

Prepared for

Northridge Properties, LLC
15505 Roscoe Boulevard
North Hills, California 91343

GROUNDWATER IMPACTS ASSESSMENT

**777 North Front Street
Burbank, California**

Prepared by

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Project Number HR1305C

May 2017

GROUNDWATER IMPACTS ASSESSMENT

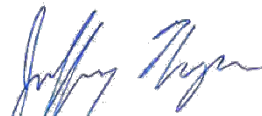
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Geosyntec's services were performed and this report has been prepared in accordance with generally accepted professional standards of care applicable to the scope of services authorized by the client, and no other warranty is provided in connection therewith.

Consistent with applicable professional standards of care, our opinions and recommendations were based in large part on data furnished by others. Although we were not able to independently verify such data, we did evaluate it to determine whether it was consistent with other information that was developed in the course of our performance of this scope of services.



Jeffrey Thompson
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LIST OF ACRONYMS / ABBREVIATIONS

%	percent
ac-ft	acre-feet
bgs	below ground surface
Caltrans	California Department of Transportation
CrVI	Hexavalent Chromium
CSM	Conceptual Site Model
CWRD	California Water Resources Department
ft	feet
ft bgs	feet below ground surface
GIA	Groundwater Impacts Assessment
MCL	Maximum Contaminant Level
mg/L	milligrams per liter
NCEI	National Center for Environmental Information
NOAA	National Oceanic and Atmospheric Administration
OTIE	Oneida Total Integrated Enterprises
PCB	Polychlorinated Biphenyls
PCE	Tetrachloroethylene
QCLCD	Quality Controlled Local Climatological Data
SFV	San Fernando Valley
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compound
TCE	Trichloroethylene
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbon
ULARA	Upper Los Angeles River Area
ULARAW	Upper Los Angeles River Area Watermaster
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VOC	Volatile Organic Compound

1. INTRODUCTION

1.1 Overview

Geosyntec Consultants, Inc. (Geosyntec) has prepared this groundwater impacts assessment (GIA) for Northridge Properties, LLC to evaluate the potential for residual concentrations of chemicals detected in soil samples collected from the 8-acre proposed mixed use development property located at 777 North Front Street in Burbank, California (Site, shown in **Figure 1**) to impact groundwater. This GIA has been prepared at the request of the Los Angeles Regional Water Quality Control Board (LARWQCB). The assessment methods used in this GIA are consistent with the LARWQCB's *Interim Site Assessment & Cleanup Guidebook Table 3-8* [LARWQCB, 1996], and include the following criteria for consideration:

- depth of the soil contamination and groundwater;
- nature and extent of groundwater contamination;
- type of soil contaminants and levels;
- soil type;
- comparison of groundwater contaminant levels to maximum contaminant levels (MCLs);
- potential of the contaminants to migrate; and
- location of drinking water wells in the area.

This GIA summarizes the current understanding of chemical impacts to groundwater beneath the Site. As the Site lies within the footprint of regional groundwater impacts associated with the San Fernando Valley (SFV) Superfund Site (see **Figures 2-4** based on OTIE [2016]), this GIA also assesses the potential for residual Site soil impacts to act as a source to the existing regional groundwater impacts. The vadose zone fate and transport model SESOIL is used to assess if the Site has the potential to be an incremental additive source of impacts to the groundwater beneath the Site. The results of this GIA demonstrate that impacted soil at the Site is not a likely residual source of groundwater impacts in the Site's current condition, nor under the proposed re-development scenario.

1.2 Report Organization

The remainder of this GIA is organized as follows:

- Section 2 – Conceptual Site Model, provides a description of the current Site condition and layout, along with the proposed development plan. The Conceptual Site Model then describes the framework for evaluating the Site environmental condition and its potential to impact underlying groundwater resources.

- Section 3 – Soil Data, describes the existing environmental data from soil sampling performed at the Site and how these data are used in the GIA.
- Section 4 – Groundwater Data, describes the existing environmental data from groundwater sampling performed in the vicinity of the Site and how these data are used in the GIA.
- Section 5 – Soil to Groundwater Pathway, describes the potential groundwater impacts scenarios evaluated as part of the GIA.
- Section 6 – Conclusion, provides a summary of the conclusions drawn from the GIA.

Tables, figures, and appendices are included following the text of this GIA.

2. CONCEPTUAL SITE MODEL

2.1 Property Description

The Site is located at 777 North Front Street in Burbank, California in a commercial/industrial area of Los Angeles County. The Site is bounded by the Interstate-5 freeway to the northeast, North Front Street to the southwest, West Burbank Boulevard to the northwest, and West Magnolia Boulevard to the southeast.

Background information regarding the Site presented in this section is summarized from the *Soil Gas Survey and Soil Investigation Eight-Acre Proposed Mixed Use Development* by Leighton [Leighton, 2016]. From the 1930s to 1961, the Site was the location of a water heater manufacturing company with operations that included galvanizing, vulcanizing, plating, welding, and metalwork [Leighton, 2016]. From 1961 to 1991, the Site was owned and operated by Zero Corporation, whose operations included aluminum case drawing and washing, aluminum alodining (a metal coating process involving chromium and aluminum), chromate deoxidizing, steel phosphate coating, and chromium sealing [Leighton, 2016]. Zero Corporation ceased operations on site in 1991. The buildings on site were demolished in 2004, with the building concrete slabs and footings (i.e., surface cover comprised of several inches to approximately one-foot thick concrete) left to cover the Site. The Site has been vacant since that time, having no significant Site uses since 1991. Northridge Properties, LLC purchased the Site in 2005 and is the current owner. While the Site has been leased out on occasion to horse circus show productions and has allowed limited use easements to Caltrans during Interstate-5 widening operations (and a portion of the Caltrans easement area will be permanent for the widening of Interstate-5), the Site has no current tenants.

2.2 Future Re-Development Plans

The proposed re-development of the Site is for a mixed-use residential and commercial complex. Proposed features include residential apartments, a hotel, limited ground floor commercial use, a park and bike hub with amphitheater style seating in the southernmost area of the site, and first floor as well as subterranean parking structures. These future development plans are depicted in **Figure 5**.

2.3 Previous Site Investigations

Several previous environmental investigations have been conducted at the Site, summarized below [based in part on Leighton, 2016]:

- An initial Site investigation in 1991 by Targhee Inc. identified that soils in the areas of former clarifiers and former chemical/oils storage were impacted by VOCs and total petroleum hydrocarbons (TPH) in soils.
- A Site investigation performed in 1992 by Hydro Geo Chem, Inc. also indicated that Site soil vapor and soil were impacted by chlorinated VOCs. Additional investigations were performed to assess the extent of soil and soil vapor contamination. Remedial activities were performed by Hydro Geo Chem from 1998 to 2001, including a shallow-soil vapor extraction (SVE) system and a deeper SVE system with air sparging wells.
- Soil sampling performed in 2005 by Golder & Associates in areas adjacent to potential polychlorinated biphenyl (PCB) sources did not indicate that PCBs were a concern on site.
- A soil and soil vapor sampling investigation by Ninyo & Moore in 2009 of the northeastern portion of the Site indicated soil concentrations of CrVI above regional background, and concentrations of VOCs in soil vapor above relevant human health screening criteria. The area of this investigation has since been deeded to CalTrans as a permanent easement in connection with an Interstate Highway No. 5 widening project.
- A soil investigation conducted by Geosyntec in 2012 found detectable levels of CrVI that were below the residential and commercial/industrial soil California Human Health Screening Levels (CHHSLs). The CrVI concentrations were above the USEPA residential soil regional screening level (RSL), but below the commercial/industrial soil RSL. Select soil samples were additionally analyzed for metals. The vertical distribution of CrVI in soil was inconsistent with historical releases of CrVI that would have affected groundwater and did not suggest that historical Site activities had contributed to the groundwater basin's regional CrVI contamination. In addition, sampling near Boring SS-4 (Figure 2) was performed in 2016 with no detectable concentration of CrVI in shallow soils identified [Geosyntec, 2016].
- An investigation for a proposed multi-family residential development and hotel at the Site was completed in 2016 by Geocon West. This investigation included soil dry bulk density, soil moisture, and porosity data up to 61.5 feet below ground surface (ft bgs).
- In parallel with this GIA, Geosyntec has also prepared a human health risk assessment (HHRA) to assess potential risks of exposure to soil and soil vapor impacts at the Site [Geosyntec, 2017].

In addition, other environmental investigations have been performed near the Site, primarily related to regional groundwater issues of elevated volatile organic compounds (VOCs) and hexavalent chromium (CrVI) in the area. Such reports reviewed in the preparation of this GIA include:

- The Final Remedial Investigation Report of the Glendale chromium operable unit by Oneida Total Integrated Enterprises [OTIE, 2016] was used to gather information about groundwater impacts in the vicinity of the Site.
- The Dynamic Soil Investigation at the former Librascope-Glendale Facility was to gather information about soil fractional organic carbon nearby the Site [Tetra Tech, 2010].

2.4 Geological Description

2.4.1 Regional Geology

The Site is located in the San Fernando Valley (SFV), a late Tertiary-Quaternary basin bounded by the Santa Susana Mountains to the northwest, the San Gabriel and Verdugo Mountains to the northeast, the San Rafael Hills to the east, the Santa Monica Mountains to the south, and the Simi Hills to the west [ULARAW, 2016; Tinsley, 2001]. The SFV is part of the broader Transverse Ranges physiographic province [USGS, 1996]. The Transverse Ranges province is characterized by fault-created valleys filled with marine to terrestrial sediments of Pleistocene through Holocene age, which are underlain by sedimentary bedrock and/or crystalline basement rock [USGS, 2012; ULARAW, 2015].

The water-bearing alluvial deposits in SFV consist of the Holocene and Pleistocene age alluvium underlain by the lower Pleistocene Saugus Formation, [California Department of Water Resources (CDWR), 2004]. The eastern part of the SFV Holocene age alluvium consists of about 20% clay mixed with primarily coarse-grained unsorted gravel and sand. The Pleistocene age alluvium consists of mostly highly permeable, unconsolidated coarse-grain alluvial fan interspersed with lower permeability paleosols. The Saugus Formation consists of continental and shallow marine deposits with a lower permeability than that of the overlying alluvium [ULARAW, 2016]. In the eastern SFV, the Saugus Formation lies above the crystalline bedrock and reaches a maximum thickness of approximately 1,000 feet (ft) in the eastern portion of the SFV.

2.4.2 Site-Specific Geology

There are two primary sources of information for the Site-specific geology: a Site geotechnical investigation report [Geocon, 2016] and boring logs for nearby monitoring wells PWA-2 and PWA-3 [OTIE, 2016, Appendix A]. The locations of these wells with

respect to the Site are shown in **Figure 6**. The Geocon [2016] report identified two distinct soil layers:

- A layer of fill materials exists from ground surface to approximately 14 ft bgs.
- A layer of alluvial soils that continued to the maximum exploration depth of 61.5 ft bgs, predominantly sandy silts, silty sands, and sands with varying amounts of gravel.

Based upon the boring logs of PWA-2 and PWA-3, the material within the vadose zone is predominantly sand (poorly to well-graded) with lesser amounts of silty sand and sand with gravel [OTIE, 2016, Appendix A].

2.5 Hydrogeological Description

2.5.1 Regional Hydrogeology

The Site is located in the Upper Los Angeles River Area (ULARA) in the eastern part of SFV Basin of the South Coast Hydrologic Region. The SFV receives an average annual precipitation of about 17 inches, and much of this surface water is drained by the Los Angeles River and its tributaries [CWDR, 2004]. Groundwater flows from the edges to the central portion of the SFV Basin, into the eastern portion of the basin, beneath the Los Angeles River Narrows following the Los Angeles River near Glendale, and into the Coastal Plain of Los Angeles Basin [CDWR, 2004]. The groundwater flow velocity is about 5 ft per year in the western part of the basin and reaches as much as 1,300 ft per year beneath the Los Angeles River Narrows [CWDR, 2004].

Groundwater in the eastern part of the SFV basin is primarily calcium bicarbonate in nature [CDWR, 2004]. The SFV Basin has an estimated storage capacity of 3,200,000 acre-feet (ac-ft) of groundwater, with a maximum thickness of water-bearing alluvial deposits in the eastern portion of the SFV Basin of about 200 to 300 ft [ULARAW, 1999; ULARAW, 2016]. Groundwater in this region is mainly unconfined and, since water adjudication in the 1980s, levels have remained reasonably stable, although up to 80 ft variations in water level in the eastern portion has occurred historically [CDWR, 2004].

2.5.2 Site-Specific Hydrogeology

In 1991, as a part of a soil gas survey performed by Leighton on the adjacent Hyrail property (a linear rail property extending along the western boundary of the Site), two soil borings were drilled to groundwater at approximately 110 ft bgs [Leighton, 2016]. Groundwater elevations from January 31, 2013 were reported for two wells adjacent to the Site, PWA-2 and PWA-3, as 123.34 and 105.84 ft bgs, respectively [OTIE, 2016].

Site-specific aquifer properties have not been identified. Based on the Site-specific geology, the predominant soil type is sand, with some intervals of finer (silt) or coarser (gravel) materials mixed with sand (see Section 2.4.2 above).

2.5.3 Water Usage

The South Coast Hydrologic Region meets 23% of its agricultural and municipal water demands with groundwater [CDWR, 2004]. The three parties with pumping rights in the SFV Groundwater Basin (the City of Los Angeles, Burbank, and Glendale) get a significant portion of their municipal water supply from the basin [ULARAW, 2016].

Based on the California State Water Resources Control Board's (SWRCB's) Groundwater Ambient Monitoring and Assessment (GAMA) online database [SWRCB, 2017], eight supply wells are within one mile of the Site. Six of these wells are Department of Water Resources wells, and only limited information about these wells could be identified. The other wells are City of Burbank Water Department wells, and the screen intervals for these wells were identified [ERM, 2011]. These supply wells are shallowly screened (from approximately 75 to 330 ft bgs, indicating that shallow groundwater has been used for water supply. These wells are summarized in **Table 1** and shown in **Figure 7**.

3. SOIL DATA

Soil samples were collected at the Site between 1991-2016. However, as much of this data set is old or outside of the redevelopment footprint of the Site, some of these data are not applicable for use in this GIA. As described in the HHRA [Geosyntec, 2017], data collected by Geosyntec in 2012 and by Leighton in 2016 met data quality criteria for use in Site assessment. The same data quality criteria, described below, are used in this GIA.

As part of the HHRA [Geosyntec, 2017], the historical soil dataset was evaluated to determine which constituents were potentially related to Site operations and to establish data quality acceptance criteria for the use of these data. Based on this data quality review, the following studies were not included as part of the HHRA (or GIA) datasets:

- Site remediation activities were conducted up to 2001. Thus, previous investigations conducted prior to 2001 are no longer representative of Site conditions. As such, the soil data from Targhee Inc. [1991] and Hydro Geo Chem, Inc. [1992] were not included.
- Results of the 2009 Ninyo & Moore Site investigation were considered for inclusion in the dataset for this report, but were not included, as this portion of the Site had since been deeded to Caltrans as permanent easement and is not within the proposed redevelopment boundary. Additionally, a review of this 2009 dataset indicated that concentrations of VOCs and metals in soils were generally higher in the 2016 dataset. While some chemicals were detected in the Ninyo & Moore dataset at higher concentrations or were not analyzed for in the more recent data collection effort, such as semi-volatile organic compounds (SVOCs) and polychlorinated biphenyls (PCBs), Ninyo & Moore's investigation concluded that concentrations of VOCs, metals, PCBs, SVOCs, and TPH in soil were below the Site-specific cleanup goals approved by the LARWQCB and were therefore not at a level of significant concern (Ninyo & Moore, 2009).

Based on the above data selection criteria, the data from Geosyntec [2012] and Leighton [2016] were used to evaluate a representative concentration of the contaminants of concern for both the fill and alluvial sediment layers at the Site for model input. Representative concentrations of constituents in both the fill and alluvial sediment layers at the Site were calculated as 95% upper confidence limits (UCLs)¹ of the mean data in each layer. For constituents with both detections and non-detects, the ProUCL method

¹ UCLs were calculated with ProUCL version 5.0, and are provided in Appendix A. For additional discussion of UCLs as model input, see section 4.2.1.5.

for calculating the UCL of the mean for left-censored data sets containing non-detects was used. For constituents with only non-detect values at the Site, the maximum detection limit for the constituent was used as a representative concentration at the Site.

The HHRA assesses the potential risk associated with exposure to impacted soil [Geosyntec, 2017]. Constituents of interest for this GIA are defined based on those observed in groundwater, as described below in Section 4. The UCLs (or maximum detection limits) for these constituents of interest are summarized in **Table 2**.

4. GROUNDWATER DATA

The SFV Basin is impacted by historical industrial operations contaminating the region's groundwater. Groundwater monitoring conducted from 1981 to 1987 found contamination in over 50% of the water supply wells in the eastern SFV Basin [OTIE, 2016]. Samples from public water supply wells from 1994 to 2000 found that 42% of sampled wells contained one or more constituents exceeding the corresponding maximum contaminant level (MCL) [CWDR, 2004]. Of the exceedances reported, 38% and 31% were due to nitrates and VOCs/SVOCs (particularly trichloroethylene [TCE] and tetrachloroethylene [PCE]), respectively [CWDR, 2004]. Other contaminants of concern include pesticides, heavy metals (e.g., CrVI), petroleum compounds, chloroform, and sulfate [CWDR, 2004]. Total dissolved solids (TDS) concentrations from 125 public supply wells ranged from 176 to 1,160 mg/L, with an average of 499 mg/L [CWDR, 2004].

While historical environmental reports documenting Site groundwater conditions are not available on Geotracker, SFV Site-wide monitoring program reports available from the USEPA from approximately 1995 through 2007 depict ten "ZEC" monitoring wells located on or near the Site [e.g., CH2M Hill, Inc., 1996; 2009]. However, tabulated data for these wells has not been located, and it is our understanding that historical monitoring wells at the Site have been previously abandoned. Depictions of TCE within groundwater generally show that these constituents are presented beneath and in the vicinity of the Site at concentrations at or above the regional groundwater impacts in this area, while depictions of PCE generally show PCE was present beneath and in the vicinity of the Site at non-detect levels and at concentrations comparable to regional background, depending on the time period. The 2007 monitoring data report [CH2M Hill, 2009] is the most-current report containing references to these "ZEC" wells available online at the SFV Superfund Site webpage [\[https://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/vwsoalphabetic/San+Fernando+Valley+\(All+Areas\)?OpenDocument\]](https://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/vwsoalphabetic/San+Fernando+Valley+(All+Areas)?OpenDocument), and the groundwater conditions in 2007 may not be representative of current Site conditions.

Groundwater near the Site is currently monitored as part of the SFV Superfund Site at Wells PWA-2 and PWA-3. As described in Section 2.5.2, water levels in PWA-2 are higher than PWA-3, but the regional direction of groundwater flow is poorly characterized in the immediate vicinity of the Site [OTIE, 2016, Figure 4-1]. It appears reasonable to assume that these wells are primarily cross-gradient of a regional southwesterly flow; however, pumping of the aquifer in this area as part of the cleanup activities may alter the local gradient. Groundwater data from these wells in October 2012 and January 2013 are summarized in OTIE [2016] and are presented here as **Table 3**.

There are several detections of VOCs and metals within the groundwater near the Site. The VOCs in PWA-2 and PWA-3 which exceed their respective MCL comprise the following chlorinated organic compounds:

- 1,1,2,2-tetrachloroethane;
- 1,1-dichloroethene;
- 1,2-dichloroethane;
- PCE;
- TCE;
- trans-1,3-dichloropropene; and
- vinyl chloride (VC).

The non-chlorinated VOC benzene also exceeds its California MCL in Wells PWA-2 and PWA-3. In addition, total chromium was identified above its California MCL.

The Site lies above the lateral edges of previously identified plumes of chlorinated solvents (primarily TCE and PCE) which are being addressed separately as part of the SFV Superfund Site [e.g., OTIE, 2016, Figures 5-5 and 5-6]. As part of the SFV Superfund Site, a small, isolated zone of total chromium impacts is mapped beneath the Site near PWA-2 [OTIE, 2016, Figure 5-3]. The source of these chromium impacts is unclear. While the groundwater data near the Site indicate that there are regional impacts which have migrated beneath the Site, the uncertainty and potential pumping-induced variability in the groundwater flow direction through time suggests that the current groundwater data alone are insufficient to determine whether the Site is a potential additive source contributing to the regional groundwater issues.

To assess the potential for the Site to be a source of impacts to groundwater based on the data from Geosyntec [2012] and Leighton [2016], the vadose zone fate and transport model SESOIL was used to estimate the time and magnitude of hypothetical mass transport from impacted soil to groundwater for the constituents of interest. This modeling is described in this GIA, Section 5.

5. SOIL TO GROUNDWATER PATHWAY

5.1 Fate and Transport Processes

Chemical impacts have the potential to migrate between different media (i.e., soil, soil vapor, and groundwater) due to naturally occurring transport processes. Chemical impacts to vadose zone soils can exist in a variety of states, including pure phase, adsorbed to soil particles, or dissolved in soil moisture (i.e., in pore water). In general, the primary transport mechanisms for soil impacts are leaching to infiltrating surface water (downward transport) or volatilization to soil gas (upward transport). The HHRA for the Site [Geosyntec, 2017] describes many of these transport processes. This GIA describes and models the soil leaching/infiltration pathway for chemical impacts to potentially travel from a residual source in soil into groundwater.

Surface water infiltration can be conceptualized as a balance between precipitation and the combined effects of surface runoff, evaporation and transpiration (together, evapotranspiration), capillary rise from groundwater, soil moisture retention, and infiltration. In general, precipitation which does not runoff, does not evaporate, and is not transpired enters the vadose zone and travels downward through the pore space of the soil under the influence of gravity. Dependent on the relative moisture contained within the vadose zone, a portion of the infiltrating precipitation may be retained in soil moisture (wet seasons) or a portion of water retained in soil moisture joins the infiltrating precipitation (dry season).

In regions of residual chemical impacts (i.e., the source zone), the infiltrating surface water can come in contact with impacted soil moisture or soil with sorbed chemical impacts. When this occurs, a portion of these chemical impacts may enter the infiltrating water and be transported downward through the soil column. The chemical properties and the concentration of the specific chemical impacts will dictate how much of those impacts enter the infiltrating surface water. In general, compounds at higher concentrations, with higher water solubilities, and with lower absorption coefficients will more readily enter the infiltrating water.

As the infiltration proceeds downward out of the source zone through cleaner soil, numerous physical and chemical processes may influence the fate of the chemical impacts. Physical processes generally involve chemical impacts adsorbing to soil particulates or organic matter within the soil, partitioning into soil moisture, or volatilizing to soil gas. Chemical processes generally involve the degradation or immobilization of chemical impacts, and may include biologically enhanced degradation, cation exchange for ionic compounds, metal complexation/chelation. Depending on the nature of the chemical impacts, the depth to groundwater, soil properties, and the amount

of infiltrating precipitation, impacted precipitation may reach groundwater or the chemical impacts may degrade or become immobilized before the infiltration reaches groundwater. As there are numerous fate and transport processes active in the vadose zone, the use of a fate and transport model is a common and widely accepted methodology for estimating the potential for soil impacts to act as a residual source of groundwater impacts.

5.2 Fate and Transport Model

To simulate the possible fate and transport of contaminants of concern in Section 4 through the vadose zone and to assess the potential impacts – if any – to groundwater, Geosyntec used the SESOIL model (with the SEVIEW 7.1 interface). SESOIL is a one-dimensional vertical transport model for the unsaturated (vadose) zone that simulates contaminant transport and fate including the processes of diffusion, adsorption, biodegradation, and hydrolysis. SESOIL can simulate seasonal climatic variation with the input and incorporation of climate data by monthly averages. SESOIL was first developed for the USEPA's Office of Water and the Office of Toxic Substances in 1981. SEVIEW 7.1 is a property version of the SESOIL model developed and maintained by Environmental Software Consultants Inc, LLC.

5.2.1 Model Setup and Input

As applied in this GIA, SESOIL requires the definition of five different sets of input parameters related to:

- climate;
- model geometry;
- soil properties;
- chemical properties; and
- source configuration and concentration.

These input parameters are described in more detail below and are presented in **Appendix B**.

5.2.1.1 Climate Parameters

SEVIEW contains a database of climate model information compiled from observed data. Based on the available database entries, the location nearest to the Site, the Los Angeles County Civic Center database entry, was used at the basis for the climate data. These climate data include the following monthly average data:

- temperature;
- cloud cover;
- relative humidity;
- short wave albedo;
- precipitation;
- storm length (duration);
- number of storms; and
- rainy season (duration).

The only modification to the default climate database entry was to round the precipitation rates to the nearest 0.1 cm (1 mm), with a minimum monthly precipitation of 0.1 cm.²

5.2.1.2 Model Geometry

The SEVIEW interface allows for up to four layers (each with ten sublayers) in the model. As described below in Section 5.2.1.3, some soil properties are assigned to each model layer and are forced to be constant in each of a layer's sublayers. Other soil properties represent the average value of the soil column and are constant among all model layers/sublayers.

To approximate the subsurface beneath the Site, the four model layers were assigned to represent either fill (Layer 1) or alluvium (Layers 2, 3, and 4). The fill material was assumed to be 14 feet thick (428 cm). Groundwater was conservatively assumed to begin at approximately 100 ft bgs. Thus, as the base of the model represents the first occurrence of groundwater, the alluvium was assigned a thickness of 86 ft (2,619 cm). Each layer was assigned the maximum of ten sublayers, resulting in a 40-layer-thick model domain. See **Figure 8** for a schematic view of the model geometry.

5.2.1.3 Soil Properties

SESOIL requires the following soil parameters (applied on a layer-by-layer basis, except where noted:

- Intrinsic permeability;
- Organic carbon content;
- cation exchange capacity;

² In SESOIL, a precipitation rate of 0 cm/month effectively causes the model to skip that monthly (i.e., no transport processes operate). To avoid completely neglecting transport in the summer months, the minimum precipitation rate of 0.1 cm/month was used.

- Freundlich exponent;
- soil pH;
- bulk density (model average);
- effective porosity (model average); and
- soil pore disconnectedness (model average).

As described in Section 2.4, limited hydrogeological soil data have been collected at the Site. Based on the Geocon [2016] study, layer-specific values of bulk density and effective porosity values were used to calculate a thickness-weighted average bulk density and effective porosity for the SESOIL model. The other soil properties were determined based on literature values, model default suggestions, and professional judgment:

- As both the fill and alluvium are primarily sand, the SESOIL-suggested default values for intrinsic permeability and soil pore disconnectedness were assumed for all model layers;
- The soil was assumed to have a neutral pH of 7.0;
- The default Freundlich exponent was used; and
- The value of organic carbon content was chosen to be 0.58% because available data from a location nearby the site had organic carbon content between 0.36% and 0.8% [Tetra Tech, 2010].

5.2.1.4 Chemical Properties

SEVIEW includes an extensive database of chemical properties for a wide variety of constituents. For the nine constituents identified in groundwater above MCLs (i.e., constituents of interest), the database values included in SEVIEW for relevant chemical properties were used as input values for SESOIL.

Note that for total chromium, SEVIEW's chemical database included entries for trivalent chromium (CrIII) and CrVI. To assess total chromium, the SESOIL model was run twice using parameters equivalent to CrIII and CrVI to provide an approximate range in expected results for an aggregate total chromium impact. In addition, the effect of cation exchange was not included for CrIII or CrVI in this analysis, as the cation exchange capacity of soil is a poorly constrained parameter for the Site. This is a conservative assumption, as cation exchange is expected to immobilize some portion of the potential mobile chromium mass.

In addition, the constituents were assumed to not biodegrade in either the solid or liquid phase. This assumption is conservative, as many of the VOCs identified in soil and groundwater are known to biodegrade over wide ranges of geochemical conditions.

5.2.1.5 Source Configuration and Concentrations

For the SESOIL models, the initial contaminant source was set equal to the 95% UCL of soil concentrations for benzene, PCE, TCE, and total chromium. For the remaining constituents of interest, 1,1,2,2-tetrachloroethane, 1,1-dichloroethene, 1,2-dichloroethane, trans-1,3-dichloropropene, and vinyl chloride, the available sampling data contain only data below the detection limit (i.e., non-detect data). Even though these constituents are not found at detectable concentrations at the Site, for the purposes of understanding fate and transport of these constituents, the highest detection limit (usual 0.001 mg/kg) was applied as the initial concentration.

As there are no ongoing Site activities and potential future activities are anticipated to be residential in nature, the initial contaminant concentrations were applied as a finite mass at the start of the model with no long-term sources of additional contaminant in the model. Based on the available soil data described above in Section 3, the initial contaminant was applied to the entire fill domain (i.e., the upper 14 ft). Specific to total chromium, additional contaminant mass was applied to the upper portions of the alluvium layers to a depth of 30 ft bgs based on Site data. These input concentrations are summarized in **Table 4**.

For mass-balance purposes, the area of the soil column was assumed to be one square-meter, meaning that the model results should be considered to be per square-meter of impacted soil.

5.2.2 Model Scenarios

To model current and future Site conditions, three different model scenarios were created to encompass different Site use (and thus surface) conditions. These scenarios were:

1. Current Site conditions;
2. Future Site conditions (residential structures with concrete foundation); and
3. Future Site conditions (potential exposed soil).

The assumptions of each of these scenarios is described below.

5.2.2.1 Scenario 1 – Current Site Conditions (Aged Concrete)

For this scenario, the Site was assumed to be covered in the aged concrete. However, as described above, the SESOIL model geometry does not specifically include a surface

cover. To approximate an aged concrete, the California SWRCB guidance for runoff coefficients³ was consulted to select a representative runoff coefficient to modify the amount of precipitation which could infiltrate into the subsurface. Based on SWRCB [2011], the expected range of runoff coefficients for concrete ranges from 0.85 to 0.95. To represent an aged concrete, the low-end value of 0.85 was selected. For the Scenario 1 models, the average monthly precipitation was reduced by 85% to a minimum monthly precipitation of 0.1 cm (1 mm) per month.

In addition, evapotranspiration through the concrete surface was assumed to be negligible. To approximate this condition, the evapotranspiration was fixed to the smallest non-zero amount (0.0001 cm/day) allowed in SEVIEW.⁴ This assumption is conservative, as it minimizes the reduction of infiltration due to evapotranspiration.

5.2.2.2 Scenario 2 – Future Conditions (Concrete/Multi-Story Structure)

For this scenario, the Site was assumed to be covered in the new concrete. Based on the SWRCB [2011] guidance, a fresh concrete covering was assumed to have the upper-end runoff coefficient of 0.95. For the Scenario 2 models, the average monthly precipitation was reduced by 95% to a minimum monthly precipitation of 0.1 cm (1 mm) per month. This is also a conservative assumption, given that the re-development will consist of multiple layers (i.e., stories) which may further reduce the potential for precipitation infiltrating underlying Site soils.

For Scenario 2, evapotranspiration was fixed to a value of 0.0001 cm/day, as was done in the Scenario 1 models.

5.2.2.3 Scenario 3 – Future Conditions (Soil)

Lastly, a scenario was developed for the potential future condition of the concrete covering at the Site being removed and exposed soil left as the surface conditions. While not the expected Site usage, this scenario is a conservative approximation of conditions

³ The runoff coefficient is a parameter which ranges from 0.0 to 1.0 and describes the fraction of precipitation which is expected to run off, as opposed to infiltration. A runoff coefficient of 0.0 means all precipitation will infiltrate a surface, while a runoff coefficient of 1.0 means that no precipitation will infiltrate a surface.

⁴ In SEVIEW, an evapotranspiration rate of 0.0 cm/day is shorthand for using the climate model within SEVIEW to calculate an evapotranspiration rate. Assuming an evapotranspiration rate of 0.0001 cm/day is a practical method for approximating zero evapotranspiration.

where precipitation is allowed to infiltrate without runoff. For the Scenario 3 models, the average monthly precipitation values were applied in full.

In contrast to the concrete scenarios, the hypothetical exposed soil would be subject to evapotranspiration processes. The SEVIEW climate model was used to calculate the monthly evapotranspiration rate.

5.3 SESOIL Model Results

Based on the above constituents of interest and the three scenarios, a total of 30 unique SESOIL models were run as part of this GIA. The results of the SESOIL modeling are summarized in **Tables 5-7**. An example model output file is shown as **Figure 9**, with all model output files from SEVIEW compiled in **Appendix C**. As the goal of this modeling effort is to assess the potential for soil impacts to act as a residual source of groundwater contamination, three model outputs were used as a basis of comparison:

- Time for soil impacts to reach groundwater;
- Percentage of mass which enters groundwater; and
- Fate of the majority of contaminant mass.

5.3.1 Scenario 1 – Current Site Conditions (Aged Concrete)

Based on the current Site conditions, there is little risk of the impacts to soil reaching groundwater (see **Table 5**). The fastest theoretical travel time to groundwater is approximately 13 years (1,2-dichloroethane), with 0.03% of the source mass reaching groundwater. The largest theoretical contaminant mass reaching groundwater was 1,1,2,2-tetrachloroethane, with 11% of the source mass estimated to reach groundwater after 14 years of travel time. None of the other modeled constituents were estimated to have resolvable amounts of the source mass (i.e., greater than 0.01%) reach groundwater, even with no biodegradation or cation exchange processes active. The VOC mass is generally volatilized by the end the model, while the chromium mass is generally adsorbed to soil by the end of the model.

While the Scenario 1 results suggest that some fraction of 1,2-dichloroethane and 1,1,2,2-tetrachloroethane may reach groundwater under current Site conditions, it is important to note that neither of these constituents has been detected in soil at the Site. Thus, based on the absence of these constituents in Site soil data and the SESOIL modeling results for the other constituents, the Scenario 1 results suggest that the Site is not a potential residual source of groundwater impacts.

5.3.2 Scenario 2 – Future Conditions (Concrete)

Based on the expected future Site conditions, there is little risk of the impacts to soil reaching groundwater (see **Table 6**). As expected, replacing the aged concrete with new concrete resulted in an even more protective situation. The fastest theoretical travel time to groundwater is approximately 25 years (1,2-dichloroethane), with no resolvable quantity of mass reaching groundwater. One percent of the source mass of 1,1,2,2-tetrachloroethane reached groundwater after 27 years of travel time. As with Scenario 1, none of the other constituents of interest had resolvable quantities of mass reach the groundwater, even with no biodegradation or cation exchange processes active. The VOC mass is generally volatilized by the end the model, while the chromium mass is generally adsorbed to soil by the end of the model.

The Scenario 2 results suggest that the Site will not act as a potential residual source of groundwater impacts under the anticipated future use of the Site.

5.3.3 Scenario 3 – Future Conditions (Soil)

If the concrete cover at the Site is removed and the Site is left as exposed soil in perpetuity, there is some limited risk of select soil impacts reaching groundwater under the assumption of no biodegradation (see **Table 7**). The fastest theoretical travel time to groundwater is 3 years (1,2-dichloroethane and 1,1,2,2-tetrachloroethane) with 1,3-dichloropropene and benzene having theoretical travel times of 5 and 6 years, respectively. 1,2-Dichloroethane and 1,1,2,2-tetrachloroethane are theoretically able to reach groundwater at 17% and 50% of their source masses, respectively. Model results indicate that 6% of the source mass of 1,3-dichloropropene, and 0.4% of the source mass of benzene reach groundwater. Similar to the other scenarios, the VOC mass is generally volatilized by the end the model, while the chromium mass is generally adsorbed to soil by the end of the model.

Of the four VOCs found with resolvable mass percentages reaching groundwater, only benzene has been identified in soils at the Site. However, the SESOIL model results suggest that less than 0.5% of the mass of benzene could theoretically reach groundwater at the conclusion of the 40-year modeling period if the surface cover at the Site were removed for the duration of that period and with the conservative assumption that these compounds were subject to zero biodegradation in the subsurface. Furthermore, the maximum leachate concentrations per square meter for benzene was less than its MCL (see model output files in **Appendix C**). These results suggest that even in the unanticipated future condition of the Site having the surface cover removed and soil impacts not addressed, soil impacts at the Site are not expected to pose a risk to groundwater beneath the Site.

5.4 Sensitivity Analysis

5.4.1 Analysis Approach

A sensitivity analysis (SA) is a method to determine the influence which key variables, parameters, or other inputs have on model output. For this SA, the following four soil parameters were assessed for their sensitivity in the SESOIL model of fate and transport of constituents at the Site:

- Intrinsic Permeability;
- Organic Carbon Content;
- Effective Porosity; and
- Soil Disconnectivity Index.

For each of the above soil parameters, SA models were run over a range of four additional values. The ranges of these values were selected based on literature ranges of physically representative values for the lithology found at the Site and professional judgement. Organic carbon values for the sensitivity analysis were chosen based on the LARWQCB's *Interim Site Assessment & Cleanup GuideBook* [1996] values for minimum and maximum organic carbon content. The SA parameters are summarized in **Table 8**.

As the goal of the SA is to determine the relative sensitivity of each of the above parameters, the suite of models described in Section 5.3 were pared down to those constituents and configurations which had the fastest travel times to groundwater. As the constituents of interest at the Site include both metals and VOCs, the SA was conducted on CrVI as the fastest-travelling metal and 1,2-dichloroethane as the fastest-traveling VOC. In addition, the Scenario 3 model (future site conditions, soil) was selected for use as the SA model, as this model predicted the fastest travel times and highest mass percentages reaching groundwater for the different constituents of interest, and thus would be the model most likely to show clear sensitivity to variations in input parameters.

Biodegradation rates were not used in the fate and transport models for any constituents of concern. To demonstrate the general effect of biodegradation on the fate and transport of constituents of concern, a sensitivity analysis of four biodegradation rates for 1,2-dichloroethane was conducted with Scenario 3. The biodegradation rates were based on values from *Natural Attenuation of the Lead Scavengers 1,2-Dibromoethane (EDB) and 1,2-Dichloroethane (1,2-DCA) at Motor Fuel Release Sites and Implications for Risk Management* [Wilson et al., 2008]. For the two constituents and the five model parameters assessed, including biodegradation, a total of 36 additional SESOIL models

were included as the basis for this SA. The SESOIL model outputs for these SA models are included as **Appendix C**.

The above-mentioned SA approach determined that parameters associated with the hydrogeological properties of the soil had a strong influence on the Scenario 3 model results. Based on this result, select Scenario 1 and 2 models were assessed over a range of material properties reflective of the Site's geology (i.e., primarily sand) to determine the potential influence of uncertainty in material parameters on the fate and transport model results. This approach is further described in Section 5.4.4.

5.4.2 Analysis Results – 1,2-Dichloroethane

The results of the SA for 1,2-dichloroethane are shown in **Table 9**. The travel time and mass-to-groundwater percentages are sensitive to all four of the SA parameters, as described below. For the SA model parameters, the travel time of 1,2-dichloroethane to groundwater was found to range between approximately 1 and 16 years and the mass-to-groundwater percentage was 6 to 30%.

When the intrinsic permeability was varied from a value of $1\text{e-}6\text{ cm}^2$ to $1\text{e-}10\text{ cm}^2$, the travel time was found to vary from 1 year to 16 years and the mass-to-groundwater percentage varied from 11% to 24%. In general, as the intrinsic permeability was decreased, the travel time monotonically increased. Between $1\text{e-}6\text{ cm}^2$ and $1\text{e-}9\text{ cm}^2$, the mass-to-groundwater percentage increased as the intrinsic permeability decreased. However, between $1\text{e-}9\text{ cm}^2$ and $1\text{e-}10\text{ cm}^2$, the mass-to-groundwater percentage dropped slightly to 21%. A review of the model outputs (see **Appendix C**) demonstrates that in the very low permeability model, a larger proportion of the 1,2-dichloroethane is expected to remain in soil moisture (and thus not enter groundwater) compared to higher permeability models.

When the effective porosity was varied from a value of 10% to 30%, the travel time was found to vary from 1 year to 5 years and the mass-to-groundwater percentage varied from 6% to 36%. The travel time monotonically increased with higher effective porosity, while the mass-to-groundwater percentage monotonically decreased with higher effective porosity.

When the soil disconnectivity index was varied from a value of 3.5 to 12.0, the travel time was found to vary from 3 years to 9 years and the mass-to-groundwater percentage varied from 17% to 69%. The travel time and mass-to-groundwater percentages both monotonically increased with a higher soil disconnectivity index.

When the organic carbon content was varied from a value of 0% to 2%, the travel time was found to vary between 3 to 4 years and the mass-to-groundwater percentage varied from 17% to 18%. The travel time and mass-to-groundwater percentage were found to not be strongly sensitive to the range of organic carbon content expected in silty sands near the Site. Biodegradation rate constants for 1,2-dichloroethane ranged from 0.3 to 4.4 per year [Wilson, et al., 2008]. The travel time varied from 3 years to 4 years. The mass-to-groundwater percentage monotonically decreased from 17% to less than 0.01% with increasing biodegradation rates. With no biodegradation, the majority of the 1,2-dichloroethane mass is volatilized and 17% reaches groundwater. As the biodegradation rate constant is increased, the majority of the 1,2-dichloroethane mass is also volatilized; however, up to 32% of the mass is degraded in soil moisture. These model results demonstrate that active biodegradation would decrease the mass-to-groundwater percentage for constituents of concern which biodegrade, even if the constituents have fast travel times. Thus, in this GIA, the SESOIL modeling assumption of no active biodegradation provides a conservative estimate of the travel time and mass-to-groundwater percentages for the constituents of concern.

5.4.3 Analysis Results – Hexavalent Chromium

The results of the SA for CrVI are shown in **Table 10**. Over the travel times and mass-to-groundwater percentages of interest, CrVI was not sensitive to any of the four SA parameters.

5.4.4 Analysis Results – Conservative Values Applied to Scenarios 1 and 2

As demonstrated above in Section 5.4.2, the predicted fate and transport of 1,2-dichloroethane was sensitive to the hydrogeological properties of the vadose zone. As these values were based upon literature values rather than Site-specific values, additional SA model runs were conducted to determine if uncertainty in the hydrogeological parameters for the Scenario 1 and 2 models might modify the conclusion that Site soil is not a potential residual source of impacts to groundwater.

The hydrogeological parameters with the greatest uncertainty are the intrinsic permeability and effective porosity. While the pore disconnectivity index is based upon literature values, the index is well-constrained for sandy geologies to being approximately 3.7 [Bonazountas and Wagner, 1984], and thus was not considered in this SA. Based on the Scenario 3 SA, the most conservative (i.e., fastest contaminant travel time and highest mass-to-groundwater percentage) effective porosity value representative of a sand is 15% (**Table 9**). For intrinsic permeability, larger permeabilities generally resulted in faster travel times, but lower mass-to-groundwater percentages. Thus, the full range of intrinsic

permeabilities representative of a sand ($1\text{e-}6$ to $1\text{e-}19$ cm^2) were assessed for Scenarios 1 and 2 (**Table 9**).

These conservative parameter values were applied to Scenarios 1 and 2 for the constituents that were detected at the Site (benzene, TCE, and PCE). The results from this analysis can be found in **Table 11**. Even by selecting conservative parameter values that may represent the sandy Site geology, for Scenarios 1 and 2, none of the constituents of concern detected at the Site are predicted to have a resolvable quantity of mass reach groundwater.

5.4.5 Analysis Conclusions

Based on the above SA, the results for chromium are essentially insensitive to the model input parameters for soil. On the other hand, VOCs are sensitive to the soil parameters as demonstrated by the example of 1,2-dichloroethane. In general, the intrinsic permeability had the strongest influence over the travel time of 1,2-dichloroethane to groundwater. In contrast, the effective porosity and soil disconnectivity index had the strongest influence over the percentage of the constituent mass which entered groundwater. Also based on the above SA, biodegradation processes applied to the SESOIL model would effectively decrease the mass-to-groundwater and increase the travel time of the constituents of concern.

These results suggest that the primary control over the amount of mass for volatile compounds which could potentially enter groundwater is expected to be controlled primarily by the amount and connectedness of void spaces in the soil. However, as the boring logs for PWA-2 and PWA-3 indicate that the soil beneath the Site is primarily sand (see Section 2.4.2), the material properties selected for use in the main SESOIL analysis are expected only to vary over the range representative of a sand. As depicted in the SA results in **Tables 9** and **10**, the Scenario 3 model (future uncovered soil) for 1,2-dichloroethene is sensitive to soil properties, while hexavalent chromium is not sensitive to soil properties in terms of travel time and mass-to-groundwater percentage. Further SA of the Scenario 1 and 2 models for volatile constituents detected in soils at the Site (benzene, TCE, and PCE) determined that these constituents are not expected to reach groundwater in resolvable quantities under the current and anticipated future use of the Site (**Table 11**). Thus, the Scenario 1 and 2 model results presented in Section 5.3 have been found to be insensitive to the soil properties selected for these models.

6. CONCLUSION

This GIA was performed to evaluate the potential of residual detected concentrations of certain chemicals and elements in the Site soil to impact groundwater resources below the Site. Regional chemical impacts to groundwater have been the subject of regulatory evaluations and enforcement actions throughout the San Fernando Valley (including groundwater flowing beneath the Site). The purpose of this GIA is to perform analyses, including modeling, based on fate and transport guidance from the LARWQCB, to evaluate if the detected constituent concentrations in Site soil have the potential to be residual sources of groundwater impacts. To evaluate if the soil impacts at the Site pose a threat to groundwater, the vadose zone fate and transport model SESOIL was used to model current Site conditions (i.e., capped and covered with existing aged building and development foundations) and two potential future Site conditions (i.e., one overly conservative condition assuming open, bare soil and the likely future re-development condition that is proposed to cover the entire Site area).

Based on the available groundwater data collected from facilities near to the Site, there are impacts of chlorinated solvents (e.g., TCE and PCE), benzene, and total chromium which exceed the California maximum contaminant levels for drinking water. During previous environmental investigations conducted both at the Site and at facilities in the vicinity of the Site, several constituents were identified in environmental samples collected as part of regulatory-driven or guided monitoring programs, and several of the constituents were not identified at detectable levels at the Site.

For current site conditions (aged concrete), the model results demonstrated that the residual concentrations of constituents in Site soil do not pose a risk of migrating to groundwater in sufficient quantities to result in exceedance of groundwater MCLs. While some constituents found in groundwater nearby the Site do have fast travel times and could theoretically have mass reach groundwater (i.e., 1,2-dichloroethane and 1,1,2,2-tetrachloroethane), these constituents were not detected in the soil at the Site. For the constituents of concern detected at the Site (benzene, TCE, and PCE), the presence of these constituents in soil is not predicted to represent a residual source of impact to groundwater. This suggests strongly that the Site is not a potential additive source to the regional groundwater impacts beneath the Site associated with the SFV Superfund Site.

For the likely future development of the Site (new concrete with multi-level/story structures), the model results similarly demonstrate that there is little risk of groundwater impacts due to soil impacts. These results are due in large part to the reduction in surface water infiltration provided by the concrete surface cover at the Site under these scenarios,

as well as the depth to groundwater (i.e., geologic separation of 80 to 100 ft of Site constituents to uppermost groundwater table).

In the unlikely scenario that the Site has the concrete surface cover removed and soil left exposed in perpetuity, the model indicates that there is the potential for some VOC mass to reach groundwater. However, of the Site constituents of concern predicted to have potentially yield source mass to groundwater in Scenario 3, only benzene has been detected at the Site, and its SESOIL-predicted maximum leachate concentration entering groundwater was below its MCL. In addition, note that the SESOIL model was run under the conservative assumption that there is no biodegradation of constituents, a process which was shown to reduce the mass of degradable constituents (such as TCE, PCE, and benzene) which would reach groundwater, further reducing the limited likelihood of the residual concentrations of constituents impacting groundwater based on modeling.

In conclusion, the residual impacts to soils at the Site – even if left unaddressed – are not likely sources of impacts to groundwater beneath the Site under the expected Site usage.

