene	31.0	1.0	ug/l	25.0		124	75-125			
1,2-Dibromo-3-chloropropane	26.6	5.0	ug/l	25.0		106	50-135			
Dibromochloromethane	26.0	1.0	ug/l	25.0		104	70-140			
1,2-Dibromoethane (EDB)	28.6	1.0	ug/l	25.0		114	75-125			
Dibromomethane	25.9	1.0	ug/l	25.0		104	70-125			
1,2-Dichlorobenzene	27.6	1.0	ug/l	25.0		110	75-120			
1,3-Dichlorobenzene	27.9	1.0	ug/l	25.0		112	75-120			
1,4-Dichlorobenzene	26.3	1.0	ug/l	25.0		105	75-120			
Dichlorodifluoromethane	40.3	2.0	ug/l	25.0		161	35-155			*L*
1,1-Dichloroethane	25.3	1.0	ug/l	25.0		101	70-125			
1,2-Dichloroethane	25.6	0.50	ug/l	25.0		103	60-140			
1,1-Dichloroethene	27.4	1.0	ug/l	25.0		110	70-125			
cis-1,2-Dichloroethene	25.9	1.0	ug/l	25.0		103	70-125			
trans-1,2-Dichloroethene	28.5	1.0	ug/l	25.0		114	70-125			
1,2-Dichloropropane	24.5	1.0	ug/l	25.0		98	70-125			
1,3-Dichloropropane	28.2	1.0	ug/l	25.0		113	70-120			
2,2-Dichloropropane	31.2	1.0	ug/l	25.0		125	65-140			
cis-1,3-Dichloropropene	27.9	0.50	ug/l	25.0		112	75-125			
trans-1,3-Dichloropropene	28.4	0.50	ug/l	25.0		114	70-125			
1,1-Dichloropropene	27.2	1.0	ug/l	25.0		109	75-130			
Ethylbenzene	29.9	0.50	ug/l	25.0		119	75-125			

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Northgate Environmental Management
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Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL1275
Sampled: 12/11/08
Received: 12/11/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L11013 Extracted: 12/11/08										
LCS Analyzed: 12/11/2008 (8L11013-BS1)										
Hexachlorobutadiene	30.6	1.0	ug/l	25.0		122	65-135			
Isopropylbenzene	34.2	1.0	ug/l	25.0		137	75-130			*L*
p-Isopropyltoluene	28.2	1.0	ug/l	25.0		113	75-125			
Methylene chloride	27.5	5.0	ug/l	25.0		110	55-130			
Naphthalene	24.7	1.0	ug/l	25.0		99	55-135			
n-Propylbenzene	32.6	1.0	ug/l	25.0		131	75-130			*L*
Styrene	29.1	1.0	ug/l	25.0		116	75-130			
1,1,1,2-Tetrachloroethane	28.4	1.0	ug/l	25.0		113	70-130			
1,1,2,2-Tetrachloroethane	29.6	1.0	ug/l	25.0		118	55-130			
Tetrachloroethene	27.2	1.0	ug/l	25.0		109	70-125			
Toluene	26.9	0.50	ug/l	25.0		108	70-120			
1,2,3-Trichlorobenzene	25.1	1.0	ug/l	25.0		101	65-125			
1,2,4-Trichlorobenzene	28.1	1.0	ug/l	25.0		112	70-135			
1,1,1-Trichloroethane	29.7	1.0	ug/l	25.0		119	65-135			
1,1,2-Trichloroethane	27.5	1.0	ug/l	25.0		110	70-125			
Trichloroethene	24.0	1.0	ug/l	25.0		96	70-125			
Trichlorofluoromethane	30.2	1.0	ug/l	25.0		121	65-145			
1,2,3-Trichloropropane	27.4	1.0	ug/l	25.0		110	60-130			
1,2,4-Trimethylbenzene	30.7	1.0	ug/l	25.0		123	75-125			
1,3,5-Trimethylbenzene	31.3	1.0	ug/l	25.0		125	75-125			
Vinyl chloride	29.4	0.50	ug/l	25.0		118	55-135			
m,p-Xylenes	56.9	1.0	ug/l	50.0		114	75-125			
o-Xylene	27.9	0.50	ug/l	25.0		112	75-125			
Di-isopropyl Ether (DIPE)	26.1	1.0	ug/l	25.0		105	60-135			
Ethyl tert-Butyl Ether (ETBE)	27.0	1.0	ug/l	25.0		108	65-135			
Methyl-tert-butyl Ether (MTBE)	28.3	1.0	ug/l	25.0		113	60-135			
tert-Amyl Methyl Ether (TAME)	28.8	1.0	ug/l	25.0		115	60-135			
tert-Butanol (TBA)	137	10	ug/l	125		110	70-135			
Ethanol	221	150	ug/l	250		88	40-155			
Surrogate: 4-Bromofluorobenzene	*24.7*		*ug/l*	*25.0*		*99*	*80-120*			
Surrogate: Dibromofluoromethane	*25.7*		*ug/l*	*25.0*		*103*	*80-120*			
Surrogate: Toluene-d8	*23.7*		*ug/l*	*25.0*		*95*	*80-120*			

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Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL1275
Sampled: 12/11/08
Received: 12/11/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L11013 Extracted: 12/11/08										
Matrix Spike Analyzed: 12/11/2008 (8L11013-MS1)					Source: IRL1096-02					
Benzene	26.0	0.50	ug/l	25.0	ND	104	65-125			
Bromobenzene	28.0	1.0	ug/l	25.0	ND	112	70-125			
Bromochloromethane	25.6	1.0	ug/l	25.0	ND	102	65-135			
Bromodichloromethane	30.7	1.0	ug/l	25.0	ND	123	70-135			
Bromoform	24.5	1.0	ug/l	25.0	ND	98	55-135			
Bromomethane	38.1	1.0	ug/l	25.0	ND	152	55-145			*M7*
n-Butylbenzene	32.5	1.0	ug/l	25.0	ND	130	65-135			
sec-Butylbenzene	30.7	1.0	ug/l	25.0	ND	123	70-125			
tert-Butylbenzene	29.2	1.0	ug/l	25.0	ND	117	65-130			
Carbon tetrachloride	28.2	0.50	ug/l	25.0	ND	113	65-140			
Chlorobenzene	29.0	1.0	ug/l	25.0	ND	116	75-125			
Chloroethane	27.6	1.0	ug/l	25.0	ND	110	55-140			
Chloroform	28.1	1.0	ug/l	25.0	ND	112	65-135			
Chloromethane	29.8	1.0	ug/l	25.0	ND	119	45-145			
2-Chlorotoluene	31.5	1.0	ug/l	25.0	ND	126	65-135			
4-Chlorotoluene	32.0	1.0	ug/l	25.0	ND	128	70-135			
1,2-Dibromo-3-chloropropane	26.7	5.0	ug/l	25.0	ND	107	45-145			
Dibromochloromethane	26.7	1.0	ug/l	25.0	ND	107	65-140			
1,2-Dibromoethane (EDB)	29.0	1.0	ug/l	25.0	ND	116	70-130			
Dibromomethane	27.2	1.0	ug/l	25.0	ND	109	65-135			
1,2-Dichlorobenzene	28.3	1.0	ug/l	25.0	ND	113	75-125			
1,3-Dichlorobenzene	28.8	1.0	ug/l	25.0	ND	115	75-125			
1,4-Dichlorobenzene	27.2	1.0	ug/l	25.0	ND	109	75-125			
Dichlorodifluoromethane	40.6	2.0	ug/l	25.0	ND	162	25-155			*M7*
1,1-Dichloroethane	25.6	1.0	ug/l	25.0	ND	102	65-130			
1,2-Dichloroethane	26.2	0.50	ug/l	25.0	ND	105	60-140			
1,1-Dichloroethene	27.8	1.0	ug/l	25.0	ND	111	60-130			
cis-1,2-Dichloroethene	26.2	1.0	ug/l	25.0	ND	105	65-130			
trans-1,2-Dichloroethene	29.7	1.0	ug/l	25.0	ND	119	65-130			
1,2-Dichloropropane	24.8	1.0	ug/l	25.0	ND	99	65-130			
1,3-Dichloropropane	28.6	1.0	ug/l	25.0	ND	114	65-135			
2,2-Dichloropropane	31.4	1.0	ug/l	25.0	ND	126	60-145			
cis-1,3-Dichloropropene	28.5	0.50	ug/l	25.0	ND	114	70-130			
trans-1,3-Dichloropropene	29.1	0.50	ug/l	25.0	ND	116	65-135			
1,1-Dichloropropene	28.3	1.0	ug/l	25.0	ND	113	70-135			
Ethylbenzene	30.9	0.50	ug/l	25.0	ND	124	65-130			