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TABLES

Table 1
Summary of Groundwater Supply Wells within
One Mile of the Site

Well ID	Well Category	Distance from Site	Direction from Site	Screen Top (ft bgs)	Screen Bottom (ft bgs)	Surface Elevation (ft msl)	Data Source
1910179-023	City of Burbank Water Department Supply Well	3300 feet	North	76	331	614	ERM, 2011
1910179-024	City of Burbank Water Department Supply Well	3300 feet	North	92	332	622	ERM, 2011
01N14W14B001S	Department of Water Resources Supply Well	2500 feet	South-Southeast	Data Not Available			N/A
01N14W14B002S	Department of Water Resources Supply Well	2500 feet	South-Southeast	Data Not Available			N/A
01N14W14B008S	Department of Water Resources Supply Well	2500 feet	South-Southeast	Data Not Available			N/A
01N14W12M002S	Department of Water Resources Supply Well	3200 feet	East	Data Not Available			N/A
01N14W14H001S	Department of Water Resources Supply Well	4400 feet	Southeast	Data Not Available			N/A
01N14W10A001S	Department of Water Resources Supply Well	4400 feet	Northwest	Data Not Available			N/A

Table 2
Summary of Soil Data for Constituents of Interest

Layer	Constituent	Number of Samples	Number of Detections	Maximum Detection (µg/g)	95% Upper Confidence Limit (µg/g)
Fill	1,1,2,2-Tetrachloroethane	103	0	ND	ND
	1,1-Dichloroethene	104	0	ND	ND
	1,2-Dichloroethane	104	0	ND	ND
	Benzene	105	3	0.004	0.001
	PCE	107	77	2.54	0.043
	TCE	107	77	4.8	0.247
	Total Chromium	103	103	157	29.947
	trans-1,3-Dichloropropene	108	0	ND	ND
	Vinyl Chloride	108	0	ND	ND
Alluvial	1,1,2,2-Tetrachloroethane	--	--	--	--
	1,1-Dichloroethene	--	--	--	--
	1,2-Dichloroethane	--	--	--	--
	Benzene	8	0	ND	ND
	PCE	8	3	0.059	0.025
	TCE	8	0	ND	ND
	Total Chromium	56	56	67.7	28.358
	trans-1,3-Dichloropropene	--	--	--	--
	Vinyl Chloride	--	--	--	--

Note:

-- No data were collected in Geosyntec [2012] or Leighton [2016]

ND indicates non-detect

Table 3
Summary of Groundwater Data

Compound		PWA-02 Value	PWA-03 Value	MCL / AL
Major Ions	ALKALINITY, BICARBONATE (AS CaCO ₃)	240 mg/L	150 mg/L	--
	ALKALINITY, TOTAL (AS CaCO ₃)	240 mg/L	150 mg/L	--
	BORON	0.059 mg/L	0.081 mg/L	--
	BROMIDE	0.5 mg/L	0.38 mg/L	1
	CALCIUM	113 mg/L	100 mg/L	--
	CHLORIDE (AS CL)	52 mg/L	120 mg/L	--
	FLUORIDE	0.49 mg/L	ND mg/L	--
	MAGNESIUM	28.9 mg/L	32 mg/L	--
	NITROGEN, NITRATE (AS N)	9.3 mg/L	1.7 mg/L	10
	POTASSIUM	4.3 mg/L	5.1 mg/L	--
	SODIUM	39 mg/L	41 mg/L	--
	STRONTIUM	0.72 mg/L	0.64 mg/L	--
	SULFATE (AS SO ₄)	100 mg/L	110 mg/L	--
Metals	ARSENIC	ND µg/L	0.99 µg/L	10
	BARIUM	140 µg/L	210 µg/L	1,000
	CHROMIUM, HEXAVALENT	8.8 µg/L	3.58 µg/L	10
	CHROMIUM, TOTAL	245 µg/L	59 µg/L	50
	COPPER	0.53 µg/L	ND µg/L	1,300
	MOLYBDENUM	7.4 µg/L	5.9 µg/L	--
	SELENIUM	2.2 µg/L	ND µg/L	50
	VANADIUM	5.7 µg/L	8.4 µg/L	50
Volatile Organic Compounds	1,1,1-TRICHLOROMETHANE, CHLOROFORM-D	4.9 µg/L	4.8 µg/L	--
	1,1,2,2-TETRACHLOROETHANE-D2	4.7 µg/L	4.9 µg/L	1
	1,1,2-TRICHLOROETHANE	0.1 µg/L	ND µg/L	5
	1,1-DICHLOROETHANE	0.51 µg/L	ND µg/L	5
	1,1-DICHLOROETHENE	6.3 µg/L	4.7 µg/L	6
	1,2-DICHLOROBENZENE-D4	4.8 µg/L	5 µg/L	600
	1,2-DICHLOROETHANE-D4	5.2 µg/L	5.2 µg/L	5
	1,2-DICHLOROPROPANE-D6	4.5 µg/L	4.9 µg/L	5
	1-BROMO-4-FLUOROBENZENE (4-BROMOFLUOROBENZENE)	23 µg/L	22 µg/L	--
	2-BUTANONE-D5	47 µg/L	47 µg/L	--
	2-HEXANONE-D5	50 µg/L	51 µg/L	--
	BENZENE-D6	4.3 µg/L	4.7 µg/L	1
	CARBON TETRACHLORIDE	0.28 µg/L	ND µg/L	0.5
	CHLOROETHANE-D5	5 µg/L	4.7 µg/L	--
	CHLOROFORM	1.7 µg/L	ND µg/L	--
	CIS-1,2-DICHLOROETHYLENE	ND µg/L	5.3 µg/L	6
	DIBROMOFLUOROMETHANE	28 µg/L	24 µg/L	--
	TETRACHLOROETHYLENE(PCE)	9.7 µg/L	3.6 µg/L	5
	TOLUENE-D8	25 µg/L	25 µg/L	150
	TRANS-1,2-DICHLOROETHENE	ND µg/L	0.63 µg/L	10
	TRANS-1,3-DICHLOROPROPENE-D4	4.2 µg/L	4.5 µg/L	0.5
	TRICHLOROETHYLENE (TCE)	17 µg/L	87 µg/L	5
	VINYL CHLORIDE-D3	4.4 µg/L	4.2 µg/L	0.5

MCL - Maximum Contaminant Level; AL - Action Level ; Highlighted cells - exceedance of the MCL

Table 4
SESOIL Input Parameters for
Constituents of Interest

COPC	Model Layer	SESOIL Variable	Amount	Unit
1,1,2,2-Tetrachloroethane	Fill	CONC	<0.001	ug/g
		POLIN	<0.791	ug/cm2
	Alluvial	CONC	--	ug/g
		POLIN	--	ug/cm2
1,1-Dichloroethene	Fill	CONC	<0.001	ug/g
		POLIN	<0.791	ug/cm2
	Alluvial	CONC	--	ug/g
		POLIN	--	ug/cm2
1,2-Dichloroethane	Fill	CONC	<0.001	ug/g
		POLIN	<0.791	ug/cm2
	Alluvial	CONC	--	ug/g
		POLIN	--	ug/cm2
Benzene	Fill	CONC	0.001	ug/g
		POLIN	0.896	ug/cm2
	Alluvial	CONC	ND	ug/g
		POLIN	ND	ug/cm2
PCE	Fill	CONC	0.291	ug/g
		POLIN	230.414	ug/cm2
	Alluvial	CONC	0.025	ug/g
		POLIN	19.422	ug/cm2
TCE	Fill	CONC	0.247	ug/g
		POLIN	195.300	ug/cm2
	Alluvial	CONC	ND	ug/g
		POLIN	ND	ug/cm2
Total Chromium	Fill	CONC	29.947	ug/g
		POLIN	23700	ug/cm2
	Alluvial	CONC	28.358	ug/g
		POLIN	22500	ug/cm2
trans-1,3-Dichloropropene	Fill	CONC	<0.001	ug/g
		POLIN	<0.791	ug/cm2
	Alluvial	CONC	--	ug/g
		POLIN	--	ug/cm2
Vinyl Chloride	Fill	CONC	<0.791	ug/g
		POLIN	<0.001	ug/cm2
	Alluvial	CONC	--	ug/g
		POLIN	--	ug/cm2

Notes:

Amount - The UCL of all data collected for each respective later

POLIN- COPC mass load

CONC- Concentration of the COPC sorbed to the soil

ND All data were non-detections and a UCL was not calculated

-- No data were measured for this parameter

< The maximum detection limit was used when there were no detections for a COPC

Table 5
SESOIL Output Summary
Scenario 1 (Current Site Conditions)

Consituent of Interest	Theoretical Time to Groundwater	Theoretical Percentage of Mass in Groundwater	Fate of Majority of Mass
Chromium-III	> 999 years	< 0.01%	Adsorbed on Soil (100%)
Chromium-VI	> 999 years	< 0.01%	Adsorbed on Soil (100%)
Benzene	28 years	< 0.01%	Volatilized (100%)
1,1,2,2-Tetrachloroethane	14 years	11%	Volatilized (89%) In Groundwater (11%)
1,1-Dichloroethene	96 years	< 0.01%	Volatilized (100%)
1,2-Dichloroethane	13 years	0.03%	Volatilized (100%)
1,3-Dichloropropene	24 years	< 0.01%	Volatilized (100%)
Tetrachloroethene	65 years	< 0.01%	Volatilized (100%)
Trichloroethene	54 years	< 0.01%	Volatilized (100%)
Vinyl Chloride	82 years	< 0.01%	Volatilized (100%)

Note: Percentages may not sum to 100% due to rounding errors

Table 6
 SESOIL Output Summary
 Scenario 2 (Future Site Conditions, Concrete)

Constituent of Interest	Theoretical Time to Groundwater	Theoretical Percentage of Mass in Groundwater	Fate of Majority of Mass
Chromium-III	< 999 years	< 0.01%	Adsorbed on Soil (100%)
Chromium-VI	< 999 years	< 0.01%	Adsorbed on Soil (100%)
Benzene	59 years	< 0.01%	Volatilized (100%)
1,1,2,2-Tetrachloroethane	27 years	1%	Volatilized (99%) In Groundwater (1%)
1,1-Dichloroethene	211 years	< 0.01%	Volatilized (100%)
1,2-Dichloroethane	25 years	< 0.01%	Volatilized (100%)
1,3-Dichloropropene	49 years	< 0.01%	Volatilized (100%)
Tetrachloroethene	143 years	< 0.01%	Volatilized (100%)
Trichloroethene	117 years	< 0.01%	Volatilized (100%)
Vinyl Chloride	180 years	< 0.01%	Volatilized (100%)

Note: Percentages may not sum to 100% due to rounding errors

Table 7
 SESOIL Output Summary
 Scenario 3 (Future Site Conditions, Soil)

Consituent of Interest	Theoretical Time to Groundwater	Theoretical Percentage of Mass in Groundwater	Fate of Majority of Mass
Chromium-III	> 999 years	< 0.01%	Adsorbed on Soil (100%)
Chromium-VI	> 999 years	< 0.01%	Adsorbed on Soil (100%)
Benzene	6 years	0.4%	Volatilized (100%)
1,1,2,2-Tetrachloroethane	3 years	50%	Volatilized (50%) In Groundwater (50%)
1,1-Dichloroethene	19 years	< 0.01%	Volatilized (100%)
1,2-Dichloroethane	3 years	17%	Volatilized (83%) In Groundwater (17%)
1,3-Dichloropropene	5 years	6%	Volatilized (94%) In Groundwater (6%)
Tetrachloroethene	13 years	< 0.01%	Volatilized (100%)
Trichloroethene	11 years	< 0.01%	Volatilized (100%)
Vinyl Chloride	16 years	< 0.01%	Volatilized (100%)

Note: Percentages may not sum to 100% due to rounding errors

Table 8
Sensitivity Analysis Parameters

Parameter	Intrinsic Permeability		Effective Porosity		Soil Disconnectivity Index		Organic Carbon Content		Biodegradation (1,2-DCA)	
	Value	Associated Material ¹	Value	Associated Material ²	Value	Associated Material ³	Value	Associated Material ⁴	Rate Constant (per year)	Location of Estimate ⁵
Scenario 3 Model Value	1e-8 cm ²	Clean to silty sand	20%	Sand	3.7	Sand	0.58%	Value from nearby site	--	--
Sensitivity Value 1	1e-6 cm ²	Clean sand to gravel	10%	Silt to clay	3.5	SESOIL minimum	0.02%	Minimum observed	0.3	South Carolina
Sensitivity Value 2	1e-7 cm ²	Clean sand	15%	Fine sand to silt	6.0	Sandy clay	0.14%	Median observed	0.71	North Carolina
Sensitivity Value 3	1e-9 cm ²	Silty sand	25%	Coarse Sand	9.0	Clay to silty clay loam	0.25%	Mean observed	1.7	Oklahoma
Sensitivity Value 4	1e-10 cm ²	Silt	30%	Coarse to gravelly sand	12.0	Silt to clay	1.5%	Maximum observed	4.4	Louisiana

Notes:

1 - Based on Freeze and Cherry [1979].

2 - Based on Domenico and Schwartz [1990]. Note that associated material is based on average values over potentially overlapping ranges of effective porosity.

3 - Based on Bonazountas and Wagner [1984].

4 - Based on values presented in Tetra Tech [2010] and Appendix A of LARWQCB [1996].

5 - Based on values from Table 2.3 of Wilson et al. [2008]

Table 9
Sensitivity Analysis Results
1,2-Dichloroethane

Sensitivity Analysis Results			
Model Scenario	Scenario 3 - Future Site Conditions (Soil)		
Constituent	1,2-Dichloroethane		
Parameter	Value	Travel Time	Percent Mass Reaching Groundwater
Intrinsic Permeability	1e-10 cm ²	16 years	21%
	1e-9 cm ²	6 years	24%
	1e-8 cm ²	3 years	17%
	1e-7 cm ²	2 years	13%
	1e-6 cm ²	1 year	11%
Effective Porosity	10%	1 year	36%
	15%	2 years	27%
	20%	3 years	17%
	25%	4 years	10%
	30%	5 years	6%
Soil Disconnectivity Index	3.5	3 years	17%
	3.7	3 years	17%
	6.0	7 years	32%
	9.0	9 years	51%
	12.0	9 years	69%
Organic Carbon Content	0.00%	3 years	17%
	0.58%	3 years	17%
	0.75%	3 years	17%
	1.00%	3 years	18%
	2.00%	4 years	18%
Biodegradation	0 per year	3 years	17%
	0.3 per year	3 years	5%
	0.71 per year	3 years	1%
	1.7 per year	3 years	0.07%
	4.4 per year	3 years	<0.01%

The values in green show the Future Soil model values.

Table 10
Sensitivity Analysis Results
Chromium VI

Sensitivity Analysis Results			
Model Scenario	Scenario 3 - Future Site Conditions (Soil)		
Constituent	Chromium VI		
Parameter	Value	Travel Time	Percent Mass
Intrinsic Permeability	1e-10 cm ²	> 999 years	< 0.01%
	1e-9 cm ²	> 999 years	< 0.01%
	1e-8 cm ²	> 999 years	< 0.01%
	1e-7 cm ²	> 999 years	< 0.01%
	1e-6 cm ²	> 999 years	< 0.01%
Effective Porosity	10%	> 999 years	< 0.01%
	15%	> 999 years	< 0.01%
	20%	> 999 years	< 0.01%
	25%	> 999 years	< 0.01%
	30%	> 999 years	< 0.01%
Soil Disconnectivity Index	3.5	> 999 years	< 0.01%
	3.7	> 999 years	< 0.01%
	6.0	> 999 years	< 0.01%
	9.0	> 999 years	< 0.01%
	12.0	> 999 years	< 0.01%
Organic Carbon Content	0.00%	> 999 years	< 0.01%
	0.58%	> 999 years	< 0.01%
	0.75%	> 999 years	< 0.01%
	1.00%	> 999 years	< 0.01%
	2.00%	> 999 years	< 0.01%

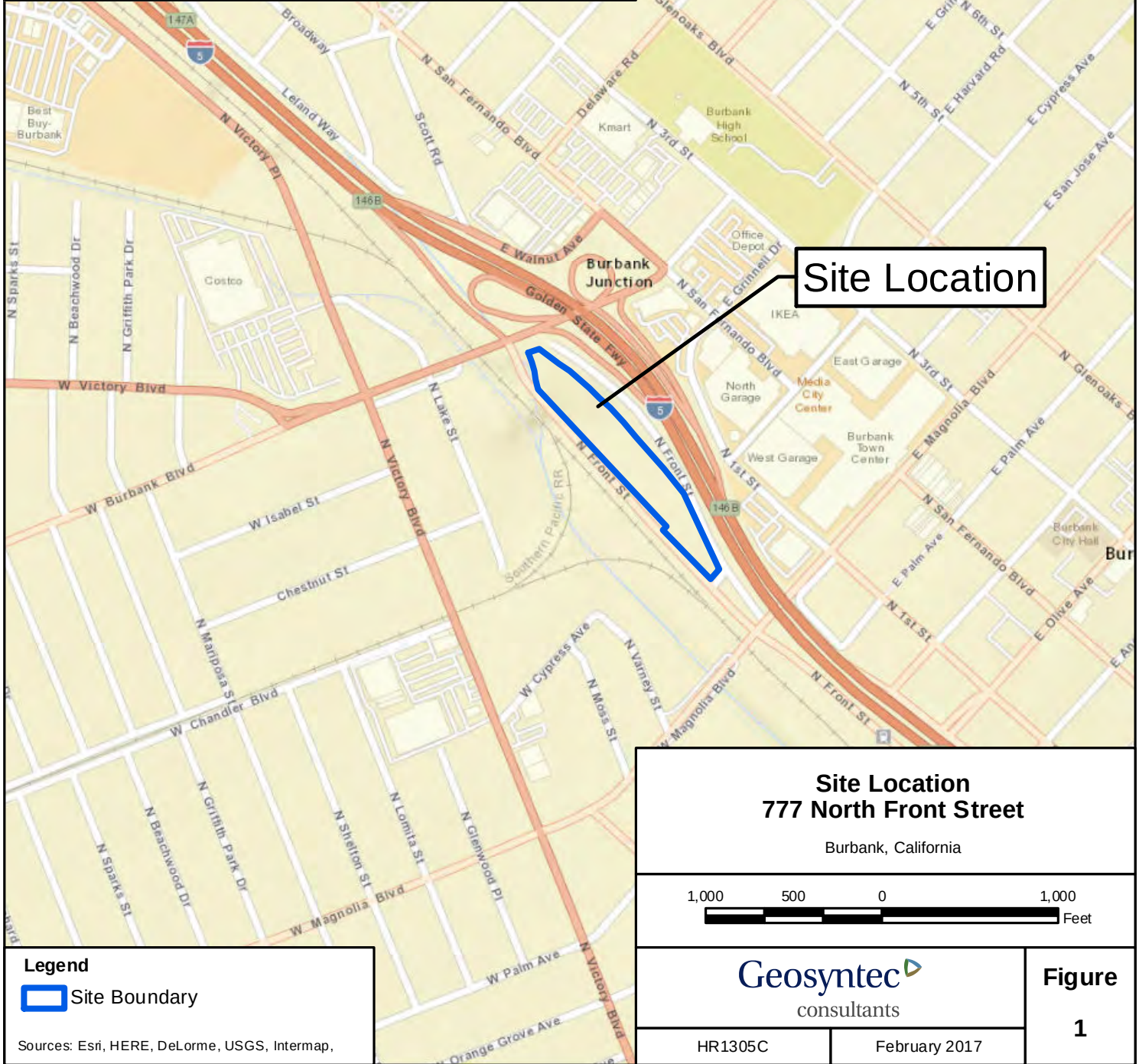
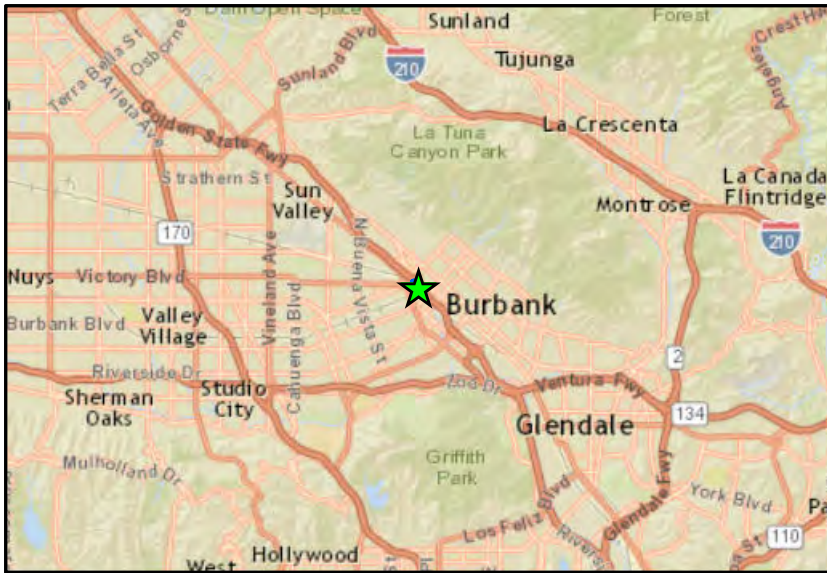
The values in green show the Future Soil model values.

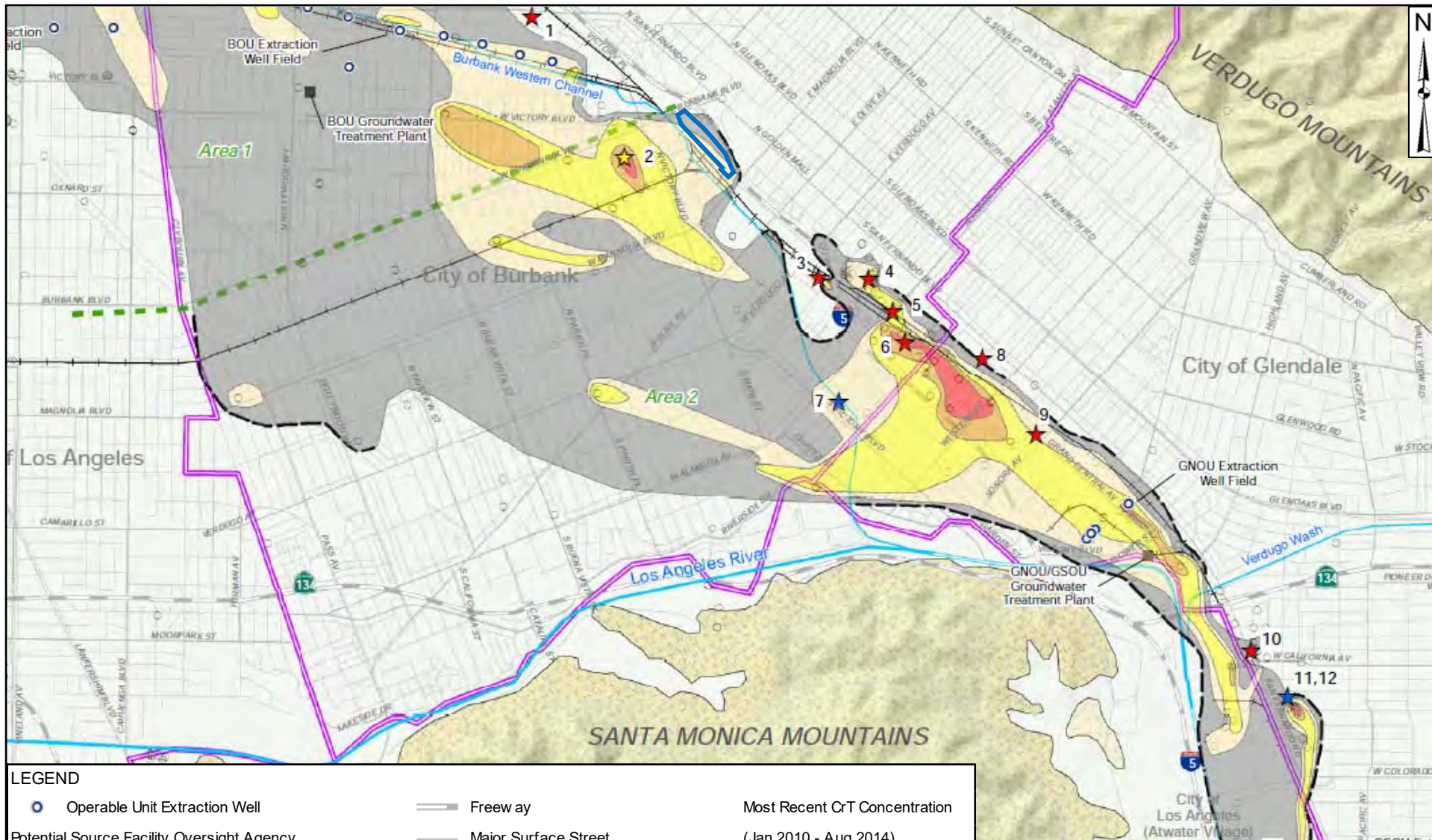
Table 11
Conservative Values Applied to Scenarios 1 and 2

Scenario	Constituent of Interest	Intrinsic Permeability	Effective Porosity	Theoretical Time to Groundwater	Theoretical Percentage of Mass in Groundwater	Fate of Majority of Mass
Scenario 1	Benzene	1e-6 cm2	15%	17 years	< 0.01%	Volatilized (100%)
		1e-7 cm2		19 years	< 0.01%	Volatilized (100%)
		1e-8 cm2		21 years	< 0.01%	Volatilized (100%)
		1e-9 cm2		26 years	< 0.01%	Volatilized (100%)
	Tetrachloroethene	1e-6 cm2	15%	48 years	< 0.01%	Volatilized (100%)
		1e-7 cm2		51 years	< 0.01%	Volatilized (100%)
		1e-8 cm2		51 years	< 0.01%	Volatilized (100%)
		1e-9 cm2		53 years	< 0.01%	Volatilized (100%)
	Trichloroethene	1e-6 cm2	15%	38 years	< 0.01%	Volatilized (100%)
		1e-7 cm2		41 years	< 0.01%	Volatilized (100%)
		1e-8 cm2		42 years	< 0.01%	Volatilized (100%)
		1e-9 cm2		46 years	< 0.01%	Volatilized (100%)
Scenario 2	Benzene	1e-6 cm2	15%	--	--	--
		1e-7 cm2		42 years	< 0.01%	Volatilized (100%)
		1e-8 cm2		47 years	< 0.01%	Volatilized (100%)
		1e-9 cm2		57 years	< 0.01%	Volatilized (100%)
	Tetrachloroethene	1e-6 cm2	15%	--	--	--
		1e-7 cm2		115 years	< 0.01%	Volatilized (100%)
		1e-8 cm2		119 years	< 0.01%	Volatilized (100%)
		1e-9 cm2		123 years	< 0.01%	Volatilized (100%)
	Trichloroethene	1e-6 cm2	15%	--	--	--
		1e-7 cm2		92 years	< 0.01%	Volatilized (100%)
		1e-8 cm2		97 years	< 0.01%	Volatilized (100%)
		1e-9 cm2		105 years	< 0.01%	Volatilized (100%)

Note: -- indicates that the SESOIL did not have enough water in the hydrologic system to complete the analysis

FIGURES





LEGEND

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> Operable Unit Extraction Well Potential Source Facility Oversight Agency EPA DTSC LARWQCB Operable Unit Groundwater Treatment Plant Municipal Boundary Approximate Boundaries of Investigation Areas for San Fernando Valley Super Fund Sites | <ul style="list-style-type: none"> Freeway Major Surface Street Railroads Los Angeles River Unlined Section of Los Angeles River Stream Site Boundary | <p>Most Recent CrT Concentration (Jan 2010 - Aug 2014)</p> <ul style="list-style-type: none"> >1,000 µg/L 100-1,000 µg/L 50-100 µg/L 10-50 µg/L Dashed where uncertain Wells with CrT Data Data Prior to 2010 |
|--|--|---|
- Note: Base map from OTIE (2016)**

San Fernando Valley Superfund Site Extent of TCE Impacts Circa 2016

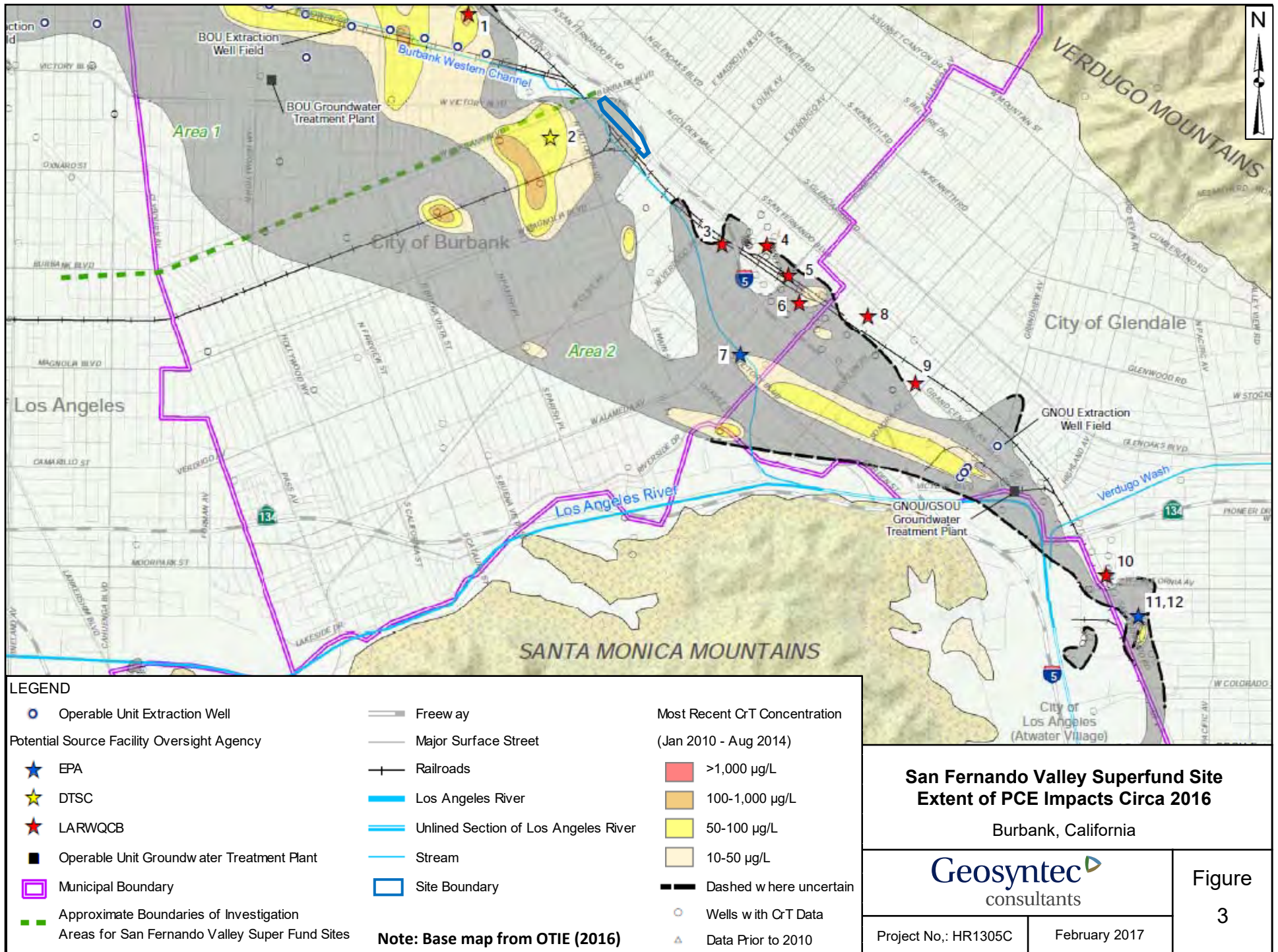
Burbank, California

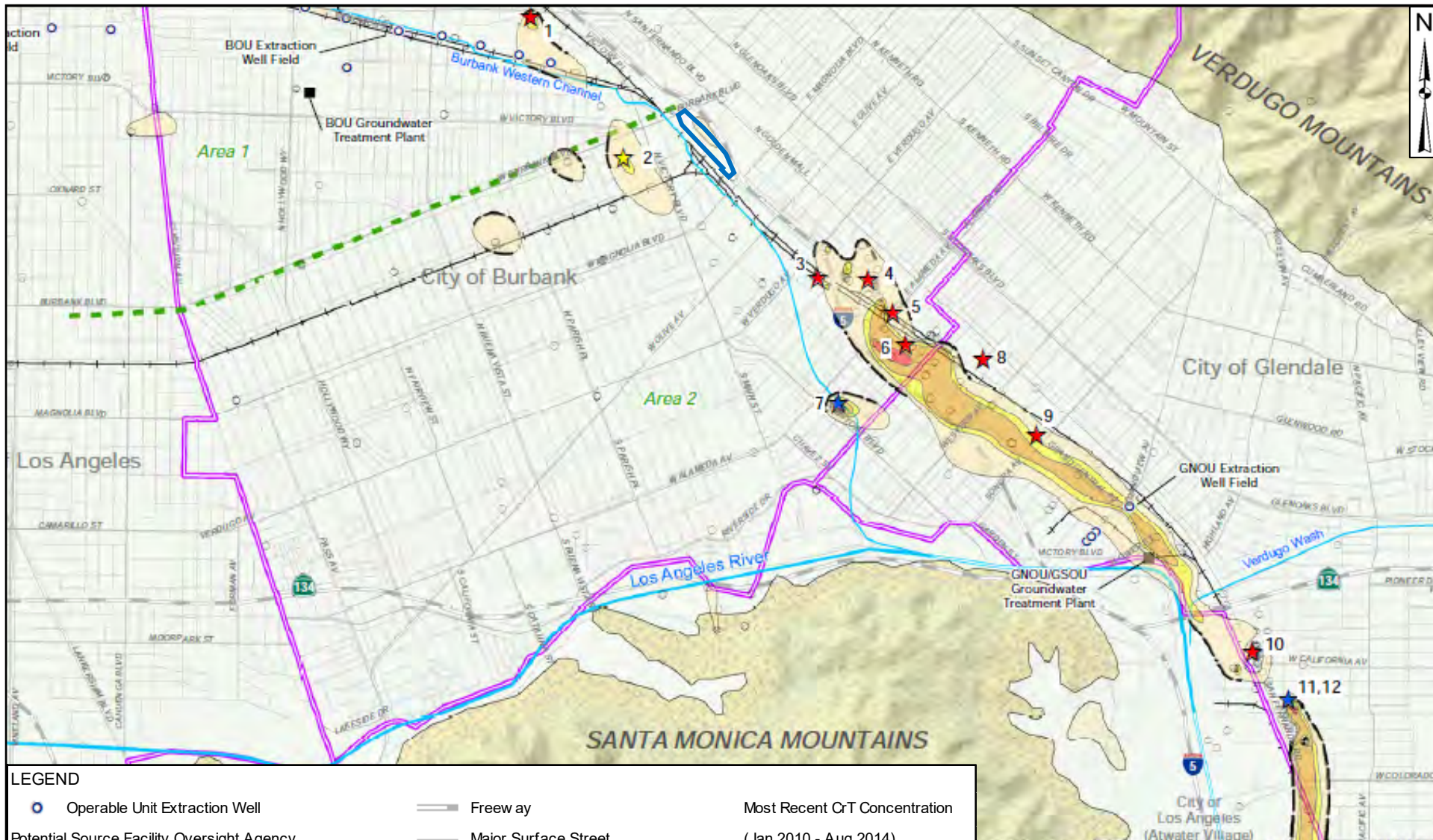
Geosyntec
consultants

Project No.: HR1305C

February 2017

Figure
2





LEGEND

Operable Unit Extraction Well	Freeway	Most Recent CrT Concentration (Jan 2010 - Aug 2014)
Potential Source Facility Oversight Agency	Major Surface Street	>1,000 µg/L
EPA	Railroads	100-1,000 µg/L
DTSC	Los Angeles River	50-100 µg/L
LARWQCB	Unlined Section of Los Angeles River	10-50 µg/L
Operable Unit Groundwater Treatment Plant	Stream	Dashed where uncertain
Municipal Boundary	Site Boundary	Wells with CrT Data
Approximate Boundaries of Investigation	Areas for San Fernando Valley Super Fund Sites	Data Prior to 2010

Note: Base map from OTIE (2016)

San Fernando Valley Superfund Site Extent of Total Chromium Impacts Circa 2016

Burbank, California

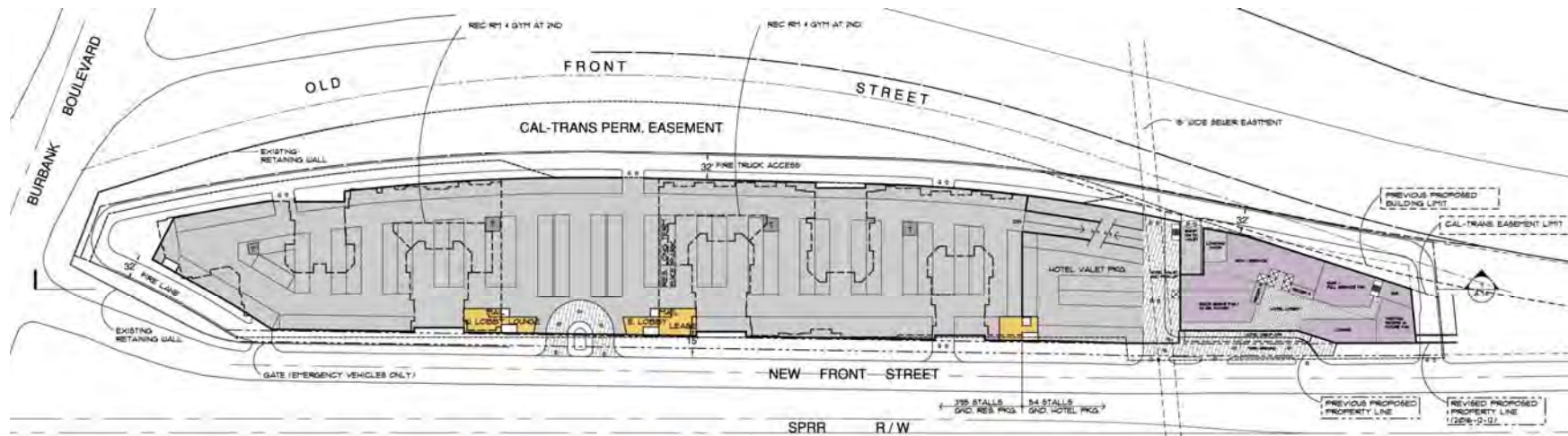
Geosyntec
consultants

Figure

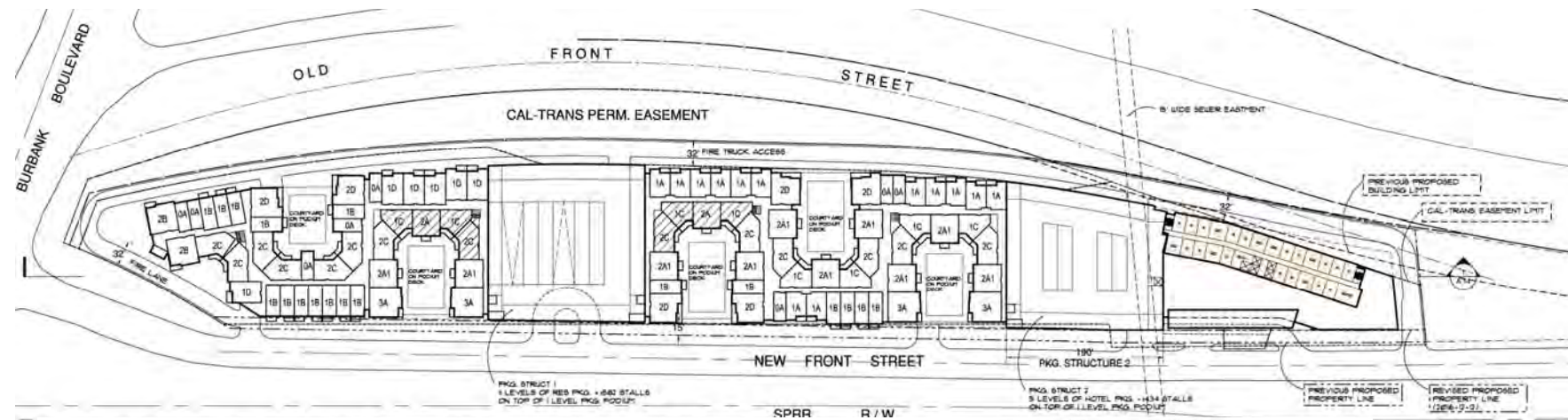
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Project No.: HR1305C

February 2017

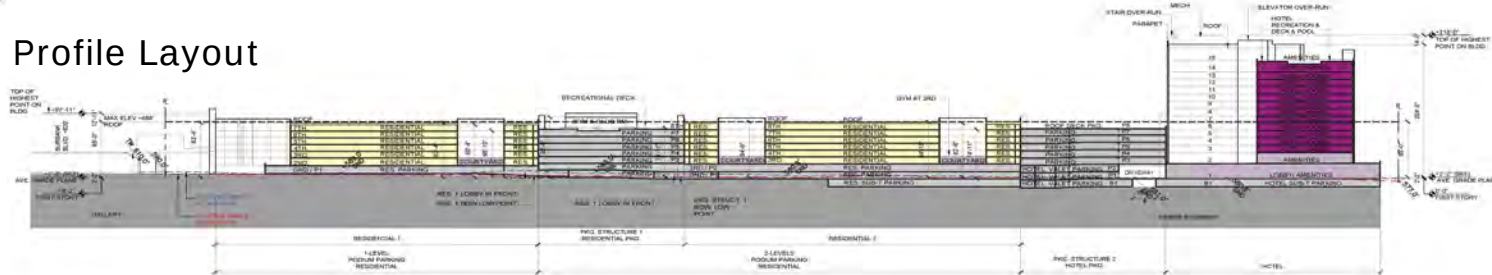


Ground Floor



1st Floor

Profile Layout

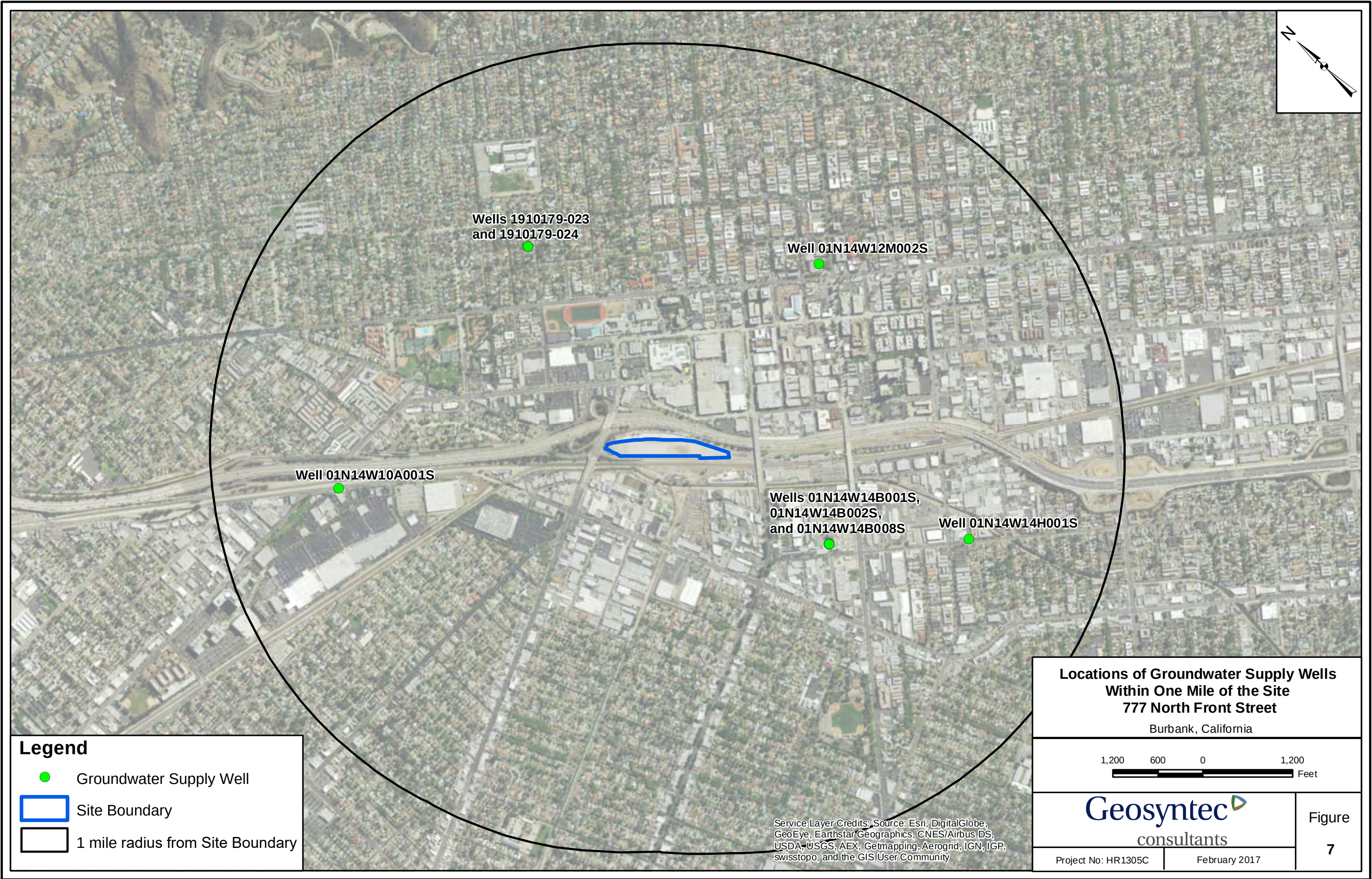


Preliminary Development Plan Building Sections – The Line @ Burbank 777 North Front Street Burbank, California	
Geosyntec consultants	Figure
Project No: HR1305C	February 2017
	5

(S:\1\hbeach-01\data\G55\1) S:\GIS\HR1305\Projects\2017\Fig5_PWs.mxd 2/17/2017



(S:\1\hbeach-01\data\GSS\1) S:\GIS\HR1305\Projects\2017\Fig6_GwSupplyWell.mxd 2/17/2017



Conceptual Model

SESOIL Model

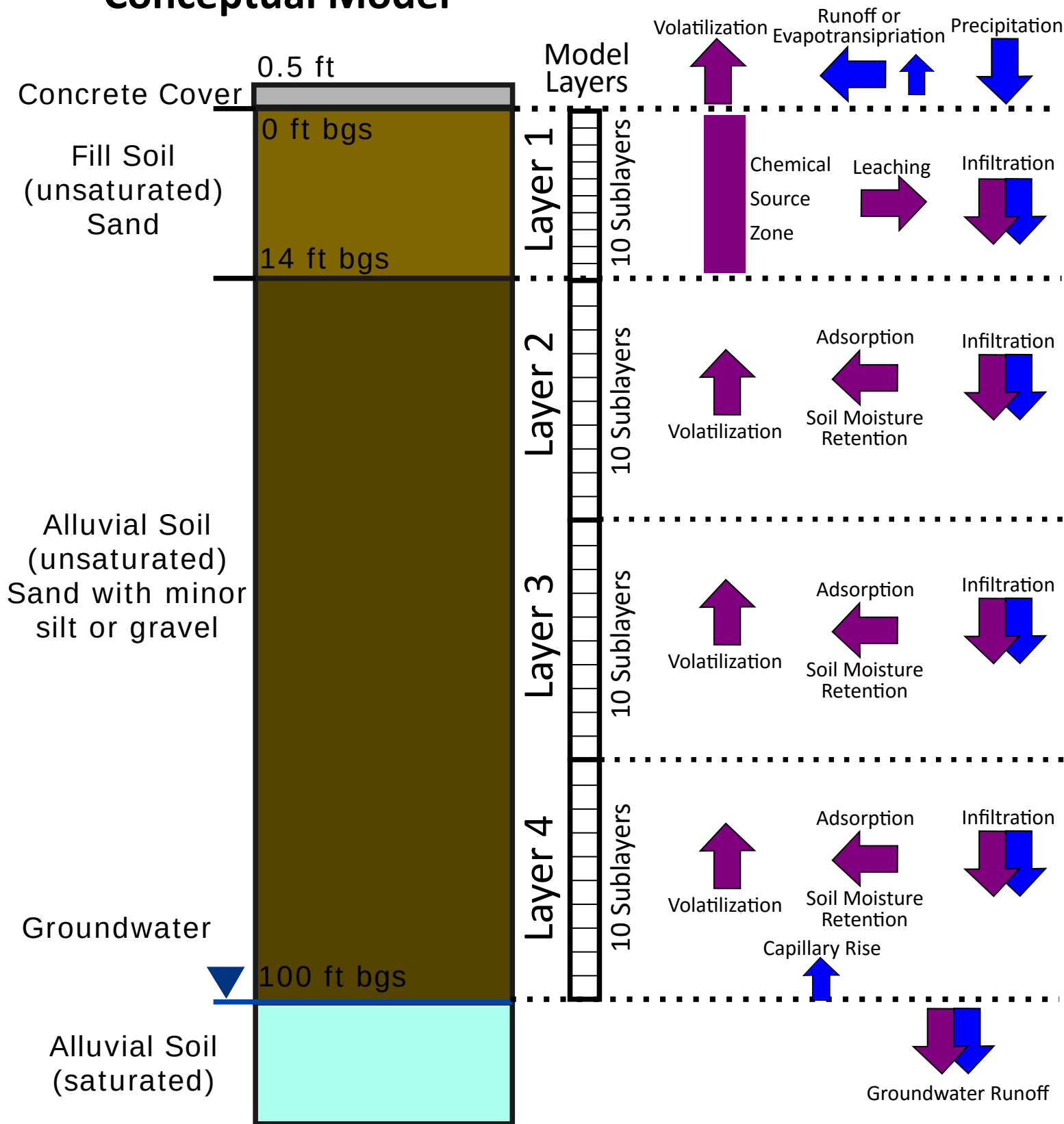


Figure 8
SESOIL Model Setup

Figure 9
Example SESOIL Output for 1,2-Dichloroethane
A) Current Condition
B) Future Cover Condition
C) Future Soil Condition