TestAmerica Irvine

Patty Mata
Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL1275
Sampled: 12/11/08
Received: 12/11/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L11013 Extracted: 12/11/08										
Matrix Spike Analyzed: 12/11/2008 (8L11013-MS1)					Source: IRL1096-02					
Hexachlorobutadiene	31.8	1.0	ug/l	25.0	ND	127	60-135			
Isopropylbenzene	35.0	1.0	ug/l	25.0	ND	140	70-135			*M7*
p-Isopropyltoluene	29.1	1.0	ug/l	25.0	ND	116	65-130			
Methylene chloride	26.9	5.0	ug/l	25.0	ND	108	50-135			
Naphthalene	22.8	1.0	ug/l	25.0	ND	91	50-140			
n-Propylbenzene	33.4	1.0	ug/l	25.0	ND	134	70-135			
Styrene	18.1	1.0	ug/l	25.0	ND	72	50-145			
1,1,1,2-Tetrachloroethane	28.7	1.0	ug/l	25.0	ND	115	65-140			
1,1,2,2-Tetrachloroethane	30.6	1.0	ug/l	25.0	ND	122	55-135			
Tetrachloroethene	28.1	1.0	ug/l	25.0	ND	113	65-130			
Toluene	28.0	0.50	ug/l	25.0	ND	112	70-125			
1,2,3-Trichlorobenzene	26.3	1.0	ug/l	25.0	ND	105	60-135			
1,2,4-Trichlorobenzene	28.9	1.0	ug/l	25.0	ND	116	65-135			
1,1,1-Trichloroethane	30.6	1.0	ug/l	25.0	ND	122	65-140			
1,1,2-Trichloroethane	27.9	1.0	ug/l	25.0	ND	112	65-130			
Trichloroethene	25.0	1.0	ug/l	25.0	ND	100	65-125			
Trichlorofluoromethane	30.3	1.0	ug/l	25.0	ND	121	60-145			
1,2,3-Trichloropropane	27.9	1.0	ug/l	25.0	ND	112	55-135			
1,2,4-Trimethylbenzene	28.4	1.0	ug/l	25.0	ND	113	55-135			
1,3,5-Trimethylbenzene	31.6	1.0	ug/l	25.0	ND	126	70-130			
Vinyl chloride	29.8	0.50	ug/l	25.0	ND	119	45-140			
m,p-Xylenes	59.0	1.0	ug/l	50.0	ND	118	65-130			
o-Xylene	29.4	0.50	ug/l	25.0	ND	118	65-125			
Di-isopropyl Ether (DIPE)	26.2	1.0	ug/l	25.0	ND	105	60-140			
Ethyl tert-Butyl Ether (ETBE)	26.7	1.0	ug/l	25.0	ND	107	60-135			
Methyl-tert-butyl Ether (MTBE)	28.4	1.0	ug/l	25.0	ND	114	55-145			
tert-Amyl Methyl Ether (TAME)	28.7	1.0	ug/l	25.0	ND	115	60-140			
tert-Butanol (TBA)	146	10	ug/l	125	ND	117	65-140			
Ethanol	231	150	ug/l	250	ND	92	40-155			
Surrogate: 4-Bromofluorobenzene	*24.3*		*ug/l*	*25.0*		*97*	*80-120*			
Surrogate: Dibromofluoromethane	*24.8*		*ug/l*	*25.0*		*99*	*80-120*			
Surrogate: Toluene-d8	*23.6*		*ug/l*	*25.0*		*95*	*80-120*			