A

SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.586E+04	99.97
In Soil Air	1.708E-01	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	3.145E+00	0.02
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	3.316E-01	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	1.586E+04	99.99
Total Input	1.587E+04	
Input - Output	1.018E+00	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

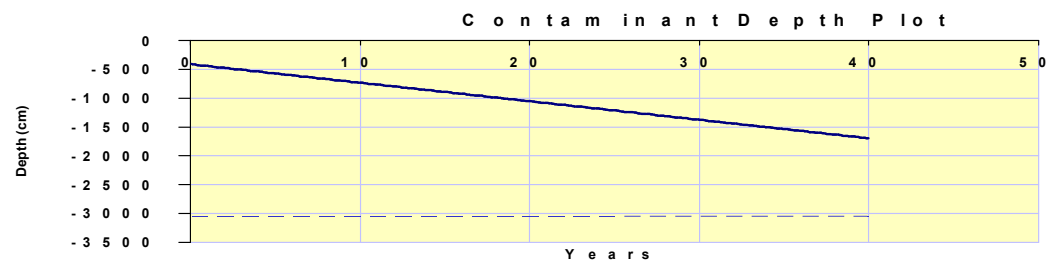
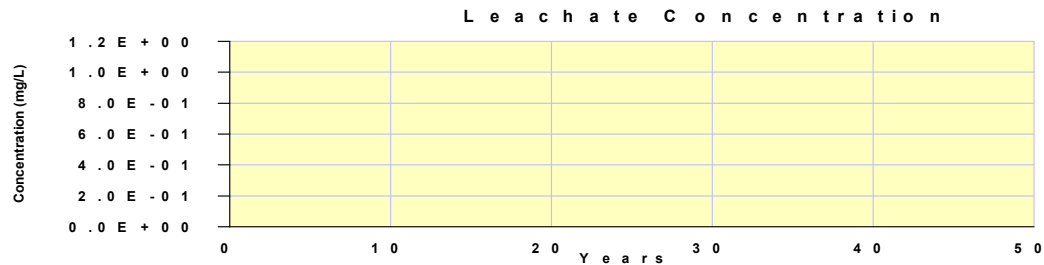
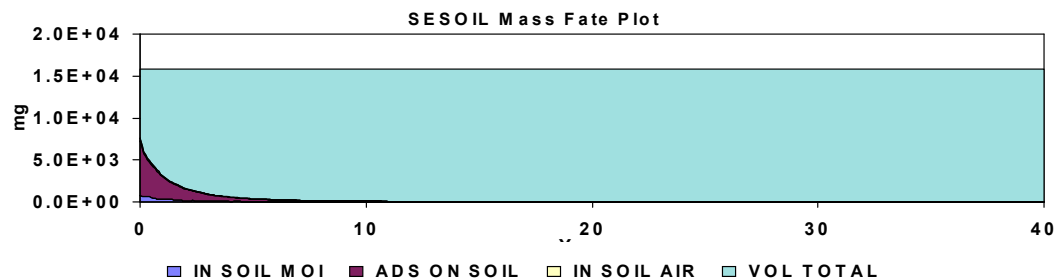
C:\SEV7 WIN7\777NFRONT_FINALSETUP.APL

Time to Groundwater: 82.07 years

Starting Depth: 407.60 cm

Ending Depth: 1694.00 cm

Total Depth: 3047.00 cm



B

SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.587E+04	100.01
In Soil Air	9.442E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.721E-01	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.623E-02	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	1.587E+04	100.01
Total Input	1.587E+04	
Input - Output	-2.034E+00	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

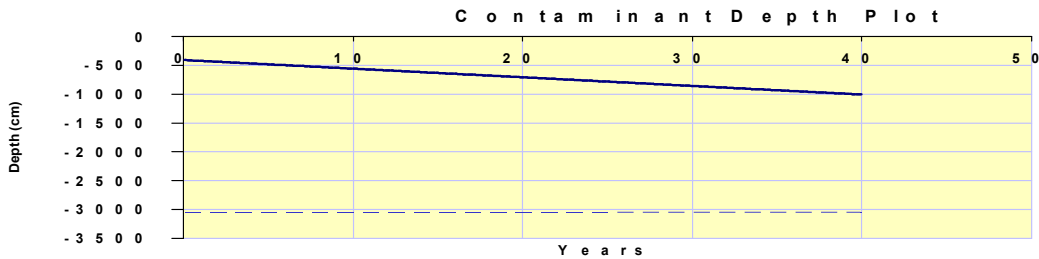
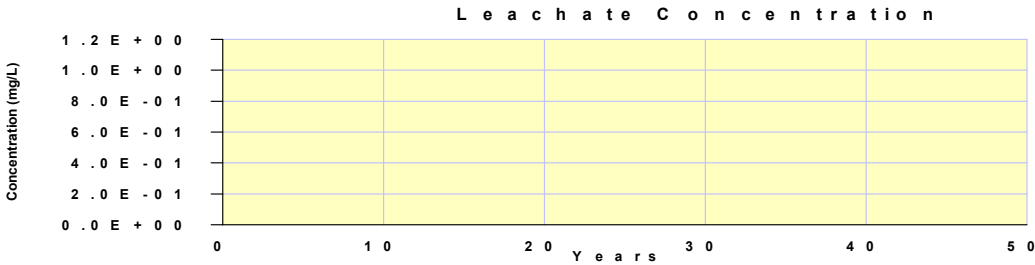
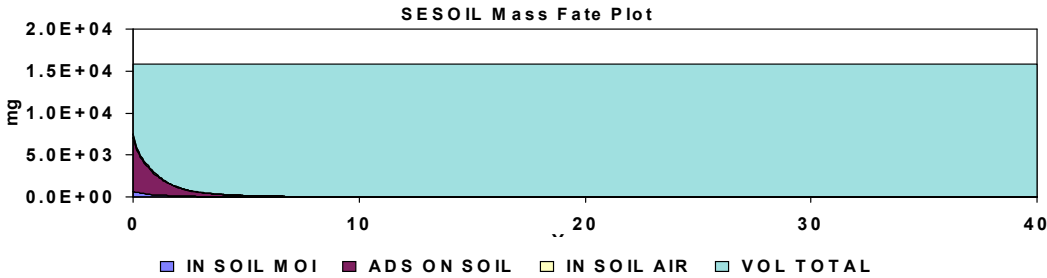
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Time to Groundwater: 176.38 years

Starting Depth: 407.40 cm

Ending Depth: 1006.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.286E+04	81.05
In Soil Air	1.179E+01	0.07
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	2.209E+02	1.39
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	2.766E+01	0.17
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	2.738E+03	17.26
Total Output	1.586E+04	99.95
Total Input	1.587E+04	
Input - Output	8.593E+00	

Maximum leachate concentration: 1.099E-03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

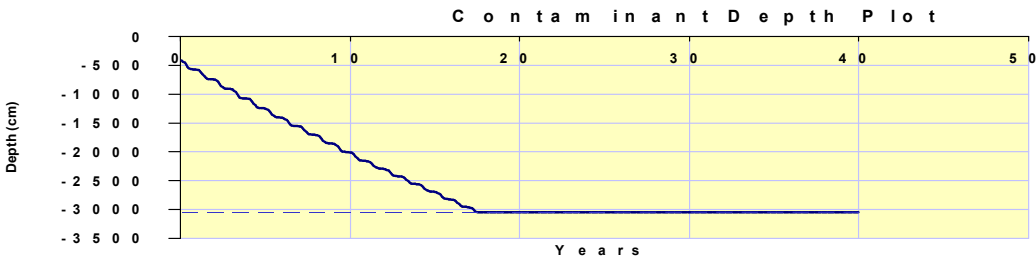
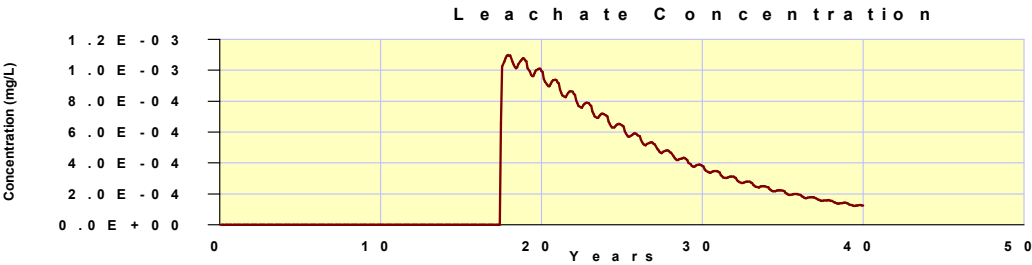
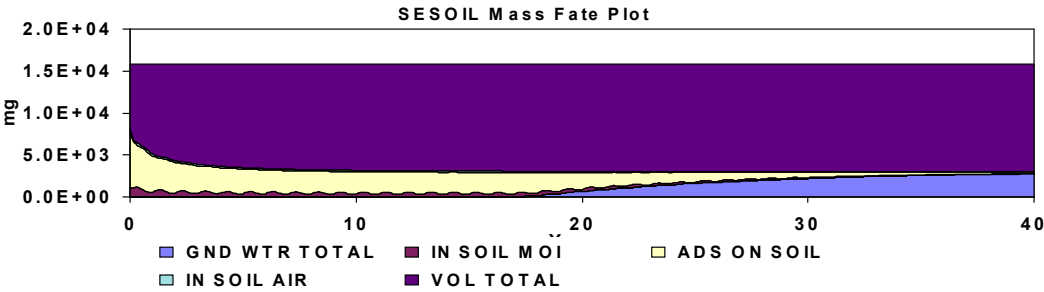
C:\SEV7 WIN7\777NFRONT_FINALSETUP.APL

Time to Groundwater: 17.08 years

Starting Depth: 410.80 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



APPENDICES

APPENDIX A

ProUCL Statistical Output for Soil Data

Appendix A
Soil Data
and
Upper Confidence Limits

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A1	1	A1-1'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A5B	1	A5B-1'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A6	1	A6-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A7	1	A7-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A8	1	A8-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A9	1	A9-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A10	1	A10-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A11	1	A11-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A12	1	A12-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A13	1	A13-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B1	1	B1-1'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B2	1	B2-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B3	1	B3-1'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B4	1	B4-1'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B5	1	B5-1'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B6	1	B6-1'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B8	1	B8-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B9	1	B9-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B10	1	B10-1'	5/7/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B11	1	B11-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B12	1	B12-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B13	1	B13-1'	5/6/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B14	1	B14-1'	5/6/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB1	1	LB1-1'	5/6/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB2	1	LB2-1'	5/6/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB3	1	LB3-1'	5/6/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB4	1	LB4-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB5	1	LB5-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB6	1	LB6-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB7	1	LB7-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB8	1	LB8-1'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A5	1.25	A5-1.25'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A7	3.5	A7-3.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B15	4	B15-4'	5/6/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A1	4.5	A1-4.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A2	4.5	A2-4.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A3	4.5	A3-4.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A4	4.5	A4-4.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A5	4.5	A5-4.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A5B	4.5	A5B-4.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A6	4.5	A6-4.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A8	4.5	A8-4.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A9	4.5	A9-4.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A11	4.5	A11-4.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B1	4.5	B1-4.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B2	4.5	B2-4.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B3	4.5	B3-4.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B4	4.5	B4-4.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B5	4.5	B5-4.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B6	4.5	B6-4.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B7	4.5	B7-4.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B8	4.5	B8-4.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B9	4.5	B9-4.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B10	4.5	B10-4.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B11	4.5	B11-4.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB	4.5	LB-4.5'	5/6/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB1	4.5	LB1-4.5'	5/6/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB3	4.5	LB3-4.5'	5/6/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB4	4.5	LB4-4.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB5	4.5	LB5-4.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A12	5	A12-5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A13	5	A13-5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
B12	5	B12-5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B13	5	B13-5'	5/6/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B14	5	B14-5'	5/8/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B15	5	B15-5'	5/6/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB6	5	LB6-5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB7	5	LB7-5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB8	5	LB8-5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A1	8.5	A1-8.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A2	8.5	A2-8.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A3	8.5	A3-8.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A4	8.5	A4-8.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A5B	8.5	A5B-8.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A6	8.5	A6-8.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A7	8.5	A7-8.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A8	8.5	A8-8.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A9	8.5	A9-8.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A11	8.5	A11-8.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B1	8.5	B1-8.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B2	8.5	B2-8.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B3	8.5	B3-8.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B4	8.5	B4-8.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B5	8.5	B5-8.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B6	8.5	B6-8.5'	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B7	8.5	B7-8.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B8	8.5	B8-8.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B9	8.5	B9-8.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B10	8.5	B10-8.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B11	8.5	B11-8.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB1	8.5	LB1-8.5'	5/6/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB2	8.5	LB2-8.5'	5/6/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB3	8.5	LB3-8.5'	5/6/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
LB4	8.5	LB4-8.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB5	8.5	LB5-8.5'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A12	11	A12-11'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A13	11	A13-11'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B12	11	B12-11'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B13	11	B13-11'	5/6/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B14	11	B14-11'	5/6/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB6	11	LB6-11'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB7	11	LB7-11'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB8	11	LB8-11'	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB3	1D	LB3-1'-D	5/6/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
LB5	1D	LB5-1D	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B4	4.5D	B4-4.5D	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B12	5D	B12-5'D	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A3	8.5D	A3-8.5'-D	5/4/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A11	8.5D	A11-8.5'-D	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
B8	8.5D	B8-8.5D	5/5/2016	630-20-6	1,1,1,2-Tetrachloroethane	ND	µg/kg	1
A5B	1	A5B-1'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A6	1	A6-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A7	1	A7-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A8	1	A8-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A9	1	A9-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A10	1	A10-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A11	1	A11-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A12	1	A12-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A13	1	A13-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B2	1	B2-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B6	1	B6-1'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B8	1	B8-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B9	1	B9-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B10	1	B10-1'	5/7/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
B11	1	B11-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B12	1	B12-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B13	1	B13-1'	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B14	1	B14-1'	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B15	1	B15-1'	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB1	1	LB1-1'	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB2	1	LB2-1'	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB3	1	LB3-1'	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB4	1	LB4-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB5	1	LB5-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB6	1	LB6-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB7	1	LB7-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB8	1	LB8-1'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A5	1.25	A5-1.25'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A7	3.5	A7-3.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B15	4	B15-4'	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A5	4.5	A5-4.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A5B	4.5	A5B-4.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A6	4.5	A6-4.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A8	4.5	A8-4.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A9	4.5	A9-4.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A11	4.5	A11-4.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B2	4.5	B2-4.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B6	4.5	B6-4.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B7	4.5	B7-4.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B8	4.5	B8-4.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B9	4.5	B9-4.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B10	4.5	B10-4.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B11	4.5	B11-4.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB	4.5	LB-4.5'	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB1	4.5	LB1-4.5'	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
LB3	4.5	LB3-4.5'	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB4	4.5	LB4-4.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB5	4.5	LB5-4.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A12	5	A12-5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A13	5	A13-5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B12	5	B12-5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B13	5	B13-5'	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B14	5	B14-5'	5/8/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B15	5	B15-5'	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB6	5	LB6-5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB7	5	LB7-5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB8	5	LB8-5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A5B	8.5	A5B-8.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A6	8.5	A6-8.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A7	8.5	A7-8.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A8	8.5	A8-8.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A9	8.5	A9-8.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A11	8.5	A11-8.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B2	8.5	B2-8.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B6	8.5	B6-8.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B7	8.5	B7-8.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B8	8.5	B8-8.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B9	8.5	B9-8.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B10	8.5	B10-8.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B11	8.5	B11-8.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB1	8.5	LB1-8.5'	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB2	8.5	LB2-8.5'	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB3	8.5	LB3-8.5'	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB4	8.5	LB4-8.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB5	8.5	LB5-8.5'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A12	11	A12-11'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A13	11	A13-11'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B12	11	B12-11'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B13	11	B13-11'	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B14	11	B14-11'	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB6	11	LB6-11'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB7	11	LB7-11'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB8	11	LB8-11'	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB3	1D	LB3-1'-D	5/6/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
LB5	1D	LB5-1D	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B12	5D	B12-5'D	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A11	8.5D	A11-8.5'-D	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B8	8.5D	B8-8.5D	5/5/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A1	1	A1-1'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B1	1	B1-1'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B3	1	B3-1'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B4	1	B4-1'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B5	1	B5-1'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A1	4.5	A1-4.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A2	4.5	A2-4.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A3	4.5	A3-4.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A4	4.5	A4-4.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B1	4.5	B1-4.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B3	4.5	B3-4.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B4	4.5	B4-4.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B5	4.5	B5-4.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A1	8.5	A1-8.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A2	8.5	A2-8.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A3	8.5	A3-8.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A4	8.5	A4-8.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B1	8.5	B1-8.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B3	8.5	B3-8.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
B4	8.5	B4-8.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B5	8.5	B5-8.5'	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
B4	4.5D	B4-4.5D	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A3	8.5D	A3-8.5'-D	5/4/2016	75-35-4	1,1-Dichloroethene	ND	µg/kg	1
A1	1	A1-1'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A5B	1	A5B-1'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A6	1	A6-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A7	1	A7-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A8	1	A8-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A9	1	A9-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A10	1	A10-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A11	1	A11-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A12	1	A12-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A13	1	A13-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B1	1	B1-1'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B2	1	B2-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B3	1	B3-1'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B6	1	B6-1'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B8	1	B8-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B9	1	B9-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B10	1	B10-1'	5/7/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B11	1	B11-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B12	1	B12-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B13	1	B13-1'	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B14	1	B14-1'	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B15	1	B15-1'	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB1	1	LB1-1'	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB2	1	LB2-1'	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB3	1	LB3-1'	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB4	1	LB4-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB5	1	LB5-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
LB6	1	LB6-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB7	1	LB7-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB8	1	LB8-1'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A5	1.25	A5-1.25'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A7	3.5	A7-3.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B15	4	B15-4'	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A1	4.5	A1-4.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A2	4.5	A2-4.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A3	4.5	A3-4.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A4	4.5	A4-4.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A5	4.5	A5-4.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A5B	4.5	A5B-4.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A6	4.5	A6-4.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A8	4.5	A8-4.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A9	4.5	A9-4.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A11	4.5	A11-4.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B1	4.5	B1-4.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B2	4.5	B2-4.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B3	4.5	B3-4.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B6	4.5	B6-4.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B7	4.5	B7-4.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B8	4.5	B8-4.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B9	4.5	B9-4.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B10	4.5	B10-4.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B11	4.5	B11-4.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB	4.5	LB-4.5'	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB1	4.5	LB1-4.5'	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB3	4.5	LB3-4.5'	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB4	4.5	LB4-4.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB5	4.5	LB5-4.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A12	5	A12-5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A13	5	A13-5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B12	5	B12-5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B13	5	B13-5'	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B14	5	B14-5'	5/8/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B15	5	B15-5'	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB6	5	LB6-5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB7	5	LB7-5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB8	5	LB8-5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A1	8.5	A1-8.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A2	8.5	A2-8.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A3	8.5	A3-8.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A4	8.5	A4-8.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A5B	8.5	A5B-8.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A6	8.5	A6-8.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A7	8.5	A7-8.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A8	8.5	A8-8.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A9	8.5	A9-8.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A11	8.5	A11-8.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B1	8.5	B1-8.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B2	8.5	B2-8.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B3	8.5	B3-8.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B6	8.5	B6-8.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B7	8.5	B7-8.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B8	8.5	B8-8.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B9	8.5	B9-8.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B10	8.5	B10-8.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B11	8.5	B11-8.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB1	8.5	LB1-8.5'	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB2	8.5	LB2-8.5'	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB3	8.5	LB3-8.5'	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB4	8.5	LB4-8.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
LB5	8.5	LB5-8.5'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A12	11	A12-11'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A13	11	A13-11'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B12	11	B12-11'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B13	11	B13-11'	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B14	11	B14-11'	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB6	11	LB6-11'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB7	11	LB7-11'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB8	11	LB8-11'	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB3	1D	LB3-1'-D	5/6/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
LB5	1D	LB5-1D	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B12	5D	B12-5'D	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A3	8.5D	A3-8.5'-D	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A11	8.5D	A11-8.5'-D	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B8	8.5D	B8-8.5D	5/5/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B4	1	B4-1'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B5	1	B5-1'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B4	4.5	B4-4.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B5	4.5	B5-4.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B4	8.5	B4-8.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B5	8.5	B5-8.5'	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
B4	4.5D	B4-4.5D	5/4/2016	107-06-2	1,2-Dichloroethane	ND	µg/kg	1
A1	1	A1-1'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
A5B	1	A5B-1'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
A6	1	A6-1'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A7	1	A7-1'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A8	1	A8-1'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A9	1	A9-1'	5/5/2016	71-43-2	Benzene	3	µg/kg	1
A10	1	A10-1'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A11	1	A11-1'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A12	1	A12-1'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A13	1	A13-1'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B1	1	B1-1'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
B2	1	B2-1'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B3	1	B3-1'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
B4	1	B4-1'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
B6	1	B6-1'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
B7	1	B7-1'	5/5/2016	71-43-2	Benzene	1.7	µg/kg	1
B8	1	B8-1'	5/5/2016	71-43-2	Benzene	4.3	µg/kg	1
B9	1	B9-1'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B10	1	B10-1'	5/7/2016	71-43-2	Benzene	ND	µg/kg	1
B11	1	B11-1'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B12	1	B12-1'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B13	1	B13-1'	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
B14	1	B14-1'	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
B15	1	B15-1'	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
LB1	1	LB1-1'	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
LB2	1	LB2-1'	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
LB3	1	LB3-1'	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
LB4	1	LB4-1'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
LB5	1	LB5-1'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
LB6	1	LB6-1'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
LB7	1	LB7-1'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
LB8	1	LB8-1'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A5	1.25	A5-1.25'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
A7	3.5	A7-3.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B15	4	B15-4'	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
A1	4.5	A1-4.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
A2	4.5	A2-4.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
A3	4.5	A3-4.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
A4	4.5	A4-4.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
A5	4.5	A5-4.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A5B	4.5	A5B-4.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
A6	4.5	A6-4.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A8	4.5	A8-4.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A9	4.5	A9-4.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A11	4.5	A11-4.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B1	4.5	B1-4.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
B2	4.5	B2-4.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B3	4.5	B3-4.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
B6	4.5	B6-4.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
B7	4.5	B7-4.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B8	4.5	B8-4.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B9	4.5	B9-4.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B10	4.5	B10-4.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B11	4.5	B11-4.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
LB	4.5	LB-4.5'	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
LB1	4.5	LB1-4.5'	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
LB3	4.5	LB3-4.5'	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
LB4	4.5	LB4-4.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
LB5	4.5	LB5-4.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A12	5	A12-5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A13	5	A13-5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B12	5	B12-5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B13	5	B13-5'	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
B14	5	B14-5'	5/8/2016	71-43-2	Benzene	ND	µg/kg	1
B15	5	B15-5'	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
LB6	5	LB6-5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
LB7	5	LB7-5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
LB8	5	LB8-5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A1	8.5	A1-8.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
A2	8.5	A2-8.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
A3	8.5	A3-8.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A4	8.5	A4-8.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
A5B	8.5	A5B-8.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
A6	8.5	A6-8.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A7	8.5	A7-8.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A8	8.5	A8-8.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A9	8.5	A9-8.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A11	8.5	A11-8.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B1	8.5	B1-8.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
B2	8.5	B2-8.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B3	8.5	B3-8.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
B6	8.5	B6-8.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
B7	8.5	B7-8.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B8	8.5	B8-8.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B9	8.5	B9-8.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B10	8.5	B10-8.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B11	8.5	B11-8.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
LB1	8.5	LB1-8.5'	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
LB2	8.5	LB2-8.5'	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
LB3	8.5	LB3-8.5'	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
LB4	8.5	LB4-8.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
LB5	8.5	LB5-8.5'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A12	11	A12-11'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A13	11	A13-11'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B12	11	B12-11'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B13	11	B13-11'	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
B14	11	B14-11'	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
LB6	11	LB6-11'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
LB7	11	LB7-11'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
LB8	11	LB8-11'	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A1	14.5	A1-14.5'	5/4/2016		Benzene	ND	ug/kg	1
A2	14.5	A2-14.5'	5/4/2016		Benzene	ND	ug/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A3	14.5	A3-14.5'	5/4/2016		Benzene	ND	ug/kg	1
A4	14.5	A4-14.5'	5/4/2016		Benzene	ND	ug/kg	1
A1	20.5	A1-20.5'	5/4/2016		Benzene	ND	ug/kg	1
A2	20.5	A2-20.5'	5/4/2016		Benzene	ND	ug/kg	1
A3	20.5	A3-20.5'	5/4/2016		Benzene	ND	ug/kg	1
A4	20.5	A4-20.5'	5/4/2016		Benzene	ND	ug/kg	1
LB3	1D	LB3-1'-D	5/6/2016	71-43-2	Benzene	ND	µg/kg	1
LB5	1D	LB5-1D	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B12	5D	B12-5'D	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
A3	8.5D	A3-8.5'-D	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
A11	8.5D	A11-8.5'-D	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B8	8.5D	B8-8.5D	5/5/2016	71-43-2	Benzene	ND	µg/kg	1
B5	1	B5-1'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
B4	4.5	B4-4.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
B5	4.5	B5-4.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
B4	8.5	B4-8.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
B5	8.5	B5-8.5'	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
B4	4.5D	B4-4.5D	5/4/2016	71-43-2	Benzene	ND	µg/kg	1
A1	1	A1-1'	5/4/2016	7440-47-3	Chromium, Cr	15.9	mg/kg	0.5
A5B	1	A5B-1'	5/4/2016	7440-47-3	Chromium, Cr	14.3	mg/kg	0.5
A6	1	A6-1'	5/5/2016	7440-47-3	Chromium, Cr	22.5	mg/kg	0.5
A7	1	A7-1'	5/5/2016	7440-47-3	Chromium, Cr	25.8	mg/kg	0.5
A8	1	A8-1'	5/5/2016	7440-47-3	Chromium, Cr	18.5	mg/kg	0.5
A9	1	A9-1'	5/5/2016	7440-47-3	Chromium, Cr	17.7	mg/kg	0.5
A10	1	A10-1'	5/5/2016	7440-47-3	Chromium, Cr	21.6	mg/kg	0.5
A11	1	A11-1'	5/5/2016	7440-47-3	Chromium, Cr	28.2	mg/kg	0.5
A12	1	A12-1'	5/5/2016	7440-47-3	Chromium, Cr	33.5	mg/kg	0.5
A13	1	A13-1'	5/5/2016	7440-47-3	Chromium, Cr	30.2	mg/kg	0.5
B1	1	B1-1'	5/4/2016	7440-47-3	Chromium, Cr	21.4	mg/kg	0.5
B2	1	B2-1'	5/5/2016	7440-47-3	Chromium, Cr	23.4	mg/kg	0.5
B3	1	B3-1'	5/4/2016	7440-47-3	Chromium, Cr	23.1	mg/kg	0.5

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
B4	1	B4-1'	5/4/2016	7440-47-3	Chromium, Cr	25.9	mg/kg	0.5
B5	1	B5-1'	5/4/2016	7440-47-3	Chromium, Cr	16.4	mg/kg	0.5
B6	1	B6-1'	5/4/2016	7440-47-3	Chromium, Cr	24	mg/kg	0.5
B8	1	B8-1'	5/5/2016	7440-47-3	Chromium, Cr	10.2	mg/kg	0.5
B9	1	B9-1'	5/5/2016	7440-47-3	Chromium, Cr	14.3	mg/kg	0.5
B10	1	B10-1'	5/5/2016	7440-47-3	Chromium, Cr	24.6	mg/kg	0.5
B11	1	B11-1'	5/5/2016	7440-47-3	Chromium, Cr	22.3	mg/kg	0.5
B12	1	B12-1'	5/5/2016	7440-47-3	Chromium, Cr	32.8	mg/kg	0.5
B13	1	B13-1'	5/6/2016	7440-47-3	Chromium, Cr	30.7	mg/kg	0.5
B14	1	B14-1'	5/6/2016	7440-47-3	Chromium, Cr	52.2	mg/kg	0.5
LB1	1	LB1-1'	5/6/2016	7440-47-3	Chromium, Cr	24.9	mg/kg	0.5
LB2	1	LB2-1'	5/6/2016	7440-47-3	Chromium, Cr	7	mg/kg	0.5
LB3	1	LB3-1'	5/6/2016	7440-47-3	Chromium, Cr	26.4	mg/kg	0.5
LB4	1	LB4-1'	5/5/2016	7440-47-3	Chromium, Cr	19.1	mg/kg	0.5
LB5	1	LB5-1'	5/5/2016	7440-47-3	Chromium, Cr	27.2	mg/kg	0.5
LB6	1	LB6-1'	5/5/2016	7440-47-3	Chromium, Cr	35.7	mg/kg	0.5
LB7	1	LB7-1'	5/5/2016	7440-47-3	Chromium, Cr	24.7	mg/kg	0.5
LB8	1	LB8-1'	5/5/2016	7440-47-3	Chromium, Cr	27.7	mg/kg	0.5
A5	1.25	A5-1.25'	5/4/2016	7440-47-3	Chromium, Cr	29	mg/kg	0.5
A7	3.5	A7-3.5'	5/5/2016	7440-47-3	Chromium, Cr	7.9	mg/kg	0.5
B15	4	B15-4'	5/6/2016	7440-47-3	Chromium, Cr	24.4	mg/kg	0.5
A1	4.5	A1-4.5'	5/4/2016	7440-47-3	Chromium, Cr	33.7	mg/kg	0.5
A2	4.5	A2-4.5'	5/4/2016	7440-47-3	Chromium, Cr	31.8	mg/kg	0.5
A3	4.5	A3-4.5'	5/4/2016	7440-47-3	Chromium, Cr	32.9	mg/kg	0.5
A4	4.5	A4-4.5'	5/4/2016	7440-47-3	Chromium, Cr	16.4	mg/kg	0.5
A5	4.5	A5-4.5'	5/4/2016	7440-47-3	Chromium, Cr	21.3	mg/kg	0.5
A5B	4.5	A5B-4.5'	5/4/2016	7440-47-3	Chromium, Cr	18.3	mg/kg	0.5
A6	4.5	A6-4.5'	5/5/2016	7440-47-3	Chromium, Cr	157	mg/kg	0.5
A8	4.5	A8-4.5'	5/5/2016	7440-47-3	Chromium, Cr	34.5	mg/kg	0.5
A9	4.5	A9-4.5'	5/5/2016	7440-47-3	Chromium, Cr	31.1	mg/kg	0.5
A11	4.5	A11-4.5'	5/5/2016	7440-47-3	Chromium, Cr	21.9	mg/kg	0.5

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
B1	4.5	B1-4.5'	5/4/2016	7440-47-3	Chromium, Cr	20.1	mg/kg	0.5
B2	4.5	B2-4.5'	5/5/2016	7440-47-3	Chromium, Cr	33.3	mg/kg	0.5
B3	4.5	B3-4.5'	5/4/2016	7440-47-3	Chromium, Cr	23.7	mg/kg	0.5
B4	4.5	B4-4.5'	5/4/2016	7440-47-3	Chromium, Cr	26.4	mg/kg	0.5
B5	4.5	B5-4.5'	5/4/2016	7440-47-3	Chromium, Cr	16.2	mg/kg	0.5
B6	4.5	B6-4.5'	5/4/2016	7440-47-3	Chromium, Cr	16.1	mg/kg	0.5
B7	4.5	B7-4.5'	5/5/2016	7440-47-3	Chromium, Cr	29.7	mg/kg	0.5
B8	4.5	B8-4.5'	5/5/2016	7440-47-3	Chromium, Cr	29.5	mg/kg	0.5
B9	4.5	B9-4.5'	5/5/2016	7440-47-3	Chromium, Cr	29.5	mg/kg	0.5
B10	4.5	B10-4.5'	5/5/2016	7440-47-3	Chromium, Cr	29.6	mg/kg	0.5
B11	4.5	B11-4.5'	5/5/2016	7440-47-3	Chromium, Cr	30.2	mg/kg	0.5
LB1	4.5	LB1-4.5'	5/6/2016	7440-47-3	Chromium, Cr	22.8	mg/kg	0.5
LB2	4.5	LB2-4.5'	5/6/2016	7440-47-3	Chromium, Cr	8.1	mg/kg	0.5
LB3	4.5	LB3-4.5'	5/6/2016	7440-47-3	Chromium, Cr	32.4	mg/kg	0.5
LB4	4.5	LB4-4.5'	5/5/2016	7440-47-3	Chromium, Cr	18.4	mg/kg	0.5
LB5	4.5	LB5-4.5'	5/5/2016	7440-47-3	Chromium, Cr	26.9	mg/kg	0.5
A12	5	A12-5'	5/5/2016	7440-47-3	Chromium, Cr	37.7	mg/kg	0.5
A13	5	A13-5'	5/5/2016	7440-47-3	Chromium, Cr	35.4	mg/kg	0.5
B12	5	B12-5'	5/5/2016	7440-47-3	Chromium, Cr	32.4	mg/kg	0.5
B13	5	B13-5'	5/6/2016	7440-47-3	Chromium, Cr	35.3	mg/kg	0.5
B14	5	B14-5'	5/6/2016	7440-47-3	Chromium, Cr	6.7	mg/kg	0.5
B15	5	B15-5'	5/6/2016	7440-47-3	Chromium, Cr	27.8	mg/kg	0.5
LB6	5	LB6-5'	5/5/2016	7440-47-3	Chromium, Cr	30.1	mg/kg	0.5
LB7	5	LB7-5'	5/5/2016	7440-47-3	Chromium, Cr	29.1	mg/kg	0.5
LB8	5	LB8-5'	5/5/2016	7440-47-3	Chromium, Cr	35.1	mg/kg	0.5
A1	8.5	A1-8.5'	5/4/2016	7440-47-3	Chromium, Cr	43.2	mg/kg	0.5
A2	8.5	A2-8.5'	5/4/2016	7440-47-3	Chromium, Cr	18.3	mg/kg	0.5
A3	8.5	A3-8.5'	5/4/2016	7440-47-3	Chromium, Cr	33.3	mg/kg	0.5
A4	8.5	A4-8.5'	5/4/2016	7440-47-3	Chromium, Cr	13.9	mg/kg	0.5
A5B	8.5	A5B-8.5'	5/4/2016	7440-47-3	Chromium, Cr	24.9	mg/kg	0.5
A6	8.5	A6-8.5'	5/5/2016	7440-47-3	Chromium, Cr	73.4	mg/kg	0.5

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A7	8.5	A7-8.5'	5/5/2016	7440-47-3	Chromium, Cr	34.3	mg/kg	0.5
A8	8.5	A8-8.5'	5/5/2016	7440-47-3	Chromium, Cr	21.5	mg/kg	0.5
A9	8.5	A9-8.5'	5/5/2016	7440-47-3	Chromium, Cr	20.3	mg/kg	0.5
A11	8.5	A11-8.5'	5/5/2016	7440-47-3	Chromium, Cr	31.6	mg/kg	0.5
B1	8.5	B1-8.5'	5/4/2016	7440-47-3	Chromium, Cr	27.3	mg/kg	0.5
B2	8.5	B2-8.5'	5/5/2016	7440-47-3	Chromium, Cr	19	mg/kg	0.5
B3	8.5	B3-8.5'	5/4/2016	7440-47-3	Chromium, Cr	19.8	mg/kg	0.5
B4	8.5	B4-8.5'	5/4/2016	7440-47-3	Chromium, Cr	14.5	mg/kg	0.5
B5	8.5	B5-8.5'	5/4/2016	7440-47-3	Chromium, Cr	25.3	mg/kg	0.5
B6	8.5	B6-8.5'	5/4/2016	7440-47-3	Chromium, Cr	31.8	mg/kg	0.5
B7	8.5	B7-8.5'	5/5/2016	7440-47-3	Chromium, Cr	17.8	mg/kg	0.5
B8	8.5	B8-8.5'	5/5/2016	7440-47-3	Chromium, Cr	22.4	mg/kg	0.5
B9	8.5	B9-8.5'	5/5/2016	7440-47-3	Chromium, Cr	25.7	mg/kg	0.5
B10	8.5	B10-8.5'	5/5/2016	7440-47-3	Chromium, Cr	34.6	mg/kg	0.5
B11	8.5	B11-8.5'	5/5/2016	7440-47-3	Chromium, Cr	33.9	mg/kg	0.5
LB1	8.5	LB1-8.5'	5/6/2016	7440-47-3	Chromium, Cr	28.7	mg/kg	0.5
LB2	8.5	LB2-8.5'	5/6/2016	7440-47-3	Chromium, Cr	27.4	mg/kg	0.5
LB3	8.5	LB3-8.5'	5/6/2016	7440-47-3	Chromium, Cr	6.6	mg/kg	0.5
LB4	8.5	LB4-8.5'	5/5/2016	7440-47-3	Chromium, Cr	19.6	mg/kg	0.5
LB5	8.5	LB5-8.5'	5/5/2016	7440-47-3	Chromium, Cr	35.4	mg/kg	0.5
A12	11	A12-11'	5/5/2016	7440-47-3	Chromium, Cr	35.5	mg/kg	0.5
A13	11	A13-11'	5/5/2016	7440-47-3	Chromium, Cr	31.8	mg/kg	0.5
B12	11	B12-11'	5/5/2016	7440-47-3	Chromium, Cr	34.2	mg/kg	0.5
B13	11	B13-11'	5/6/2016	7440-47-3	Chromium, Cr	32.8	mg/kg	0.5
B14	11	B14-11'	5/6/2016	7440-47-3	Chromium, Cr	26.7	mg/kg	0.5
LB6	11	LB6-11'	5/5/2016	7440-47-3	Chromium, Cr	28.7	mg/kg	0.5
LB7	11	LB7-11'	5/5/2016	7440-47-3	Chromium, Cr	27.3	mg/kg	0.5
LB8	11	LB8-11'	5/5/2016	7440-47-3	Chromium, Cr	30	mg/kg	0.5
A5B	14.5	A5B-14.5'	5/4/2016	7440-47-3	Chromium, Cr	35.2	mg/kg	0.5
A6	14.5	A6-14.5'	5/5/2016	7440-47-3	Chromium, Cr	67.7	mg/kg	0.5
A7	14.5	A7-14.5'	5/5/2016	7440-47-3	Chromium, Cr	15.7	mg/kg	0.5

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A8	14.5	A8-14.5'	5/5/2016	7440-47-3	Chromium, Cr	25.4	mg/kg	0.5
A9	14.5	A9-14.5'	5/5/2016	7440-47-3	Chromium, Cr	26.9	mg/kg	0.5
A10	14.5	A10-14.5'	5/5/2016	7440-47-3	Chromium, Cr	20.1	mg/kg	0.5
A11	14.5	A11-14.5'	5/5/2016	7440-47-3	Chromium, Cr	28	mg/kg	0.5
B2	14.5	B2-14.5'	5/5/2016	7440-47-3	Chromium, Cr	28.5	mg/kg	0.5
B6	14.5	B6-14.5'	5/4/2016	7440-47-3	Chromium, Cr	10.9	mg/kg	0.5
B7	14.5	B7-14.5'	5/5/2016	7440-47-3	Chromium, Cr	19	mg/kg	0.5
B8	14.5	B8-14.5'	5/5/2016	7440-47-3	Chromium, Cr	16	mg/kg	0.5
B9	14.5	B9-14.5'	5/5/2016	7440-47-3	Chromium, Cr	13.6	mg/kg	0.5
B10	14.5	B10-14.5'	5/5/2016	7440-47-3	Chromium, Cr	13.6	mg/kg	0.5
B11	14.5	B11-14.5'	5/5/2016	7440-47-3	Chromium, Cr	31.6	mg/kg	0.5
LB1	14.5	LB1-14.5'	5/6/2016	7440-47-3	Chromium, Cr	31.4	mg/kg	0.5
LB2	14.5	LB2-14.5'	5/6/2016	7440-47-3	Chromium, Cr	28.2	mg/kg	0.5
LB3	14.5	LB3-14.5'	5/6/2016	7440-47-3	Chromium, Cr	22.7	mg/kg	0.5
LB4	14.5	LB4-14.5'	5/5/2016	7440-47-3	Chromium, Cr	13.2	mg/kg	0.5
LB5	14.5	LB5-14.5'	5/5/2016	7440-47-3	Chromium, Cr	12.9	mg/kg	0.5
A12	17	A12-17'	5/5/2016	7440-47-3	Chromium, Cr	30.1	mg/kg	0.5
A13	17	A13-17'	5/5/2016	7440-47-3	Chromium, Cr	26	mg/kg	0.5
B12	17	B12-17'	5/5/2016	7440-47-3	Chromium, Cr	30.3	mg/kg	0.5
B13	17	B13-17'	5/6/2016	7440-47-3	Chromium, Cr	28.2	mg/kg	0.5
B14	17	B14-17'	5/6/2016	7440-47-3	Chromium, Cr	30.6	mg/kg	0.5
LB6	17	LB6-17'	5/5/2016	7440-47-3	Chromium, Cr	23.4	mg/kg	0.5
LB7	17	LB7-17'	5/5/2016	7440-47-3	Chromium, Cr	22.3	mg/kg	0.5
LB8	17	LB8-17'	5/5/2016	7440-47-3	Chromium, Cr	25.8	mg/kg	0.5
A5B	20.5	A5B-20.5'	5/4/2016	7440-47-3	Chromium, Cr	32.1	mg/kg	0.5
A6	20.5	A6-20.5'	5/5/2016	7440-47-3	Chromium, Cr	61.2	mg/kg	0.5
A6	20.5	A6-20.5'-D	5/5/2016	7440-47-3	Chromium, Cr	59.1	mg/kg	0.5
A7	20.5	A7-20.5'	5/5/2016	7440-47-3	Chromium, Cr	23.5	mg/kg	0.5
A8	20.5	A8-20.5'	5/5/2016	7440-47-3	Chromium, Cr	26.3	mg/kg	0.5
A9	20.5	A9-20.5'	5/5/2016	7440-47-3	Chromium, Cr	23.1	mg/kg	0.5
A9	20.5	A9-20.5'-D	5/5/2016	7440-47-3	Chromium, Cr	22.6	mg/kg	0.5