TestAmerica Irvine

Patty Mata
Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL1275
Sampled: 12/11/08
Received: 12/11/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L11013 Extracted: 12/11/08										
Matrix Spike Dup Analyzed: 12/11/2008 (8L11013-MSD1)					**Source: IRL1096-02**					
Benzene	25.0	0.50	ug/l	25.0	ND	100	65-125	4	20	
Bromobenzene	26.4	1.0	ug/l	25.0	ND	106	70-125	6	20	
Bromochloromethane	24.4	1.0	ug/l	25.0	ND	98	65-135	5	25	
Bromodichloromethane	29.1	1.0	ug/l	25.0	ND	116	70-135	5	20	
Bromoform	23.8	1.0	ug/l	25.0	ND	95	55-135	3	25	
Bromomethane	37.4	1.0	ug/l	25.0	ND	149	55-145	2	25	*M7*
n-Butylbenzene	31.5	1.0	ug/l	25.0	ND	126	65-135	3	20	
sec-Butylbenzene	29.8	1.0	ug/l	25.0	ND	119	70-125	3	20	
tert-Butylbenzene	28.6	1.0	ug/l	25.0	ND	115	65-130	2	20	
Carbon tetrachloride	27.5	0.50	ug/l	25.0	ND	110	65-140	3	25	
Chlorobenzene	27.4	1.0	ug/l	25.0	ND	110	75-125	6	20	
Chloroethane	26.7	1.0	ug/l	25.0	ND	107	55-140	3	25	
Chloroform	27.5	1.0	ug/l	25.0	ND	110	65-135	2	20	
Chloromethane	29.0	1.0	ug/l	25.0	ND	116	45-145	3	25	
2-Chlorotoluene	30.7	1.0	ug/l	25.0	ND	123	65-135	2	20	
4-Chlorotoluene	31.0	1.0	ug/l	25.0	ND	124	70-135	3	20	
1,2-Dibromo-3-chloropropane	25.4	5.0	ug/l	25.0	ND	102	45-145	5	30	
Dibromochloromethane	25.7	1.0	ug/l	25.0	ND	103	65-140	4	25	
1,2-Dibromoethane (EDB)	26.6	1.0	ug/l	25.0	ND	106	70-130	9	25	
Dibromomethane	25.0	1.0	ug/l	25.0	ND	100	65-135	8	25	
1,2-Dichlorobenzene	27.8	1.0	ug/l	25.0	ND	111	75-125	2	20	
1,3-Dichlorobenzene	28.2	1.0	ug/l	25.0	ND	113	75-125	2	20	
1,4-Dichlorobenzene	26.4	1.0	ug/l	25.0	ND	106	75-125	3	20	
Dichlorodifluoromethane	40.5	2.0	ug/l	25.0	ND	162	25-155	0	30	*M7*
1,1-Dichloroethane	25.2	1.0	ug/l	25.0	ND	101	65-130	2	20	
1,2-Dichloroethane	24.9	0.50	ug/l	25.0	ND	100	60-140	5	20	
1,1-Dichloroethene	27.0	1.0	ug/l	25.0	ND	108	60-130	3	20	
cis-1,2-Dichloroethene	25.9	1.0	ug/l	25.0	ND	104	65-130	1	20	
trans-1,2-Dichloroethene	28.4	1.0	ug/l	25.0	ND	114	65-130	4	20	
1,2-Dichloropropane	23.8	1.0	ug/l	25.0	ND	95	65-130	4	20	
1,3-Dichloropropane	26.7	1.0	ug/l	25.0	ND	107	65-135	7	25	
2,2-Dichloropropane	31.0	1.0	ug/l	25.0	ND	124	60-145	1	25	
cis-1,3-Dichloropropene	27.4	0.50	ug/l	25.0	ND	109	70-130	4	20	
trans-1,3-Dichloropropene	27.7	0.50	ug/l	25.0	ND	111	65-135	5	25	
1,1-Dichloropropene	26.9	1.0	ug/l	25.0	ND	108	70-135	5	20	
Ethylbenzene	29.7	0.50	ug/l	25.0	ND	119	65-130	4	20	

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Project Manager

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Northgate Environmental Management
1100 Quail Street Suite 102
Newport Beach, CA 92660
Attention: Derrick Willis