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A10	20.5	A10-20.5'	5/5/2016	7440-47-3	Chromium, Cr	18	mg/kg	0.5
A11	20.5	A11-20.5'	5/5/2016	7440-47-3	Chromium, Cr	21.9	mg/kg	0.5
B2	20.5	B2-20.5'	5/5/2016	7440-47-3	Chromium, Cr	28.6	mg/kg	0.5
B6	20.5	B6-20.5'	5/4/2016	7440-47-3	Chromium, Cr	30	mg/kg	0.5
B7	20.5	B7-20.5'	5/5/2016	7440-47-3	Chromium, Cr	29.7	mg/kg	0.5
B8	20.5	B8-20.5'	5/5/2016	7440-47-3	Chromium, Cr	22.4	mg/kg	0.5
B9	20.5	B9-20.5'	5/5/2016	7440-47-3	Chromium, Cr	29.2	mg/kg	0.5
B10	20.5	B10-20.5'	5/5/2016	7440-47-3	Chromium, Cr	30.7	mg/kg	0.5
B11	20.5	B11-20.5'	5/5/2016	7440-47-3	Chromium, Cr	24.7	mg/kg	0.5
LB1	20.5	LB1-20.5'	5/6/2016	7440-47-3	Chromium, Cr	26	mg/kg	0.5
LB2	20.5	LB2-20.5'	5/6/2016	7440-47-3	Chromium, Cr	32.8	mg/kg	0.5
LB3	20.5	LB3-20.5'	5/6/2016	7440-47-3	Chromium, Cr	30.5	mg/kg	0.5
LB4	20.5	LB4-20.5'	5/5/2016	7440-47-3	Chromium, Cr	31.2	mg/kg	0.5
LB5	20.5	LB5-20.5'	5/5/2016	7440-47-3	Chromium, Cr	31.1	mg/kg	0.5
A9	25.5	A9-25.5'	5/5/2016	7440-47-3	Chromium, Cr	12.6	mg/kg	0.5
A10	25.5	A10-25.5'	5/5/2016	7440-47-3	Chromium, Cr	13	mg/kg	0.5
B9	25.5	B9-25.5'	5/5/2016	7440-47-3	Chromium, Cr	17.7	mg/kg	0.5
B10	25.5	B10-25.5'	5/5/2016	7440-47-3	Chromium, Cr	30.4	mg/kg	0.5
A9	30.5	A9-30.5'	5/5/2016	7440-47-3	Chromium, Cr	10	mg/kg	0.5
A10	30.5	A10-30.5'	5/5/2016	7440-47-3	Chromium, Cr	19.2	mg/kg	0.5
B9	30.5	B9-30.5'	5/5/2016	7440-47-3	Chromium, Cr	18.7	mg/kg	0.5
B10	30.5	B10-30.5'	5/5/2016	7440-47-3	Chromium, Cr	16	mg/kg	0.5
LB3	1D	LB3-1'-D	5/6/2016	7440-47-3	Chromium, Cr	28.7	mg/kg	0.5
LB5	1D	LB5-1D	5/5/2016	7440-47-3	Chromium, Cr	22.7	mg/kg	0.5
B4	4.5D	B4-4.5D	5/4/2016	7440-47-3	Chromium, Cr	6.7	mg/kg	0.5
B12	5D	B12-5'D	5/5/2016	7440-47-3	Chromium, Cr	34.5	mg/kg	0.5
A3	8.5D	A3-8.5D	5/4/2016	7440-47-3	Chromium, Cr	11.5	mg/kg	0.5
A11	8.5D	A11-8.5'-D	5/5/2016	7440-47-3	Chromium, Cr	19.1	mg/kg	0.5
B8	8.5D	B8-8.5D	5/5/2016	7440-47-3	Chromium, Cr	21.8	mg/kg	0.5
A1	1	A1-1'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A4	1	A4-1'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A5B	1	A5B-1'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A6	1	A6-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A7	1	A7-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A8	1	A8-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A9	1	A9-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A10	1	A10-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A11	1	A11-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A12	1	A12-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A13	1	A13-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B1	1	B1-1'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B2	1	B2-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B3	1	B3-1'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B4	1	B4-1'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B5	1	B5-1'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B6	1	B6-1'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B7	1	B7-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B8	1	B8-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B9	1	B9-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B10	1	B10-1'	5/7/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B11	1	B11-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B12	1	B12-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B13	1	B13-1'	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B14	1	B14-1'	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B15	1	B15-1'	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB1	1	LB1-1'	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB2	1	LB2-1'	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB3	1	LB3-1'	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB4	1	LB4-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB5	1	LB5-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB6	1	LB6-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB7	1	LB7-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
LB8	1	LB8-1'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A5	1.25	A5-1.25'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A7	3.5	A7-3.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B15	4	B15-4'	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A1	4.5	A1-4.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A2	4.5	A2-4.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A3	4.5	A3-4.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A4	4.5	A4-4.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A5	4.5	A5-4.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A5B	4.5	A5B-4.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A6	4.5	A6-4.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A8	4.5	A8-4.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A9	4.5	A9-4.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A11	4.5	A11-4.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B1	4.5	B1-4.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B2	4.5	B2-4.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B3	4.5	B3-4.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B4	4.5	B4-4.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B5	4.5	B5-4.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B6	4.5	B6-4.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B7	4.5	B7-4.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B8	4.5	B8-4.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B9	4.5	B9-4.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B10	4.5	B10-4.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B11	4.5	B11-4.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB	4.5	LB-4.5'	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB1	4.5	LB1-4.5'	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB3	4.5	LB3-4.5'	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB4	4.5	LB4-4.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB5	4.5	LB5-4.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A12	5	A12-5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A13	5	A13-5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B12	5	B12-5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B13	5	B13-5'	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B14	5	B14-5'	5/8/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B15	5	B15-5'	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB6	5	LB6-5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB7	5	LB7-5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB8	5	LB8-5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A1	8.5	A1-8.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A2	8.5	A2-8.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A3	8.5	A3-8.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A4	8.5	A4-8.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A5B	8.5	A5B-8.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A6	8.5	A6-8.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A7	8.5	A7-8.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A8	8.5	A8-8.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A9	8.5	A9-8.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A11	8.5	A11-8.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B1	8.5	B1-8.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B2	8.5	B2-8.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B3	8.5	B3-8.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B4	8.5	B4-8.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B5	8.5	B5-8.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B6	8.5	B6-8.5'	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B7	8.5	B7-8.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B8	8.5	B8-8.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B9	8.5	B9-8.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B10	8.5	B10-8.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B11	8.5	B11-8.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB1	8.5	LB1-8.5'	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB2	8.5	LB2-8.5'	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
LB3	8.5	LB3-8.5'	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB4	8.5	LB4-8.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB5	8.5	LB5-8.5'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A12	11	A12-11'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A13	11	A13-11'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B12	11	B12-11'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B13	11	B13-11'	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B14	11	B14-11'	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB6	11	LB6-11'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB7	11	LB7-11'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB8	11	LB8-11'	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB3	1D	LB3-1'-D	5/6/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
LB5	1D	LB5-1D	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B4	4.5D	B4-4.5D	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B12	5D	B12-5'D	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A3	8.5D	A3-8.5'-D	5/4/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A11	8.5D	A11-8.5'-D	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
B8	8.5D	B8-8.5D	5/5/2016	10061-01-5	cis-1,3-Dichloropropene	ND	µg/kg	1
A1	14.5	A1-14.5'	5/4/2016		Tetrachloroethylene	ND	ug/kg	1
A2	14.5	A2-14.5'	5/4/2016		Tetrachloroethylene	ND	ug/kg	1
A3	14.5	A3-14.5'	5/4/2016		Tetrachloroethylene	2	ug/kg	2
A4	14.5	A4-14.5'	5/4/2016		Tetrachloroethylene	58.7	ug/kg	58.7
A1	20.5	A1-20.5'	5/4/2016		Tetrachloroethylene	ND	ug/kg	1
A2	20.5	A2-20.5'	5/4/2016		Tetrachloroethylene	ND	ug/kg	1
A3	20.5	A3-20.5'	5/4/2016		Tetrachloroethylene	ND	ug/kg	1
A4	20.5	A4-20.5'	5/4/2016		Tetrachloroethylene	6.8	ug/kg	6.8
A1	14.5	A1-14.5'	5/4/2016		Trichloroethylene	ND	ug/kg	1
A2	14.5	A2-14.5'	5/4/2016		Trichloroethylene	ND	ug/kg	1
A3	14.5	A3-14.5'	5/4/2016		Trichloroethylene	ND	ug/kg	1
A4	14.5	A4-14.5'	5/4/2016		Trichloroethylene	ND	ug/kg	1
A1	20.5	A1-20.5'	5/4/2016		Trichloroethylene	ND	ug/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A2	20.5	A2-20.5'	5/4/2016		Trichloroethylene	ND	ug/kg	1
A3	20.5	A3-20.5'	5/4/2016		Trichloroethylene	ND	ug/kg	1
A4	20.5	A4-20.5'	5/4/2016		Trichloroethylene	ND	ug/kg	1
A5B	1	A5B-1'	5/4/2016	127-18-4	Tetrachloroethylene	253	ug/kg	9
A1	1	A1-1'	5/4/2016	127-18-4	Tetrachloroethylene	ND	ug/kg	1
A2	1	A2-1'	5/4/2016	127-18-4	Tetrachloroethylene	8.2	ug/kg	1
A3	1	A3-1'	5/4/2016	127-18-4	Tetrachloroethylene	8.9	ug/kg	1
A4	1	A4-1'	5/4/2016	127-18-4	Tetrachloroethylene	2540	ug/kg	1
A6	1	A6-1'	5/5/2016	127-18-4	Tetrachloroethylene	ND	ug/kg	1
A7	1	A7-1'	5/5/2016	127-18-4	Tetrachloroethylene	22.1	ug/kg	1
A8	1	A8-1'	5/5/2016	127-18-4	Tetrachloroethylene	21.9	ug/kg	1
A9	1	A9-1'	5/5/2016	127-18-4	Tetrachloroethylene	4.3	ug/kg	1
A10	1	A10-1'	5/5/2016	127-18-4	Tetrachloroethylene	6.8	ug/kg	1
A11	1	A11-1'	5/5/2016	127-18-4	Tetrachloroethylene	ND	ug/kg	1
A12	1	A12-1'	5/5/2016	127-18-4	Tetrachloroethylene	ND	ug/kg	1
A13	1	A13-1'	5/5/2016	127-18-4	Tetrachloroethylene	ND	ug/kg	1
B1	1	B1-1'	5/4/2016	127-18-4	Tetrachloroethylene	ND	ug/kg	1
B2	1	B2-1'	5/5/2016	127-18-4	Tetrachloroethylene	12.7	ug/kg	1
B3	1	B3-1'	5/4/2016	127-18-4	Tetrachloroethylene	21.8	ug/kg	1
B4	1	B4-1'	5/4/2016	127-18-4	Tetrachloroethylene	3330*	ug/kg	1
B5	1	B5-1'	5/4/2016	127-18-4	Tetrachloroethylene	29.6	ug/kg	1
B6	1	B6-1'	5/4/2016	127-18-4	Tetrachloroethylene	28.7	ug/kg	1
B7	1	B7-1'	5/5/2016	127-18-4	Tetrachloroethylene	5.8	ug/kg	1
B8	1	B8-1'	5/5/2016	127-18-4	Tetrachloroethylene	13.9	ug/kg	1
B9	1	B9-1'	5/5/2016	127-18-4	Tetrachloroethylene	1.8	ug/kg	1
B10	1	B10-1'	5/7/2016	127-18-4	Tetrachloroethylene	2	ug/kg	1
B11	1	B11-1'	5/5/2016	127-18-4	Tetrachloroethylene	ND	ug/kg	1
B12	1	B12-1'	5/5/2016	127-18-4	Tetrachloroethylene	22.8	ug/kg	1
B13	1	B13-1'	5/6/2016	127-18-4	Tetrachloroethylene	ND	ug/kg	1
B14	1	B14-1'	5/6/2016	127-18-4	Tetrachloroethylene	ND	ug/kg	1
B15	1	B15-1'	5/6/2016	127-18-4	Tetrachloroethylene	ND	ug/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
LB1	1	LB1-1'	5/6/2016	127-18-4	Tetrachloroethylene	2.9	µg/kg	1
LB2	1	LB2-1'	5/6/2016	127-18-4	Tetrachloroethylene	28	µg/kg	1
LB3	1	LB3-1'	5/6/2016	127-18-4	Tetrachloroethylene	43.9	µg/kg	1
LB4	1	LB4-1'	5/5/2016	127-18-4	Tetrachloroethylene	4.4	µg/kg	1
LB5	1	LB5-1'	5/5/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
LB6	1	LB6-1'	5/5/2016	127-18-4	Tetrachloroethylene	1	µg/kg	1
LB7	1	LB7-1'	5/5/2016	127-18-4	Tetrachloroethylene	3.5	µg/kg	1
LB8	1	LB8-1'	5/5/2016	127-18-4	Tetrachloroethylene	187	µg/kg	1
A5	1.25	A5-1.25'	5/4/2016	127-18-4	Tetrachloroethylene	810	µg/kg	10
A7	3.5	A7-3.5'	5/5/2016	127-18-4	Tetrachloroethylene	2470	µg/kg	23
B15	4	B15-4'	5/6/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
A1	4.5	A1-4.5'	5/4/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
A2	4.5	A2-4.5'	5/4/2016	127-18-4	Tetrachloroethylene	2.1	µg/kg	1
A3	4.5	A3-4.5'	5/4/2016	127-18-4	Tetrachloroethylene	10.5	µg/kg	1
A4	4.5	A4-4.5'	5/4/2016	127-18-4	Tetrachloroethylene	46.9	µg/kg	1
A5	4.5	A5-4.5'	5/4/2016	127-18-4	Tetrachloroethylene	32.2	µg/kg	1
A5B	4.5	A5B-4.5'	5/4/2016	127-18-4	Tetrachloroethylene	39.8	µg/kg	1
A6	4.5	A6-4.5'	5/5/2016	127-18-4	Tetrachloroethylene	13.7	µg/kg	1
A8	4.5	A8-4.5'	5/5/2016	127-18-4	Tetrachloroethylene	11.4	µg/kg	1
A9	4.5	A9-4.5'	5/5/2016	127-18-4	Tetrachloroethylene	4.5	µg/kg	1
A11	4.5	A11-4.5'	5/5/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
B1	4.5	B1-4.5'	5/4/2016	127-18-4	Tetrachloroethylene	27	µg/kg	1
B2	4.5	B2-4.5'	5/5/2016	127-18-4	Tetrachloroethylene	1.7	µg/kg	1
B3	4.5	B3-4.5'	5/4/2016	127-18-4	Tetrachloroethylene	7.9	µg/kg	1
B4	4.5	B4-4.5'	5/4/2016	127-18-4	Tetrachloroethylene	24	µg/kg	1
B5	4.5	B5-4.5'	5/4/2016	127-18-4	Tetrachloroethylene	148	µg/kg	1
B6	4.5	B6-4.5'	5/4/2016	127-18-4	Tetrachloroethylene	33.1	µg/kg	1
B7	4.5	B7-4.5'	5/5/2016	127-18-4	Tetrachloroethylene	22.1	µg/kg	1
B8	4.5	B8-4.5'	5/5/2016	127-18-4	Tetrachloroethylene	3.3	µg/kg	1
B9	4.5	B9-4.5'	5/5/2016	127-18-4	Tetrachloroethylene	2.3	µg/kg	1
B10	4.5	B10-4.5'	5/5/2016	127-18-4	Tetrachloroethylene	4.3	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
B11	4.5	B11-4.5'	5/5/2016	127-18-4	Tetrachloroethylene	7.3	µg/kg	1
LB	4.5	LB-4.5'	5/6/2016	127-18-4	Tetrachloroethylene	2.2	µg/kg	1
LB1	4.5	LB1-4.5'	5/6/2016	127-18-4	Tetrachloroethylene	1.6	µg/kg	1
LB3	4.5	LB3-4.5'	5/6/2016	127-18-4	Tetrachloroethylene	19.6	µg/kg	1
LB4	4.5	LB4-4.5'	5/5/2016	127-18-4	Tetrachloroethylene	25.6	µg/kg	1
LB5	4.5	LB5-4.5'	5/5/2016	127-18-4	Tetrachloroethylene	21.2	µg/kg	1
A12	5	A12-5'	5/5/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
A13	5	A13-5'	5/5/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
B12	5	B12-5'	5/5/2016	127-18-4	Tetrachloroethylene	2.4	µg/kg	1
B13	5	B13-5'	5/6/2016	127-18-4	Tetrachloroethylene	2.1	µg/kg	1
B14	5	B14-5'	5/8/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
B15	5	B15-5'	5/6/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
LB6	5	LB6-5'	5/5/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
LB7	5	LB7-5'	5/5/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
LB8	5	LB8-5'	5/5/2016	127-18-4	Tetrachloroethylene	21.5	µg/kg	1
A1	8.5	A1-8.5'	5/4/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
A2	8.5	A2-8.5'	5/4/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
A3	8.5	A3-8.5'	5/4/2016	127-18-4	Tetrachloroethylene	11.4	µg/kg	1
A4	8.5	A4-8.5'	5/4/2016	127-18-4	Tetrachloroethylene	118	µg/kg	1
A5B	8.5	A5B-8.5'	5/4/2016	127-18-4	Tetrachloroethylene	16	µg/kg	1
A6	8.5	A6-8.5'	5/5/2016	127-18-4	Tetrachloroethylene	2	µg/kg	1
A7	8.5	A7-8.5'	5/5/2016	127-18-4	Tetrachloroethylene	1.4	µg/kg	1
A8	8.5	A8-8.5'	5/5/2016	127-18-4	Tetrachloroethylene	1.5	µg/kg	1
A9	8.5	A9-8.5'	5/5/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
A11	8.5	A11-8.5'	5/5/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
B1	8.5	B1-8.5'	5/4/2016	127-18-4	Tetrachloroethylene	2.1	µg/kg	1
B2	8.5	B2-8.5'	5/5/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
B3	8.5	B3-8.5'	5/4/2016	127-18-4	Tetrachloroethylene	1.2	µg/kg	1
B4	8.5	B4-8.5'	5/4/2016	127-18-4	Tetrachloroethylene	22.4	µg/kg	1
B5	8.5	B5-8.5'	5/4/2016	127-18-4	Tetrachloroethylene	161	µg/kg	1
B6	8.5	B6-8.5'	5/4/2016	127-18-4	Tetrachloroethylene	22.1	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
B7	8.5	B7-8.5'	5/5/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
B8	8.5	B8-8.5'	5/5/2016	127-18-4	Tetrachloroethylene	5.5	µg/kg	1
B9	8.5	B9-8.5'	5/5/2016	127-18-4	Tetrachloroethylene	2	µg/kg	1
B10	8.5	B10-8.5'	5/5/2016	127-18-4	Tetrachloroethylene	2.8	µg/kg	1
B11	8.5	B11-8.5'	5/5/2016	127-18-4	Tetrachloroethylene	2.4	µg/kg	1
LB1	8.5	LB1-8.5'	5/6/2016	127-18-4	Tetrachloroethylene	1.8	µg/kg	1
LB2	8.5	LB2-8.5'	5/6/2016	127-18-4	Tetrachloroethylene	2.2	µg/kg	1
LB3	8.5	LB3-8.5'	5/6/2016	127-18-4	Tetrachloroethylene	8.2	µg/kg	1
LB4	8.5	LB4-8.5'	5/5/2016	127-18-4	Tetrachloroethylene	5.4	µg/kg	1
LB5	8.5	LB5-8.5'	5/5/2016	127-18-4	Tetrachloroethylene	3.9	µg/kg	1
A12	11	A12-11'	5/5/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
A13	11	A13-11'	5/5/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
B12	11	B12-11'	5/5/2016	127-18-4	Tetrachloroethylene	1.3	µg/kg	1
B13	11	B13-11'	5/6/2016	127-18-4	Tetrachloroethylene	1.2	µg/kg	1
B14	11	B14-11'	5/6/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
LB6	11	LB6-11'	5/5/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
LB7	11	LB7-11'	5/5/2016	127-18-4	Tetrachloroethylene	1	µg/kg	1
LB8	11	LB8-11'	5/5/2016	127-18-4	Tetrachloroethylene	3	µg/kg	1
LB3	1D	LB3-1'-D	5/6/2016	127-18-4	Tetrachloroethylene	46.7	µg/kg	1
LB5	1D	LB5-1D	5/5/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
B4	4.5D	B4-4.5D	5/4/2016	127-18-4	Tetrachloroethylene	21.2	µg/kg	1
B12	5D	B12-5'D	5/5/2016	127-18-4	Tetrachloroethylene	2.8	µg/kg	1
A3	8.5D	A3-8.5'-D	5/4/2016	127-18-4	Tetrachloroethylene	6.6	µg/kg	1
A11	8.5D	A11-8.5'-D	5/5/2016	127-18-4	Tetrachloroethylene	ND	µg/kg	1
B8	8.5D	B8-8.5D	5/5/2016	127-18-4	Tetrachloroethylene	6	µg/kg	1
A1	1	A1-1'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A2	1	A2-1'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A3	1	A3-1'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A4	1	A4-1'	5/4/2016	79-01-6	Trichloroethylene	11.5	µg/kg	1
A5B	1	A5B-1'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A6	1	A6-1'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A7	1	A7-1'	5/5/2016	79-01-6	Trichloroethylene	64.7	µg/kg	1
A8	1	A8-1'	5/5/2016	79-01-6	Trichloroethylene	2.1	µg/kg	1
A9	1	A9-1'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A10	1	A10-1'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A11	1	A11-1'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A12	1	A12-1'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A13	1	A13-1'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B1	1	B1-1'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B2	1	B2-1'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B3	1	B3-1'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B4	1	B4-1'	5/4/2016	79-01-6	Trichloroethylene	153	µg/kg	1
B5	1	B5-1'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B6	1	B6-1'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B7	1	B7-1'	5/5/2016	79-01-6	Trichloroethylene	1.6	µg/kg	1
B8	1	B8-1'	5/5/2016	79-01-6	Trichloroethylene	19.8	µg/kg	1
B9	1	B9-1'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B10	1	B10-1'	5/7/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B11	1	B11-1'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B12	1	B12-1'	5/5/2016	79-01-6	Trichloroethylene	1.6	µg/kg	1
B13	1	B13-1'	5/6/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B14	1	B14-1'	5/6/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B15	1	B15-1'	5/6/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB1	1	LB1-1'	5/6/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB2	1	LB2-1'	5/6/2016	79-01-6	Trichloroethylene	1.4	µg/kg	1
LB3	1	LB3-1'	5/6/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB4	1	LB4-1'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB5	1	LB5-1'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB6	1	LB6-1'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB7	1	LB7-1'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB8	1	LB8-1'	5/5/2016	79-01-6	Trichloroethylene	1.7	µg/kg	1
A5	1.25	A5-1.25'	5/4/2016	79-01-6	Trichloroethylene	2.8	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A7	3.5	A7-3.5'	5/5/2016	79-01-6	Trichloroethylene	4800	µg/kg	23
B15	4	B15-4'	5/6/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A1	4.5	A1-4.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A2	4.5	A2-4.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A3	4.5	A3-4.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A4	4.5	A4-4.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A5	4.5	A5-4.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A5B	4.5	A5B-4.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A6	4.5	A6-4.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A8	4.5	A8-4.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A9	4.5	A9-4.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A11	4.5	A11-4.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B1	4.5	B1-4.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B2	4.5	B2-4.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B3	4.5	B3-4.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B4	4.5	B4-4.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B5	4.5	B5-4.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B6	4.5	B6-4.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B7	4.5	B7-4.5'	5/5/2016	79-01-6	Trichloroethylene	13.6	µg/kg	1
B8	4.5	B8-4.5'	5/5/2016	79-01-6	Trichloroethylene	1	µg/kg	1
B9	4.5	B9-4.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B10	4.5	B10-4.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B11	4.5	B11-4.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB	4.5	LB-4.5'	5/6/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB1	4.5	LB1-4.5'	5/6/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB3	4.5	LB3-4.5'	5/6/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB4	4.5	LB4-4.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB5	4.5	LB5-4.5'	5/5/2016	79-01-6	Trichloroethylene	5.3	µg/kg	1
A12	5	A12-5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A13	5	A13-5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B12	5	B12-5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
B13	5	B13-5'	5/6/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B14	5	B14-5'	5/8/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B15	5	B15-5'	5/6/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB6	5	LB6-5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB7	5	LB7-5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB8	5	LB8-5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A1	8.5	A1-8.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A2	8.5	A2-8.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A3	8.5	A3-8.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A4	8.5	A4-8.5'	5/4/2016	79-01-6	Trichloroethylene	2.7	µg/kg	1
A5B	8.5	A5B-8.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A6	8.5	A6-8.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A7	8.5	A7-8.5'	5/5/2016	79-01-6	Trichloroethylene	2.6	µg/kg	1
A8	8.5	A8-8.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A9	8.5	A9-8.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A11	8.5	A11-8.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B1	8.5	B1-8.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B2	8.5	B2-8.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B3	8.5	B3-8.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B4	8.5	B4-8.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B5	8.5	B5-8.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B6	8.5	B6-8.5'	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B7	8.5	B7-8.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B8	8.5	B8-8.5'	5/5/2016	79-01-6	Trichloroethylene	1.2	µg/kg	1
B9	8.5	B9-8.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B10	8.5	B10-8.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B11	8.5	B11-8.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB1	8.5	LB1-8.5'	5/6/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB2	8.5	LB2-8.5'	5/6/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB3	8.5	LB3-8.5'	5/6/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB4	8.5	LB4-8.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
LB5	8.5	LB5-8.5'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A12	11	A12-11'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A13	11	A13-11'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B12	11	B12-11'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B13	11	B13-11'	5/6/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B14	11	B14-11'	5/6/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB6	11	LB6-11'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB7	11	LB7-11'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB8	11	LB8-11'	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB3	1D	LB3-1'-D	5/6/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
LB5	1D	LB5-1D	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B4	4.5D	B4-4.5D	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B12	5D	B12-5'D	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A3	8.5D	A3-8.5'-D	5/4/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
A11	8.5D	A11-8.5'-D	5/5/2016	79-01-6	Trichloroethylene	ND	µg/kg	1
B8	8.5D	B8-8.5D	5/5/2016	79-01-6	Trichloroethylene	1.3	µg/kg	1
A1	1	A1-1'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
A2	1	A2-1'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
A3	1	A3-1'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
A4	1	A4-1'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
A5B	1	A5B-1'	5/4/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A6	1	A6-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A7	1	A7-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A8	1	A8-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A9	1	A9-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A10	1	A10-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A11	1	A11-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A12	1	A12-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A13	1	A13-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B1	1	B1-1'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
B2	1	B2-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
B3	1	B3-1'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
B4	1	B4-1'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
B5	1	B5-1'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
B6	1	B6-1'	5/4/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B7	1	B7-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B8	1	B8-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B9	1	B9-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B10	1	B10-1'	5/7/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B11	1	B11-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B12	1	B12-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B13	1	B13-1'	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B14	1	B14-1'	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B15	1	B15-1'	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB1	1	LB1-1'	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB2	1	LB2-1'	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB3	1	LB3-1'	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB4	1	LB4-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB5	1	LB5-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB6	1	LB6-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB7	1	LB7-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB8	1	LB8-1'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A5	1.25	A5-1.25'	5/4/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A7	3.5	A7-3.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B15	4	B15-4'	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A1	4.5	A1-4.5'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
A2	4.5	A2-4.5'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
A3	4.5	A3-4.5'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
A4	4.5	A4-4.5'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
A5	4.5	A5-4.5'	5/4/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A5B	4.5	A5B-4.5'	5/4/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A6	4.5	A6-4.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A8	4.5	A8-4.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A9	4.5	A9-4.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A11	4.5	A11-4.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B1	4.5	B1-4.5'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
B2	4.5	B2-4.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B3	4.5	B3-4.5'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
B4	4.5	B4-4.5'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
B5	4.5	B5-4.5'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
B6	4.5	B6-4.5'	5/4/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B7	4.5	B7-4.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B8	4.5	B8-4.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B9	4.5	B9-4.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B10	4.5	B10-4.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B11	4.5	B11-4.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB	4.5	LB-4.5'	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB1	4.5	LB1-4.5'	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB3	4.5	LB3-4.5'	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB4	4.5	LB4-4.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB5	4.5	LB5-4.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A12	5	A12-5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A13	5	A13-5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B12	5	B12-5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B13	5	B13-5'	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B14	5	B14-5'	5/8/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B15	5	B15-5'	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB6	5	LB6-5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB7	5	LB7-5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB8	5	LB8-5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A1	8.5	A1-8.5'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
A2	8.5	A2-8.5'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
A3	8.5	A3-8.5'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
A4	8.5	A4-8.5'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
A5B	8.5	A5B-8.5'	5/4/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A6	8.5	A6-8.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A7	8.5	A7-8.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A8	8.5	A8-8.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A9	8.5	A9-8.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A11	8.5	A11-8.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B1	8.5	B1-8.5'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
B2	8.5	B2-8.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B3	8.5	B3-8.5'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
B4	8.5	B4-8.5'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
B5	8.5	B5-8.5'	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
B6	8.5	B6-8.5'	5/4/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B7	8.5	B7-8.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B8	8.5	B8-8.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B9	8.5	B9-8.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B10	8.5	B10-8.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B11	8.5	B11-8.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB1	8.5	LB1-8.5'	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB2	8.5	LB2-8.5'	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB3	8.5	LB3-8.5'	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB4	8.5	LB4-8.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB5	8.5	LB5-8.5'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A12	11	A12-11'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A13	11	A13-11'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B12	11	B12-11'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B13	11	B13-11'	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B14	11	B14-11'	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB6	11	LB6-11'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB7	11	LB7-11'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB8	11	LB8-11'	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1

Table A-1
Soil data compiled from Geosyntec [2012] and Leighton [2016]

Location	Depth (ft. bgs)	Sample ID	Sample Date	CAS Number	Analyte	Result	Unit	Detection Limit
LB3	1D	LB3-1'-D	5/6/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
LB5	1D	LB5-1D	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B4	4.5D	B4-4.5D	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
B12	5D	B12-5'D	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
A3	8.5D	A3-8.5'-D	5/4/2016	75-01-4	Vinyl chloride	ND	µg/kg	1
A11	8.5D	A11-8.5'-D	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1
B8	8.5D	B8-8.5D	5/5/2016	75-01-4	Vinyl Chloride	ND	µg/kg	1

Upper Confidence Limits for Fill Layer

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation			ProUCL 5.12/14/2017 5:58:13 PM								
5	From File			App A Table A-1 - Soil Data COMPLETE_a.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10	Result2_ug/kg (1,1,1,2-tetrachloroethane)											
11												
12	General Statistics											
13	Total Number of Observations			103				Number of Distinct Observations			1	
14	Number of Detects			0				Number of Non-Detects			103	
15	Number of Distinct Detects			0				Number of Distinct Non-Detects			1	
16												
17	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
18	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
19	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
20												
21	The data set for variable Result2_ug/kg (1,1,1,2-tetrachloroethane) was not processed!											
22												
23												
24	Result2_ug/kg (1,1,1-trichloroethane)											
25												
26	General Statistics											
27	Total Number of Observations			103				Number of Distinct Observations			3	
28	Number of Detects			2				Number of Non-Detects			101	
29	Number of Distinct Detects			2				Number of Distinct Non-Detects			1	
30	Minimum Detect			4.1				Minimum Non-Detect			1	
31	Maximum Detect			20.9				Maximum Non-Detect			1	
32	Variance Detects			141.1				Percent Non-Detects			98.06%	
33	Mean Detects			12.5				SD Detects			11.88	
34	Median Detects			12.5				CV Detects			0.95	
35	Skewness Detects			N/A				Kurtosis Detects			N/A	
36	Mean of Logged Detects			2.225				SD of Logged Detects			1.152	
37												
38	Warning: Data set has only 2 Detected Values.											
39	This is not enough to compute meaningful or reliable statistics and estimates.											
40												
41												
42	Normal GOF Test on Detects Only											
43	Not Enough Data to Perform GOF Test											
44												
45	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
46	KM Mean			1.223				KM Standard Error of Mean			0.275	
47	KM SD			1.972				95% KM (BCA) UCL			N/A	
48	95% KM (t) UCL			1.679				95% KM (Percentile Bootstrap) UCL			N/A	
49	95% KM (z) UCL			1.675				95% KM Bootstrap t UCL			N/A	
50	90% KM Chebyshev UCL			2.048				95% KM Chebyshev UCL			2.421	
51	97.5% KM Chebyshev UCL			2.939				99% KM Chebyshev UCL			3.957	
52												
53	Gamma GOF Tests on Detected Observations Only											

	A	B	C	D	E	F	G	H	I	J	K	L
54	Not Enough Data to Perform GOF Test											
55												
56	Gamma Statistics on Detected Data Only											
57					k hat (MLE)	1.814					k star (bias corrected MLE)	N/A
58					Theta hat (MLE)	6.893					Theta star (bias corrected MLE)	N/A
59					nu hat (MLE)	7.254					nu star (bias corrected)	N/A
60					Mean (detects)	12.5						
61												
62	Estimates of Gamma Parameters using KM Estimates											
63					Mean (KM)	1.223					SD (KM)	1.972
64					Variance (KM)	3.888					SE of Mean (KM)	0.275
65					k hat (KM)	0.385					k star (KM)	0.38
66					nu hat (KM)	79.28					nu star (KM)	78.31
67					theta hat (KM)	3.178					theta star (KM)	3.218
68					80% gamma percentile (KM)	1.962					90% gamma percentile (KM)	3.486
69					95% gamma percentile (KM)	5.173					99% gamma percentile (KM)	9.437
70												
71	Gamma Kaplan-Meier (KM) Statistics											
72											Adjusted Level of Significance (β)	0.0477
73	Approximate Chi Square Value (78.31, α)					58.92	Adjusted Chi Square Value (78.31, β)					58.68
74	95% Gamma Approximate KM-UCL (use when $n \geq 50$)					1.626	95% Gamma Adjusted KM-UCL (use when $n < 50$)					1.632
75												
76	Lognormal GOF Test on Detected Observations Only											
77	Not Enough Data to Perform GOF Test											
78												
79	Lognormal ROS Statistics Using Imputed Non-Detects											
80					Mean in Original Scale	0.253					Mean in Log Scale	-12.67
81					SD in Original Scale	2.094					SD in Log Scale	6.156
82	95% t UCL (assumes normality of ROS data)				0.595	95% Percentile Bootstrap UCL				0.658		
83	95% BCA Bootstrap UCL				1.017	95% Bootstrap t UCL				10.59		
84	95% H-UCL (Log ROS)				120079							
85												
86	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
87					KM Mean (logged)	0.0432					KM Geo Mean	1.044
88					KM SD (logged)	0.327					95% Critical H Value (KM-Log)	1.745
89	KM Standard Error of Mean (logged)				0.0456					95% H-UCL (KM -Log)	1.166	
90					KM SD (logged)	0.327					95% Critical H Value (KM-Log)	1.745
91	KM Standard Error of Mean (logged)				0.0456							
92												
93	DL/2 Statistics											
94	DL/2 Normal					DL/2 Log-Transformed						
95					Mean in Original Scale	0.733					Mean in Log Scale	-0.636
96					SD in Original Scale	2.038					SD in Log Scale	0.42
97	95% t UCL (Assumes normality)				1.066	95% H-Stat UCL				0.623		
98	DL/2 is not a recommended method, provided for comparisons and historical reasons											
99												
100	Nonparametric Distribution Free UCL Statistics											
101	Data do not follow a Discernible Distribution at 5% Significance Level											
102												
103	Suggested UCL to Use											
104	95% KM (Chebyshev) UCL					2.421						
105												
106	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											

	A	B	C	D	E	F	G	H	I	J	K	L
107	Recommendations are based upon data size, data distribution, and skewness.											
108	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
109	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
110												
111	Result2_ug/kg (1,1,2,2-tetrachloroethane)											
112												
113	General Statistics											
114	Total Number of Observations				103		Number of Distinct Observations				1	
115	Number of Detects				0		Number of Non-Detects				103	
116	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
117												
118	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
119	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
120	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
121												
122	The data set for variable Result2_ug/kg (1,1,2,2-tetrachloroethane) was not processed!											
123												
124												
125	Result2_ug/kg (1,1,2-trichloroethane)											
126												
127	General Statistics											
128	Total Number of Observations				104		Number of Distinct Observations				1	
129	Number of Detects				0		Number of Non-Detects				104	
130	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
131												
132	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
133	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
134	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
135												
136	The data set for variable Result2_ug/kg (1,1,2-trichloroethane) was not processed!											
137												
138												
139	Result2_ug/kg (1,1-dichloroethane)											
140												
141	General Statistics											
142	Total Number of Observations				104		Number of Distinct Observations				1	
143	Number of Detects				0		Number of Non-Detects				104	
144	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
145												
146	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
147	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
148	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
149												
150	The data set for variable Result2_ug/kg (1,1-dichloroethane) was not processed!											
151												
152												
153	Result2_ug/kg (1,1-dichloroethene)											
154												
155	General Statistics											
156	Total Number of Observations				104		Number of Distinct Observations				1	
157	Number of Detects				0		Number of Non-Detects				104	
158	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
159												

	A	B	C	D	E	F	G	H	I	J	K	L
160	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
161	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
162	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
163												
164	The data set for variable Result2_ug/kg (1,1-dichloroethene) was not processed!											
165												
166												
167	Result2_ug/kg (1,1-dichloropropene)											
168												
169	General Statistics											
170	Total Number of Observations			104	Number of Distinct Observations			1				
171	Number of Detects			0	Number of Non-Detects			104				
172	Number of Distinct Detects			0	Number of Distinct Non-Detects			1				
173												
174	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
175	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
176	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
177												
178	The data set for variable Result2_ug/kg (1,1-dichloropropene) was not processed!											
179												
180												
181	Result2_ug/kg (1,2,3-trichlorobenzene)											
182												
183	General Statistics											
184	Total Number of Observations			104	Number of Distinct Observations			1				
185	Number of Detects			0	Number of Non-Detects			104				
186	Number of Distinct Detects			0	Number of Distinct Non-Detects			1				
187												
188	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
189	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
190	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
191												
192	The data set for variable Result2_ug/kg (1,2,3-trichlorobenzene) was not processed!											
193												
194												
195	Result2_ug/kg (1,2,3-trichloropropane)											
196												
197	General Statistics											
198	Total Number of Observations			104	Number of Distinct Observations			1				
199	Number of Detects			0	Number of Non-Detects			104				
200	Number of Distinct Detects			0	Number of Distinct Non-Detects			1				
201												
202	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
203	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
204	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
205												
206	The data set for variable Result2_ug/kg (1,2,3-trichloropropane) was not processed!											
207												
208												
209	Result2_ug/kg (1,2,4-trichlorobenzene)											
210												
211	General Statistics											
212	Total Number of Observations			104	Number of Distinct Observations			1				

	A	B	C	D	E	F	G	H	I	J	K	L
213					Number of Detects	0					Number of Non-Detects	104
214					Number of Distinct Detects	0					Number of Distinct Non-Detects	1
215												
216	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
217	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
218	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
219												
220	The data set for variable Result2_ug/kg (1,2,4-trichlorobenzene) was not processed!											
221												
222												
223	Result2_ug/kg (1,2,4-trimethylbenzene)											
224												
225	General Statistics											
226					Total Number of Observations	104					Number of Distinct Observations	1
227					Number of Detects	0					Number of Non-Detects	104
228					Number of Distinct Detects	0					Number of Distinct Non-Detects	1
229												
230	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
231	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
232	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
233												
234	The data set for variable Result2_ug/kg (1,2,4-trimethylbenzene) was not processed!											
235												
236												
237	Result2_ug/kg (1,2-dibromo-3-chloropropane)											
238												
239	General Statistics											
240					Total Number of Observations	104					Number of Distinct Observations	1
241					Number of Detects	0					Number of Non-Detects	104
242					Number of Distinct Detects	0					Number of Distinct Non-Detects	1
243												
244	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
245	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
246	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
247												
248	The data set for variable Result2_ug/kg (1,2-dibromo-3-chloropropane) was not processed!											
249												
250												
251	Result2_ug/kg (1,2-dibromoethane (edb))											
252												
253	General Statistics											
254					Total Number of Observations	104					Number of Distinct Observations	1
255					Number of Detects	0					Number of Non-Detects	104
256					Number of Distinct Detects	0					Number of Distinct Non-Detects	1
257												
258	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
259	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
260	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
261												
262	The data set for variable Result2_ug/kg (1,2-dibromoethane (edb)) was not processed!											
263												
264												
265	Result2_ug/kg (1,2-dichlorobenzene)											

	A	B	C	D	E	F	G	H	I	J	K	L
266												
267	General Statistics											
268	Total Number of Observations					104	Number of Distinct Observations					1
269	Number of Detects					0	Number of Non-Detects					104
270	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
271												
272	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
273	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
274	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTv).											
275												
276	The data set for variable Result2_ug/kg (1,2-dichlorobenzene) was not processed!											
277												
278												
279	Result2_ug/kg (1,2-dichloroethane)											
280												
281	General Statistics											
282	Total Number of Observations					104	Number of Distinct Observations					1
283	Number of Detects					0	Number of Non-Detects					104
284	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
285												
286	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
287	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
288	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTv).											
289												
290	The data set for variable Result2_ug/kg (1,2-dichloroethane) was not processed!											
291												
292												
293	Result2_ug/kg (1,2-dichloropropane)											
294												
295	General Statistics											
296	Total Number of Observations					104	Number of Distinct Observations					1
297	Number of Detects					0	Number of Non-Detects					104
298	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
299												
300	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
301	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
302	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTv).											
303												
304	The data set for variable Result2_ug/kg (1,2-dichloropropane) was not processed!											
305												
306												
307	Result2_ug/kg (1,3,5-trimethylbenzene)											
308												
309	General Statistics											
310	Total Number of Observations					104	Number of Distinct Observations					1
311	Number of Detects					0	Number of Non-Detects					104
312	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
313												
314	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
315	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
316	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTv).											
317												
318	The data set for variable Result2_ug/kg (1,3,5-trimethylbenzene) was not processed!											

	A	B	C	D	E	F	G	H	I	J	K	L
319												
320												
321	Result2_ug/kg (1,3-dichlorobenzene)											
322												
323	General Statistics											
324	Total Number of Observations					104	Number of Distinct Observations					1
325	Number of Detects					0	Number of Non-Detects					104
326	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
327												
328	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
329	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
330	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
331												
332	The data set for variable Result2_ug/kg (1,3-dichlorobenzene) was not processed!											
333												
334												
335	Result2_ug/kg (1,3-dichloropropane)											
336												
337	General Statistics											
338	Total Number of Observations					104	Number of Distinct Observations					1
339	Number of Detects					0	Number of Non-Detects					104
340	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
341												
342	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
343	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
344	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
345												
346	The data set for variable Result2_ug/kg (1,3-dichloropropane) was not processed!											
347												
348												
349	Result2_ug/kg (1,4-dichlorobenzene)											
350												
351	General Statistics											
352	Total Number of Observations					104	Number of Distinct Observations					1
353	Number of Detects					0	Number of Non-Detects					104
354	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
355												
356	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
357	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
358	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
359												
360	The data set for variable Result2_ug/kg (1,4-dichlorobenzene) was not processed!											
361												
362												
363	Result2_ug/kg (2,2-dichloropropane)											
364												
365	General Statistics											
366	Total Number of Observations					104	Number of Distinct Observations					1
367	Number of Detects					0	Number of Non-Detects					104
368	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
369												
370	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
371	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											

	A	B	C	D	E	F	G	H	I	J	K	L
372	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
373												
374	The data set for variable Result2_ug/kg (2,2-dichloropropane) was not processed!											
375												
376												
377	Result2_ug/kg (2-chlorotoluene)											
378												
379	General Statistics											
380	Total Number of Observations				104	Number of Distinct Observations				1		
381	Number of Detects				0	Number of Non-Detects				104		
382	Number of Distinct Detects				0	Number of Distinct Non-Detects				1		
383												
384	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
385	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
386	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
387												
388	The data set for variable Result2_ug/kg (2-chlorotoluene) was not processed!											
389												
390												
391	Result2_ug/kg (4-chlorotoluene)											
392												
393	General Statistics											
394	Total Number of Observations				104	Number of Distinct Observations				1		
395	Number of Detects				0	Number of Non-Detects				104		
396	Number of Distinct Detects				0	Number of Distinct Non-Detects				1		
397												
398	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
399	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
400	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
401												
402	The data set for variable Result2_ug/kg (4-chlorotoluene) was not processed!											
403												
404												
405	Result2_ug/kg (4-isopropyltoluene)											
406												
407	General Statistics											
408	Total Number of Observations				105	Number of Distinct Observations				1		
409	Number of Detects				0	Number of Non-Detects				105		
410	Number of Distinct Detects				0	Number of Distinct Non-Detects				1		
411												
412	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
413	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
414	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
415												
416	The data set for variable Result2_ug/kg (4-isopropyltoluene) was not processed!											
417												
418												
419	Result2_ug/kg (antimony)											
420												
421	General Statistics											
422	Total Number of Observations				3	Number of Distinct Observations				1		
423	Number of Detects				0	Number of Non-Detects				3		
424	Number of Distinct Detects				0	Number of Distinct Non-Detects				1		

	A	B	C	D	E	F	G	H	I	J	K	L
425												
426	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
427	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
428	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
429												
430	The data set for variable Result2_ug/kg (antimony) was not processed!											
431												
432												
433	Result2_ug/kg (antimony, sb)											
434												
435	General Statistics											
436	Total Number of Observations				103		Number of Distinct Observations				1	
437	Number of Detects				0		Number of Non-Detects				103	
438	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
439												
440	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
441	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
442	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
443												
444	The data set for variable Result2_ug/kg (antimony, sb) was not processed!											
445												
446												
447												
448	Result2_ug/kg (arsenic)											
449												
450	General Statistics											
451	Total Number of Observations				3		Number of Distinct Observations				3	
452							Number of Missing Observations				0	
453	Minimum				6230		Mean				6550	
454	Maximum				6830		Median				6590	
455	SD				302		Std. Error of Mean				174.4	
456	Coefficient of Variation				0.0461		Skewness				-0.586	
457												
458	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
459	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
460	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
461	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
462												
463	Normal GOF Test											
464	Shapiro Wilk Test Statistic				0.987		Shapiro Wilk GOF Test					
465	5% Shapiro Wilk Critical Value				0.767		Data appear Normal at 5% Significance Level					
466	Lilliefors Test Statistic				0.219		Lilliefors GOF Test					
467	5% Lilliefors Critical Value				0.425		Data appear Normal at 5% Significance Level					
468	Data appear Normal at 5% Significance Level											
469												
470	Assuming Normal Distribution											
471	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
472	95% Student's-t UCL 7059						95% Adjusted-CLT UCL (Chen-1995) 6774					
473							95% Modified-t UCL (Johnson-1978) 7049					
474												
475	Gamma GOF Test											
476	Not Enough Data to Perform GOF Test											
477												

	A	B	C	D	E	F	G	H	I	J	K	L
478	Gamma Statistics											
479	k hat (MLE)					700.8	k star (bias corrected MLE)					N/A
480	Theta hat (MLE)					9.346	Theta star (bias corrected MLE)					N/A
481	nu hat (MLE)					4205	nu star (bias corrected)					N/A
482	MLE Mean (bias corrected)					N/A	MLE Sd (bias corrected)					N/A
483	Adjusted Level of Significance					N/A	Approximate Chi Square Value (0.05)					N/A
484							Adjusted Chi Square Value					N/A
485												
486	Assuming Gamma Distribution											
487	95% Approximate Gamma UCL (use when n>=50))					N/A	95% Adjusted Gamma UCL (use when n<50)					N/A
488												
489	Lognormal GOF Test											
490	Shapiro Wilk Test Statistic					0.984	Shapiro Wilk Lognormal GOF Test					
491	5% Shapiro Wilk Critical Value					0.767	Data appear Lognormal at 5% Significance Level					
492	Lilliefors Test Statistic					0.225	Lilliefors Lognormal GOF Test					
493	5% Lilliefors Critical Value					0.425	Data appear Lognormal at 5% Significance Level					
494	Data appear Lognormal at 5% Significance Level											
495												
496	Lognormal Statistics											
497	Minimum of Logged Data					8.737	Mean of logged Data					8.787
498	Maximum of Logged Data					8.829	SD of logged Data					0.0464
499												
500	Assuming Lognormal Distribution											
501	95% H-UCL					N/A	90% Chebyshev (MVUE) UCL					7076
502	95% Chebyshev (MVUE) UCL					7314	97.5% Chebyshev (MVUE) UCL					7644
503	99% Chebyshev (MVUE) UCL					8294						
504												
505	Nonparametric Distribution Free UCL Statistics											
506	Data appear to follow a Discernible Distribution at 5% Significance Level											
507												
508	Nonparametric Distribution Free UCLs											
509	95% CLT UCL					6837	95% Jackknife UCL					7059
510	95% Standard Bootstrap UCL					N/A	95% Bootstrap-t UCL					N/A
511	95% Hall's Bootstrap UCL					N/A	95% Percentile Bootstrap UCL					N/A
512	95% BCA Bootstrap UCL					N/A						
513	90% Chebyshev(Mean, Sd) UCL					7073	95% Chebyshev(Mean, Sd) UCL					7310
514	97.5% Chebyshev(Mean, Sd) UCL					7639	99% Chebyshev(Mean, Sd) UCL					8285
515												
516	Suggested UCL to Use											
517	95% Student's-t UCL					7059						
518												
519	Recommended UCL exceeds the maximum observation											
520												
521	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
522	Recommendations are based upon data size, data distribution, and skewness.											
523	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
524	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
525												
526	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
527	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
528												
529	Result2_ug/kg (arsenic, as)											
530												

	A	B	C	D	E	F	G	H	I	J	K	L
531	General Statistics											
532	Total Number of Observations					103	Number of Distinct Observations					3
533	Number of Detects					2	Number of Non-Detects					101
534	Number of Distinct Detects					2	Number of Distinct Non-Detects					1
535	Minimum Detect					2300	Minimum Non-Detect					500
536	Maximum Detect					2400	Maximum Non-Detect					500
537	Variance Detects					5000	Percent Non-Detects					98.06%
538	Mean Detects					2350	SD Detects					70.71
539	Median Detects					2350	CV Detects					0.0301
540	Skewness Detects					N/A	Kurtosis Detects					N/A
541	Mean of Logged Detects					7.762	SD of Logged Detects					0.0301
542												
543	Warning: Data set has only 2 Detected Values.											
544	This is not enough to compute meaningful or reliable statistics and estimates.											
545												
546												
547	Normal GOF Test on Detects Only											
548	Not Enough Data to Perform GOF Test											
549												
550	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
551	KM Mean					535.9	KM Standard Error of Mean					35.59
552	KM SD					255.4	95% KM (BCA) UCL					N/A
553	95% KM (t) UCL					595	95% KM (Percentile Bootstrap) UCL					N/A
554	95% KM (z) UCL					594.5	95% KM Bootstrap t UCL					N/A
555	90% KM Chebyshev UCL					642.7	95% KM Chebyshev UCL					691
556	97.5% KM Chebyshev UCL					758.2	99% KM Chebyshev UCL					890
557												
558	Gamma GOF Tests on Detected Observations Only											
559	Not Enough Data to Perform GOF Test											
560												
561	Gamma Statistics on Detected Data Only											
562	k hat (MLE)					2209	k star (bias corrected MLE)					N/A
563	Theta hat (MLE)					1.064	Theta star (bias corrected MLE)					N/A
564	nu hat (MLE)					8835	nu star (bias corrected)					N/A
565	Mean (detects)					2350						
566												
567	Estimates of Gamma Parameters using KM Estimates											
568	Mean (KM)					535.9	SD (KM)					255.4
569	Variance (KM)					65214	SE of Mean (KM)					35.59
570	k hat (KM)					4.404	k star (KM)					4.282
571	nu hat (KM)					907.3	nu star (KM)					882.2
572	theta hat (KM)					121.7	theta star (KM)					125.1
573	80% gamma percentile (KM)					733.1	90% gamma percentile (KM)					883
574	95% gamma percentile (KM)					1020	99% gamma percentile (KM)					1313
575												
576	Gamma Kaplan-Meier (KM) Statistics											
577							Adjusted Level of Significance (β)					0.0477
578	Approximate Chi Square Value (882.16, α)					814.2	Adjusted Chi Square Value (882.16, β)					813.3
579	95% Gamma Approximate KM-UCL (use when n>=50)					580.6	95% Gamma Adjusted KM-UCL (use when n<50)					581.3
580												
581	Lognormal GOF Test on Detected Observations Only											
582	Not Enough Data to Perform GOF Test											
583												