Project ID: Solar Energy Generating System
2024.01.01S-01
Report Number: IRL1275
Sampled: 12/11/08
Received: 12/11/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L11013 Extracted: 12/11/08										
Matrix Spike Dup Analyzed: 12/11/2008 (8L11013-MSD1)					**Source: IRL1096-02**					
Hexachlorobutadiene	32.1	1.0	ug/l	25.0	ND	128	60-135	1	20	
Isopropylbenzene	34.2	1.0	ug/l	25.0	ND	137	70-135	2	20	*M7*
p-Isopropyltoluene	28.2	1.0	ug/l	25.0	ND	113	65-130	3	20	
Methylene chloride	26.3	5.0	ug/l	25.0	ND	105	50-135	2	20	
Naphthalene	20.4	1.0	ug/l	25.0	ND	82	50-140	11	30	
n-Propylbenzene	32.7	1.0	ug/l	25.0	ND	131	70-135	2	20	
Styrene	14.1	1.0	ug/l	25.0	ND	56	50-145	25	30	
1,1,1,2-Tetrachloroethane	28.2	1.0	ug/l	25.0	ND	113	65-140	2	20	
1,1,2,2-Tetrachloroethane	28.4	1.0	ug/l	25.0	ND	114	55-135	8	30	
Tetrachloroethene	27.3	1.0	ug/l	25.0	ND	109	65-130	3	20	
Toluene	26.8	0.50	ug/l	25.0	ND	107	70-125	4	20	
1,2,3-Trichlorobenzene	25.4	1.0	ug/l	25.0	ND	102	60-135	3	20	
1,2,4-Trichlorobenzene	28.3	1.0	ug/l	25.0	ND	113	65-135	2	20	
1,1,1-Trichloroethane	30.4	1.0	ug/l	25.0	ND	122	65-140	1	20	
1,1,2-Trichloroethane	26.0	1.0	ug/l	25.0	ND	104	65-130	7	25	
Trichloroethene	23.8	1.0	ug/l	25.0	ND	95	65-125	5	20	
Trichlorofluoromethane	30.0	1.0	ug/l	25.0	ND	120	60-145	1	25	
1,2,3-Trichloropropane	25.1	1.0	ug/l	25.0	ND	100	55-135	11	30	
1,2,4-Trimethylbenzene	25.8	1.0	ug/l	25.0	ND	103	55-135	10	25	
1,3,5-Trimethylbenzene	29.9	1.0	ug/l	25.0	ND	119	70-130	6	20	
Vinyl chloride	30.0	0.50	ug/l	25.0	ND	120	45-140	0	30	
m,p-Xylenes	56.6	1.0	ug/l	50.0	ND	113	65-130	4	25	
o-Xylene	27.8	0.50	ug/l	25.0	ND	111	65-125	5	20	
Di-isopropyl Ether (DIPE)	25.5	1.0	ug/l	25.0	ND	102	60-140	2	25	
Ethyl tert-Butyl Ether (ETBE)	25.9	1.0	ug/l	25.0	ND	104	60-135	3	25	
Methyl-tert-butyl Ether (MTBE)	27.3	1.0	ug/l	25.0	ND	109	55-145	4	25	
tert-Amyl Methyl Ether (TAME)	27.6	1.0	ug/l	25.0	ND	110	60-140	4	30	
tert-Butanol (TBA)	142	10	ug/l	125	ND	114	65-140	3	25	
Ethanol	238	150	ug/l	250	ND	95	40-155	3	30	
Surrogate: 4-Bromofluorobenzene	*24.5*		*ug/l*	*25.0*		*98*	*80-120*			
Surrogate: Dibromofluoromethane	*26.1*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Toluene-d8	*23.7*		*ug/l*	*25.0*		*95*	*80-120*			

TestAmerica Irvine

Patty Mata
Project Manager

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Northgate Environmental Management	Project ID: Solar Energy Generating System	
1100 Quail Street Suite 102	2024.01.01S-01	Sampled: 12/11/08
Newport Beach, CA 92660	Report Number: IRL1275	Received: 12/11/08
Attention: Derrick Willis		

DATA QUALIFIERS AND DEFINITIONS

C	Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
L	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD. The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

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Northgate Environmental Management	Project ID: Solar Energy Generating System	
1100 Quail Street Suite 102	2024.01.01S-01	Sampled: 12/11/08
Newport Beach, CA 92660	Report Number: IRL1275	Received: 12/11/08
Attention: Derrick Willis		

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 8260B	Water	X	X
None	Water		

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Irvine

Patty Mata
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY FORM

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1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

IRV275

Page 1 of 1

TAL-0013(1007)

Client Name/Address:	Project/PO Number:	Analysis Required									
Northgate Environmental Mgmt 1100 Quail, #102 Newport Beach, CA	2024.01	VOCs									A=Analyze H=Hold FAX COC to Derrick Willis ASAP Special Instructions
Project Manager: Derrick Willis	Phone Number: (949) 375-7004										
Sampler: Dana R. Brown	Fax Number: (949) 315-3365										

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives									
GW-1-121108	Water	Voa	9	12-11-08	09:25	4°C	A								
TB-121108	↓	↓	3	↓	09:30	↓	H								
															12-11-08 0950

Relinquished By:	Date/Time: 12/11/08 12:35	Received By:	Date/Time:	Turnaround Time: (Check)	
Relinquished By:	Date/Time:	Received By:	Date/Time:	same day ____	72 hours ____
				24 hours X	5 days ____
				48 hours ____	normal ____
Relinquished By:	Date/Time:	Received in Lab By:	Date/Time: 12/11/08 12:35	Sample Integrity: (Check)	
				intact X	on ice ____

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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CS