	A	B	C	D	E	F	G	H	I	J	K	L
584	Lognormal ROS Statistics Using Imputed Non-Detects											
585	Mean in Original Scale				1613		Mean in Log Scale				7.373	
586	SD in Original Scale				261.4		SD in Log Scale				0.161	
587	95% t UCL (assumes normality of ROS data)				1655		95% Percentile Bootstrap UCL				1654	
588	95% BCA Bootstrap UCL				1655		95% Bootstrap t UCL				1657	
589	95% H-UCL (Log ROS)				1657							
590												
591	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
592	KM Mean (logged)				6.245		KM Geo Mean				515.3	
593	KM SD (logged)				0.214		95% Critical H Value (KM-Log)				1.702	
594	KM Standard Error of Mean (logged)				0.0298		95% H-UCL (KM -Log)				546.4	
595	KM SD (logged)				0.214		95% Critical H Value (KM-Log)				1.702	
596	KM Standard Error of Mean (logged)				0.0298							
597												
598	DL/2 Statistics											
599	DL/2 Normal					DL/2 Log-Transformed						
600	Mean in Original Scale				290.8		Mean in Log Scale				5.565	
601	SD in Original Scale				291.3		SD in Log Scale				0.311	
602	95% t UCL (Assumes normality)				338.4		95% H-Stat UCL				289.1	
603	DL/2 is not a recommended method, provided for comparisons and historical reasons											
604												
605	Nonparametric Distribution Free UCL Statistics											
606	Data do not follow a Discernible Distribution at 5% Significance Level											
607												
608	Suggested UCL to Use											
609	95% KM (t) UCL				595		KM H-UCL				546.4	
610	95% KM (BCA) UCL				N/A							
611	Warning: One or more Recommended UCL(s) not available!											
612												
613	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
614	Recommendations are based upon data size, data distribution, and skewness.											
615	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
616	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
617												
618												
619	Result2_ug/kg (barium)											
620												
621	General Statistics											
622	Total Number of Observations				3		Number of Distinct Observations				3	
623							Number of Missing Observations				0	
624	Minimum				75700		Mean				136567	
625	Maximum				168000		Median				166000	
626	SD				52722		Std. Error of Mean				30439	
627	Coefficient of Variation				0.386		Skewness				-1.729	
628												
629	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
630	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
631	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
632	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
633												
634	Normal GOF Test											
635	Shapiro Wilk Test Statistic				0.766		Shapiro Wilk GOF Test					
636	5% Shapiro Wilk Critical Value				0.767		Data Not Normal at 5% Significance Level					

	A	B	C	D	E	F	G	H	I	J	K	L	
637	Lilliefors Test Statistic					0.378	Lilliefors GOF Test						
638	5% Lilliefors Critical Value					0.425	Data appear Normal at 5% Significance Level						
639	Data appear Approximate Normal at 5% Significance Level												
640													
641	Assuming Normal Distribution												
642	95% Normal UCL					95% UCLs (Adjusted for Skewness)							
643	95% Student's-t UCL					225448	95% Adjusted-CLT UCL (Chen-1995)					154162	
644							95% Modified-t UCL (Johnson-1978)					220383	
645													
646	Gamma GOF Test												
647	Not Enough Data to Perform GOF Test												
648													
649	Gamma Statistics												
650	k hat (MLE)					8.154	k star (bias corrected MLE)					N/A	
651	Theta hat (MLE)					16748	Theta star (bias corrected MLE)					N/A	
652	nu hat (MLE)					48.93	nu star (bias corrected)					N/A	
653	MLE Mean (bias corrected)					N/A	MLE Sd (bias corrected)					N/A	
654							Approximate Chi Square Value (0.05)					N/A	
655	Adjusted Level of Significance					N/A	Adjusted Chi Square Value					N/A	
656													
657	Assuming Gamma Distribution												
658	95% Approximate Gamma UCL (use when n>=50))					N/A	95% Adjusted Gamma UCL (use when n<50)					N/A	
659													
660	Lognormal GOF Test												
661	Shapiro Wilk Test Statistic					0.761	Shapiro Wilk Lognormal GOF Test						
662	5% Shapiro Wilk Critical Value					0.767	Data Not Lognormal at 5% Significance Level						
663	Lilliefors Test Statistic					0.38	Lilliefors Lognormal GOF Test						
664	5% Lilliefors Critical Value					0.425	Data appear Lognormal at 5% Significance Level						
665	Data appear Approximate Lognormal at 5% Significance Level												
666													
667	Lognormal Statistics												
668	Minimum of Logged Data					11.23	Mean of logged Data					11.76	
669	Maximum of Logged Data					12.03	SD of logged Data					0.457	
670													
671	Assuming Lognormal Distribution												
672	95% H-UCL					965283	90% Chebyshev (MVUE) UCL					243318	
673	95% Chebyshev (MVUE) UCL					291312	97.5% Chebyshev (MVUE) UCL					357925	
674	99% Chebyshev (MVUE) UCL					488774							
675													
676	Nonparametric Distribution Free UCL Statistics												
677	Data appear to follow a Discernible Distribution at 5% Significance Level												
678													
679	Nonparametric Distribution Free UCLs												
680	95% CLT UCL					186634	95% Jackknife UCL					225448	
681	95% Standard Bootstrap UCL					N/A	95% Bootstrap-t UCL					N/A	
682	95% Hall's Bootstrap UCL					N/A	95% Percentile Bootstrap UCL					N/A	
683	95% BCA Bootstrap UCL					N/A							
684	90% Chebyshev(Mean, Sd) UCL					227883	95% Chebyshev(Mean, Sd) UCL					269246	
685	97.5% Chebyshev(Mean, Sd) UCL					326657	99% Chebyshev(Mean, Sd) UCL					439429	
686													
687	Suggested UCL to Use												
688	95% Student's-t UCL					225448							
689													

	A	B	C	D	E	F	G	H	I	J	K	L	
690	Recommended UCL exceeds the maximum observation												
691													
692	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test												
693	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL												
694													
695	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.												
696	Recommendations are based upon data size, data distribution, and skewness.												
697	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).												
698	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.												
699													
700	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be												
701	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.												
702													
703													
704	Result2_ug/kg (barium, ba)												
705													
706	General Statistics												
707	Total Number of Observations				103		Number of Distinct Observations				76		
708							Number of Missing Observations				0		
709	Minimum				34500		Mean				168331		
710	Maximum				287000		Median				166000		
711	SD				52125		Std. Error of Mean				5136		
712	Coefficient of Variation				0.31		Skewness				-0.249		
713													
714	Normal GOF Test												
715	Shapiro Wilk Test Statistic				0.976		Shapiro Wilk GOF Test						
716	5% Shapiro Wilk P Value				0.325		Data appear Normal at 5% Significance Level						
717	Lilliefors Test Statistic				0.0698		Lilliefors GOF Test						
718	5% Lilliefors Critical Value				0.0876		Data appear Normal at 5% Significance Level						
719	Data appear Normal at 5% Significance Level												
720													
721	Assuming Normal Distribution												
722	95% Normal UCL					95% UCLs (Adjusted for Skewness)							
723	95% Student's-t UCL					176856		95% Adjusted-CLT UCL (Chen-1995)				176644	
724								95% Modified-t UCL (Johnson-1978)				176835	
725													
726	Gamma GOF Test												
727	A-D Test Statistic				1.275		Anderson-Darling Gamma GOF Test						
728	5% A-D Critical Value				0.753		Data Not Gamma Distributed at 5% Significance Level						
729	K-S Test Statistic				0.0918		Kolmogorov-Smirnov Gamma GOF Test						
730	5% K-S Critical Value				0.0887		Data Not Gamma Distributed at 5% Significance Level						
731	Data Not Gamma Distributed at 5% Significance Level												
732													
733	Gamma Statistics												
734	k hat (MLE)				8.555		k star (bias corrected MLE)				8.312		
735	Theta hat (MLE)				19677		Theta star (bias corrected MLE)				20252		
736	nu hat (MLE)				1762		nu star (bias corrected)				1712		
737	MLE Mean (bias corrected)				168331		MLE Sd (bias corrected)				58387		
738							Approximate Chi Square Value (0.05)				1617		
739	Adjusted Level of Significance				0.0477		Adjusted Chi Square Value				1616		
740													
741	Assuming Gamma Distribution												
742	95% Approximate Gamma UCL (use when n>=50))					178231		95% Adjusted Gamma UCL (use when n<50)				178374	

	A	B	C	D	E	F	G	H	I	J	K	L
743												
744	Lognormal GOF Test											
745	Shapiro Wilk Test Statistic					0.905	Shapiro Wilk Lognormal GOF Test					
746	5% Shapiro Wilk P Value					1.4332E-8	Data Not Lognormal at 5% Significance Level					
747	Lilliefors Test Statistic					0.104	Lilliefors Lognormal GOF Test					
748	5% Lilliefors Critical Value					0.0876	Data Not Lognormal at 5% Significance Level					
749	Data Not Lognormal at 5% Significance Level											
750												
751	Lognormal Statistics											
752	Minimum of Logged Data					10.45	Mean of logged Data					11.97
753	Maximum of Logged Data					12.57	SD of logged Data					0.374
754												
755	Assuming Lognormal Distribution											
756	95% H-UCL					181622	90% Chebyshev (MVUE) UCL					189401
757	95% Chebyshev (MVUE) UCL					198194	97.5% Chebyshev (MVUE) UCL					210398
758	99% Chebyshev (MVUE) UCL					234371						
759												
760	Nonparametric Distribution Free UCL Statistics											
761	Data appear to follow a Discernible Distribution at 5% Significance Level											
762												
763	Nonparametric Distribution Free UCLs											
764	95% CLT UCL					176779	95% Jackknife UCL					176856
765	95% Standard Bootstrap UCL					176802	95% Bootstrap-t UCL					176729
766	95% Hall's Bootstrap UCL					176551	95% Percentile Bootstrap UCL					176642
767	95% BCA Bootstrap UCL					176361						
768	90% Chebyshev(Mean, Sd) UCL					183739	95% Chebyshev(Mean, Sd) UCL					190718
769	97.5% Chebyshev(Mean, Sd) UCL					200405	99% Chebyshev(Mean, Sd) UCL					219434
770												
771	Suggested UCL to Use											
772	95% Student's-t UCL					176856						
773												
774	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
775	Recommendations are based upon data size, data distribution, and skewness.											
776	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
777	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
778												
779	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
780	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
781												
782	Result2_ug/kg (benzene)											
783												
784	General Statistics											
785	Total Number of Observations					105	Number of Distinct Observations					4
786	Number of Detects					3	Number of Non-Detects					102
787	Number of Distinct Detects					3	Number of Distinct Non-Detects					1
788	Minimum Detect					1.7	Minimum Non-Detect					1
789	Maximum Detect					4.3	Maximum Non-Detect					1
790	Variance Detects					1.69	Percent Non-Detects					97.14%
791	Mean Detects					3	SD Detects					1.3
792	Median Detects					3	CV Detects					0.433
793	Skewness Detects					-6.06E-16	Kurtosis Detects					N/A
794	Mean of Logged Detects					1.029	SD of Logged Detects					0.468
795												

	A	B	C	D	E	F	G	H	I	J	K	L
796	Warning: Data set has only 3 Detected Values.											
797	This is not enough to compute meaningful or reliable statistics and estimates.											
798												
799												
800	Normal GOF Test on Detects Only											
801	Shapiro Wilk Test Statistic				1		Shapiro Wilk GOF Test					
802	5% Shapiro Wilk Critical Value				0.767		Detected Data appear Normal at 5% Significance Level					
803	Lilliefors Test Statistic				0.175		Lilliefors GOF Test					
804	5% Lilliefors Critical Value				0.425		Detected Data appear Normal at 5% Significance Level					
805	Detected Data appear Normal at 5% Significance Level											
806												
807	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
808	KM Mean				1.057		KM Standard Error of Mean				0.0452	
809	KM SD				0.378		95% KM (BCA) UCL				N/A	
810	95% KM (t) UCL				1.132		95% KM (Percentile Bootstrap) UCL				N/A	
811	95% KM (z) UCL				1.132		95% KM Bootstrap t UCL				N/A	
812	90% KM Chebyshev UCL				1.193		95% KM Chebyshev UCL				1.254	
813	97.5% KM Chebyshev UCL				1.34		99% KM Chebyshev UCL				1.507	
814												
815	Gamma GOF Tests on Detected Observations Only											
816	Not Enough Data to Perform GOF Test											
817												
818	Gamma Statistics on Detected Data Only											
819	k hat (MLE)				7.375		k star (bias corrected MLE)				N/A	
820	Theta hat (MLE)				0.407		Theta star (bias corrected MLE)				N/A	
821	nu hat (MLE)				44.25		nu star (bias corrected)				N/A	
822	Mean (detects)				3							
823												
824	Gamma ROS Statistics using Imputed Non-Detects											
825	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
826	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
827	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
828	This is especially true when the sample size is small.											
829	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
830	Minimum				0.01		Mean				0.0993	
831	Maximum				4.3		Median				0.01	
832	SD				0.533		CV				5.366	
833	k hat (MLE)				0.324		k star (bias corrected MLE)				0.321	
834	Theta hat (MLE)				0.306		Theta star (bias corrected MLE)				0.309	
835	nu hat (MLE)				68.11		nu star (bias corrected)				67.5	
836	Adjusted Level of Significance (β)				0.0477							
837	Approximate Chi Square Value (67.50, α)				49.59		Adjusted Chi Square Value (67.50, β)				49.38	
838	95% Gamma Approximate UCL (use when $n \geq 50$)				0.135		95% Gamma Adjusted UCL (use when $n < 50$)				N/A	
839												
840	Estimates of Gamma Parameters using KM Estimates											
841	Mean (KM)				1.057		SD (KM)				0.378	
842	Variance (KM)				0.143		SE of Mean (KM)				0.0452	
843	k hat (KM)				7.804		k star (KM)				7.587	
844	nu hat (KM)				1639		nu star (KM)				1593	
845	theta hat (KM)				0.135		theta star (KM)				0.139	
846	80% gamma percentile (KM)				1.359		90% gamma percentile (KM)				1.569	
847	95% gamma percentile (KM)				1.757		99% gamma percentile (KM)				2.148	
848												

	A	B	C	D	E	F	G	H	I	J	K	L
849	Gamma Kaplan-Meier (KM) Statistics											
850	Approximate Chi Square Value (N/A, α)					1502	Adjusted Chi Square Value (N/A, β)					1500
851	95% Gamma Approximate KM-UCL (use when $n \geq 50$)					1.122	95% Gamma Adjusted KM-UCL (use when $n < 50$)					1.123
852												
853	Lognormal GOF Test on Detected Observations Only											
854	Shapiro Wilk Test Statistic					0.984	Shapiro Wilk GOF Test					
855	5% Shapiro Wilk Critical Value					0.767	Detected Data appear Lognormal at 5% Significance Level					
856	Lilliefors Test Statistic					0.226	Lilliefors GOF Test					
857	5% Lilliefors Critical Value					0.425	Detected Data appear Lognormal at 5% Significance Level					
858	Detected Data appear Lognormal at 5% Significance Level											
859												
860	Lognormal ROS Statistics Using Imputed Non-Detects											
861	Mean in Original Scale					0.18	Mean in Log Scale					-3.654
862	SD in Original Scale					0.549	SD in Log Scale					2.055
863	95% t UCL (assumes normality of ROS data)					0.269	95% Percentile Bootstrap UCL					0.281
864	95% BCA Bootstrap UCL					0.308	95% Bootstrap t UCL					0.368
865	95% H-UCL (Log ROS)					0.421						
866												
867	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
868	KM Mean (logged)					0.0294	KM Geo Mean					1.03
869	KM SD (logged)					0.183	95% Critical H Value (KM-Log)					1.693
870	KM Standard Error of Mean (logged)					0.0219	95% H-UCL (KM -Log)					1.08
871	KM SD (logged)					0.183	95% Critical H Value (KM-Log)					1.693
872	KM Standard Error of Mean (logged)					0.0219						
873												
874	DL/2 Statistics											
875	DL/2 Normal						DL/2 Log-Transformed					
876	Mean in Original Scale					0.571	Mean in Log Scale					-0.644
877	SD in Original Scale					0.456	SD in Log Scale					0.296
878	95% t UCL (Assumes normality)					0.645	95% H-Stat UCL					0.577
879	DL/2 is not a recommended method, provided for comparisons and historical reasons											
880												
881	Nonparametric Distribution Free UCL Statistics											
882	Detected Data appear Normal Distributed at 5% Significance Level											
883												
884	Suggested UCL to Use											
885	95% KM (t) UCL					1.132						
886												
887	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
888	Recommendations are based upon data size, data distribution, and skewness.											
889	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
890	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
891												
892	Result2_ug/kg (beryllium)											
893												
894	General Statistics											
895	Total Number of Observations					3	Number of Distinct Observations					3
896	Number of Detects					2	Number of Non-Detects					1
897	Number of Distinct Detects					2	Number of Distinct Non-Detects					1
898	Minimum Detect					337	Minimum Non-Detect					250
899	Maximum Detect					387	Maximum Non-Detect					250
900	Variance Detects					1250	Percent Non-Detects					33.33%
901	Mean Detects					362	SD Detects					35.36

	A	B	C	D	E	F	G	H	I	J	K	L
902				Median Detects		362					CV Detects	0.0977
903				Skewness Detects		N/A					Kurtosis Detects	N/A
904				Mean of Logged Detects		5.889					SD of Logged Detects	0.0978
905												
906				Warning: Data set has only 2 Detected Values.								
907				This is not enough to compute meaningful or reliable statistics and estimates.								
908												
909												
910				Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use								
911				guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.								
912				For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).								
913				Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1								
914												
915				Normal GOF Test on Detects Only								
916				Not Enough Data to Perform GOF Test								
917												
918				Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs								
919				KM Mean		324.7					KM Standard Error of Mean	46.22
920				KM SD		56.61					95% KM (BCA) UCL	N/A
921				95% KM (t) UCL		459.6					95% KM (Percentile Bootstrap) UCL	N/A
922				95% KM (z) UCL		400.7					95% KM Bootstrap t UCL	N/A
923				90% KM Chebyshev UCL		463.3					95% KM Chebyshev UCL	526.1
924				97.5% KM Chebyshev UCL		613.3					99% KM Chebyshev UCL	784.5
925												
926				Gamma GOF Tests on Detected Observations Only								
927				Not Enough Data to Perform GOF Test								
928												
929				Gamma Statistics on Detected Data Only								
930				k hat (MLE)		209.3					k star (bias corrected MLE)	N/A
931				Theta hat (MLE)		1.729					Theta star (bias corrected MLE)	N/A
932				nu hat (MLE)		837.3					nu star (bias corrected)	N/A
933				Mean (detects)		362						
934												
935				Estimates of Gamma Parameters using KM Estimates								
936				Mean (KM)		324.7					SD (KM)	56.61
937				Variance (KM)		3204					SE of Mean (KM)	46.22
938				k hat (KM)		32.9					k star (KM)	N/A
939				nu hat (KM)		197.4					nu star (KM)	N/A
940				theta hat (KM)		9.869					theta star (KM)	N/A
941				80% gamma percentile (KM)		N/A					90% gamma percentile (KM)	N/A
942				95% gamma percentile (KM)		N/A					99% gamma percentile (KM)	N/A
943												
944				Gamma Kaplan-Meier (KM) Statistics								
945											Adjusted Level of Significance (β)	0.00136
946				Approximate Chi Square Value (N/A, α)		N/A					Adjusted Chi Square Value (N/A, β)	N/A
947				95% Gamma Approximate KM-UCL (use when $n \geq 50$)		N/A					95% Gamma Adjusted KM-UCL (use when $n < 50$)	N/A
948												
949				Lognormal GOF Test on Detected Observations Only								
950				Not Enough Data to Perform GOF Test								
951												
952				Lognormal ROS Statistics Using Imputed Non-Detects								
953				Mean in Original Scale		329.3					Mean in Log Scale	5.785
954				SD in Original Scale		61.99					SD in Log Scale	0.194

	A	B	C	D	E	F	G	H	I	J	K	L
955	95% t UCL (assumes normality of ROS data)					433.8	95% Percentile Bootstrap UCL					N/A
956	95% BCA Bootstrap UCL					N/A	95% Bootstrap t UCL					N/A
957	95% H-UCL (Log ROS)					518.2						
958												
959	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
960	KM Mean (logged)					5.767	KM Geo Mean					319.5
961	KM SD (logged)					0.182	95% Critical H Value (KM-Log)					3.179
962	KM Standard Error of Mean (logged)					0.149	95% H-UCL (KM -Log)					489.4
963	KM SD (logged)					0.182	95% Critical H Value (KM-Log)					3.179
964	KM Standard Error of Mean (logged)					0.149						
965												
966	DL/2 Statistics											
967	DL/2 Normal					DL/2 Log-Transformed						
968	Mean in Original Scale					283	Mean in Log Scale					5.536
969	SD in Original Scale					139.1	SD in Log Scale					0.616
970	95% t UCL (Assumes normality)					517.5	95% H-Stat UCL					10122
971	DL/2 is not a recommended method, provided for comparisons and historical reasons											
972												
973	Nonparametric Distribution Free UCL Statistics											
974	Data do not follow a Discernible Distribution at 5% Significance Level											
975												
976	Suggested UCL to Use											
977	95% KM (t) UCL					459.6	KM H-UCL					489.4
978	95% KM (BCA) UCL					N/A						
979	Warning: One or more Recommended UCL(s) not available!											
980	Warning: Recommended UCL exceeds the maximum observation											
981												
982	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
983	Recommendations are based upon data size, data distribution, and skewness.											
984	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
985	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
986												
987	Result2_ug/kg (beryllium, be)											
988												
989	General Statistics											
990	Total Number of Observations					103	Number of Distinct Observations					1
991	Number of Detects					0	Number of Non-Detects					103
992	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
993												
994	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
995	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
996	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
997												
998	The data set for variable Result2_ug/kg (beryllium, be) was not processed!											
999												
1000												
1001	Result2_ug/kg (bromobenzene)											
1002												
1003	General Statistics											
1004	Total Number of Observations					105	Number of Distinct Observations					1
1005	Number of Detects					0	Number of Non-Detects					105
1006	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
1007												

	A	B	C	D	E	F	G	H	I	J	K	L
1008	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1009	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1010	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1011												
1012	The data set for variable Result2_ug/kg (bromobenzene) was not processed!											
1013												
1014												
1015	Result2_ug/kg (bromodichloromethane)											
1016												
1017	General Statistics											
1018	Total Number of Observations				105		Number of Distinct Observations				1	
1019	Number of Detects				0		Number of Non-Detects				105	
1020	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
1021												
1022	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1023	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1024	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1025												
1026	The data set for variable Result2_ug/kg (bromodichloromethane) was not processed!											
1027												
1028												
1029	Result2_ug/kg (bromoform)											
1030												
1031	General Statistics											
1032	Total Number of Observations				105		Number of Distinct Observations				1	
1033	Number of Detects				0		Number of Non-Detects				105	
1034	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
1035												
1036	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1037	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1038	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1039												
1040	The data set for variable Result2_ug/kg (bromoform) was not processed!											
1041												
1042												
1043	Result2_ug/kg (cadmium)											
1044												
1045	General Statistics											
1046	Total Number of Observations				3		Number of Distinct Observations				1	
1047	Number of Detects				0		Number of Non-Detects				3	
1048	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
1049												
1050	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1051	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1052	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1053												
1054	The data set for variable Result2_ug/kg (cadmium) was not processed!											
1055												
1056												
1057	Result2_ug/kg (cadmium, cd)											
1058												
1059	General Statistics											
1060	Total Number of Observations				103		Number of Distinct Observations				4	

	A	B	C	D	E	F	G	H	I	J	K	L
1061				Number of Detects		4			Number of Non-Detects			99
1062				Number of Distinct Detects		3			Number of Distinct Non-Detects			1
1063				Minimum Detect		800			Minimum Non-Detect			500
1064				Maximum Detect		6100			Maximum Non-Detect			500
1065				Variance Detects		6369167			Percent Non-Detects			96.12%
1066				Mean Detects		2325			SD Detects			2524
1067				Median Detects		1200			CV Detects			1.085
1068				Skewness Detects		1.966			Kurtosis Detects			3.895
1069				Mean of Logged Detects		7.395			SD of Logged Detects			0.901
1070												
1071	Normal GOF Test on Detects Only											
1072				Shapiro Wilk Test Statistic		0.694			Shapiro Wilk GOF Test			
1073				5% Shapiro Wilk Critical Value		0.748			Detected Data Not Normal at 5% Significance Level			
1074				Lilliefors Test Statistic		0.422			Lilliefors GOF Test			
1075				5% Lilliefors Critical Value		0.375			Detected Data Not Normal at 5% Significance Level			
1076	Detected Data Not Normal at 5% Significance Level											
1077												
1078	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
1079				KM Mean		570.9			KM Standard Error of Mean			63.33
1080				KM SD		556.6			95% KM (BCA) UCL			N/A
1081				95% KM (t) UCL		676			95% KM (Percentile Bootstrap) UCL			N/A
1082				95% KM (z) UCL		675			95% KM Bootstrap t UCL			N/A
1083				90% KM Chebyshev UCL		760.9			95% KM Chebyshev UCL			846.9
1084				97.5% KM Chebyshev UCL		966.4			99% KM Chebyshev UCL			1201
1085												
1086	Gamma GOF Tests on Detected Observations Only											
1087				A-D Test Statistic		0.683			Anderson-Darling GOF Test			
1088				5% A-D Critical Value		0.662			Detected Data Not Gamma Distributed at 5% Significance Level			
1089				K-S Test Statistic		0.427			Kolmogorov-Smirnov GOF			
1090				5% K-S Critical Value		0.399			Detected Data Not Gamma Distributed at 5% Significance Level			
1091	Detected Data Not Gamma Distributed at 5% Significance Level											
1092												
1093	Gamma Statistics on Detected Data Only											
1094				k hat (MLE)		1.549			k star (bias corrected MLE)			0.554
1095				Theta hat (MLE)		1501			Theta star (bias corrected MLE)			4197
1096				nu hat (MLE)		12.39			nu star (bias corrected)			4.431
1097				Mean (detects)		2325						
1098												
1099	Gamma ROS Statistics using Imputed Non-Detects											
1100	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
1101	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
1102	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
1103	This is especially true when the sample size is small.											
1104	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
1105				Minimum		0.01			Mean			90.3
1106				Maximum		6100			Median			0.01
1107				SD		625.4			CV			6.925
1108				k hat (MLE)		0.0946			k star (bias corrected MLE)			0.0983
1109				Theta hat (MLE)		954.4			Theta star (bias corrected MLE)			918.3
1110				nu hat (MLE)		19.49			nu star (bias corrected)			20.26
1111				Adjusted Level of Significance (β)		0.0477						
1112				Approximate Chi Square Value (20.26, α)		11.04			Adjusted Chi Square Value (20.26, β)			10.94
1113				95% Gamma Approximate UCL (use when n>=50)		165.7			95% Gamma Adjusted UCL (use when n<50)			N/A

	A	B	C	D	E	F	G	H	I	J	K	L
1114												
1115	Estimates of Gamma Parameters using KM Estimates											
1116	Mean (KM)					570.9	SD (KM)					556.6
1117	Variance (KM)					309831	SE of Mean (KM)					63.33
1118	k hat (KM)					1.052	k star (KM)					1.028
1119	nu hat (KM)					216.7	nu star (KM)					211.7
1120	theta hat (KM)					542.7	theta star (KM)					555.5
1121	80% gamma percentile (KM)					916.7	90% gamma percentile (KM)					1306
1122	95% gamma percentile (KM)					1694	99% gamma percentile (KM)					2593
1123												
1124	Gamma Kaplan-Meier (KM) Statistics											
1125	Approximate Chi Square Value (211.70, α)					179	Adjusted Chi Square Value (211.70, β)					178.6
1126	95% Gamma Approximate KM-UCL (use when $n \geq 50$)					675.1	95% Gamma Adjusted KM-UCL (use when $n < 50$)					676.7
1127												
1128	Lognormal GOF Test on Detected Observations Only											
1129	Shapiro Wilk Test Statistic					0.8	Shapiro Wilk GOF Test					
1130	5% Shapiro Wilk Critical Value					0.748	Detected Data appear Lognormal at 5% Significance Level					
1131	Lilliefors Test Statistic					0.383	Lilliefors GOF Test					
1132	5% Lilliefors Critical Value					0.375	Detected Data Not Lognormal at 5% Significance Level					
1133	Detected Data appear Approximate Lognormal at 5% Significance Level											
1134												
1135	Lognormal ROS Statistics Using Imputed Non-Detects											
1136	Mean in Original Scale					107.3	Mean in Log Scale					-0.00139
1137	SD in Original Scale					624.8	SD in Log Scale					3.42
1138	95% t UCL (assumes normality of ROS data)					209.5	95% Percentile Bootstrap UCL					222.1
1139	95% BCA Bootstrap UCL					295.7	95% Bootstrap t UCL					509.1
1140	95% H-UCL (Log ROS)					1967						
1141												
1142	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
1143	KM Mean (logged)					6.26	KM Geo Mean					523.5
1144	KM SD (logged)					0.275	95% Critical H Value (KM-Log)					1.724
1145	KM Standard Error of Mean (logged)					0.0313	95% H-UCL (KM -Log)					569.8
1146	KM SD (logged)					0.275	95% Critical H Value (KM-Log)					1.724
1147	KM Standard Error of Mean (logged)					0.0313						
1148												
1149	DL/2 Statistics											
1150	DL/2 Normal					DL/2 Log-Transformed						
1151	Mean in Original Scale					330.6	Mean in Log Scale					5.594
1152	SD in Original Scale					591.3	SD in Log Scale					0.395
1153	95% t UCL (Assumes normality)					427.3	95% H-Stat UCL					311.6
1154	DL/2 is not a recommended method, provided for comparisons and historical reasons											
1155												
1156	Nonparametric Distribution Free UCL Statistics											
1157	Detected Data appear Approximate Lognormal Distributed at 5% Significance Level											
1158												
1159	Suggested UCL to Use											
1160	KM H-UCL					569.8						
1161												
1162	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1163	Recommendations are based upon data size, data distribution, and skewness.											
1164	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1165	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1166												

	A	B	C	D	E	F	G	H	I	J	K	L
1167	Result2_ug/kg (carbon tetrachloride)											
1168												
1169	General Statistics											
1170	Total Number of Observations				105		Number of Distinct Observations				1	
1171	Number of Detects				0		Number of Non-Detects				105	
1172	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
1173												
1174	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1175	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1176	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1177												
1178	The data set for variable Result2_ug/kg (carbon tetrachloride) was not processed!											
1179												
1180												
1181	Result2_ug/kg (chlorobenzene)											
1182												
1183	General Statistics											
1184	Total Number of Observations				105		Number of Distinct Observations				1	
1185	Number of Detects				0		Number of Non-Detects				105	
1186	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
1187												
1188	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1189	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1190	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1191												
1192	The data set for variable Result2_ug/kg (chlorobenzene) was not processed!											
1193												
1194												
1195	Result2_ug/kg (chloroform)											
1196												
1197	General Statistics											
1198	Total Number of Observations				105		Number of Distinct Observations				1	
1199	Number of Detects				0		Number of Non-Detects				105	
1200	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
1201												
1202	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1203	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1204	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1205												
1206	The data set for variable Result2_ug/kg (chloroform) was not processed!											
1207												
1208												
1209												
1210	Result2_ug/kg (chromium)											
1211												
1212	General Statistics											
1213	Total Number of Observations				3		Number of Distinct Observations				3	
1214							Number of Missing Observations				0	
1215	Minimum				19000		Mean				24867	
1216	Maximum				33000		Median				22600	
1217	SD				7270		Std. Error of Mean				4197	
1218	Coefficient of Variation				0.292		Skewness				1.267	
1219												

	A	B	C	D	E	F	G	H	I	J	K	L
1220	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
1221	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
1222	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
1223	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
1224												
1225	Normal GOF Test											
1226	Shapiro Wilk Test Statistic				0.927	Shapiro Wilk GOF Test						
1227	5% Shapiro Wilk Critical Value				0.767	Data appear Normal at 5% Significance Level						
1228	Lilliefors Test Statistic				0.289	Lilliefors GOF Test						
1229	5% Lilliefors Critical Value				0.425	Data appear Normal at 5% Significance Level						
1230	Data appear Normal at 5% Significance Level											
1231												
1232	Assuming Normal Distribution											
1233	95% Normal UCL					95% UCLs (Adjusted for Skewness)						
1234	95% Student's-t UCL					37123	95% Adjusted-CLT UCL (Chen-1995)					35050
1235							95% Modified-t UCL (Johnson-1978)					37634
1236												
1237	Gamma GOF Test											
1238	Not Enough Data to Perform GOF Test											
1239												
1240	Gamma Statistics											
1241	k hat (MLE)			18.53	k star (bias corrected MLE)			N/A				
1242	Theta hat (MLE)			1342	Theta star (bias corrected MLE)			N/A				
1243	nu hat (MLE)			111.2	nu star (bias corrected)			N/A				
1244	MLE Mean (bias corrected)			N/A	MLE Sd (bias corrected)			N/A				
1245					Approximate Chi Square Value (0.05)			N/A				
1246	Adjusted Level of Significance			N/A	Adjusted Chi Square Value			N/A				
1247												
1248	Assuming Gamma Distribution											
1249	95% Approximate Gamma UCL (use when n>=50))			N/A	95% Adjusted Gamma UCL (use when n<50)			N/A				
1250												
1251	Lognormal GOF Test											
1252	Shapiro Wilk Test Statistic			0.956	Shapiro Wilk Lognormal GOF Test							
1253	5% Shapiro Wilk Critical Value			0.767	Data appear Lognormal at 5% Significance Level							
1254	Lilliefors Test Statistic			0.262	Lilliefors Lognormal GOF Test							
1255	5% Lilliefors Critical Value			0.425	Data appear Lognormal at 5% Significance Level							
1256	Data appear Lognormal at 5% Significance Level											
1257												
1258	Lognormal Statistics											
1259	Minimum of Logged Data			9.852	Mean of logged Data			10.09				
1260	Maximum of Logged Data			10.4	SD of logged Data			0.282				
1261												
1262	Assuming Lognormal Distribution											
1263	95% H-UCL			55354	90% Chebyshev (MVUE) UCL			36875				
1264	95% Chebyshev (MVUE) UCL			42324	97.5% Chebyshev (MVUE) UCL			49887				
1265	99% Chebyshev (MVUE) UCL			64743								
1266												
1267	Nonparametric Distribution Free UCL Statistics											
1268	Data appear to follow a Discernible Distribution at 5% Significance Level											
1269												
1270	Nonparametric Distribution Free UCLs											
1271	95% CLT UCL			31771	95% Jackknife UCL			37123				
1272	95% Standard Bootstrap UCL			N/A	95% Bootstrap-t UCL			N/A				

	A	B	C	D	E	F	G	H	I	J	K	L
1273	95% Hall's Bootstrap UCL					N/A	95% Percentile Bootstrap UCL					N/A
1274	95% BCA Bootstrap UCL					N/A						
1275	90% Chebyshev(Mean, Sd) UCL					37459	95% Chebyshev(Mean, Sd) UCL					43163
1276	97.5% Chebyshev(Mean, Sd) UCL					51079	99% Chebyshev(Mean, Sd) UCL					66630
1277												
1278	Suggested UCL to Use											
1279	95% Student's-t UCL					37123						
1280												
1281	Recommended UCL exceeds the maximum observation											
1282												
1283	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1284	Recommendations are based upon data size, data distribution, and skewness.											
1285	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1286	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1287												
1288												
1289	Result2_ug/kg (chromium, cr)											
1290												
1291	General Statistics											
1292	Total Number of Observations					103	Number of Distinct Observations					88
1293							Number of Missing Observations					0
1294	Minimum					6600	Mean					27344
1295	Maximum					157000	Median					26700
1296	SD					15919	Std. Error of Mean					1569
1297	Coefficient of Variation					0.582	Skewness					5.537
1298												
1299	Normal GOF Test											
1300	Shapiro Wilk Test Statistic					0.602	Shapiro Wilk GOF Test					
1301	5% Shapiro Wilk P Value					0	Data Not Normal at 5% Significance Level					
1302	Lilliefors Test Statistic					0.251	Lilliefors GOF Test					
1303	5% Lilliefors Critical Value					0.0876	Data Not Normal at 5% Significance Level					
1304	Data Not Normal at 5% Significance Level											
1305												
1306	Assuming Normal Distribution											
1307	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
1308	95% Student's-t UCL					29947	95% Adjusted-CLT UCL (Chen-1995)					30838
1309							95% Modified-t UCL (Johnson-1978)					30090
1310												
1311	Gamma GOF Test											
1312	A-D Test Statistic					3.09	Anderson-Darling Gamma GOF Test					
1313	5% A-D Critical Value					0.754	Data Not Gamma Distributed at 5% Significance Level					
1314	K-S Test Statistic					0.17	Kolmogorov-Smirnov Gamma GOF Test					
1315	5% K-S Critical Value					0.0888	Data Not Gamma Distributed at 5% Significance Level					
1316	Data Not Gamma Distributed at 5% Significance Level											
1317												
1318	Gamma Statistics											
1319	k hat (MLE)					5.119	k star (bias corrected MLE)					4.976
1320	Theta hat (MLE)					5342	Theta star (bias corrected MLE)					5495
1321	nu hat (MLE)					1054	nu star (bias corrected)					1025
1322	MLE Mean (bias corrected)					27344	MLE Sd (bias corrected)					12258
1323							Approximate Chi Square Value (0.05)					951.7
1324	Adjusted Level of Significance					0.0477	Adjusted Chi Square Value					950.7
1325												

	A	B	C	D	E	F	G	H	I	J	K	L
1326	Assuming Gamma Distribution											
1327	95% Approximate Gamma UCL (use when n>=50))					29450	95% Adjusted Gamma UCL (use when n<50)					29481
1328												
1329	Lognormal GOF Test											
1330	Shapiro Wilk Test Statistic					0.903	Shapiro Wilk Lognormal GOF Test					
1331	5% Shapiro Wilk P Value					7.4845E-9	Data Not Lognormal at 5% Significance Level					
1332	Lilliefors Test Statistic					0.155	Lilliefors Lognormal GOF Test					
1333	5% Lilliefors Critical Value					0.0876	Data Not Lognormal at 5% Significance Level					
1334	Data Not Lognormal at 5% Significance Level											
1335												
1336	Lognormal Statistics											
1337	Minimum of Logged Data					8.795	Mean of logged Data					10.12
1338	Maximum of Logged Data					11.96	SD of logged Data					0.444
1339												
1340	Assuming Lognormal Distribution											
1341	95% H-UCL					29520	90% Chebyshev (MVUE) UCL					30978
1342	95% Chebyshev (MVUE) UCL					32668	97.5% Chebyshev (MVUE) UCL					35013
1343	99% Chebyshev (MVUE) UCL					39619						
1344												
1345	Nonparametric Distribution Free UCL Statistics											
1346	Data do not follow a Discernible Distribution (0.05)											
1347												
1348	Nonparametric Distribution Free UCLs											
1349	95% CLT UCL					29924	95% Jackknife UCL					29947
1350	95% Standard Bootstrap UCL					30001	95% Bootstrap-t UCL					31607
1351	95% Hall's Bootstrap UCL					42533	95% Percentile Bootstrap UCL					29966
1352	95% BCA Bootstrap UCL					31245						
1353	90% Chebyshev(Mean, Sd) UCL					32049	95% Chebyshev(Mean, Sd) UCL					34181
1354	97.5% Chebyshev(Mean, Sd) UCL					37139	99% Chebyshev(Mean, Sd) UCL					42950
1355												
1356	Suggested UCL to Use											
1357	95% Student's-t UCL					29947	or 95% Modified-t UCL					30090
1358												
1359	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1360	Recommendations are based upon data size, data distribution, and skewness.											
1361	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1362	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1363												
1364	Result2_ug/kg (chromium, hexavalent)											
1365												
1366	General Statistics											
1367	Total Number of Observations					11	Number of Distinct Observations					4
1368	Number of Detects					3	Number of Non-Detects					8
1369	Number of Distinct Detects					3	Number of Distinct Non-Detects					1
1370	Minimum Detect					960	Minimum Non-Detect					400
1371	Maximum Detect					1300	Maximum Non-Detect					400
1372	Variance Detects					29200	Percent Non-Detects					72.73%
1373	Mean Detects					1120	SD Detects					170.9
1374	Median Detects					1100	CV Detects					0.153
1375	Skewness Detects					0.519	Kurtosis Detects					N/A
1376	Mean of Logged Detects					7.013	SD of Logged Detects					0.152
1377												
1378	Warning: Data set has only 3 Detected Values.											

	A	B	C	D	E	F	G	H	I	J	K	L
1379	This is not enough to compute meaningful or reliable statistics and estimates.											
1380												
1381												
1382	Normal GOF Test on Detects Only											
1383	Shapiro Wilk Test Statistic				0.99	Shapiro Wilk GOF Test						
1384	5% Shapiro Wilk Critical Value				0.767	Detected Data appear Normal at 5% Significance Level						
1385	Lilliefors Test Statistic				0.213	Lilliefors GOF Test						
1386	5% Lilliefors Critical Value				0.425	Detected Data appear Normal at 5% Significance Level						
1387	Detected Data appear Normal at 5% Significance Level											
1388												
1389	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
1390	KM Mean				596.4	KM Standard Error of Mean				121.4		
1391	KM SD				328.8	95% KM (BCA) UCL				N/A		
1392	95% KM (t) UCL				816.5	95% KM (Percentile Bootstrap) UCL				N/A		
1393	95% KM (z) UCL				796.1	95% KM Bootstrap t UCL				N/A		
1394	90% KM Chebyshev UCL				960.7	95% KM Chebyshev UCL				1126		
1395	97.5% KM Chebyshev UCL				1355	99% KM Chebyshev UCL				1805		
1396												
1397	Gamma GOF Tests on Detected Observations Only											
1398	Not Enough Data to Perform GOF Test											
1399												
1400	Gamma Statistics on Detected Data Only											
1401	k hat (MLE)				65.01	k star (bias corrected MLE)				N/A		
1402	Theta hat (MLE)				17.23	Theta star (bias corrected MLE)				N/A		
1403	nu hat (MLE)				390	nu star (bias corrected)				N/A		
1404	Mean (detects)				1120							
1405												
1406	Gamma ROS Statistics using Imputed Non-Detects											
1407	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
1408	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
1409	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
1410	This is especially true when the sample size is small.											
1411	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
1412	Minimum				0.01	Mean				587.4		
1413	Maximum				1300	Median				545.7		
1414	SD				410.9	CV				0.699		
1415	k hat (MLE)				0.569	k star (bias corrected MLE)				0.475		
1416	Theta hat (MLE)				1032	Theta star (bias corrected MLE)				1238		
1417	nu hat (MLE)				12.52	nu star (bias corrected)				10.44		
1418	Adjusted Level of Significance (β)				0.0278							
1419	Approximate Chi Square Value (10.44, α)				4.22	Adjusted Chi Square Value (10.44, β)				3.598		
1420	95% Gamma Approximate UCL (use when n>=50)				1454	95% Gamma Adjusted UCL (use when n<50)				N/A		
1421												
1422	Estimates of Gamma Parameters using KM Estimates											
1423	Mean (KM)				596.4	SD (KM)				328.8		
1424	Variance (KM)				108132	SE of Mean (KM)				121.4		
1425	k hat (KM)				3.289	k star (KM)				2.453		
1426	nu hat (KM)				72.36	nu star (KM)				53.96		
1427	theta hat (KM)				181.3	theta star (KM)				243.2		
1428	80% gamma percentile (KM)				871.4	90% gamma percentile (KM)				1106		
1429	95% gamma percentile (KM)				1328	99% gamma percentile (KM)				1814		
1430												
1431	Gamma Kaplan-Meier (KM) Statistics											

	A	B	C	D	E	F	G	H	I	J	K	L
1432	Approximate Chi Square Value (53.96, α)					38.08	Adjusted Chi Square Value (53.96, β)					35.92
1433	95% Gamma Approximate KM-UCL (use when $n \geq 50$)					845	95% Gamma Adjusted KM-UCL (use when $n < 50$)					895.9
1434												
1435	Lognormal GOF Test on Detected Observations Only											
1436	Shapiro Wilk Test Statistic					0.997	Shapiro Wilk GOF Test					
1437	5% Shapiro Wilk Critical Value					0.767	Detected Data appear Lognormal at 5% Significance Level					
1438	Lilliefors Test Statistic					0.194	Lilliefors GOF Test					
1439	5% Lilliefors Critical Value					0.425	Detected Data appear Lognormal at 5% Significance Level					
1440	Detected Data appear Lognormal at 5% Significance Level											
1441												
1442	Lognormal ROS Statistics Using Imputed Non-Detects											
1443	Mean in Original Scale					718.3	Mean in Log Scale					6.502
1444	SD in Original Scale					296.2	SD in Log Scale					0.406
1445	95% t UCL (assumes normality of ROS data)					880.1	95% Percentile Bootstrap UCL					863.4
1446	95% BCA Bootstrap UCL					874.9	95% Bootstrap t UCL					919.6
1447	95% H-UCL (Log ROS)					942.3						
1448												
1449	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
1450	KM Mean (logged)					6.27	KM Geo Mean					528.6
1451	KM SD (logged)					0.46	95% Critical H Value (KM-Log)					2.125
1452	KM Standard Error of Mean (logged)					0.17	95% H-UCL (KM -Log)					800.1
1453	KM SD (logged)					0.46	95% Critical H Value (KM-Log)					2.125
1454	KM Standard Error of Mean (logged)					0.17						
1455												
1456	DL/2 Statistics											
1457	DL/2 Normal						DL/2 Log-Transformed					
1458	Mean in Original Scale					450.9	Mean in Log Scale					5.766
1459	SD in Original Scale					436.5	SD in Log Scale					0.804
1460	95% t UCL (Assumes normality)					689.4	95% H-Stat UCL					862.8
1461	DL/2 is not a recommended method, provided for comparisons and historical reasons											
1462												
1463	Nonparametric Distribution Free UCL Statistics											
1464	Detected Data appear Normal Distributed at 5% Significance Level											
1465												
1466	Suggested UCL to Use											
1467	95% KM (t) UCL					816.5						
1468												
1469	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1470	Recommendations are based upon data size, data distribution, and skewness.											
1471	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1472	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1473												
1474	Result2_ug/kg (cis-1,2-dichloroethene)											
1475												
1476	General Statistics											
1477	Total Number of Observations					105	Number of Distinct Observations					2
1478	Number of Detects					1	Number of Non-Detects					104
1479	Number of Distinct Detects					1	Number of Distinct Non-Detects					1
1480												
1481	Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!											
1482	It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BT)											
1483												
1484	The data set for variable Result2_ug/kg (cis-1,2-dichloroethene) was not processed!											

	A	B	C	D	E	F	G	H	I	J	K	L
1485												
1486												
1487	Result2_ug/kg (cis-1,3-dichloropropene)											
1488												
1489	General Statistics											
1490	Total Number of Observations					106	Number of Distinct Observations					1
1491	Number of Detects					0	Number of Non-Detects					106
1492	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
1493												
1494	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1495	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1496	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1497												
1498	The data set for variable Result2_ug/kg (cis-1,3-dichloropropene) was not processed!											
1499												
1500												
1501												
1502	Result2_ug/kg (cobalt)											
1503												
1504	General Statistics											
1505	Total Number of Observations					3	Number of Distinct Observations					3
1506							Number of Missing Observations					0
1507	Minimum					7020	Mean					11240
1508	Maximum					14200	Median					12500
1509	SD					3752	Std. Error of Mean					2166
1510	Coefficient of Variation					0.334	Skewness					-1.341
1511												
1512	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
1513	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
1514	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
1515	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
1516												
1517	Normal GOF Test											
1518	Shapiro Wilk Test Statistic					0.915	Shapiro Wilk GOF Test					
1519	5% Shapiro Wilk Critical Value					0.767	Data appear Normal at 5% Significance Level					
1520	Lilliefors Test Statistic					0.298	Lilliefors GOF Test					
1521	5% Lilliefors Critical Value					0.425	Data appear Normal at 5% Significance Level					
1522	Data appear Normal at 5% Significance Level											
1523												
1524	Assuming Normal Distribution											
1525	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
1526	95% Student's-t UCL					17566	95% Adjusted-CLT UCL (Chen-1995)					13012
1527							95% Modified-t UCL (Johnson-1978)					17286
1528												
1529	Gamma GOF Test											
1530	Not Enough Data to Perform GOF Test											
1531												
1532	Gamma Statistics											
1533	k hat (MLE)					11.64	k star (bias corrected MLE)					N/A
1534	Theta hat (MLE)					965.6	Theta star (bias corrected MLE)					N/A
1535	nu hat (MLE)					69.84	nu star (bias corrected)					N/A
1536	MLE Mean (bias corrected)					N/A	MLE Sd (bias corrected)					N/A
1537							Approximate Chi Square Value (0.05)					N/A

	A	B	C	D	E	F	G	H	I	J	K	L
1538	Adjusted Level of Significance					N/A	Adjusted Chi Square Value					N/A
1539												
1540	Assuming Gamma Distribution											
1541	95% Approximate Gamma UCL (use when n>=50))					N/A	95% Adjusted Gamma UCL (use when n<50)					N/A
1542												
1543	Lognormal GOF Test											
1544	Shapiro Wilk Test Statistic					0.881	Shapiro Wilk Lognormal GOF Test					
1545	5% Shapiro Wilk Critical Value					0.767	Data appear Lognormal at 5% Significance Level					
1546	Lilliefors Test Statistic					0.322	Lilliefors Lognormal GOF Test					
1547	5% Lilliefors Critical Value					0.425	Data appear Lognormal at 5% Significance Level					
1548	Data appear Lognormal at 5% Significance Level											
1549												
1550	Lognormal Statistics											
1551	Minimum of Logged Data					8.857	Mean of logged Data					9.284
1552	Maximum of Logged Data					9.561	SD of logged Data					0.375
1553												
1554	Assuming Lognormal Distribution											
1555	95% H-UCL					42605	90% Chebyshev (MVUE) UCL					18475
1556	95% Chebyshev (MVUE) UCL					21738	97.5% Chebyshev (MVUE) UCL					26266
1557	99% Chebyshev (MVUE) UCL					35161						
1558												
1559	Nonparametric Distribution Free UCL Statistics											
1560	Data appear to follow a Discernible Distribution at 5% Significance Level											
1561												
1562	Nonparametric Distribution Free UCLs											
1563	95% CLT UCL					14803	95% Jackknife UCL					17566
1564	95% Standard Bootstrap UCL					N/A	95% Bootstrap-t UCL					N/A
1565	95% Hall's Bootstrap UCL					N/A	95% Percentile Bootstrap UCL					N/A
1566	95% BCA Bootstrap UCL					N/A						
1567	90% Chebyshev(Mean, Sd) UCL					17739	95% Chebyshev(Mean, Sd) UCL					20683
1568	97.5% Chebyshev(Mean, Sd) UCL					24769	99% Chebyshev(Mean, Sd) UCL					32795
1569												
1570	Suggested UCL to Use											
1571	95% Student's-t UCL					17566						
1572												
1573	Recommended UCL exceeds the maximum observation											
1574												
1575	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1576	Recommendations are based upon data size, data distribution, and skewness.											
1577	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1578	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1579												
1580	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
1581	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
1582												
1583												
1584	Result2_ug/kg (cobalt, co)											
1585												
1586	General Statistics											
1587	Total Number of Observations					103	Number of Distinct Observations					80
1588							Number of Missing Observations					0
1589	Minimum					1100	Mean					14401
1590	Maximum					22600	Median					14300

	A	B	C	D	E	F	G	H	I	J	K	L
1591	SD					4373	Std. Error of Mean					430.9
1592	Coefficient of Variation					0.304	Skewness					-0.396
1593												
1594	Normal GOF Test											
1595	Shapiro Wilk Test Statistic					0.966	Shapiro Wilk GOF Test					
1596	5% Shapiro Wilk P Value					0.0707	Data appear Normal at 5% Significance Level					
1597	Lilliefors Test Statistic					0.0784	Lilliefors GOF Test					
1598	5% Lilliefors Critical Value					0.0876	Data appear Normal at 5% Significance Level					
1599	Data appear Normal at 5% Significance Level											
1600												
1601	Assuming Normal Distribution											
1602	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
1603	95% Student's-t UCL					15116	95% Adjusted-CLT UCL (Chen-1995)					15092
1604							95% Modified-t UCL (Johnson-1978)					15113
1605												
1606	Gamma GOF Test											
1607	A-D Test Statistic					1.67	Anderson-Darling Gamma GOF Test					
1608	5% A-D Critical Value					0.753	Data Not Gamma Distributed at 5% Significance Level					
1609	K-S Test Statistic					0.0966	Kolmogorov-Smirnov Gamma GOF Test					
1610	5% K-S Critical Value					0.0887	Data Not Gamma Distributed at 5% Significance Level					
1611	Data Not Gamma Distributed at 5% Significance Level											
1612												
1613	Gamma Statistics											
1614	k hat (MLE)					7.983	k star (bias corrected MLE)					7.757
1615	Theta hat (MLE)					1804	Theta star (bias corrected MLE)					1856
1616	nu hat (MLE)					1645	nu star (bias corrected)					1598
1617	MLE Mean (bias corrected)					14401	MLE Sd (bias corrected)					5171
1618							Approximate Chi Square Value (0.05)					1506
1619	Adjusted Level of Significance					0.0477	Adjusted Chi Square Value					1505
1620												
1621	Assuming Gamma Distribution											
1622	95% Approximate Gamma UCL (use when n>=50))					15279	95% Adjusted Gamma UCL (use when n<50)					15292
1623												
1624	Lognormal GOF Test											
1625	Shapiro Wilk Test Statistic					0.823	Shapiro Wilk Lognormal GOF Test					
1626	5% Shapiro Wilk P Value					0	Data Not Lognormal at 5% Significance Level					
1627	Lilliefors Test Statistic					0.124	Lilliefors Lognormal GOF Test					
1628	5% Lilliefors Critical Value					0.0876	Data Not Lognormal at 5% Significance Level					
1629	Data Not Lognormal at 5% Significance Level											
1630												
1631	Lognormal Statistics											
1632	Minimum of Logged Data					7.003	Mean of logged Data					9.511
1633	Maximum of Logged Data					10.03	SD of logged Data					0.411
1634												
1635	Assuming Lognormal Distribution											
1636	95% H-UCL					15809	90% Chebyshev (MVUE) UCL					16543
1637	95% Chebyshev (MVUE) UCL					17383	97.5% Chebyshev (MVUE) UCL					18548
1638	99% Chebyshev (MVUE) UCL					20838						
1639												
1640	Nonparametric Distribution Free UCL Statistics											
1641	Data appear to follow a Discernible Distribution at 5% Significance Level											
1642												
1643	Nonparametric Distribution Free UCLs											

	A	B	C	D	E	F	G	H	I	J	K	L
1644				95% CLT UCL		15110	95% Jackknife UCL				15116	
1645				95% Standard Bootstrap UCL		15093	95% Bootstrap-t UCL				15099	
1646				95% Hall's Bootstrap UCL		15104	95% Percentile Bootstrap UCL				15111	
1647				95% BCA Bootstrap UCL		15092						
1648				90% Chebyshev(Mean, Sd) UCL		15694	95% Chebyshev(Mean, Sd) UCL				16279	
1649				97.5% Chebyshev(Mean, Sd) UCL		17092	99% Chebyshev(Mean, Sd) UCL				18688	
1650												
1651	Suggested UCL to Use											
1652				95% Student's-t UCL		15116						
1653												
1654	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1655	Recommendations are based upon data size, data distribution, and skewness.											
1656	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1657	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1658												
1659	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
1660	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
1661												
1662												
1663	Result2_ug/kg (copper)											
1664												
1665	General Statistics											
1666	Total Number of Observations				3		Number of Distinct Observations				3	
1667							Number of Missing Observations				0	
1668	Minimum				21200		Mean				96367	
1669	Maximum				244000		Median				23900	
1670	SD				127861		Std. Error of Mean				73821	
1671	Coefficient of Variation				1.327		Skewness				1.731	
1672												
1673	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
1674	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
1675	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
1676	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
1677												
1678	Normal GOF Test											
1679	Shapiro Wilk Test Statistic				0.759		Shapiro Wilk GOF Test					
1680	5% Shapiro Wilk Critical Value				0.767		Data Not Normal at 5% Significance Level					
1681	Lilliefors Test Statistic				0.381		Lilliefors GOF Test					
1682	5% Lilliefors Critical Value				0.425		Data appear Normal at 5% Significance Level					
1683	Data appear Approximate Normal at 5% Significance Level											
1684												
1685	Assuming Normal Distribution											
1686	95% Normal UCL					95% UCLs (Adjusted for Skewness)						
1687	95% Student's-t UCL					311922	95% Adjusted-CLT UCL (Chen-1995)				296630	
1688							95% Modified-t UCL (Johnson-1978)				324220	
1689												
1690	Gamma GOF Test											
1691	Not Enough Data to Perform GOF Test											
1692												
1693	Gamma Statistics											
1694	k hat (MLE)				0.888		k star (bias corrected MLE)				N/A	
1695	Theta hat (MLE)				108574		Theta star (bias corrected MLE)				N/A	
1696	nu hat (MLE)				5.325		nu star (bias corrected)				N/A	

	A	B	C	D	E	F	G	H	I	J	K	L
1697	MLE Mean (bias corrected)					N/A	MLE Sd (bias corrected)					N/A
1698							Approximate Chi Square Value (0.05)					N/A
1699	Adjusted Level of Significance					N/A	Adjusted Chi Square Value					N/A
1700												
1701	Assuming Gamma Distribution											
1702	95% Approximate Gamma UCL (use when n>=50))					N/A	95% Adjusted Gamma UCL (use when n<50)					N/A
1703												
1704	Lognormal GOF Test											
1705	Shapiro Wilk Test Statistic					0.787	Shapiro Wilk Lognormal GOF Test					
1706	5% Shapiro Wilk Critical Value					0.767	Data appear Lognormal at 5% Significance Level					
1707	Lilliefors Test Statistic					0.37	Lilliefors Lognormal GOF Test					
1708	5% Lilliefors Critical Value					0.425	Data appear Lognormal at 5% Significance Level					
1709	Data appear Lognormal at 5% Significance Level											
1710												
1711	Lognormal Statistics											
1712	Minimum of Logged Data					9.962	Mean of logged Data					10.82
1713	Maximum of Logged Data					12.4	SD of logged Data					1.377
1714												
1715	Assuming Lognormal Distribution											
1716	95% H-UCL					5.255E+12	90% Chebyshev (MVUE) UCL					256167
1717	95% Chebyshev (MVUE) UCL					332948	97.5% Chebyshev (MVUE) UCL					439518
1718	99% Chebyshev (MVUE) UCL					648855						
1719												
1720	Nonparametric Distribution Free UCL Statistics											
1721	Data appear to follow a Discernible Distribution at 5% Significance Level											
1722												
1723	Nonparametric Distribution Free UCLs											
1724	95% CLT UCL					217791	95% Jackknife UCL					311922
1725	95% Standard Bootstrap UCL					N/A	95% Bootstrap-t UCL					N/A
1726	95% Hall's Bootstrap UCL					N/A	95% Percentile Bootstrap UCL					N/A
1727	95% BCA Bootstrap UCL					N/A						
1728	90% Chebyshev(Mean, Sd) UCL					317829	95% Chebyshev(Mean, Sd) UCL					418144
1729	97.5% Chebyshev(Mean, Sd) UCL					557377	99% Chebyshev(Mean, Sd) UCL					830874
1730												
1731	Suggested UCL to Use											
1732	95% Student's-t UCL					311922						
1733												
1734	Recommended UCL exceeds the maximum observation											
1735												
1736	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
1737	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
1738												
1739	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1740	Recommendations are based upon data size, data distribution, and skewness.											
1741	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1742	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1743												
1744												
1745	Result2_ug/kg (copper, cu)											
1746												
1747	General Statistics											
1748	Total Number of Observations					103	Number of Distinct Observations					94
1749							Number of Missing Observations					0

	A	B	C	D	E	F	G	H	I	J	K	L	
1750	Minimum					6800						Mean	104683
1751	Maximum					6740000						Median	30500
1752	SD					663022						Std. Error of Mean	65329
1753	Coefficient of Variation					6.334						Skewness	10.02
1754													
1755	Normal GOF Test												
1756	Shapiro Wilk Test Statistic					0.127	Shapiro Wilk GOF Test						
1757	5% Shapiro Wilk P Value					0	Data Not Normal at 5% Significance Level						
1758	Lilliefors Test Statistic					0.456	Lilliefors GOF Test						
1759	5% Lilliefors Critical Value					0.0876	Data Not Normal at 5% Significance Level						
1760	Data Not Normal at 5% Significance Level												
1761													
1762	Assuming Normal Distribution												
1763	95% Normal UCL					95% UCLs (Adjusted for Skewness)							
1764	95% Student's-t UCL					213125	95% Adjusted-CLT UCL (Chen-1995)					281087	
1765							95% Modified-t UCL (Johnson-1978)					223879	
1766													
1767	Gamma GOF Test												
1768	A-D Test Statistic					23.87	Anderson-Darling Gamma GOF Test						
1769	5% A-D Critical Value					0.816	Data Not Gamma Distributed at 5% Significance Level						
1770	K-S Test Statistic					0.419	Kolmogorov-Smirnov Gamma GOF Test						
1771	5% K-S Critical Value					0.0936	Data Not Gamma Distributed at 5% Significance Level						
1772	Data Not Gamma Distributed at 5% Significance Level												
1773													
1774	Gamma Statistics												
1775	k hat (MLE)					0.531	k star (bias corrected MLE)					0.522	
1776	Theta hat (MLE)					197253	Theta star (bias corrected MLE)					200650	
1777	nu hat (MLE)					109.3	nu star (bias corrected)					107.5	
1778	MLE Mean (bias corrected)					104683	MLE Sd (bias corrected)					144929	
1779							Approximate Chi Square Value (0.05)					84.55	
1780	Adjusted Level of Significance					0.0477	Adjusted Chi Square Value					84.26	
1781													
1782	Assuming Gamma Distribution												
1783	95% Approximate Gamma UCL (use when n>=50))					133068	95% Adjusted Gamma UCL (use when n<50)					133522	
1784													
1785	Lognormal GOF Test												
1786	Shapiro Wilk Test Statistic					0.735	Shapiro Wilk Lognormal GOF Test						
1787	5% Shapiro Wilk P Value					0	Data Not Lognormal at 5% Significance Level						
1788	Lilliefors Test Statistic					0.222	Lilliefors Lognormal GOF Test						
1789	5% Lilliefors Critical Value					0.0876	Data Not Lognormal at 5% Significance Level						
1790	Data Not Lognormal at 5% Significance Level												
1791													
1792	Lognormal Statistics												
1793	Minimum of Logged Data					8.825	Mean of logged Data					10.37	
1794	Maximum of Logged Data					15.72	SD of logged Data					0.792	
1795													
1796	Assuming Lognormal Distribution												
1797	95% H-UCL					51311	90% Chebyshev (MVUE) UCL					55135	
1798	95% Chebyshev (MVUE) UCL					60367	97.5% Chebyshev (MVUE) UCL					67629	
1799	99% Chebyshev (MVUE) UCL					81892							
1800													
1801	Nonparametric Distribution Free UCL Statistics												
1802	Data do not follow a Discernible Distribution (0.05)												

	A	B	C	D	E	F	G	H	I	J	K	L
1803												
1804	Nonparametric Distribution Free UCLs											
1805	95% CLT UCL					212140	95% Jackknife UCL					213125
1806	95% Standard Bootstrap UCL					210794	95% Bootstrap-t UCL					2323358
1807	95% Hall's Bootstrap UCL					1043736	95% Percentile Bootstrap UCL					234223
1808	95% BCA Bootstrap UCL					311988						
1809	90% Chebyshev(Mean, Sd) UCL					300671	95% Chebyshev(Mean, Sd) UCL					389447
1810	97.5% Chebyshev(Mean, Sd) UCL					512665	99% Chebyshev(Mean, Sd) UCL					754702
1811												
1812	Suggested UCL to Use											
1813	95% Chebyshev (Mean, Sd) UCL					389447						
1814												
1815	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1816	Recommendations are based upon data size, data distribution, and skewness.											
1817	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1818	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1819												
1820	Result2_ug/kg (dibromochloromethane)											
1821												
1822	General Statistics											
1823	Total Number of Observations					108	Number of Distinct Observations					1
1824	Number of Detects					0	Number of Non-Detects					108
1825	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
1826												
1827	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1828	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1829	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1830												
1831	The data set for variable Result2_ug/kg (dibromochloromethane) was not processed!											
1832												
1833												
1834	Result2_ug/kg (dibromomethane)											
1835												
1836	General Statistics											
1837	Total Number of Observations					108	Number of Distinct Observations					1
1838	Number of Detects					0	Number of Non-Detects					108
1839	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
1840												
1841	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1842	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1843	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1844												
1845	The data set for variable Result2_ug/kg (dibromomethane) was not processed!											
1846												
1847												
1848	Result2_ug/kg (dichlorodifluoromethane)											
1849												
1850	General Statistics											
1851	Total Number of Observations					108	Number of Distinct Observations					2
1852	Number of Detects					0	Number of Non-Detects					108
1853	Number of Distinct Detects					0	Number of Distinct Non-Detects					2
1854												
1855	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											

	A	B	C	D	E	F	G	H	I	J	K	L
1856	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1857	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1858												
1859	The data set for variable Result2_ug/kg (dichlorodifluoromethane) was not processed!											
1860												
1861												
1862	Result2_ug/kg (di-isopropylether (dipe))											
1863												
1864	General Statistics											
1865	Total Number of Observations				108		Number of Distinct Observations				2	
1866	Number of Detects				0		Number of Non-Detects				108	
1867	Number of Distinct Detects				0		Number of Distinct Non-Detects				2	
1868												
1869	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1870	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1871	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1872												
1873	The data set for variable Result2_ug/kg (di-isopropylether (dipe)) was not processed!											
1874												
1875												
1876	Result2_ug/kg (dro (c10-c28))											
1877												
1878	General Statistics											
1879	Total Number of Observations				108		Number of Distinct Observations				5	
1880	Number of Detects				4		Number of Non-Detects				104	
1881	Number of Distinct Detects				4		Number of Distinct Non-Detects				1	
1882	Minimum Detect				21.8		Minimum Non-Detect				10	
1883	Maximum Detect				241		Maximum Non-Detect				10	
1884	Variance Detects				10847		Percent Non-Detects				96.3%	
1885	Mean Detects				87.98		SD Detects				104.1	
1886	Median Detects				44.55		CV Detects				1.184	
1887	Skewness Detects				1.772		Kurtosis Detects				3.106	
1888	Mean of Logged Detects				3.97		SD of Logged Detects				1.136	
1889												
1890	Normal GOF Test on Detects Only											
1891	Shapiro Wilk Test Statistic				0.767		Shapiro Wilk GOF Test					
1892	5% Shapiro Wilk Critical Value				0.748		Detected Data appear Normal at 5% Significance Level					
1893	Lilliefors Test Statistic				0.331		Lilliefors GOF Test					
1894	5% Lilliefors Critical Value				0.375		Detected Data appear Normal at 5% Significance Level					
1895	Detected Data appear Normal at 5% Significance Level											
1896												
1897	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
1898	KM Mean				12.89		KM Standard Error of Mean				2.529	
1899	KM SD				22.76		95% KM (BCA) UCL				N/A	
1900	95% KM (t) UCL				17.08		95% KM (Percentile Bootstrap) UCL				N/A	
1901	95% KM (z) UCL				17.05		95% KM Bootstrap t UCL				N/A	
1902	90% KM Chebyshev UCL				20.48		95% KM Chebyshev UCL				23.91	
1903	97.5% KM Chebyshev UCL				28.68		99% KM Chebyshev UCL				38.05	
1904												
1905	Gamma GOF Tests on Detected Observations Only											
1906	A-D Test Statistic				0.459		Anderson-Darling GOF Test					
1907	5% A-D Critical Value				0.666		Detected data appear Gamma Distributed at 5% Significance Level					
1908	K-S Test Statistic				0.299		Kolmogorov-Smirnov GOF					

	A	B	C	D	E	F	G	H	I	J	K	L
1909	5% K-S Critical Value				0.402	Detected data appear Gamma Distributed at 5% Significance Level						
1910	Detected data appear Gamma Distributed at 5% Significance Level											
1911												
1912	Gamma Statistics on Detected Data Only											
1913	k hat (MLE)				1.123	k star (bias corrected MLE)				0.447		
1914	Theta hat (MLE)				78.35	Theta star (bias corrected MLE)				196.6		
1915	nu hat (MLE)				8.983	nu star (bias corrected)				3.579		
1916	Mean (detects)				87.98							
1917												
1918	Gamma ROS Statistics using Imputed Non-Detects											
1919	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
1920	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
1921	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
1922	This is especially true when the sample size is small.											
1923	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
1924	Minimum				0.01	Mean				3.268		
1925	Maximum				241	Median				0.01		
1926	SD				24.14	CV				7.386		
1927	k hat (MLE)				0.142	k star (bias corrected MLE)				0.144		
1928	Theta hat (MLE)				23.07	Theta star (bias corrected MLE)				22.71		
1929	nu hat (MLE)				30.59	nu star (bias corrected)				31.08		
1930	Adjusted Level of Significance (β)				0.0478							
1931	Approximate Chi Square Value (31.08, α)				19.34	Adjusted Chi Square Value (31.08, β)				19.22		
1932	95% Gamma Approximate UCL (use when n>=50)				5.251	95% Gamma Adjusted UCL (use when n<50)				N/A		
1933												
1934	Estimates of Gamma Parameters using KM Estimates											
1935	Mean (KM)				12.89	SD (KM)				22.76		
1936	Variance (KM)				518.1	SE of Mean (KM)				2.529		
1937	k hat (KM)				0.321	k star (KM)				0.318		
1938	nu hat (KM)				69.24	nu star (KM)				68.65		
1939	theta hat (KM)				40.2	theta star (KM)				40.55		
1940	80% gamma percentile (KM)				20.03	90% gamma percentile (KM)				37.73		
1941	95% gamma percentile (KM)				57.86	99% gamma percentile (KM)				109.8		
1942												
1943	Gamma Kaplan-Meier (KM) Statistics											
1944	Approximate Chi Square Value (68.65, α)				50.58	Adjusted Chi Square Value (68.65, β)				50.37		
1945	95% Gamma Approximate KM-UCL (use when n>=50)				17.49	95% Gamma Adjusted KM-UCL (use when n<50)				17.57		
1946												
1947	Lognormal GOF Test on Detected Observations Only											
1948	Shapiro Wilk Test Statistic				0.869	Shapiro Wilk GOF Test						
1949	5% Shapiro Wilk Critical Value				0.748	Detected Data appear Lognormal at 5% Significance Level						
1950	Lilliefors Test Statistic				0.275	Lilliefors GOF Test						
1951	5% Lilliefors Critical Value				0.375	Detected Data appear Lognormal at 5% Significance Level						
1952	Detected Data appear Lognormal at 5% Significance Level											
1953												
1954	Lognormal ROS Statistics Using Imputed Non-Detects											
1955	Mean in Original Scale				3.49	Mean in Log Scale				-5.959		
1956	SD in Original Scale				24.12	SD in Log Scale				4.552		
1957	95% t UCL (assumes normality of ROS data)				7.341	95% Percentile Bootstrap UCL				7.669		
1958	95% BCA Bootstrap UCL				12.21	95% Bootstrap t UCL				27.7		
1959	95% H-UCL (Log ROS)				1559							
1960												
1961	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											

[illegible]

	A	B	C	D	E	F	G	H	I	J	K	L
2015	General Statistics											
2016	Total Number of Observations					108	Number of Distinct Observations					2
2017	Number of Detects					0	Number of Non-Detects					108
2018	Number of Distinct Detects					0	Number of Distinct Non-Detects					2
2019												
2020	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2021	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2022	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
2023												
2024	The data set for variable Result2_ug/kg (freon 113) was not processed!											
2025												
2026												
2027	Result2_ug/kg (gasoline range organics)											
2028												
2029	General Statistics											
2030	Total Number of Observations					24	Number of Distinct Observations					1
2031	Number of Detects					0	Number of Non-Detects					24
2032	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
2033												
2034	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2035	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2036	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
2037												
2038	The data set for variable Result2_ug/kg (gasoline range organics) was not processed!											
2039												
2040												
2041	Result2_ug/kg (hexachlorobutadiene)											
2042												
2043	General Statistics											
2044	Total Number of Observations					108	Number of Distinct Observations					1
2045	Number of Detects					0	Number of Non-Detects					108
2046	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
2047												
2048	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2049	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2050	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
2051												
2052	The data set for variable Result2_ug/kg (hexachlorobutadiene) was not processed!											
2053												
2054												
2055	Result2_ug/kg (isopropylbenzene)											
2056												
2057	General Statistics											
2058	Total Number of Observations					108	Number of Distinct Observations					1
2059	Number of Detects					0	Number of Non-Detects					108
2060	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
2061												
2062	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2063	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2064	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
2065												
2066	The data set for variable Result2_ug/kg (isopropylbenzene) was not processed!											
2067												

	A	B	C	D	E	F	G	H	I	J	K	L
2068												
2069												
2070	Result2_ug/kg (lead)											
2071												
2072	General Statistics											
2073	Total Number of Observations					3	Number of Distinct Observations					3
2074							Number of Missing Observations					0
2075	Minimum					1670	Mean					1753
2076	Maximum					1890	Median					1700
2077	SD					119.3	Std. Error of Mean					68.88
2078	Coefficient of Variation					0.068	Skewness					1.61
2079												
2080	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
2081	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
2082	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
2083	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
2084												
2085	Normal GOF Test											
2086	Shapiro Wilk Test Statistic					0.85	Shapiro Wilk GOF Test					
2087	5% Shapiro Wilk Critical Value					0.767	Data appear Normal at 5% Significance Level					
2088	Lilliefors Test Statistic					0.339	Lilliefors GOF Test					
2089	5% Lilliefors Critical Value					0.425	Data appear Normal at 5% Significance Level					
2090	Data appear Normal at 5% Significance Level											
2091												
2092	Assuming Normal Distribution											
2093	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
2094	95% Student's-t UCL					1954	95% Adjusted-CLT UCL (Chen-1995)					1935
2095							95% Modified-t UCL (Johnson-1978)					1965
2096												
2097	Gamma GOF Test											
2098	Not Enough Data to Perform GOF Test											
2099												
2100	Gamma Statistics											
2101	k hat (MLE)					331.5	k star (bias corrected MLE)					N/A
2102	Theta hat (MLE)					5.289	Theta star (bias corrected MLE)					N/A
2103	nu hat (MLE)					1989	nu star (bias corrected)					N/A
2104	MLE Mean (bias corrected)					N/A	MLE Sd (bias corrected)					N/A
2105							Approximate Chi Square Value (0.05)					N/A
2106	Adjusted Level of Significance					N/A	Adjusted Chi Square Value					N/A
2107												
2108	Assuming Gamma Distribution											
2109	95% Approximate Gamma UCL (use when n>=50))					N/A	95% Adjusted Gamma UCL (use when n<50)					N/A
2110												
2111	Lognormal GOF Test											
2112	Shapiro Wilk Test Statistic					0.855	Shapiro Wilk Lognormal GOF Test					
2113	5% Shapiro Wilk Critical Value					0.767	Data appear Lognormal at 5% Significance Level					
2114	Lilliefors Test Statistic					0.336	Lilliefors Lognormal GOF Test					
2115	5% Lilliefors Critical Value					0.425	Data appear Lognormal at 5% Significance Level					
2116	Data appear Lognormal at 5% Significance Level											
2117												
2118	Lognormal Statistics											
2119	Minimum of Logged Data					7.421	Mean of logged Data					7.468
2120	Maximum of Logged Data					7.544	SD of logged Data					0.0669

	A	B	C	D	E	F	G	H	I	J	K	L
2121												
2122	Assuming Lognormal Distribution											
2123	95% H-UCL					N/A	90% Chebyshev (MVUE) UCL					1956
2124	95% Chebyshev (MVUE) UCL					2048	97.5% Chebyshev (MVUE) UCL					2176
2125	99% Chebyshev (MVUE) UCL					2427						
2126												
2127	Nonparametric Distribution Free UCL Statistics											
2128	Data appear to follow a Discernible Distribution at 5% Significance Level											
2129												
2130	Nonparametric Distribution Free UCLs											
2131	95% CLT UCL					1867	95% Jackknife UCL					1954
2132	95% Standard Bootstrap UCL					N/A	95% Bootstrap-t UCL					N/A
2133	95% Hall's Bootstrap UCL					N/A	95% Percentile Bootstrap UCL					N/A
2134	95% BCA Bootstrap UCL					N/A						
2135	90% Chebyshev(Mean, Sd) UCL					1960	95% Chebyshev(Mean, Sd) UCL					2054
2136	97.5% Chebyshev(Mean, Sd) UCL					2183	99% Chebyshev(Mean, Sd) UCL					2439
2137												
2138	Suggested UCL to Use											
2139	95% Student's-t UCL					1954						
2140												
2141	Recommended UCL exceeds the maximum observation											
2142												
2143	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
2144	Recommendations are based upon data size, data distribution, and skewness.											
2145	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
2146	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
2147												
2148	Result2_ug/kg (lead, pb)											
2149												
2150	General Statistics											
2151	Total Number of Observations					103	Number of Distinct Observations					59
2152	Number of Detects					101	Number of Non-Detects					2
2153	Number of Distinct Detects					58	Number of Distinct Non-Detects					1
2154	Minimum Detect					600	Minimum Non-Detect					500
2155	Maximum Detect					1110000	Maximum Non-Detect					500
2156	Variance Detects					1.235E+10	Percent Non-Detects					1.942%
2157	Mean Detects					19274	SD Detects					111140
2158	Median Detects					3200	CV Detects					5.766
2159	Skewness Detects					9.652	Kurtosis Detects					95.42
2160	Mean of Logged Detects					8.286	SD of Logged Detects					1.168
2161												
2162	Normal GOF Test on Detects Only											
2163	Shapiro Wilk Test Statistic					0.162	Normal GOF Test on Detected Observations Only					
2164	5% Shapiro Wilk P Value					0	Detected Data Not Normal at 5% Significance Level					
2165	Lilliefors Test Statistic					0.433	Lilliefors GOF Test					
2166	5% Lilliefors Critical Value					0.0884	Detected Data Not Normal at 5% Significance Level					
2167	Detected Data Not Normal at 5% Significance Level											
2168												
2169	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
2170	KM Mean					18910	KM Standard Error of Mean					10847
2171	KM SD					109541	95% KM (BCA) UCL					40699
2172	95% KM (t) UCL					36915	95% KM (Percentile Bootstrap) UCL					39845
2173	95% KM (z) UCL					36752	95% KM Bootstrap t UCL					119427

	A	B	C	D	E	F	G	H	I	J	K	L
2174	90% KM Chebyshev UCL					51451	95% KM Chebyshev UCL					66191
2175	97.5% KM Chebyshev UCL					86650	99% KM Chebyshev UCL					126838
2176												
2177	Gamma GOF Tests on Detected Observations Only											
2178	A-D Test Statistic					17.72	Anderson-Darling GOF Test					
2179	5% A-D Critical Value					0.84	Detected Data Not Gamma Distributed at 5% Significance Level					
2180	K-S Test Statistic					0.356	Kolmogorov-Smirnov GOF					
2181	5% K-S Critical Value					0.0954	Detected Data Not Gamma Distributed at 5% Significance Level					
2182	Detected Data Not Gamma Distributed at 5% Significance Level											
2183												
2184	Gamma Statistics on Detected Data Only											
2185	k hat (MLE)					0.414	k star (bias corrected MLE)					0.408
2186	Theta hat (MLE)					46543	Theta star (bias corrected MLE)					47193
2187	nu hat (MLE)					83.65	nu star (bias corrected)					82.5
2188	Mean (detects)					19274						
2189												
2190	Gamma ROS Statistics using Imputed Non-Detects											
2191	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
2192	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
2193	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
2194	This is especially true when the sample size is small.											
2195	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
2196	Minimum					0.01	Mean					18900
2197	Maximum					1110000	Median					3200
2198	SD					110078	CV					5.824
2199	k hat (MLE)					0.368	k star (bias corrected MLE)					0.364
2200	Theta hat (MLE)					51321	Theta star (bias corrected MLE)					51921
2201	nu hat (MLE)					75.86	nu star (bias corrected)					74.99
2202	Adjusted Level of Significance (β)					0.0477						
2203	Approximate Chi Square Value (74.99, α)					56.04	Adjusted Chi Square Value (74.99, β)					55.81
2204	95% Gamma Approximate UCL (use when n>=50)					25289	95% Gamma Adjusted UCL (use when n<50)					25394
2205												
2206	Estimates of Gamma Parameters using KM Estimates											
2207	Mean (KM)					18910	SD (KM)					109541
2208	Variance (KM)					1.200E+10	SE of Mean (KM)					10847
2209	k hat (KM)					0.0298	k star (KM)					0.0354
2210	nu hat (KM)					6.139	nu star (KM)					7.293
2211	theta hat (KM)					634548	theta star (KM)					534100
2212	80% gamma percentile (KM)					565.7	90% gamma percentile (KM)					16203
2213	95% gamma percentile (KM)					83885	99% gamma percentile (KM)					465263
2214												
2215	Gamma Kaplan-Meier (KM) Statistics											
2216	Approximate Chi Square Value (7.29, α)					2.333	Adjusted Chi Square Value (7.29, β)					2.294
2217	95% Gamma Approximate KM-UCL (use when n>=50)					59116	95% Gamma Adjusted KM-UCL (use when n<50)					60133
2218												
2219	Lognormal GOF Test on Detected Observations Only											
2220	Shapiro Wilk Approximate Test Statistic					0.849	Shapiro Wilk GOF Test					
2221	5% Shapiro Wilk P Value					2.887E-15	Detected Data Not Lognormal at 5% Significance Level					
2222	Lilliefors Test Statistic					0.184	Lilliefors GOF Test					
2223	5% Lilliefors Critical Value					0.0884	Detected Data Not Lognormal at 5% Significance Level					
2224	Detected Data Not Lognormal at 5% Significance Level											
2225												
2226	Lognormal ROS Statistics Using Imputed Non-Detects											

	A	B	C	D	E	F	G	H	I	J	K	L
2227				Mean in Original Scale	18905					Mean in Log Scale	8.232	
2228				SD in Original Scale	110077					SD in Log Scale	1.219	
2229			95% t UCL (assumes normality of ROS data)	36909						95% Percentile Bootstrap UCL	40178	
2230			95% BCA Bootstrap UCL	53394						95% Bootstrap t UCL	120477	
2231			95% H-UCL (Log ROS)	10582								
2232												
2233				Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution								
2234				KM Mean (logged)	8.246					KM Geo Mean	3813	
2235				KM SD (logged)	1.186					95% Critical H Value (KM-Log)	2.384	
2236				KM Standard Error of Mean (logged)	0.117					95% H-UCL (KM -Log)	10186	
2237				KM SD (logged)	1.186					95% Critical H Value (KM-Log)	2.384	
2238				KM Standard Error of Mean (logged)	0.117							
2239												
2240				DL/2 Statistics								
2241				DL/2 Normal				DL/2 Log-Transformed				
2242				Mean in Original Scale	18905					Mean in Log Scale	8.233	
2243				SD in Original Scale	110077					SD in Log Scale	1.218	
2244				95% t UCL (Assumes normality)	36909					95% H-Stat UCL	10573	
2245				DL/2 is not a recommended method, provided for comparisons and historical reasons								
2246												
2247				Nonparametric Distribution Free UCL Statistics								
2248				Data do not follow a Discernible Distribution at 5% Significance Level								
2249												
2250				Suggested UCL to Use								
2251				95% KM (Chebyshev) UCL	66191							
2252												
2253				Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.								
2254				Recommendations are based upon data size, data distribution, and skewness.								
2255				These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).								
2256				However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.								
2257												
2258				Result2_ug/kg (mercury)								
2259												
2260				General Statistics								
2261				Total Number of Observations	3					Number of Distinct Observations	1	
2262				Number of Detects	0					Number of Non-Detects	3	
2263				Number of Distinct Detects	0					Number of Distinct Non-Detects	1	
2264												
2265				Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!								
2266				Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!								
2267				The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).								
2268												
2269				The data set for variable Result2_ug/kg (mercury) was not processed!								
2270												
2271												
2272				Result2_ug/kg (mercury, hg)								
2273												
2274				General Statistics								
2275				Total Number of Observations	103					Number of Distinct Observations	21	
2276				Number of Detects	27					Number of Non-Detects	76	
2277				Number of Distinct Detects	21					Number of Distinct Non-Detects	1	
2278				Minimum Detect	20					Minimum Non-Detect	20	
2279				Maximum Detect	62					Maximum Non-Detect	20	

	A	B	C	D	E	F	G	H	I	J	K	L
2280				Variance Detects		136				Percent Non-Detects		73.79%
2281				Mean Detects		35.52				SD Detects		11.66
2282				Median Detects		35				CV Detects		0.328
2283				Skewness Detects		0.662				Kurtosis Detects		-0.305
2284				Mean of Logged Detects		3.52				SD of Logged Detects		0.323
2285												
2286				Normal GOF Test on Detects Only								
2287				Shapiro Wilk Test Statistic		0.937		Shapiro Wilk GOF Test				
2288				5% Shapiro Wilk Critical Value		0.923		Detected Data appear Normal at 5% Significance Level				
2289				Lilliefors Test Statistic		0.126		Lilliefors GOF Test				
2290				5% Lilliefors Critical Value		0.167		Detected Data appear Normal at 5% Significance Level				
2291				Detected Data appear Normal at 5% Significance Level								
2292												
2293				Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs								
2294				KM Mean		24.07		KM Standard Error of Mean				0.903
2295				KM SD		8.994		95% KM (BCA) UCL				25.6
2296				95% KM (t) UCL		25.57		95% KM (Percentile Bootstrap) UCL				25.49
2297				95% KM (z) UCL		25.55		95% KM Bootstrap t UCL				25.88
2298				90% KM Chebyshev UCL		26.78		95% KM Chebyshev UCL				28
2299				97.5% KM Chebyshev UCL		29.71		99% KM Chebyshev UCL				33.05
2300												
2301				Gamma GOF Tests on Detected Observations Only								
2302				A-D Test Statistic		0.328		Anderson-Darling GOF Test				
2303				5% A-D Critical Value		0.744		Detected data appear Gamma Distributed at 5% Significance Level				
2304				K-S Test Statistic		0.105		Kolmogorov-Smirnov GOF				
2305				5% K-S Critical Value		0.168		Detected data appear Gamma Distributed at 5% Significance Level				
2306				Detected data appear Gamma Distributed at 5% Significance Level								
2307												
2308				Gamma Statistics on Detected Data Only								
2309				k hat (MLE)		10.08		k star (bias corrected MLE)				8.981
2310				Theta hat (MLE)		3.525		Theta star (bias corrected MLE)				3.955
2311				nu hat (MLE)		544.1		nu star (bias corrected)				485
2312				Mean (detects)		35.52						
2313												
2314				Gamma ROS Statistics using Imputed Non-Detects								
2315				GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs								
2316				GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)								
2317				For such situations, GROS method may yield incorrect values of UCLs and BTVs								
2318				This is especially true when the sample size is small.								
2319				For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates								
2320				Minimum		0.01		Mean				13.32
2321				Maximum		62		Median				7.891
2322				SD		15.62		CV				1.173
2323				k hat (MLE)		0.288		k star (bias corrected MLE)				0.286
2324				Theta hat (MLE)		46.19		Theta star (bias corrected MLE)				46.5
2325				nu hat (MLE)		59.39		nu star (bias corrected)				58.99
2326				Adjusted Level of Significance (β)		0.0477						
2327				Approximate Chi Square Value (58.99, α)		42.33		Adjusted Chi Square Value (58.99, β)				42.13
2328				95% Gamma Approximate UCL (use when n>=50)		18.56		95% Gamma Adjusted UCL (use when n<50)				18.64
2329												
2330				Estimates of Gamma Parameters using KM Estimates								
2331				Mean (KM)		24.07		SD (KM)				8.994
2332				Variance (KM)		80.9		SE of Mean (KM)				0.903

	A	B	C	D	E	F	G	H	I	J	K	L
2333					k hat (KM)	7.16					k star (KM)	6.958
2334					nu hat (KM)	1475					nu star (KM)	1433
2335					theta hat (KM)	3.361					theta star (KM)	3.459
2336					80% gamma percentile (KM)	31.22					90% gamma percentile (KM)	36.25
2337					95% gamma percentile (KM)	40.77					99% gamma percentile (KM)	50.19
2338												
2339	Gamma Kaplan-Meier (KM) Statistics											
2340	Approximate Chi Square Value (N/A, α)					1347	Adjusted Chi Square Value (N/A, β)					1345
2341	95% Gamma Approximate KM-UCL (use when $n \geq 50$)					25.62	95% Gamma Adjusted KM-UCL (use when $n < 50$)					25.64
2342												
2343	Lognormal GOF Test on Detected Observations Only											
2344	Shapiro Wilk Test Statistic					0.962	Shapiro Wilk GOF Test					
2345	5% Shapiro Wilk Critical Value					0.923	Detected Data appear Lognormal at 5% Significance Level					
2346	Lilliefors Test Statistic					0.0893	Lilliefors GOF Test					
2347	5% Lilliefors Critical Value					0.167	Detected Data appear Lognormal at 5% Significance Level					
2348	Detected Data appear Lognormal at 5% Significance Level											
2349												
2350	Lognormal ROS Statistics Using Imputed Non-Detects											
2351	Mean in Original Scale					18.02	Mean in Log Scale					2.666
2352	SD in Original Scale					12.78	SD in Log Scale					0.681
2353	95% t UCL (assumes normality of ROS data)					20.11	95% Percentile Bootstrap UCL					20.14
2354	95% BCA Bootstrap UCL					20.2	95% Bootstrap t UCL					20.47
2355	95% H-UCL (Log ROS)					20.67						
2356												
2357	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
2358	KM Mean (logged)					3.133	KM Geo Mean					22.94
2359	KM SD (logged)					0.282	95% Critical H Value (KM-Log)					1.726
2360	KM Standard Error of Mean (logged)					0.0283	95% H-UCL (KM -Log)					25.05
2361	KM SD (logged)					0.282	95% Critical H Value (KM-Log)					1.726
2362	KM Standard Error of Mean (logged)					0.0283						
2363												
2364	DL/2 Statistics											
2365	DL/2 Normal						DL/2 Log-Transformed					
2366	Mean in Original Scale					16.69	Mean in Log Scale					2.622
2367	SD in Original Scale					12.72	SD in Log Scale					0.562
2368	95% t UCL (Assumes normality)					18.77	95% H-Stat UCL					17.88
2369	DL/2 is not a recommended method, provided for comparisons and historical reasons											
2370												
2371	Nonparametric Distribution Free UCL Statistics											
2372	Detected Data appear Normal Distributed at 5% Significance Level											
2373												
2374	Suggested UCL to Use											
2375	95% KM (t) UCL					25.57						
2376												
2377	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
2378	Recommendations are based upon data size, data distribution, and skewness.											
2379	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
2380	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
2381												
2382	Result2_ug/kg (methylene chloride)											
2383												
2384	General Statistics											
2385	Total Number of Observations					108	Number of Distinct Observations					1

	A	B	C	D	E	F	G	H	I	J	K	L
2386	Number of Detects					0	Number of Non-Detects					108
2387	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
2388												
2389	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2390	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2391	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
2392												
2393	The data set for variable Result2_ug/kg (methylene chloride) was not processed!											
2394												
2395												
2396	Result2_ug/kg (methyl-t-butyl ether (mtbe))											
2397												
2398	General Statistics											
2399	Total Number of Observations					108	Number of Distinct Observations					2
2400	Number of Detects					0	Number of Non-Detects					108
2401	Number of Distinct Detects					0	Number of Distinct Non-Detects					2
2402												
2403	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2404	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2405	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
2406												
2407	The data set for variable Result2_ug/kg (methyl-t-butyl ether (mtbe)) was not processed!											
2408												
2409												
2410	Result2_ug/kg (molybdenum)											
2411												
2412	General Statistics											
2413	Total Number of Observations					3	Number of Distinct Observations					1
2414	Number of Detects					0	Number of Non-Detects					3
2415	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
2416												
2417	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2418	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2419	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
2420												
2421	The data set for variable Result2_ug/kg (molybdenum) was not processed!											
2422												
2423												
2424	Result2_ug/kg (molybdenum, mo)											
2425												
2426	General Statistics											
2427	Total Number of Observations					103	Number of Distinct Observations					2
2428	Number of Detects					1	Number of Non-Detects					102
2429	Number of Distinct Detects					1	Number of Distinct Non-Detects					1
2430												
2431	Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!											
2432	It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).											
2433												
2434	The data set for variable Result2_ug/kg (molybdenum, mo) was not processed!											
2435												
2436												
2437	Result2_ug/kg (naphthalene)											
2438												

	A	B	C	D	E	F	G	H	I	J	K	L
2439	General Statistics											
2440	Total Number of Observations					108	Number of Distinct Observations					1
2441	Number of Detects					0	Number of Non-Detects					108
2442	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
2443												
2444	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2445	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2446	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
2447												
2448	The data set for variable Result2_ug/kg (naphthalene) was not processed!											
2449												
2450												
2451	Result2_ug/kg (n-butylbenzene)											
2452												
2453	General Statistics											
2454	Total Number of Observations					108	Number of Distinct Observations					1
2455	Number of Detects					0	Number of Non-Detects					108
2456	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
2457												
2458	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2459	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2460	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
2461												
2462	The data set for variable Result2_ug/kg (n-butylbenzene) was not processed!											
2463												
2464												
2465												
2466	Result2_ug/kg (nickel)											
2467												
2468	General Statistics											
2469	Total Number of Observations					3	Number of Distinct Observations					3
2470							Number of Missing Observations					0
2471	Minimum					10800	Mean					14500
2472	Maximum					17600	Median					15100
2473	SD					3439	Std. Error of Mean					1986
2474	Coefficient of Variation					0.237	Skewness					-0.761
2475												
2476	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
2477	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
2478	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
2479	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
2480												
2481	Normal GOF Test											
2482	Shapiro Wilk Test Statistic					0.977	Shapiro Wilk GOF Test					
2483	5% Shapiro Wilk Critical Value					0.767	Data appear Normal at 5% Significance Level					
2484	Lilliefors Test Statistic					0.236	Lilliefors GOF Test					
2485	5% Lilliefors Critical Value					0.425	Data appear Normal at 5% Significance Level					
2486	Data appear Normal at 5% Significance Level											
2487												
2488	Assuming Normal Distribution											
2489	95% Normal UCL					95% UCLs (Adjusted for Skewness)						
2490	95% Student's-t UCL					20298	95% Adjusted-CLT UCL (Chen-1995)					16834
2491							95% Modified-t UCL (Johnson-1978)					20153

	A	B	C	D	E	F	G	H	I	J	K	L
2492												
2493	Gamma GOF Test											
2494	Not Enough Data to Perform GOF Test											
2495												
2496	Gamma Statistics											
2497	k hat (MLE)				25.04		k star (bias corrected MLE)				N/A	
2498	Theta hat (MLE)				579.1		Theta star (bias corrected MLE)				N/A	
2499	nu hat (MLE)				150.2		nu star (bias corrected)				N/A	
2500	MLE Mean (bias corrected)				N/A		MLE Sd (bias corrected)				N/A	
2501							Approximate Chi Square Value (0.05)				N/A	
2502	Adjusted Level of Significance				N/A		Adjusted Chi Square Value				N/A	
2503												
2504	Assuming Gamma Distribution											
2505	95% Approximate Gamma UCL (use when n>=50))				N/A		95% Adjusted Gamma UCL (use when n<50)				N/A	
2506												
2507	Lognormal GOF Test											
2508	Shapiro Wilk Test Statistic				0.956		Shapiro Wilk Lognormal GOF Test					
2509	5% Shapiro Wilk Critical Value				0.767		Data appear Lognormal at 5% Significance Level					
2510	Lilliefors Test Statistic				0.263		Lilliefors Lognormal GOF Test					
2511	5% Lilliefors Critical Value				0.425		Data appear Lognormal at 5% Significance Level					
2512	Data appear Lognormal at 5% Significance Level											
2513												
2514	Lognormal Statistics											
2515	Minimum of Logged Data				9.287		Mean of logged Data				9.562	
2516	Maximum of Logged Data				9.776		SD of logged Data				0.25	
2517												
2518	Assuming Lognormal Distribution											
2519	95% H-UCL				28016		90% Chebyshev (MVUE) UCL				20736	
2520	95% Chebyshev (MVUE) UCL				23557		97.5% Chebyshev (MVUE) UCL				27473	
2521	99% Chebyshev (MVUE) UCL				35164							
2522												
2523	Nonparametric Distribution Free UCL Statistics											
2524	Data appear to follow a Discernible Distribution at 5% Significance Level											
2525												
2526	Nonparametric Distribution Free UCLs											
2527	95% CLT UCL				17766		95% Jackknife UCL				20298	
2528	95% Standard Bootstrap UCL				N/A		95% Bootstrap-t UCL				N/A	
2529	95% Hall's Bootstrap UCL				N/A		95% Percentile Bootstrap UCL				N/A	
2530	95% BCA Bootstrap UCL				N/A							
2531	90% Chebyshev(Mean, Sd) UCL				20457		95% Chebyshev(Mean, Sd) UCL				23156	
2532	97.5% Chebyshev(Mean, Sd) UCL				26901		99% Chebyshev(Mean, Sd) UCL				34258	
2533												
2534	Suggested UCL to Use											
2535	95% Student's-t UCL				20298							
2536												
2537	Recommended UCL exceeds the maximum observation											
2538												
2539	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
2540	Recommendations are based upon data size, data distribution, and skewness.											
2541	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
2542	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
2543												
2544	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											

	A	B	C	D	E	F	G	H	I	J	K	L
2545	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
2546												
2547												
2548	Result2_ug/kg (nickel, ni)											
2549												
2550	General Statistics											
2551	Total Number of Observations				103		Number of Distinct Observations				87	
2552							Number of Missing Observations				0	
2553	Minimum				2300		Mean				18606	
2554	Maximum				47100		Median				18800	
2555	SD				6432		Std. Error of Mean				633.8	
2556	Coefficient of Variation				0.346		Skewness				0.597	
2557												
2558	Normal GOF Test											
2559	Shapiro Wilk Test Statistic				0.975		Shapiro Wilk GOF Test					
2560	5% Shapiro Wilk P Value				0.283		Data appear Normal at 5% Significance Level					
2561	Lilliefors Test Statistic				0.0572		Lilliefors GOF Test					
2562	5% Lilliefors Critical Value				0.0876		Data appear Normal at 5% Significance Level					
2563	Data appear Normal at 5% Significance Level											
2564												
2565	Assuming Normal Distribution											
2566	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
2567	95% Student's-t UCL				19658		95% Adjusted-CLT UCL (Chen-1995)				19688	
2568							95% Modified-t UCL (Johnson-1978)				19664	
2569												
2570	Gamma GOF Test											
2571	A-D Test Statistic				1.138		Anderson-Darling Gamma GOF Test					
2572	5% A-D Critical Value				0.753		Data Not Gamma Distributed at 5% Significance Level					
2573	K-S Test Statistic				0.09		Kolmogorov-Smirnov Gamma GOF Test					
2574	5% K-S Critical Value				0.0887		Data Not Gamma Distributed at 5% Significance Level					
2575	Data Not Gamma Distributed at 5% Significance Level											
2576												
2577	Gamma Statistics											
2578	k hat (MLE)				7.288		k star (bias corrected MLE)				7.082	
2579	Theta hat (MLE)				2553		Theta star (bias corrected MLE)				2627	
2580	nu hat (MLE)				1501		nu star (bias corrected)				1459	
2581	MLE Mean (bias corrected)				18606		MLE Sd (bias corrected)				6991	
2582							Approximate Chi Square Value (0.05)				1371	
2583	Adjusted Level of Significance				0.0477		Adjusted Chi Square Value				1370	
2584												
2585	Assuming Gamma Distribution											
2586	95% Approximate Gamma UCL (use when n>=50))				19796		95% Adjusted Gamma UCL (use when n<50)				19813	
2587												
2588	Lognormal GOF Test											
2589	Shapiro Wilk Test Statistic				0.915		Shapiro Wilk Lognormal GOF Test					
2590	5% Shapiro Wilk P Value				2.0528E-7		Data Not Lognormal at 5% Significance Level					
2591	Lilliefors Test Statistic				0.115		Lilliefors Lognormal GOF Test					
2592	5% Lilliefors Critical Value				0.0876		Data Not Lognormal at 5% Significance Level					
2593	Data Not Lognormal at 5% Significance Level											
2594												
2595	Lognormal Statistics											
2596	Minimum of Logged Data				7.741		Mean of logged Data				9.761	
2597	Maximum of Logged Data				10.76		SD of logged Data				0.41	

	A	B	C	D	E	F	G	H	I	J	K	L
2598												
2599	Assuming Lognormal Distribution											
2600	95% H-UCL					20279	90% Chebyshev (MVUE) UCL					21217
2601	95% Chebyshev (MVUE) UCL					22290	97.5% Chebyshev (MVUE) UCL					23780
2602	99% Chebyshev (MVUE) UCL					26705						
2603												
2604	Nonparametric Distribution Free UCL Statistics											
2605	Data appear to follow a Discernible Distribution at 5% Significance Level											
2606												
2607	Nonparametric Distribution Free UCLs											
2608	95% CLT UCL					19648	95% Jackknife UCL					19658
2609	95% Standard Bootstrap UCL					19641	95% Bootstrap-t UCL					19643
2610	95% Hall's Bootstrap UCL					19683	95% Percentile Bootstrap UCL					19706
2611	95% BCA Bootstrap UCL					19634						
2612	90% Chebyshev(Mean, Sd) UCL					20507	95% Chebyshev(Mean, Sd) UCL					21368
2613	97.5% Chebyshev(Mean, Sd) UCL					22564	99% Chebyshev(Mean, Sd) UCL					24912
2614												
2615	Suggested UCL to Use											
2616	95% Student's-t UCL					19658						
2617												
2618	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
2619	Recommendations are based upon data size, data distribution, and skewness.											
2620	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
2621	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
2622												
2623	Result2_ug/kg (n-propylbenzene)											
2624												
2625	General Statistics											
2626	Total Number of Observations					108	Number of Distinct Observations					1
2627	Number of Detects					0	Number of Non-Detects					108
2628	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
2629												
2630	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2631	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2632	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
2633												
2634	The data set for variable Result2_ug/kg (n-propylbenzene) was not processed!											
2635												
2636												
2637	Result2_ug/kg (oro (c29-c32))											
2638												
2639	General Statistics											
2640	Total Number of Observations					108	Number of Distinct Observations					4
2641	Number of Detects					3	Number of Non-Detects					105
2642	Number of Distinct Detects					3	Number of Distinct Non-Detects					1
2643	Minimum Detect					42.1	Minimum Non-Detect					10
2644	Maximum Detect					169	Maximum Non-Detect					10
2645	Variance Detects					4194	Percent Non-Detects					97.22%
2646	Mean Detects					113	SD Detects					64.76
2647	Median Detects					128	CV Detects					0.573
2648	Skewness Detects					-0.984	Kurtosis Detects					N/A
2649	Mean of Logged Detects					4.574	SD of Logged Detects					0.735
2650												

	A	B	C	D	E	F	G	H	I	J	K	L
2651	Warning: Data set has only 3 Detected Values.											
2652	This is not enough to compute meaningful or reliable statistics and estimates.											
2653												
2654												
2655	Normal GOF Test on Detects Only											
2656	Shapiro Wilk Test Statistic				0.96		Shapiro Wilk GOF Test					
2657	5% Shapiro Wilk Critical Value				0.767		Detected Data appear Normal at 5% Significance Level					
2658	Lilliefors Test Statistic				0.258		Lilliefors GOF Test					
2659	5% Lilliefors Critical Value				0.425		Detected Data appear Normal at 5% Significance Level					
2660	Detected Data appear Normal at 5% Significance Level											
2661												
2662	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
2663	KM Mean				12.86		KM Standard Error of Mean				2.25	
2664	KM SD				19.09		95% KM (BCA) UCL				N/A	
2665	95% KM (t) UCL				16.59		95% KM (Percentile Bootstrap) UCL				N/A	
2666	95% KM (z) UCL				16.56		95% KM Bootstrap t UCL				N/A	
2667	90% KM Chebyshev UCL				19.61		95% KM Chebyshev UCL				22.67	
2668	97.5% KM Chebyshev UCL				26.91		99% KM Chebyshev UCL				35.24	
2669												
2670	Gamma GOF Tests on Detected Observations Only											
2671	Not Enough Data to Perform GOF Test											
2672												
2673	Gamma Statistics on Detected Data Only											
2674	k hat (MLE)				3.411		k star (bias corrected MLE)				N/A	
2675	Theta hat (MLE)				33.14		Theta star (bias corrected MLE)				N/A	
2676	nu hat (MLE)				20.47		nu star (bias corrected)				N/A	
2677	Mean (detects)				113							
2678												
2679	Gamma ROS Statistics using Imputed Non-Detects											
2680	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
2681	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
2682	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
2683	This is especially true when the sample size is small.											
2684	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
2685	Minimum				0.01		Mean				3.15	
2686	Maximum				169		Median				0.01	
2687	SD				20.65		CV				6.558	
2688	k hat (MLE)				0.141		k star (bias corrected MLE)				0.143	
2689	Theta hat (MLE)				22.33		Theta star (bias corrected MLE)				21.98	
2690	nu hat (MLE)				30.47		nu star (bias corrected)				30.95	
2691	Adjusted Level of Significance (β)				0.0478							
2692	Approximate Chi Square Value (30.95, α)				19.24		Adjusted Chi Square Value (30.95, β)				19.12	
2693	95% Gamma Approximate UCL (use when n>=50)				5.066		95% Gamma Adjusted UCL (use when n<50)				N/A	
2694												
2695	Estimates of Gamma Parameters using KM Estimates											
2696	Mean (KM)				12.86		SD (KM)				19.09	
2697	Variance (KM)				364.4		SE of Mean (KM)				2.25	
2698	k hat (KM)				0.454		k star (KM)				0.448	
2699	nu hat (KM)				98.07		nu star (KM)				96.68	
2700	theta hat (KM)				28.33		theta star (KM)				28.74	
2701	80% gamma percentile (KM)				20.98		90% gamma percentile (KM)				35.58	
2702	95% gamma percentile (KM)				51.38		99% gamma percentile (KM)				90.67	
2703												

	A	B	C	D	E	F	G	H	I	J	K	L
2704	Gamma Kaplan-Meier (KM) Statistics											
2705	Approximate Chi Square Value (96.68, α)					75	Adjusted Chi Square Value (96.68, β)					74.74
2706	95% Gamma Approximate KM-UCL (use when $n \geq 50$)					16.58	95% Gamma Adjusted KM-UCL (use when $n < 50$)					16.64
2707												
2708	Lognormal GOF Test on Detected Observations Only											
2709	Shapiro Wilk Test Statistic					0.893	Shapiro Wilk GOF Test					
2710	5% Shapiro Wilk Critical Value					0.767	Detected Data appear Lognormal at 5% Significance Level					
2711	Lilliefors Test Statistic					0.314	Lilliefors GOF Test					
2712	5% Lilliefors Critical Value					0.425	Detected Data appear Lognormal at 5% Significance Level					
2713	Detected Data appear Lognormal at 5% Significance Level											
2714												
2715	Lognormal ROS Statistics Using Imputed Non-Detects											
2716	Mean in Original Scale					4.396	Mean in Log Scale					-2.297
2717	SD in Original Scale					20.76	SD in Log Scale					3.001
2718	95% t UCL (assumes normality of ROS data)					7.711	95% Percentile Bootstrap UCL					8.139
2719	95% BCA Bootstrap UCL					10.29	95% Bootstrap t UCL					18.3
2720	95% H-UCL (Log ROS)					34.5						
2721												
2722	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
2723	KM Mean (logged)					2.366	KM Geo Mean					10.65
2724	KM SD (logged)					0.386	95% Critical H Value (KM-Log)					1.773
2725	KM Standard Error of Mean (logged)					0.0455	95% H-UCL (KM -Log)					12.26
2726	KM SD (logged)					0.386	95% Critical H Value (KM-Log)					1.773
2727	KM Standard Error of Mean (logged)					0.0455						
2728												
2729	DL/2 Statistics											
2730	DL/2 Normal						DL/2 Log-Transformed					
2731	Mean in Original Scale					8.001	Mean in Log Scale					1.692
2732	SD in Original Scale					19.91	SD in Log Scale					0.5
2733	95% t UCL (Assumes normality)					11.18	95% H-Stat UCL					6.72
2734	DL/2 is not a recommended method, provided for comparisons and historical reasons											
2735												
2736	Nonparametric Distribution Free UCL Statistics											
2737	Detected Data appear Normal Distributed at 5% Significance Level											
2738												
2739	Suggested UCL to Use											
2740	95% KM (t) UCL					16.59						
2741												
2742	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
2743	Recommendations are based upon data size, data distribution, and skewness.											
2744	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
2745	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
2746												
2747	Result2_ug/kg (sec-butylbenzene)											
2748												
2749	General Statistics											
2750	Total Number of Observations					108	Number of Distinct Observations					1
2751	Number of Detects					0	Number of Non-Detects					108
2752	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
2753												
2754	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2755	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2756	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation			ProUCL 5.13/22/2017 2:29:20 PM								
5	From File			Soil Data_BOTHlayers_a.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10	Result2 (tetrachloroethylene_ug/g)											
11												
12	General Statistics											
13	Total Number of Observations				115	Number of Distinct Observations				68		
14	Number of Detects				83	Number of Non-Detects				32		
15	Number of Distinct Detects				67	Number of Distinct Non-Detects				1		
16	Minimum Detect				0.001	Minimum Non-Detect				1		
17	Maximum Detect				3.33	Maximum Non-Detect				1		
18	Variance Detects				0.281	Percent Non-Detects				27.83%		
19	Mean Detects				0.131	SD Detects				0.53		
20	Median Detects				0.0082	CV Detects				4.035		
21	Skewness Detects				5.005	Kurtosis Detects				24.87		
22	Mean of Logged Detects				-4.537	SD of Logged Detects				1.788		
23												
24	Normal GOF Test on Detects Only											
25	Shapiro Wilk Test Statistic				0.268	Normal GOF Test on Detected Observations Only						
26	5% Shapiro Wilk P Value				0	Detected Data Not Normal at 5% Significance Level						
27	Lilliefors Test Statistic				0.455	Lilliefors GOF Test						
28	5% Lilliefors Critical Value				0.0974	Detected Data Not Normal at 5% Significance Level						
29	Detected Data Not Normal at 5% Significance Level											
30												
31	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
32	KM Mean				0.104	KM Standard Error of Mean				0.0429		
33	KM SD				0.453	95% KM (BCA) UCL				0.184		
34	95% KM (t) UCL				0.175	95% KM (Percentile Bootstrap) UCL				0.18		
35	95% KM (z) UCL				0.174	95% KM Bootstrap t UCL				0.235		
36	90% KM Chebyshev UCL				0.232	95% KM Chebyshev UCL				0.291		
37	97.5% KM Chebyshev UCL				0.371	99% KM Chebyshev UCL				0.53		
38												
39	Gamma GOF Tests on Detected Observations Only											
40	A-D Test Statistic				12.07	Anderson-Darling GOF Test						
41	5% A-D Critical Value				0.876	Detected Data Not Gamma Distributed at 5% Significance Level						
42	K-S Test Statistic				0.322	Kolmogorov-Smirnov GOF						
43	5% K-S Critical Value				0.107	Detected Data Not Gamma Distributed at 5% Significance Level						
44	Detected Data Not Gamma Distributed at 5% Significance Level											
45												
46	Gamma Statistics on Detected Data Only											
47	k hat (MLE)				0.278	k star (bias corrected MLE)				0.276		
48	Theta hat (MLE)				0.472	Theta star (bias corrected MLE)				0.476		
49	nu hat (MLE)				46.21	nu star (bias corrected)				45.87		
50	Mean (detects)				0.131							
51												
52	Gamma ROS Statistics using Imputed Non-Detects											
53	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
54	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											

	A	B	C	D	E	F	G	H	I	J	K	L
55	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
56	This is especially true when the sample size is small.											
57	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
58	Minimum				0.001	Mean				0.128		
59	Maximum				3.33	Median				0.01		
60	SD				0.465	CV				3.635		
61	k hat (MLE)				0.31	k star (bias corrected MLE)				0.308		
62	Theta hat (MLE)				0.412	Theta star (bias corrected MLE)				0.415		
63	nu hat (MLE)				71.37	nu star (bias corrected)				70.84		
64	Adjusted Level of Significance (β)				0.0479							
65	Approximate Chi Square Value (70.84, α)				52.46	Adjusted Chi Square Value (70.84, β)				52.26		
66	95% Gamma Approximate UCL (use when $n \geq 50$)				0.173	95% Gamma Adjusted UCL (use when $n < 50$)				0.173		
67												
68	Estimates of Gamma Parameters using KM Estimates											
69	Mean (KM)				0.104	SD (KM)				0.453		
70	Variance (KM)				0.205	SE of Mean (KM)				0.0429		
71	k hat (KM)				0.0525	k star (KM)				0.0569		
72	nu hat (KM)				12.08	nu star (KM)				13.1		
73	theta hat (KM)				1.976	theta star (KM)				1.822		
74	80% gamma percentile (KM)				0.0215	90% gamma percentile (KM)				0.185		
75	95% gamma percentile (KM)				0.574	99% gamma percentile (KM)				2.14		
76												
77	Gamma Kaplan-Meier (KM) Statistics											
78	Approximate Chi Square Value (13.10, α)				5.958	Adjusted Chi Square Value (13.10, β)				5.897		
79	95% Gamma Approximate KM-UCL (use when $n \geq 50$)				0.228	95% Gamma Adjusted KM-UCL (use when $n < 50$)				0.23		
80												
81	Lognormal GOF Test on Detected Observations Only											
82	Shapiro Wilk Approximate Test Statistic				0.887	Shapiro Wilk GOF Test						
83	5% Shapiro Wilk P Value				2.5518E-8	Detected Data Not Lognormal at 5% Significance Level						
84	Lilliefors Test Statistic				0.107	Lilliefors GOF Test						
85	5% Lilliefors Critical Value				0.0974	Detected Data Not Lognormal at 5% Significance Level						
86	Detected Data Not Lognormal at 5% Significance Level											
87												
88	Lognormal ROS Statistics Using Imputed Non-Detects											
89	Mean in Original Scale				0.102	Mean in Log Scale				-4.575		
90	SD in Original Scale				0.453	SD in Log Scale				1.71		
91	95% t UCL (assumes normality of ROS data)				0.172	95% Percentile Bootstrap UCL				0.174		
92	95% BCA Bootstrap UCL				0.204	95% Bootstrap t UCL				0.34		
93	95% H-UCL (Log ROS)				0.0716							
94												
95	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
96	KM Mean (logged)				-4.595	KM Geo Mean				0.0101		
97	KM SD (logged)				1.693	95% Critical H Value (KM-Log)				2.957		
98	KM Standard Error of Mean (logged)				0.18	95% H-UCL (KM -Log)				0.0676		
99	KM SD (logged)				1.693	95% Critical H Value (KM-Log)				2.957		
100	KM Standard Error of Mean (logged)				0.18							
101												
102	DL/2 Statistics											
103	DL/2 Normal					DL/2 Log-Transformed						
104	Mean in Original Scale				0.234	Mean in Log Scale				-3.468		
105	SD in Original Scale				0.479	SD in Log Scale				2.301		
106	95% t UCL (Assumes normality)				0.308	95% H-Stat UCL				0.977		
107	DL/2 is not a recommended method, provided for comparisons and historical reasons											
108												

	A	B	C	D	E	F	G	H	I	J	K	L
109	Nonparametric Distribution Free UCL Statistics											
110	Data do not follow a Discernible Distribution at 5% Significance Level											
111												
112	Suggested UCL to Use											
113	95% KM (Chebyshev) UCL					0.291						
114												
115	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
116	Recommendations are based upon data size, data distribution, and skewness.											
117	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
118	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
119												

	A	B	C	D	E	F	G	H	I	J	K	L
2757												
2758	The data set for variable Result2_ug/kg (sec-butylbenzene) was not processed!											
2759												
2760												
2761	Result2_ug/kg (selenium)											
2762												
2763	General Statistics											
2764	Total Number of Observations				3		Number of Distinct Observations				1	
2765	Number of Detects				0		Number of Non-Detects				3	
2766	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
2767												
2768	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2769	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2770	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
2771												
2772	The data set for variable Result2_ug/kg (selenium) was not processed!											
2773												
2774												
2775	Result2_ug/kg (selenium, se)											
2776												
2777	General Statistics											
2778	Total Number of Observations				103		Number of Distinct Observations				1	
2779	Number of Detects				0		Number of Non-Detects				103	
2780	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
2781												
2782	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2783	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2784	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
2785												
2786	The data set for variable Result2_ug/kg (selenium, se) was not processed!											
2787												
2788												
2789	Result2_ug/kg (silver)											
2790												
2791	General Statistics											
2792	Total Number of Observations				3		Number of Distinct Observations				1	
2793	Number of Detects				0		Number of Non-Detects				3	
2794	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
2795												
2796	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2797	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2798	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
2799												
2800	The data set for variable Result2_ug/kg (silver) was not processed!											
2801												
2802												
2803	Result2_ug/kg (silver, ag)											
2804												
2805	General Statistics											
2806	Total Number of Observations				103		Number of Distinct Observations				1	
2807	Number of Detects				0		Number of Non-Detects				103	
2808	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
2809												

	A	B	C	D	E	F	G	H	I	J	K	L
2810	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2811	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2812	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
2813												
2814	The data set for variable Result2_ug/kg (silver, ag) was not processed!											
2815												
2816												
2817	Result2_ug/kg (styrene)											
2818												
2819	General Statistics											
2820	Total Number of Observations			108		Number of Distinct Observations			1			
2821	Number of Detects			0		Number of Non-Detects			108			
2822	Number of Distinct Detects			0		Number of Distinct Non-Detects			1			
2823												
2824	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2825	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2826	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
2827												
2828	The data set for variable Result2_ug/kg (styrene) was not processed!											
2829												
2830												
2831	Result2_ug/kg (tert- butylalcohol (tba))											
2832												
2833	General Statistics											
2834	Total Number of Observations			108		Number of Distinct Observations			2			
2835	Number of Detects			0		Number of Non-Detects			108			
2836	Number of Distinct Detects			0		Number of Distinct Non-Detects			2			
2837												
2838	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2839	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2840	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
2841												
2842	The data set for variable Result2_ug/kg (tert- butylalcohol (tba)) was not processed!											
2843												
2844												
2845	Result2_ug/kg (tert-amylmethylether (tame))											
2846												
2847	General Statistics											
2848	Total Number of Observations			108		Number of Distinct Observations			2			
2849	Number of Detects			0		Number of Non-Detects			108			
2850	Number of Distinct Detects			0		Number of Distinct Non-Detects			2			
2851												
2852	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
2853	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
2854	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
2855												
2856	The data set for variable Result2_ug/kg (tert-amylmethylether (tame)) was not processed!											
2857												
2858												
2859	Result2_ug/kg (tert-butylbenzene)											
2860												
2861	General Statistics											
2862	Total Number of Observations			108		Number of Distinct Observations			1			

	A	B	C	D	E	F	G	H	I	J	K	L
3022	The data set for variable Result2_ug/kg (toluene) was not processed!											
3023												
3024												
3025	Result2_ug/kg (tph gasoline range)											
3026												
3027	General Statistics											
3028	Total Number of Observations					84	Number of Distinct Observations					2
3029	Number of Detects					0	Number of Non-Detects					84
3030	Number of Distinct Detects					0	Number of Distinct Non-Detects					2
3031												
3032	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
3033	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
3034	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
3035												
3036	The data set for variable Result2_ug/kg (tph gasoline range) was not processed!											
3037												
3038												
3039	Result2_ug/kg (trans-1,2-dichloroethene)											
3040												
3041	General Statistics											
3042	Total Number of Observations					108	Number of Distinct Observations					2
3043	Number of Detects					1	Number of Non-Detects					107
3044	Number of Distinct Detects					1	Number of Distinct Non-Detects					1
3045												
3046	Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!											
3047	s suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BT											
3048												
3049	The data set for variable Result2_ug/kg (trans-1,2-dichloroethene) was not processed!											
3050												
3051												
3052	Result2_ug/kg (trans-1,3-dichloropropene)											
3053												
3054	General Statistics											
3055	Total Number of Observations					108	Number of Distinct Observations					1
3056	Number of Detects					0	Number of Non-Detects					108
3057	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
3058												
3059	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
3060	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
3061	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
3062												
3063	The data set for variable Result2_ug/kg (trans-1,3-dichloropropene) was not processed!											
3064												
3065												
3066	Result2_ug/kg (trichloroethylene)											
3067												
3068	General Statistics											
3069	Total Number of Observations					108	Number of Distinct Observations					16
3070	Number of Detects					17	Number of Non-Detects					91
3071	Number of Distinct Detects					16	Number of Distinct Non-Detects					1
3072	Minimum Detect					1	Minimum Non-Detect					1
3073	Maximum Detect					4800	Maximum Non-Detect					1
3074	Variance Detects					1346650	Percent Non-Detects					84.26%

	A	B	C	D	E	F	G	H	I	J	K	L
3075				Mean Detects		299.2					SD Detects	1160
3076				Median Detects		2.7					CV Detects	3.878
3077				Skewness Detects		4.116					Kurtosis Detects	16.96
3078				Mean of Logged Detects		1.947					SD of Logged Detects	2.222
3079												
3080	Normal GOF Test on Detects Only											
3081				Shapiro Wilk Test Statistic		0.28		Shapiro Wilk GOF Test				
3082				5% Shapiro Wilk Critical Value		0.892		Detected Data Not Normal at 5% Significance Level				
3083				Lilliefors Test Statistic		0.491		Lilliefors GOF Test				
3084				5% Lilliefors Critical Value		0.207		Detected Data Not Normal at 5% Significance Level				
3085	Detected Data Not Normal at 5% Significance Level											
3086												
3087	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
3088				KM Mean		47.94		KM Standard Error of Mean				45.59
3089				KM SD		459.7		95% KM (BCA) UCL				136.3
3090				95% KM (t) UCL		123.6		95% KM (Percentile Bootstrap) UCL				136.8
3091				95% KM (z) UCL		122.9		95% KM Bootstrap t UCL				6545
3092				90% KM Chebyshev UCL		184.7		95% KM Chebyshev UCL				246.7
3093				97.5% KM Chebyshev UCL		332.7		99% KM Chebyshev UCL				501.6
3094												
3095	Gamma GOF Tests on Detected Observations Only											
3096				A-D Test Statistic		3.422		Anderson-Darling GOF Test				
3097				5% A-D Critical Value		0.889		Detected Data Not Gamma Distributed at 5% Significance Level				
3098				K-S Test Statistic		0.361		Kolmogorov-Smirnov GOF				
3099				5% K-S Critical Value		0.232		Detected Data Not Gamma Distributed at 5% Significance Level				
3100	Detected Data Not Gamma Distributed at 5% Significance Level											
3101												
3102	Gamma Statistics on Detected Data Only											
3103				k hat (MLE)		0.197		k star (bias corrected MLE)				0.201
3104				Theta hat (MLE)		1522		Theta star (bias corrected MLE)				1488
3105				nu hat (MLE)		6.682		nu star (bias corrected)				6.836
3106				Mean (detects)		299.2						
3107												
3108	Gamma ROS Statistics using Imputed Non-Detects											
3109	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
3110	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
3111	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
3112	This is especially true when the sample size is small.											
3113	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
3114				Minimum		0.01		Mean				47.11
3115				Maximum		4800		Median				0.01
3116				SD		461.9		CV				9.805
3117				k hat (MLE)		0.108		k star (bias corrected MLE)				0.111
3118				Theta hat (MLE)		435.2		Theta star (bias corrected MLE)				422.8
3119				nu hat (MLE)		23.38		nu star (bias corrected)				24.07
3120				Adjusted Level of Significance (β)		0.0478						
3121				Approximate Chi Square Value (24.07, α)		13.9		Adjusted Chi Square Value (24.07, β)				13.79
3122				95% Gamma Approximate UCL (use when n>=50)		81.56		95% Gamma Adjusted UCL (use when n<50)				82.18
3123												
3124	Estimates of Gamma Parameters using KM Estimates											
3125				Mean (KM)		47.94		SD (KM)				459.7
3126				Variance (KM)		211299		SE of Mean (KM)				45.59
3127				k hat (KM)		0.0109		k star (KM)				0.0167

	A	B	C	D	E	F	G	H	I	J	K	L
3128					nu hat (KM)	2.349				nu star (KM)		3.618
3129					theta hat (KM)	4407				theta star (KM)		2863
3130					80% gamma percentile (KM)	0.00266				90% gamma percentile (KM)		3.022
3131					95% gamma percentile (KM)	78.25				99% gamma percentile (KM)		1357
3132												
3133	Gamma Kaplan-Meier (KM) Statistics											
3134	Approximate Chi Square Value (3.62, α)					0.577	Adjusted Chi Square Value (3.62, β)					0.562
3135	95% Gamma Approximate KM-UCL (use when n>=50)					300.7	95% Gamma Adjusted KM-UCL (use when n<50)					308.7
3136												
3137	Lognormal GOF Test on Detected Observations Only											
3138	Shapiro Wilk Test Statistic					0.786	Shapiro Wilk GOF Test					
3139	5% Shapiro Wilk Critical Value					0.892	Detected Data Not Lognormal at 5% Significance Level					
3140	Lilliefors Test Statistic					0.248	Lilliefors GOF Test					
3141	5% Lilliefors Critical Value					0.207	Detected Data Not Lognormal at 5% Significance Level					
3142	Detected Data Not Lognormal at 5% Significance Level											
3143												
3144	Lognormal ROS Statistics Using Imputed Non-Detects											
3145	Mean in Original Scale					47.12	Mean in Log Scale					-6.423
3146	SD in Original Scale					461.9	SD in Log Scale					5.436
3147	95% t UCL (assumes normality of ROS data)					120.9	95% Percentile Bootstrap UCL					136.3
3148	95% BCA Bootstrap UCL					223.8	95% Bootstrap t UCL					3313
3149	95% H-UCL (Log ROS)					273762						
3150												
3151	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
3152	KM Mean (logged)					0.306	KM Geo Mean					1.359
3153	KM SD (logged)					1.111	95% Critical H Value (KM-Log)					2.316
3154	KM Standard Error of Mean (logged)					0.11	95% H-UCL (KM -Log)					3.229
3155	KM SD (logged)					1.111	95% Critical H Value (KM-Log)					2.316
3156	KM Standard Error of Mean (logged)					0.11						
3157												
3158	DL/2 Statistics											
3159	DL/2 Normal						DL/2 Log-Transformed					
3160	Mean in Original Scale					47.52	Mean in Log Scale					-0.278
3161	SD in Original Scale					461.9	SD in Log Scale					1.293
3162	95% t UCL (Assumes normality)					121.3	95% H-Stat UCL					2.388
3163	DL/2 is not a recommended method, provided for comparisons and historical reasons											
3164												
3165	Nonparametric Distribution Free UCL Statistics											
3166	Data do not follow a Discernible Distribution at 5% Significance Level											
3167												
3168	Suggested UCL to Use											
3169	95% KM (Chebyshev) UCL					246.7						
3170												
3171	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
3172	Recommendations are based upon data size, data distribution, and skewness.											
3173	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
3174	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
3175												
3176	Result2_ug/kg (trichlorofluoromethane)											
3177												
3178	General Statistics											
3179	Total Number of Observations					108	Number of Distinct Observations					2
3180	Number of Detects					0	Number of Non-Detects					108

	A	B	C	D	E	F	G	H	I	J	K	L
3181	Number of Distinct Detects					0	Number of Distinct Non-Detects					2
3182												
3183	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
3184	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
3185	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
3186												
3187	The data set for variable Result2_ug/kg (trichlorofluoromethane) was not processed!											
3188												
3189												
3190												
3191	Result2_ug/kg (vanadium)											
3192												
3193	General Statistics											
3194	Total Number of Observations					3	Number of Distinct Observations					3
3195							Number of Missing Observations					0
3196	Minimum					31100	Mean					37800
3197	Maximum					44500	Median					37800
3198	SD					6700	Std. Error of Mean					3868
3199	Coefficient of Variation					0.177	Skewness					0
3200												
3201	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
3202	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
3203	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
3204	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
3205												
3206	Normal GOF Test											
3207	Shapiro Wilk Test Statistic					1	Shapiro Wilk GOF Test					
3208	5% Shapiro Wilk Critical Value					0.767	Data appear Normal at 5% Significance Level					
3209	Lilliefors Test Statistic					0.175	Lilliefors GOF Test					
3210	5% Lilliefors Critical Value					0.425	Data appear Normal at 5% Significance Level					
3211	Data appear Normal at 5% Significance Level											
3212												
3213	Assuming Normal Distribution											
3214	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
3215	95% Student's-t UCL					49095	95% Adjusted-CLT UCL (Chen-1995)					44163
3216							95% Modified-t UCL (Johnson-1978)					49095
3217												
3218	Gamma GOF Test											
3219	Not Enough Data to Perform GOF Test											
3220												
3221	Gamma Statistics											
3222	k hat (MLE)					47.16	k star (bias corrected MLE)					N/A
3223	Theta hat (MLE)					801.6	Theta star (bias corrected MLE)					N/A
3224	nu hat (MLE)					282.9	nu star (bias corrected)					N/A
3225	MLE Mean (bias corrected)					N/A	MLE Sd (bias corrected)					N/A
3226							Approximate Chi Square Value (0.05)					N/A
3227	Adjusted Level of Significance					N/A	Adjusted Chi Square Value					N/A
3228												
3229	Assuming Gamma Distribution											
3230	95% Approximate Gamma UCL (use when n>=50))					N/A	95% Adjusted Gamma UCL (use when n<50)					N/A
3231												
3232	Lognormal GOF Test											
3233	Shapiro Wilk Test Statistic					0.997	Shapiro Wilk Lognormal GOF Test					

	A	B	C	D	E	F	G	H	I	J	K	L	
3234	5% Shapiro Wilk Critical Value					0.767	Data appear Lognormal at 5% Significance Level						
3235	Lilliefors Test Statistic					0.19	Lilliefors Lognormal GOF Test						
3236	5% Lilliefors Critical Value					0.425	Data appear Lognormal at 5% Significance Level						
3237	Data appear Lognormal at 5% Significance Level												
3238													
3239	Lognormal Statistics												
3240	Minimum of Logged Data					10.34	Mean of logged Data					10.53	
3241	Maximum of Logged Data					10.7	SD of logged Data					0.179	
3242													
3243	Assuming Lognormal Distribution												
3244	95% H-UCL					56749	90% Chebyshev (MVUE) UCL					49500	
3245	95% Chebyshev (MVUE) UCL					54799	97.5% Chebyshev (MVUE) UCL					62153	
3246	99% Chebyshev (MVUE) UCL					76599							
3247													
3248	Nonparametric Distribution Free UCL Statistics												
3249	Data appear to follow a Discernible Distribution at 5% Significance Level												
3250													
3251	Nonparametric Distribution Free UCLs												
3252	95% CLT UCL					44163	95% Jackknife UCL					49095	
3253	95% Standard Bootstrap UCL					N/A	95% Bootstrap-t UCL					N/A	
3254	95% Hall's Bootstrap UCL					N/A	95% Percentile Bootstrap UCL					N/A	
3255	95% BCA Bootstrap UCL					N/A							
3256	90% Chebyshev(Mean, Sd) UCL					49405	95% Chebyshev(Mean, Sd) UCL					54661	
3257	97.5% Chebyshev(Mean, Sd) UCL					61957	99% Chebyshev(Mean, Sd) UCL					76289	
3258													
3259	Suggested UCL to Use												
3260	95% Student's-t UCL					49095							
3261													
3262	Recommended UCL exceeds the maximum observation												
3263													
3264	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.												
3265	Recommendations are based upon data size, data distribution, and skewness.												
3266	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).												
3267	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.												
3268													
3269													
3270	Result2_ug/kg (vanadium, v)												
3271													
3272	General Statistics												
3273	Total Number of Observations					103	Number of Distinct Observations					94	
3274							Number of Missing Observations					0	
3275	Minimum					11300	Mean					55901	
3276	Maximum					83800	Median					57100	
3277	SD					13988	Std. Error of Mean					1378	
3278	Coefficient of Variation					0.25	Skewness					-0.468	
3279													
3280	Normal GOF Test												
3281	Shapiro Wilk Test Statistic					0.968	Shapiro Wilk GOF Test						
3282	5% Shapiro Wilk P Value					0.096	Data appear Normal at 5% Significance Level						
3283	Lilliefors Test Statistic					0.0912	Lilliefors GOF Test						
3284	5% Lilliefors Critical Value					0.0876	Data Not Normal at 5% Significance Level						
3285	Data appear Approximate Normal at 5% Significance Level												
3286													

	A	B	C	D	E	F	G	H	I	J	K	L	
3287	Assuming Normal Distribution												
3288	95% Normal UCL						95% UCLs (Adjusted for Skewness)						
3289	95% Student's-t UCL						58189	95% Adjusted-CLT UCL (Chen-1995)					58100
3290								95% Modified-t UCL (Johnson-1978)					58178
3291													
3292	Gamma GOF Test												
3293	A-D Test Statistic						1.441	Anderson-Darling Gamma GOF Test					
3294	5% A-D Critical Value						0.751	Data Not Gamma Distributed at 5% Significance Level					
3295	K-S Test Statistic						0.103	Kolmogorov-Smirnov Gamma GOF Test					
3296	5% K-S Critical Value						0.0886	Data Not Gamma Distributed at 5% Significance Level					
3297	Data Not Gamma Distributed at 5% Significance Level												
3298													
3299	Gamma Statistics												
3300	k hat (MLE)						13.05	k star (bias corrected MLE)					12.68
3301	Theta hat (MLE)						4284	Theta star (bias corrected MLE)					4410
3302	nu hat (MLE)						2688	nu star (bias corrected)					2611
3303	MLE Mean (bias corrected)						55901	MLE Sd (bias corrected)					15701
3304								Approximate Chi Square Value (0.05)					2494
3305	Adjusted Level of Significance						0.0477	Adjusted Chi Square Value					2492
3306													
3307	Assuming Gamma Distribution												
3308	95% Approximate Gamma UCL (use when n>=50))						58540	95% Adjusted Gamma UCL (use when n<50)					58578
3309													
3310	Lognormal GOF Test												
3311	Shapiro Wilk Test Statistic						0.883	Shapiro Wilk Lognormal GOF Test					
3312	5% Shapiro Wilk P Value						2.479E-11	Data Not Lognormal at 5% Significance Level					
3313	Lilliefors Test Statistic						0.104	Lilliefors Lognormal GOF Test					
3314	5% Lilliefors Critical Value						0.0876	Data Not Lognormal at 5% Significance Level					
3315	Data Not Lognormal at 5% Significance Level												
3316													
3317	Lognormal Statistics												
3318	Minimum of Logged Data						9.333	Mean of logged Data					10.89
3319	Maximum of Logged Data						11.34	SD of logged Data					0.302
3320													
3321	Assuming Lognormal Distribution												
3322	95% H-UCL						59292	90% Chebyshev (MVUE) UCL					61399
3323	95% Chebyshev (MVUE) UCL						63725	97.5% Chebyshev (MVUE) UCL					66954
3324	99% Chebyshev (MVUE) UCL						73296						
3325													
3326	Nonparametric Distribution Free UCL Statistics												
3327	Data appear to follow a Discernible Distribution at 5% Significance Level												
3328													
3329	Nonparametric Distribution Free UCLs												
3330	95% CLT UCL						58168	95% Jackknife UCL					58189
3331	95% Standard Bootstrap UCL						58127	95% Bootstrap-t UCL					58136
3332	95% Hall's Bootstrap UCL						58156	95% Percentile Bootstrap UCL					58180
3333	95% BCA Bootstrap UCL						58088						
3334	90% Chebyshev(Mean, Sd) UCL						60036	95% Chebyshev(Mean, Sd) UCL					61909
3335	97.5% Chebyshev(Mean, Sd) UCL						64508	99% Chebyshev(Mean, Sd) UCL					69615
3336													
3337	Suggested UCL to Use												
3338	95% Student's-t UCL						58189						
3339													

	A	B	C	D	E	F	G	H	I	J	K	L
3340	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
3341	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
3342												
3343	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
3344	Recommendations are based upon data size, data distribution, and skewness.											
3345	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
3346	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
3347												
3348	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
3349	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
3350												
3351	Result2_ug/kg (vinyl chloride)											
3352												
3353	General Statistics											
3354	Total Number of Observations			108		Number of Distinct Observations			1			
3355	Number of Detects			0		Number of Non-Detects			108			
3356	Number of Distinct Detects			0		Number of Distinct Non-Detects			1			
3357												
3358	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
3359	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
3360	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
3361												
3362	The data set for variable Result2_ug/kg (vinyl chloride) was not processed!											
3363												
3364												
3365	Result2_ug/kg (xylenes)											
3366												
3367	General Statistics											
3368	Total Number of Observations			108		Number of Distinct Observations			1			
3369	Number of Detects			0		Number of Non-Detects			108			
3370	Number of Distinct Detects			0		Number of Distinct Non-Detects			1			
3371												
3372	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
3373	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
3374	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
3375												
3376	The data set for variable Result2_ug/kg (xylenes) was not processed!											
3377												
3378												
3379												
3380	Result2_ug/kg (zinc)											
3381												
3382	General Statistics											
3383	Total Number of Observations			3		Number of Distinct Observations			3			
3384						Number of Missing Observations			0			
3385	Minimum			55000		Mean			290600			
3386	Maximum			753000		Median			63800			
3387	SD			400474		Std. Error of Mean			231214			
3388	Coefficient of Variation			1.378		Skewness			1.731			
3389												
3390	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
3391	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
3392	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											

	A	B	C	D	E	F	G	H	I	J	K	L
3393	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
3394												
3395	Normal GOF Test											
3396	Shapiro Wilk Test Statistic				0.759	Shapiro Wilk GOF Test						
3397	5% Shapiro Wilk Critical Value				0.767	Data Not Normal at 5% Significance Level						
3398	Lilliefors Test Statistic				0.381	Lilliefors GOF Test						
3399	5% Lilliefors Critical Value				0.425	Data appear Normal at 5% Significance Level						
3400	Data appear Approximate Normal at 5% Significance Level											
3401												
3402	Assuming Normal Distribution											
3403	95% Normal UCL					95% UCLs (Adjusted for Skewness)						
3404	95% Student's-t UCL 965741					95% Adjusted-CLT UCL (Chen-1995)					917834	
3405						95% Modified-t UCL (Johnson-1978)					1004256	
3406												
3407	Gamma GOF Test											
3408	Not Enough Data to Perform GOF Test											
3409												
3410	Gamma Statistics											
3411	k hat (MLE)			0.799	k star (bias corrected MLE)						N/A	
3412	Theta hat (MLE)			363697	Theta star (bias corrected MLE)						N/A	
3413	nu hat (MLE)			4.794	nu star (bias corrected)						N/A	
3414	MLE Mean (bias corrected)			N/A	MLE Sd (bias corrected)						N/A	
3415					Approximate Chi Square Value (0.05)						N/A	
3416	Adjusted Level of Significance			N/A	Adjusted Chi Square Value						N/A	
3417												
3418	Assuming Gamma Distribution											
3419	95% Approximate Gamma UCL (use when n>=50))			N/A	95% Adjusted Gamma UCL (use when n<50)						N/A	
3420												
3421	Lognormal GOF Test											
3422	Shapiro Wilk Test Statistic			0.792	Shapiro Wilk Lognormal GOF Test							
3423	5% Shapiro Wilk Critical Value			0.767	Data appear Lognormal at 5% Significance Level							
3424	Lilliefors Test Statistic			0.367	Lilliefors Lognormal GOF Test							
3425	5% Lilliefors Critical Value			0.425	Data appear Lognormal at 5% Significance Level							
3426	Data appear Lognormal at 5% Significance Level											
3427												
3428	Lognormal Statistics											
3429	Minimum of Logged Data			10.92	Mean of logged Data						11.84	
3430	Maximum of Logged Data			13.53	SD of logged Data						1.47	
3431												
3432	Assuming Lognormal Distribution											
3433	95% H-UCL			1.899E+14	90% Chebyshev (MVUE) UCL						782039	
3434	95% Chebyshev (MVUE) UCL			1019762	97.5% Chebyshev (MVUE) UCL						1349713	
3435	99% Chebyshev (MVUE) UCL			1997838								
3436												
3437	Nonparametric Distribution Free UCL Statistics											
3438	Data appear to follow a Discernible Distribution at 5% Significance Level											
3439												
3440	Nonparametric Distribution Free UCLs											
3441	95% CLT UCL			670913	95% Jackknife UCL						965741	
3442	95% Standard Bootstrap UCL			N/A	95% Bootstrap-t UCL						N/A	
3443	95% Hall's Bootstrap UCL			N/A	95% Percentile Bootstrap UCL						N/A	
3444	95% BCA Bootstrap UCL			N/A								
3445	90% Chebyshev(Mean, Sd) UCL			984242	95% Chebyshev(Mean, Sd) UCL						1298438	

	A	B	C	D	E	F	G	H	I	J	K	L
3446	97.5% Chebyshev(Mean, Sd) UCL					1734531	99% Chebyshev(Mean, Sd) UCL					2591150
3447												
3448	Suggested UCL to Use											
3449	95% Student's-t UCL					965741						
3450												
3451	Recommended UCL exceeds the maximum observation											
3452												
3453	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
3454	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
3455												
3456	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
3457	Recommendations are based upon data size, data distribution, and skewness.											
3458	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
3459	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
3460												
3461												
3462	Result2_ug/kg (zinc, zn)											
3463												
3464	General Statistics											
3465	Total Number of Observations					103	Number of Distinct Observations					96
3466							Number of Missing Observations					0
3467	Minimum					21700	Mean					326771
3468	Maximum					6920000	Median					69300
3469	SD					1122432	Std. Error of Mean					110597
3470	Coefficient of Variation					3.435	Skewness					5.002
3471												
3472	Normal GOF Test											
3473	Shapiro Wilk Test Statistic					0.274	Shapiro Wilk GOF Test					
3474	5% Shapiro Wilk P Value					0	Data Not Normal at 5% Significance Level					
3475	Lilliefors Test Statistic					0.452	Lilliefors GOF Test					
3476	5% Lilliefors Critical Value					0.0876	Data Not Normal at 5% Significance Level					
3477	Data Not Normal at 5% Significance Level											
3478												
3479	Assuming Normal Distribution											
3480	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
3481	95% Student's-t UCL					510353	95% Adjusted-CLT UCL (Chen-1995)					566933
3482							95% Modified-t UCL (Johnson-1978)					519439
3483												
3484	Gamma GOF Test											
3485	A-D Test Statistic					23.93	Anderson-Darling Gamma GOF Test					
3486	5% A-D Critical Value					0.822	Data Not Gamma Distributed at 5% Significance Level					
3487	K-S Test Statistic					0.429	Kolmogorov-Smirnov Gamma GOF Test					
3488	5% K-S Critical Value					0.094	Data Not Gamma Distributed at 5% Significance Level					
3489	Data Not Gamma Distributed at 5% Significance Level											
3490												
3491	Gamma Statistics											
3492	k hat (MLE)					0.485	k star (bias corrected MLE)					0.477
3493	Theta hat (MLE)					674019	Theta star (bias corrected MLE)					684822
3494	nu hat (MLE)					99.87	nu star (bias corrected)					98.3
3495	MLE Mean (bias corrected)					326771	MLE Sd (bias corrected)					473054
3496							Approximate Chi Square Value (0.05)					76.42
3497	Adjusted Level of Significance					0.0477	Adjusted Chi Square Value					76.15
3498												

	A	B	C	D	E	F	G	H	I	J	K	L
3499	Assuming Gamma Distribution											
3500	95% Approximate Gamma UCL (use when n>=50))					420285	95% Adjusted Gamma UCL (use when n<50)					421788
3501												
3502	Lognormal GOF Test											
3503	Shapiro Wilk Test Statistic					0.646	Shapiro Wilk Lognormal GOF Test					
3504	5% Shapiro Wilk P Value					0	Data Not Lognormal at 5% Significance Level					
3505	Lilliefors Test Statistic					0.325	Lilliefors Lognormal GOF Test					
3506	5% Lilliefors Critical Value					0.0876	Data Not Lognormal at 5% Significance Level					
3507	Data Not Lognormal at 5% Significance Level											
3508												
3509	Lognormal Statistics											
3510	Minimum of Logged Data					9.985	Mean of logged Data					11.38
3511	Maximum of Logged Data					15.75	SD of logged Data					1.07
3512												
3513	Assuming Lognormal Distribution											
3514	95% H-UCL					197643	90% Chebyshev (MVUE) UCL					213701
3515	95% Chebyshev (MVUE) UCL					240737	97.5% Chebyshev (MVUE) UCL					278262
3516	99% Chebyshev (MVUE) UCL					351973						
3517												
3518	Nonparametric Distribution Free UCL Statistics											
3519	Data do not follow a Discernible Distribution (0.05)											
3520												
3521	Nonparametric Distribution Free UCLs											
3522	95% CLT UCL					508686	95% Jackknife UCL					510353
3523	95% Standard Bootstrap UCL					502348	95% Bootstrap-t UCL					636904
3524	95% Hall's Bootstrap UCL					494935	95% Percentile Bootstrap UCL					519249
3525	95% BCA Bootstrap UCL					567153						
3526	90% Chebyshev(Mean, Sd) UCL					658561	95% Chebyshev(Mean, Sd) UCL					808850
3527	97.5% Chebyshev(Mean, Sd) UCL					1017446	99% Chebyshev(Mean, Sd) UCL					1427193
3528												
3529	Suggested UCL to Use											
3530	95% Chebyshev (Mean, Sd) UCL					808850						
3531												
3532	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
3533	Recommendations are based upon data size, data distribution, and skewness.											
3534	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
3535	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
3536												

Upper Confidence Limits for Alluvial Layer

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation			ProUCL 5.12/14/2017 6:01:34 PM								
5	From File			App A Table A-1 - Soil Data COMPLETE_b.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10	Result2_ug/kg (1,1,1-tca)											
11												
12	General Statistics											
13	Total Number of Observations			8				Number of Distinct Observations			1	
14	Number of Detects			0				Number of Non-Detects			8	
15	Number of Distinct Detects			0				Number of Distinct Non-Detects			1	
16												
17	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
18	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
19	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
20												
21	The data set for variable Result2_ug/kg (1,1,1-tca) was not processed!											
22												
23												
24	Result2_ug/kg (antimony)											
25												
26	General Statistics											
27	Total Number of Observations			8				Number of Distinct Observations			1	
28	Number of Detects			0				Number of Non-Detects			8	
29	Number of Distinct Detects			0				Number of Distinct Non-Detects			1	
30												
31	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
32	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
33	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
34												
35	The data set for variable Result2_ug/kg (antimony) was not processed!											
36												
37												
38	Result2_ug/kg (antimony, sb)											
39												
40	General Statistics											
41	Total Number of Observations			56				Number of Distinct Observations			1	
42	Number of Detects			0				Number of Non-Detects			56	
43	Number of Distinct Detects			0				Number of Distinct Non-Detects			1	
44												
45	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
46	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
47	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
48												
49	The data set for variable Result2_ug/kg (antimony, sb) was not processed!											
50												
51												
52	Result2_ug/kg (arsenic)											
53												

	A	B	C	D	E	F	G	H	I	J	K	L
54	General Statistics											
55	Total Number of Observations					8	Number of Distinct Observations					1
56	Number of Detects					0	Number of Non-Detects					8
57	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
58												
59	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
60	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
61	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
62												
63	The data set for variable Result2_ug/kg (arsenic) was not processed!											
64												
65												
66	Result2_ug/kg (arsenic, as)											
67												
68	General Statistics											
69	Total Number of Observations					56	Number of Distinct Observations					1
70	Number of Detects					0	Number of Non-Detects					56
71	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
72												
73	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
74	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
75	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
76												
77	The data set for variable Result2_ug/kg (arsenic, as) was not processed!											
78												
79												
80												
81	Result2_ug/kg (barium)											
82												
83	General Statistics											
84	Total Number of Observations					8	Number of Distinct Observations					8
85							Number of Missing Observations					0
86	Minimum					99500	Mean					163813
87	Maximum					213000	Median					175000
88	SD					40790	Std. Error of Mean					14422
89	Coefficient of Variation					0.249	Skewness					-0.422
90												
91	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
92	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
93	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
94	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
95												
96	Normal GOF Test											
97	Shapiro Wilk Test Statistic					0.912	Shapiro Wilk GOF Test					
98	5% Shapiro Wilk Critical Value					0.818	Data appear Normal at 5% Significance Level					
99	Lilliefors Test Statistic					0.255	Lilliefors GOF Test					
100	5% Lilliefors Critical Value					0.283	Data appear Normal at 5% Significance Level					
101	Data appear Normal at 5% Significance Level											
102												
103	Assuming Normal Distribution											
104	95% Normal UCL					95% UCLs (Adjusted for Skewness)						
105	95% Student's-t UCL					191135	95% Adjusted-CLT UCL (Chen-1995)					185236
106							95% Modified-t UCL (Johnson-1978)					190777

	A	B	C	D	E	F	G	H	I	J	K	L
107												
108	Gamma GOF Test											
109	A-D Test Statistic					0.454	Anderson-Darling Gamma GOF Test					
110	5% A-D Critical Value					0.716	Detected data appear Gamma Distributed at 5% Significance Level					
111	K-S Test Statistic					0.273	Kolmogorov-Smirnov Gamma GOF Test					
112	5% K-S Critical Value					0.294	Detected data appear Gamma Distributed at 5% Significance Level					
113	Detected data appear Gamma Distributed at 5% Significance Level											
114												
115	Gamma Statistics											
116	k hat (MLE)					16.78	k star (bias corrected MLE)					10.57
117	Theta hat (MLE)					9763	Theta star (bias corrected MLE)					15497
118	nu hat (MLE)					268.5	nu star (bias corrected)					169.1
119	MLE Mean (bias corrected)					163813	MLE Sd (bias corrected)					50384
120							Approximate Chi Square Value (0.05)					140.1
121	Adjusted Level of Significance					0.0195	Adjusted Chi Square Value					133.4
122												
123	Assuming Gamma Distribution											
124	95% Approximate Gamma UCL (use when n>=50))					197817	95% Adjusted Gamma UCL (use when n<50)					207753
125												
126	Lognormal GOF Test											
127	Shapiro Wilk Test Statistic					0.898	Shapiro Wilk Lognormal GOF Test					
128	5% Shapiro Wilk Critical Value					0.818	Data appear Lognormal at 5% Significance Level					
129	Lilliefors Test Statistic					0.258	Lilliefors Lognormal GOF Test					
130	5% Lilliefors Critical Value					0.283	Data appear Lognormal at 5% Significance Level					
131	Data appear Lognormal at 5% Significance Level											
132												
133	Lognormal Statistics											
134	Minimum of Logged Data					11.51	Mean of logged Data					11.98
135	Maximum of Logged Data					12.27	SD of logged Data					0.269
136												
137	Assuming Lognormal Distribution											
138	95% H-UCL					202485	90% Chebyshev (MVUE) UCL					211104
139	95% Chebyshev (MVUE) UCL					232411	97.5% Chebyshev (MVUE) UCL					261983
140	99% Chebyshev (MVUE) UCL					320073						
141												
142	Nonparametric Distribution Free UCL Statistics											
143	Data appear to follow a Discernible Distribution at 5% Significance Level											
144												
145	Nonparametric Distribution Free UCLs											
146	95% CLT UCL					187534	95% Jackknife UCL					191135
147	95% Standard Bootstrap UCL					186088	95% Bootstrap-t UCL					190041
148	95% Hall's Bootstrap UCL					182485	95% Percentile Bootstrap UCL					186000
149	95% BCA Bootstrap UCL					185125						
150	90% Chebyshev(Mean, Sd) UCL					207077	95% Chebyshev(Mean, Sd) UCL					226675
151	97.5% Chebyshev(Mean, Sd) UCL					253875	99% Chebyshev(Mean, Sd) UCL					307305
152												
153	Suggested UCL to Use											
154	95% Student's-t UCL					191135						
155												
156	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
157	Recommendations are based upon data size, data distribution, and skewness.											
158	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
159	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											

	A	B	C	D	E	F	G	H	I	J	K	L
160												
161	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
162	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
163												
164												
165	Result2_ug/kg (barium, ba)											
166												
167	General Statistics											
168	Total Number of Observations					56	Number of Distinct Observations					53
169							Number of Missing Observations					0
170	Minimum					60800	Mean					165991
171	Maximum					267000	Median					172500
172	SD					47179	Std. Error of Mean					6305
173	Coefficient of Variation					0.284	Skewness					-0.102
174												
175	Normal GOF Test											
176	Shapiro Wilk Test Statistic					0.981	Shapiro Wilk GOF Test					
177	5% Shapiro Wilk P Value					0.745	Data appear Normal at 5% Significance Level					
178	Lilliefors Test Statistic					0.078	Lilliefors GOF Test					
179	5% Lilliefors Critical Value					0.118	Data appear Normal at 5% Significance Level					
180	Data appear Normal at 5% Significance Level											
181												
182	Assuming Normal Distribution											
183	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
184	95% Student's-t UCL					176539	95% Adjusted-CLT UCL (Chen-1995)					176269
185							95% Modified-t UCL (Johnson-1978)					176524
186												
187	Gamma GOF Test											
188	A-D Test Statistic					0.544	Anderson-Darling Gamma GOF Test					
189	5% A-D Critical Value					0.75	Detected data appear Gamma Distributed at 5% Significance Level					
190	K-S Test Statistic					0.115	Kolmogorov-Smirnov Gamma GOF Test					
191	5% K-S Critical Value					0.119	Detected data appear Gamma Distributed at 5% Significance Level					
192	Detected data appear Gamma Distributed at 5% Significance Level											
193												
194	Gamma Statistics											
195	k hat (MLE)					11.22	k star (bias corrected MLE)					10.63
196	Theta hat (MLE)					14791	Theta star (bias corrected MLE)					15611
197	nu hat (MLE)					1257	nu star (bias corrected)					1191
198	MLE Mean (bias corrected)					165991	MLE Sd (bias corrected)					50905
199							Approximate Chi Square Value (0.05)					1112
200	Adjusted Level of Significance					0.0457	Adjusted Chi Square Value					1110
201												
202	Assuming Gamma Distribution											
203	95% Approximate Gamma UCL (use when n>=50))					177804	95% Adjusted Gamma UCL (use when n<50)					178126
204												
205	Lognormal GOF Test											
206	Shapiro Wilk Test Statistic					0.948	Shapiro Wilk Lognormal GOF Test					
207	5% Shapiro Wilk P Value					0.0323	Data Not Lognormal at 5% Significance Level					
208	Lilliefors Test Statistic					0.129	Lilliefors Lognormal GOF Test					
209	5% Lilliefors Critical Value					0.118	Data Not Lognormal at 5% Significance Level					
210	Data Not Lognormal at 5% Significance Level											
211												
212	Lognormal Statistics											

	A	B	C	D	E	F	G	H	I	J	K	L
213	Minimum of Logged Data					11.02	Mean of logged Data					11.97
214	Maximum of Logged Data					12.5	SD of logged Data					0.316
215												
216	Assuming Lognormal Distribution											
217	95% H-UCL					179384	90% Chebyshev (MVUE) UCL					188200
218	95% Chebyshev (MVUE) UCL					197971	97.5% Chebyshev (MVUE) UCL					211531
219	99% Chebyshev (MVUE) UCL					238169						
220												
221	Nonparametric Distribution Free UCL Statistics											
222	Data appear to follow a Discernible Distribution at 5% Significance Level											
223												
224	Nonparametric Distribution Free UCLs											
225	95% CLT UCL					176361	95% Jackknife UCL					176539
226	95% Standard Bootstrap UCL					176150	95% Bootstrap-t UCL					176620
227	95% Hall's Bootstrap UCL					176086	95% Percentile Bootstrap UCL					176686
228	95% BCA Bootstrap UCL					176795						
229	90% Chebyshev(Mean, Sd) UCL					184905	95% Chebyshev(Mean, Sd) UCL					193472
230	97.5% Chebyshev(Mean, Sd) UCL					205363	99% Chebyshev(Mean, Sd) UCL					228720
231												
232	Suggested UCL to Use											
233	95% Student's-t UCL					176539						
234												
235	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
236	Recommendations are based upon data size, data distribution, and skewness.											
237	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
238	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
239												
240	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
241	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
242												
243	Result2_ug/kg (benzene)											
244												
245	General Statistics											
246	Total Number of Observations					8	Number of Distinct Observations					1
247	Number of Detects					0	Number of Non-Detects					8
248	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
249												
250	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
251	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
252	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
253												
254	The data set for variable Result2_ug/kg (benzene) was not processed!											
255												
256												
257	Result2_ug/kg (beryllium)											
258												
259	General Statistics											
260	Total Number of Observations					8	Number of Distinct Observations					1
261	Number of Detects					0	Number of Non-Detects					8
262	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
263												
264	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
265	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											

	A	B	C	D	E	F	G	H	I	J	K	L
266	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
267												
268	The data set for variable Result2_ug/kg (beryllium) was not processed!											
269												
270												
271	Result2_ug/kg (beryllium, be)											
272												
273	General Statistics											
274	Total Number of Observations				56		Number of Distinct Observations				1	
275	Number of Detects				0		Number of Non-Detects				56	
276	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
277												
278	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
279	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
280	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
281												
282	The data set for variable Result2_ug/kg (beryllium, be) was not processed!											
283												
284												
285	Result2_ug/kg (cadmium)											
286												
287	General Statistics											
288	Total Number of Observations				8		Number of Distinct Observations				1	
289	Number of Detects				0		Number of Non-Detects				8	
290	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
291												
292	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
293	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
294	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
295												
296	The data set for variable Result2_ug/kg (cadmium) was not processed!											
297												
298												
299	Result2_ug/kg (cadmium, cd)											
300												
301	General Statistics											
302	Total Number of Observations				56		Number of Distinct Observations				1	
303	Number of Detects				0		Number of Non-Detects				56	
304	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
305												
306	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
307	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
308	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
309												
310	The data set for variable Result2_ug/kg (cadmium, cd) was not processed!											
311												
312												
313												
314	Result2_ug/kg (chromium)											
315												
316	General Statistics											
317	Total Number of Observations				8		Number of Distinct Observations				8	
318							Number of Missing Observations				0	

	A	B	C	D	E	F	G	H	I	J	K	L
319					Minimum	15400					Mean	24600
320					Maximum	31400					Median	25050
321					SD	5433					Std. Error of Mean	1921
322					Coefficient of Variation	0.221					Skewness	-0.464
323												
324												
325												
326												
327												
328												
329												
330					Shapiro Wilk Test Statistic	0.96					Shapiro Wilk GOF Test	
331					5% Shapiro Wilk Critical Value	0.818					Data appear Normal at 5% Significance Level	
332					Lilliefors Test Statistic	0.157					Lilliefors GOF Test	
333					5% Lilliefors Critical Value	0.283					Data appear Normal at 5% Significance Level	
334											Data appear Normal at 5% Significance Level	
335												
336												
337					95% Normal UCL						95% UCLs (Adjusted for Skewness)	
338					95% Student's-t UCL	28239					95% Adjusted-CLT UCL (Chen-1995)	27423
339											95% Modified-t UCL (Johnson-1978)	28187
340												
341												
342					A-D Test Statistic	0.261					Anderson-Darling Gamma GOF Test	
343					5% A-D Critical Value	0.716					Detected data appear Gamma Distributed at 5% Significance Level	
344					K-S Test Statistic	0.182					Kolmogorov-Smirnov Gamma GOF Test	
345					5% K-S Critical Value	0.294					Detected data appear Gamma Distributed at 5% Significance Level	
346											Detected data appear Gamma Distributed at 5% Significance Level	
347												
348												
349					k hat (MLE)	21.37					k star (bias corrected MLE)	13.44
350					Theta hat (MLE)	1151					Theta star (bias corrected MLE)	1830
351					nu hat (MLE)	342					nu star (bias corrected)	215.1
352					MLE Mean (bias corrected)	24600					MLE Sd (bias corrected)	6710
353											Approximate Chi Square Value (0.05)	182.1
354					Adjusted Level of Significance	0.0195					Adjusted Chi Square Value	174.4
355												
356												
357					95% Approximate Gamma UCL (use when n>=50))	29049					95% Adjusted Gamma UCL (use when n<50)	30329
358												
359												
360					Shapiro Wilk Test Statistic	0.934					Shapiro Wilk Lognormal GOF Test	
361					5% Shapiro Wilk Critical Value	0.818					Data appear Lognormal at 5% Significance Level	
362					Lilliefors Test Statistic	0.177					Lilliefors Lognormal GOF Test	
363					5% Lilliefors Critical Value	0.283					Data appear Lognormal at 5% Significance Level	
364											Data appear Lognormal at 5% Significance Level	
365												
366												
367					Minimum of Logged Data	9.642					Mean of logged Data	10.09
368					Maximum of Logged Data	10.35					SD of logged Data	0.238
369												
370												
371					95% H-UCL	29563					90% Chebyshev (MVUE) UCL	30877

	A	B	C	D	E	F	G	H	I	J	K	L
372			95% Chebyshev (MVUE) UCL			33707			97.5% Chebyshev (MVUE) UCL			37634
373			99% Chebyshev (MVUE) UCL			45349						
374												
375	Nonparametric Distribution Free UCL Statistics											
376	Data appear to follow a Discernible Distribution at 5% Significance Level											
377												
378	Nonparametric Distribution Free UCLs											
379			95% CLT UCL			27760			95% Jackknife UCL			28239
380			95% Standard Bootstrap UCL			27565			95% Bootstrap-t UCL			28161
381			95% Hall's Bootstrap UCL			27428			95% Percentile Bootstrap UCL			27500
382			95% BCA Bootstrap UCL			27388						
383			90% Chebyshev(Mean, Sd) UCL			30363			95% Chebyshev(Mean, Sd) UCL			32973
384			97.5% Chebyshev(Mean, Sd) UCL			36596			99% Chebyshev(Mean, Sd) UCL			43712
385												
386	Suggested UCL to Use											
387			95% Student's-t UCL			28239						
388												
389	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
390	Recommendations are based upon data size, data distribution, and skewness.											
391	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
392	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
393												
394	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
395	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
396												
397												
398	Result2_ug/kg (chromium, cr)											
399												
400	General Statistics											
401			Total Number of Observations			56			Number of Distinct Observations			52
402									Number of Missing Observations			0
403			Minimum			10000			Mean			25886
404			Maximum			67700			Median			25900
405			SD			11060			Std. Error of Mean			1478
406			Coefficient of Variation			0.427			Skewness			1.83
407												
408	Normal GOF Test											
409			Shapiro Wilk Test Statistic			0.821			Shapiro Wilk GOF Test			
410			5% Shapiro Wilk P Value			6.8899E-9			Data Not Normal at 5% Significance Level			
411			Lilliefors Test Statistic			0.198			Lilliefors GOF Test			
412			5% Lilliefors Critical Value			0.118			Data Not Normal at 5% Significance Level			
413	Data Not Normal at 5% Significance Level											
414												
415	Assuming Normal Distribution											
416			95% Normal UCL						95% UCLs (Adjusted for Skewness)			
417			95% Student's-t UCL			28358			95% Adjusted-CLT UCL (Chen-1995)			28703
418									95% Modified-t UCL (Johnson-1978)			28419
419												
420	Gamma GOF Test											
421			A-D Test Statistic			1.313			Anderson-Darling Gamma GOF Test			
422			5% A-D Critical Value			0.753			Data Not Gamma Distributed at 5% Significance Level			
423			K-S Test Statistic			0.152			Kolmogorov-Smirnov Gamma GOF Test			
424			5% K-S Critical Value			0.119			Data Not Gamma Distributed at 5% Significance Level			

	A	B	C	D	E	F	G	H	I	J	K	L
425	Data Not Gamma Distributed at 5% Significance Level											
426												
427	Gamma Statistics											
428	k hat (MLE)				6.632	k star (bias corrected MLE)				6.289		
429	Theta hat (MLE)				3903	Theta star (bias corrected MLE)				4116		
430	nu hat (MLE)				742.8	nu star (bias corrected)				704.3		
431	MLE Mean (bias corrected)				25886	MLE Sd (bias corrected)				10322		
432						Approximate Chi Square Value (0.05)				643.8		
433	Adjusted Level of Significance				0.0457	Adjusted Chi Square Value				642.2		
434												
435	Assuming Gamma Distribution											
436	95% Approximate Gamma UCL (use when n>=50))				28322	95% Adjusted Gamma UCL (use when n<50)				28389		
437												
438	Lognormal GOF Test											
439	Shapiro Wilk Test Statistic				0.939	Shapiro Wilk Lognormal GOF Test						
440	5% Shapiro Wilk P Value				0.0104	Data Not Lognormal at 5% Significance Level						
441	Lilliefors Test Statistic				0.141	Lilliefors Lognormal GOF Test						
442	5% Lilliefors Critical Value				0.118	Data Not Lognormal at 5% Significance Level						
443	Data Not Lognormal at 5% Significance Level											
444												
445	Lognormal Statistics											
446	Minimum of Logged Data				9.21	Mean of logged Data				10.08		
447	Maximum of Logged Data				11.12	SD of logged Data				0.393		
448												
449	Assuming Lognormal Distribution											
450	95% H-UCL				28489	90% Chebyshev (MVUE) UCL				30056		
451	95% Chebyshev (MVUE) UCL				31962	97.5% Chebyshev (MVUE) UCL				34607		
452	99% Chebyshev (MVUE) UCL				39803							
453												
454	Nonparametric Distribution Free UCL Statistics											
455	Data do not follow a Discernible Distribution (0.05)											
456												
457	Nonparametric Distribution Free UCLs											
458	95% CLT UCL				28317	95% Jackknife UCL				28358		
459	95% Standard Bootstrap UCL				28278	95% Bootstrap-t UCL				28947		
460	95% Hall's Bootstrap UCL				29314	95% Percentile Bootstrap UCL				28404		
461	95% BCA Bootstrap UCL				28866							
462	90% Chebyshev(Mean, Sd) UCL				30319	95% Chebyshev(Mean, Sd) UCL				32328		
463	97.5% Chebyshev(Mean, Sd) UCL				35115	99% Chebyshev(Mean, Sd) UCL				40591		
464												
465	Suggested UCL to Use											
466	95% Student's-t UCL				28358	or 95% Modified-t UCL				28419		
467												
468	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
469	Recommendations are based upon data size, data distribution, and skewness.											
470	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
471	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
472												
473	Result2_ug/kg (cis-1,2-dce)											
474												
475	General Statistics											
476	Total Number of Observations				8	Number of Distinct Observations				1		
477	Number of Detects				0	Number of Non-Detects				8		

	A	B	C	D	E	F	G	H	I	J	K	L	
478	Number of Distinct Detects					0	Number of Distinct Non-Detects					1	
479													
480	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!												
481	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!												
482	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).												
483													
484	The data set for variable Result2_ug/kg (cis-1,2-dce) was not processed!												
485													
486													
487													
488	Result2_ug/kg (cobalt)												
489													
490	General Statistics												
491	Total Number of Observations					8	Number of Distinct Observations					8	
492							Number of Missing Observations					0	
493	Minimum					7900	Mean					13475	
494	Maximum					17500	Median					13600	
495	SD					3409	Std. Error of Mean					1205	
496	Coefficient of Variation					0.253	Skewness					-0.361	
497													
498	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use												
499	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.												
500	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).												
501	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1												
502													
503	Normal GOF Test												
504	Shapiro Wilk Test Statistic					0.922	Shapiro Wilk GOF Test						
505	5% Shapiro Wilk Critical Value					0.818	Data appear Normal at 5% Significance Level						
506	Lilliefors Test Statistic					0.194	Lilliefors GOF Test						
507	5% Lilliefors Critical Value					0.283	Data appear Normal at 5% Significance Level						
508	Data appear Normal at 5% Significance Level												
509													
510	Assuming Normal Distribution												
511	95% Normal UCL						95% UCLs (Adjusted for Skewness)						
512	95% Student's-t UCL					15759	95% Adjusted-CLT UCL (Chen-1995)						15293
513							95% Modified-t UCL (Johnson-1978)						15733
514													
515	Gamma GOF Test												
516	A-D Test Statistic					0.394	Anderson-Darling Gamma GOF Test						
517	5% A-D Critical Value					0.716	Detected data appear Gamma Distributed at 5% Significance Level						
518	K-S Test Statistic					0.218	Kolmogorov-Smirnov Gamma GOF Test						
519	5% K-S Critical Value					0.294	Detected data appear Gamma Distributed at 5% Significance Level						
520	Detected data appear Gamma Distributed at 5% Significance Level												
521													
522	Gamma Statistics												
523	k hat (MLE)					16.25	k star (bias corrected MLE)					10.24	
524	Theta hat (MLE)					829.2	Theta star (bias corrected MLE)					1316	
525	nu hat (MLE)					260	nu star (bias corrected)					163.8	
526	MLE Mean (bias corrected)					13475	MLE Sd (bias corrected)					4211	
527							Approximate Chi Square Value (0.05)					135.2	
528	Adjusted Level of Significance					0.0195	Adjusted Chi Square Value					128.7	
529													
530	Assuming Gamma Distribution												

	A	B	C	D	E	F	G	H	I	J	K	L
531	95% Approximate Gamma UCL (use when n>=50))					16324	95% Adjusted Gamma UCL (use when n<50)					17158
532												
533	Lognormal GOF Test											
534	Shapiro Wilk Test Statistic					0.904	Shapiro Wilk Lognormal GOF Test					
535	5% Shapiro Wilk Critical Value					0.818	Data appear Lognormal at 5% Significance Level					
536	Lilliefors Test Statistic					0.21	Lilliefors Lognormal GOF Test					
537	5% Lilliefors Critical Value					0.283	Data appear Lognormal at 5% Significance Level					
538	Data appear Lognormal at 5% Significance Level											
539												
540	Lognormal Statistics											
541	Minimum of Logged Data					8.975	Mean of logged Data					9.478
542	Maximum of Logged Data					9.77	SD of logged Data					0.274
543												
544	Assuming Lognormal Distribution											
545	95% H-UCL					16732	90% Chebyshev (MVUE) UCL					17437
546	95% Chebyshev (MVUE) UCL					19221	97.5% Chebyshev (MVUE) UCL					21697
547	99% Chebyshev (MVUE) UCL					26562						
548												
549	Nonparametric Distribution Free UCL Statistics											
550	Data appear to follow a Discernible Distribution at 5% Significance Level											
551												
552	Nonparametric Distribution Free UCLs											
553	95% CLT UCL					15458	95% Jackknife UCL					15759
554	95% Standard Bootstrap UCL					15332	95% Bootstrap-t UCL					15694
555	95% Hall's Bootstrap UCL					15106	95% Percentile Bootstrap UCL					15325
556	95% BCA Bootstrap UCL					15250						
557	90% Chebyshev(Mean, Sd) UCL					17091	95% Chebyshev(Mean, Sd) UCL					18729
558	97.5% Chebyshev(Mean, Sd) UCL					21002	99% Chebyshev(Mean, Sd) UCL					25468
559												
560	Suggested UCL to Use											
561	95% Student's-t UCL					15759						
562												
563	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
564	Recommendations are based upon data size, data distribution, and skewness.											
565	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
566	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
567												
568	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
569	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
570												
571												
572	Result2_ug/kg (cobalt, co)											
573												
574	General Statistics											
575	Total Number of Observations					56	Number of Distinct Observations					43
576							Number of Missing Observations					0
577	Minimum					5600	Mean					14289
578	Maximum					21600	Median					15200
579	SD					3861	Std. Error of Mean					515.9
580	Coefficient of Variation					0.27	Skewness					-0.409
581												
582	Normal GOF Test											
583	Shapiro Wilk Test Statistic					0.955	Shapiro Wilk GOF Test					

	A	B	C	D	E	F	G	H	I	J	K	L
584	5% Shapiro Wilk P Value					0.0719	Data appear Normal at 5% Significance Level					
585	Lilliefors Test Statistic					0.125	Lilliefors GOF Test					
586	5% Lilliefors Critical Value					0.118	Data Not Normal at 5% Significance Level					
587	Data appear Approximate Normal at 5% Significance Level											
588												
589	Assuming Normal Distribution											
590	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
591	95% Student's-t UCL					15152	95% Adjusted-CLT UCL (Chen-1995)					15108
592							95% Modified-t UCL (Johnson-1978)					15148
593												
594	Gamma GOF Test											
595	A-D Test Statistic					1.336	Anderson-Darling Gamma GOF Test					
596	5% A-D Critical Value					0.75	Data Not Gamma Distributed at 5% Significance Level					
597	K-S Test Statistic					0.148	Kolmogorov-Smirnov Gamma GOF Test					
598	5% K-S Critical Value					0.119	Data Not Gamma Distributed at 5% Significance Level					
599	Data Not Gamma Distributed at 5% Significance Level											
600												
601	Gamma Statistics											
602	k hat (MLE)					11.92	k star (bias corrected MLE)					11.29
603	Theta hat (MLE)					1199	Theta star (bias corrected MLE)					1266
604	nu hat (MLE)					1335	nu star (bias corrected)					1264
605	MLE Mean (bias corrected)					14289	MLE Sd (bias corrected)					4253
606							Approximate Chi Square Value (0.05)					1183
607	Adjusted Level of Significance					0.0457	Adjusted Chi Square Value					1181
608												
609	Assuming Gamma Distribution											
610	95% Approximate Gamma UCL (use when n>=50))					15275	95% Adjusted Gamma UCL (use when n<50)					15301
611												
612	Lognormal GOF Test											
613	Shapiro Wilk Test Statistic					0.91	Shapiro Wilk Lognormal GOF Test					
614	5% Shapiro Wilk P Value					2.8826E-4	Data Not Lognormal at 5% Significance Level					
615	Lilliefors Test Statistic					0.156	Lilliefors Lognormal GOF Test					
616	5% Lilliefors Critical Value					0.118	Data Not Lognormal at 5% Significance Level					
617	Data Not Lognormal at 5% Significance Level											
618												
619	Lognormal Statistics											
620	Minimum of Logged Data					8.631	Mean of logged Data					9.525
621	Maximum of Logged Data					9.98	SD of logged Data					0.309
622												
623	Assuming Lognormal Distribution											
624	95% H-UCL					15420	90% Chebyshev (MVUE) UCL					16165
625	95% Chebyshev (MVUE) UCL					16987	97.5% Chebyshev (MVUE) UCL					18127
626	99% Chebyshev (MVUE) UCL					20367						
627												
628	Nonparametric Distribution Free UCL Statistics											
629	Data appear to follow a Discernible Distribution at 5% Significance Level											
630												
631	Nonparametric Distribution Free UCLs											
632	95% CLT UCL					15138	95% Jackknife UCL					15152
633	95% Standard Bootstrap UCL					15129	95% Bootstrap-t UCL					15151
634	95% Hall's Bootstrap UCL					15083	95% Percentile Bootstrap UCL					15100
635	95% BCA Bootstrap UCL					15088						
636	90% Chebyshev(Mean, Sd) UCL					15837	95% Chebyshev(Mean, Sd) UCL					16538

	A	B	C	D	E	F	G	H	I	J	K	L
637	97.5% Chebyshev(Mean, Sd) UCL					17511	99% Chebyshev(Mean, Sd) UCL					19423
638												
639	Suggested UCL to Use											
640	95% Student's-t UCL					15152						
641												
642	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
643	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
644												
645	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
646	Recommendations are based upon data size, data distribution, and skewness.											
647	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
648	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
649												
650	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
651	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
652												
653												
654	Result2_ug/kg (copper)											
655												
656	General Statistics											
657	Total Number of Observations					8	Number of Distinct Observations					8
658							Number of Missing Observations					0
659	Minimum					13800	Mean					31113
660	Maximum					39600	Median					33150
661	SD					9162	Std. Error of Mean					3239
662	Coefficient of Variation					0.294	Skewness					-0.968
663												
664	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
665	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
666	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
667	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
668												
669	Normal GOF Test											
670	Shapiro Wilk Test Statistic					0.887	Shapiro Wilk GOF Test					
671	5% Shapiro Wilk Critical Value					0.818	Data appear Normal at 5% Significance Level					
672	Lilliefors Test Statistic					0.177	Lilliefors GOF Test					
673	5% Lilliefors Critical Value					0.283	Data appear Normal at 5% Significance Level					
674	Data appear Normal at 5% Significance Level											
675												
676	Assuming Normal Distribution											
677	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
678	95% Student's-t UCL					37249	95% Adjusted-CLT UCL (Chen-1995)					35256
679							95% Modified-t UCL (Johnson-1978)					37065
680												
681	Gamma GOF Test											
682	A-D Test Statistic					0.525	Anderson-Darling Gamma GOF Test					
683	5% A-D Critical Value					0.715	Detected data appear Gamma Distributed at 5% Significance Level					
684	K-S Test Statistic					0.197	Kolmogorov-Smirnov Gamma GOF Test					
685	5% K-S Critical Value					0.294	Detected data appear Gamma Distributed at 5% Significance Level					
686	Detected data appear Gamma Distributed at 5% Significance Level											
687												
688	Gamma Statistics											
689	k hat (MLE)					10.29	k star (bias corrected MLE)					6.514

	A	B	C	D	E	F	G	H	I	J	K	L
690				Theta hat (MLE)		3024				Theta star (bias corrected MLE)		4776
691				nu hat (MLE)		164.6				nu star (bias corrected)		104.2
692				MLE Mean (bias corrected)		31113				MLE Sd (bias corrected)		12190
693										Approximate Chi Square Value (0.05)		81.67
694				Adjusted Level of Significance		0.0195				Adjusted Chi Square Value		76.63
695												
696				Assuming Gamma Distribution								
697				95% Approximate Gamma UCL (use when n>=50))		39706				95% Adjusted Gamma UCL (use when n<50)		42318
698												
699				Lognormal GOF Test								
700				Shapiro Wilk Test Statistic		0.825				Shapiro Wilk Lognormal GOF Test		
701				5% Shapiro Wilk Critical Value		0.818				Data appear Lognormal at 5% Significance Level		
702				Lilliefors Test Statistic		0.21				Lilliefors Lognormal GOF Test		
703				5% Lilliefors Critical Value		0.283				Data appear Lognormal at 5% Significance Level		
704				Data appear Lognormal at 5% Significance Level								
705												
706				Lognormal Statistics								
707				Minimum of Logged Data		9.532				Mean of logged Data		10.3
708				Maximum of Logged Data		10.59				SD of logged Data		0.361
709												
710				Assuming Lognormal Distribution								
711				95% H-UCL		42303				90% Chebyshev (MVUE) UCL		43395
712				95% Chebyshev (MVUE) UCL		48857				97.5% Chebyshev (MVUE) UCL		56438
713				99% Chebyshev (MVUE) UCL		71330						
714												
715				Nonparametric Distribution Free UCL Statistics								
716				Data appear to follow a Discernible Distribution at 5% Significance Level								
717												
718				Nonparametric Distribution Free UCLs								
719				95% CLT UCL		36440				95% Jackknife UCL		37249
720				95% Standard Bootstrap UCL		36015				95% Bootstrap-t UCL		36092
721				95% Hall's Bootstrap UCL		35359				95% Percentile Bootstrap UCL		35825
722				95% BCA Bootstrap UCL		35138						
723				90% Chebyshev(Mean, Sd) UCL		40830				95% Chebyshev(Mean, Sd) UCL		45232
724				97.5% Chebyshev(Mean, Sd) UCL		51341				99% Chebyshev(Mean, Sd) UCL		63342
725												
726				Suggested UCL to Use								
727				95% Student's-t UCL		37249						
728												
729				Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.								
730				Recommendations are based upon data size, data distribution, and skewness.								
731				These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).								
732				However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.								
733												
734				Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be								
735				reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.								
736												
737												
738				Result2_ug/kg (copper, cu)								
739												
740				General Statistics								
741				Total Number of Observations		56				Number of Distinct Observations		51
742										Number of Missing Observations		0

	A	B	C	D	E	F	G	H	I	J	K	L	
743	Minimum					10700						Mean	30091
744	Maximum					103000						Median	30650
745	SD					13491						Std. Error of Mean	1803
746	Coefficient of Variation					0.448						Skewness	2.816
747													
748	Normal GOF Test												
749	Shapiro Wilk Test Statistic					0.793	Shapiro Wilk GOF Test						
750	5% Shapiro Wilk P Value					3.210E-10	Data Not Normal at 5% Significance Level						
751	Lilliefors Test Statistic					0.142	Lilliefors GOF Test						
752	5% Lilliefors Critical Value					0.118	Data Not Normal at 5% Significance Level						
753	Data Not Normal at 5% Significance Level												
754													
755	Assuming Normal Distribution												
756	95% Normal UCL						95% UCLs (Adjusted for Skewness)						
757	95% Student's-t UCL					33107	95% Adjusted-CLT UCL (Chen-1995)					33782	
758							95% Modified-t UCL (Johnson-1978)					33220	
759													
760	Gamma GOF Test												
761	A-D Test Statistic					0.948	Anderson-Darling Gamma GOF Test						
762	5% A-D Critical Value					0.753	Data Not Gamma Distributed at 5% Significance Level						
763	K-S Test Statistic					0.11	Kolmogorov-Smirnov Gamma GOF Test						
764	5% K-S Critical Value					0.119	Detected data appear Gamma Distributed at 5% Significance Level						
765	Detected data follow Appr. Gamma Distribution at 5% Significance Level												
766													
767	Gamma Statistics												
768	k hat (MLE)					6.404	k star (bias corrected MLE)					6.073	
769	Theta hat (MLE)					4699	Theta star (bias corrected MLE)					4955	
770	nu hat (MLE)					717.3	nu star (bias corrected)					680.2	
771	MLE Mean (bias corrected)					30091	MLE Sd (bias corrected)					12211	
772							Approximate Chi Square Value (0.05)					620.7	
773	Adjusted Level of Significance					0.0457	Adjusted Chi Square Value					619.2	
774													
775	Assuming Gamma Distribution												
776	95% Approximate Gamma UCL (use when n>=50)					32976	95% Adjusted Gamma UCL (use when n<50)					33056	
777													
778	Lognormal GOF Test												
779	Shapiro Wilk Test Statistic					0.952	Shapiro Wilk Lognormal GOF Test						
780	5% Shapiro Wilk P Value					0.049	Data Not Lognormal at 5% Significance Level						
781	Lilliefors Test Statistic					0.136	Lilliefors Lognormal GOF Test						
782	5% Lilliefors Critical Value					0.118	Data Not Lognormal at 5% Significance Level						
783	Data Not Lognormal at 5% Significance Level												
784													
785	Lognormal Statistics												
786	Minimum of Logged Data					9.278	Mean of logged Data					10.23	
787	Maximum of Logged Data					11.54	SD of logged Data					0.402	
788													
789	Assuming Lognormal Distribution												
790	95% H-UCL					33224	90% Chebyshev (MVUE) UCL					35061	
791	95% Chebyshev (MVUE) UCL					37327	97.5% Chebyshev (MVUE) UCL					40471	
792	99% Chebyshev (MVUE) UCL					46648							
793													
794	Nonparametric Distribution Free UCL Statistics												
795	Data appear to follow a Discernible Distribution at 5% Significance Level												

	A	B	C	D	E	F	G	H	I	J	K	L
796												
797	Nonparametric Distribution Free UCLs											
798	95% CLT UCL					33056	95% Jackknife UCL					33107
799	95% Standard Bootstrap UCL					33058	95% Bootstrap-t UCL					34267
800	95% Hall's Bootstrap UCL					36576	95% Percentile Bootstrap UCL					33325
801	95% BCA Bootstrap UCL					33579						
802	90% Chebyshev(Mean, Sd) UCL					35500	95% Chebyshev(Mean, Sd) UCL					37950
803	97.5% Chebyshev(Mean, Sd) UCL					41350	99% Chebyshev(Mean, Sd) UCL					48029
804												
805	Suggested UCL to Use											
806	95% Approximate Gamma UCL					32976						
807												
808	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
809	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
810												
811	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
812	Recommendations are based upon data size, data distribution, and skewness.											
813	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
814	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
815												
816	Result2_ug/kg (dro (c10-c28))											
817												
818	General Statistics											
819	Total Number of Observations					56	Number of Distinct Observations					1
820	Number of Detects					0	Number of Non-Detects					56
821	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
822												
823	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
824	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
825	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
826												
827	The data set for variable Result2_ug/kg (dro (c10-c28)) was not processed!											
828												
829												
830	Result2_ug/kg (ethylbenzene)											
831												
832	General Statistics											
833	Total Number of Observations					8	Number of Distinct Observations					1
834	Number of Detects					0	Number of Non-Detects					8
835	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
836												
837	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
838	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
839	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
840												
841	The data set for variable Result2_ug/kg (ethylbenzene) was not processed!											
842												
843												
844												
845	Result2_ug/kg (hexacosane)											
846												
847	General Statistics											
848	Total Number of Observations					56	Number of Distinct Observations					42

	A	B	C	D	E	F	G	H	I	J	K	L		
849						Number of Missing Observations							0	
850						Minimum	0						Mean	269.8
851						Maximum	880						Median	0.97
852						SD	356.5						Std. Error of Mean	47.64
853						Coefficient of Variation	1.322						Skewness	0.628
854														
855	Normal GOF Test													
856						Shapiro Wilk Test Statistic	0.665						Shapiro Wilk GOF Test	
857						5% Shapiro Wilk P Value	6.661E-16						Data Not Normal at 5% Significance Level	
858						Lilliefors Test Statistic	0.399						Lilliefors GOF Test	
859						5% Lilliefors Critical Value	0.118						Data Not Normal at 5% Significance Level	
860	Data Not Normal at 5% Significance Level													
861														
862	Assuming Normal Distribution													
863						95% Normal UCL							95% UCLs (Adjusted for Skewness)	
864						95% Student's-t UCL	349.5						95% Adjusted-CLT UCL (Chen-1995)	352.4
865													95% Modified-t UCL (Johnson-1978)	350.1
866	Gamma Statistics Not Available													
867	Lognormal Statistics Not Available													
868														
869	Nonparametric Distribution Free UCL Statistics													
870	Data do not follow a Discernible Distribution (0.05)													
871														
872	Nonparametric Distribution Free UCLs													
873						95% CLT UCL	348.1						95% Jackknife UCL	349.5
874						95% Standard Bootstrap UCL	346.9						95% Bootstrap-t UCL	357.3
875						95% Hall's Bootstrap UCL	347.1						95% Percentile Bootstrap UCL	348.3
876						95% BCA Bootstrap UCL	350.9							
877						90% Chebyshev(Mean, Sd) UCL	412.7						95% Chebyshev(Mean, Sd) UCL	477.4
878						97.5% Chebyshev(Mean, Sd) UCL	567.3						99% Chebyshev(Mean, Sd) UCL	743.8
879														
880	Suggested UCL to Use													
881						95% Chebyshev (Mean, Sd) UCL	477.4							
882														
883	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.													
884	Recommendations are based upon data size, data distribution, and skewness.													
885	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).													
886	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.													
887														
888														
889	Result2_ug/kg (lead)													
890														
891	General Statistics													
892						Total Number of Observations	8						Number of Distinct Observations	6
893													Number of Missing Observations	0
894						Minimum	1200						Mean	2938
895						Maximum	5300						Median	2950
896						SD	1324						Std. Error of Mean	468.3
897						Coefficient of Variation	0.451						Skewness	0.542
898														
899	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use													
900	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.													
901	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).													

	A	B	C	D	E	F	G	H	I	J	K	L
902	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
903												
904	Normal GOF Test											
905	Shapiro Wilk Test Statistic				0.925		Shapiro Wilk GOF Test					
906	5% Shapiro Wilk Critical Value				0.818		Data appear Normal at 5% Significance Level					
907	Lilliefors Test Statistic				0.192		Lilliefors GOF Test					
908	5% Lilliefors Critical Value				0.283		Data appear Normal at 5% Significance Level					
909	Data appear Normal at 5% Significance Level											
910												
911	Assuming Normal Distribution											
912	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
913	95% Student's-t UCL				3825		95% Adjusted-CLT UCL (Chen-1995)					3804
914							95% Modified-t UCL (Johnson-1978)					3840
915												
916	Gamma GOF Test											
917	A-D Test Statistic				0.348		Anderson-Darling Gamma GOF Test					
918	5% A-D Critical Value				0.719		Detected data appear Gamma Distributed at 5% Significance Level					
919	K-S Test Statistic				0.236		Kolmogorov-Smirnov Gamma GOF Test					
920	5% K-S Critical Value				0.295		Detected data appear Gamma Distributed at 5% Significance Level					
921	Detected data appear Gamma Distributed at 5% Significance Level											
922												
923	Gamma Statistics											
924	k hat (MLE)				5.426		k star (bias corrected MLE)					3.475
925	Theta hat (MLE)				541.4		Theta star (bias corrected MLE)					845.4
926	nu hat (MLE)				86.82		nu star (bias corrected)					55.6
927	MLE Mean (bias corrected)				2938		MLE Sd (bias corrected)					1576
928							Approximate Chi Square Value (0.05)					39.46
929	Adjusted Level of Significance				0.0195		Adjusted Chi Square Value					36.05
930												
931	Assuming Gamma Distribution											
932	95% Approximate Gamma UCL (use when n>=50))				4139		95% Adjusted Gamma UCL (use when n<50)					4530
933												
934	Lognormal GOF Test											
935	Shapiro Wilk Test Statistic				0.944		Shapiro Wilk Lognormal GOF Test					
936	5% Shapiro Wilk Critical Value				0.818		Data appear Lognormal at 5% Significance Level					
937	Lilliefors Test Statistic				0.234		Lilliefors Lognormal GOF Test					
938	5% Lilliefors Critical Value				0.283		Data appear Lognormal at 5% Significance Level					
939	Data appear Lognormal at 5% Significance Level											
940												
941	Lognormal Statistics											
942	Minimum of Logged Data				7.09		Mean of logged Data					7.89
943	Maximum of Logged Data				8.575		SD of logged Data					0.478
944												
945	Assuming Lognormal Distribution											
946	95% H-UCL				4551		90% Chebyshev (MVUE) UCL					4458
947	95% Chebyshev (MVUE) UCL				5141		97.5% Chebyshev (MVUE) UCL					6090
948	99% Chebyshev (MVUE) UCL				7953							
949												
950	Nonparametric Distribution Free UCL Statistics											
951	Data appear to follow a Discernible Distribution at 5% Significance Level											
952												
953	Nonparametric Distribution Free UCLs											
954	95% CLT UCL				3708		95% Jackknife UCL					3825

	A	B	C	D	E	F	G	H	I	J	K	L
955	95% Standard Bootstrap UCL					3656	95% Bootstrap-t UCL					3949
956	95% Hall's Bootstrap UCL					3880	95% Percentile Bootstrap UCL					3663
957	95% BCA Bootstrap UCL					3650						
958	90% Chebyshev(Mean, Sd) UCL					4342	95% Chebyshev(Mean, Sd) UCL					4979
959	97.5% Chebyshev(Mean, Sd) UCL					5862	99% Chebyshev(Mean, Sd) UCL					7597
960												
961	Suggested UCL to Use											
962	95% Student's-t UCL					3825						
963												
964	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
965	Recommendations are based upon data size, data distribution, and skewness.											
966	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
967	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
968												
969	Result2_ug/kg (lead, pb)											
970												
971	General Statistics											
972	Total Number of Observations					56	Number of Distinct Observations					31
973	Number of Detects					51	Number of Non-Detects					5
974	Number of Distinct Detects					30	Number of Distinct Non-Detects					1
975	Minimum Detect					600	Minimum Non-Detect					500
976	Maximum Detect					36400	Maximum Non-Detect					500
977	Variance Detects					31610259	Percent Non-Detects					8.929%
978	Mean Detects					4012	SD Detects					5622
979	Median Detects					2800	CV Detects					1.401
980	Skewness Detects					4.507	Kurtosis Detects					23.05
981	Mean of Logged Detects					7.935	SD of Logged Detects					0.732
982												
983	Normal GOF Test on Detects Only											
984	Shapiro Wilk Test Statistic					0.458	Normal GOF Test on Detected Observations Only					
985	5% Shapiro Wilk P Value					0	Detected Data Not Normal at 5% Significance Level					
986	Lilliefors Test Statistic					0.382	Lilliefors GOF Test					
987	5% Lilliefors Critical Value					0.123	Detected Data Not Normal at 5% Significance Level					
988	Detected Data Not Normal at 5% Significance Level											
989												
990	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
991	KM Mean					3698	KM Standard Error of Mean					729.6
992	KM SD					5406	95% KM (BCA) UCL					5193
993	95% KM (t) UCL					4919	95% KM (Percentile Bootstrap) UCL					4979
994	95% KM (z) UCL					4898	95% KM Bootstrap t UCL					6373
995	90% KM Chebyshev UCL					5887	95% KM Chebyshev UCL					6879
996	97.5% KM Chebyshev UCL					8255	99% KM Chebyshev UCL					10958
997												
998	Gamma GOF Tests on Detected Observations Only											
999	A-D Test Statistic					4.409	Anderson-Darling GOF Test					
1000	5% A-D Critical Value					0.767	Detected Data Not Gamma Distributed at 5% Significance Level					
1001	K-S Test Statistic					0.262	Kolmogorov-Smirnov GOF					
1002	5% K-S Critical Value					0.126	Detected Data Not Gamma Distributed at 5% Significance Level					
1003	Detected Data Not Gamma Distributed at 5% Significance Level											
1004												
1005	Gamma Statistics on Detected Data Only											
1006	k hat (MLE)					1.526	k star (bias corrected MLE)					1.449
1007	Theta hat (MLE)					2630	Theta star (bias corrected MLE)					2769

	A	B	C	D	E	F	G	H	I	J	K	L
1008					nu hat (MLE)	155.6					nu star (bias corrected)	147.8
1009					Mean (detects)	4012						
1010												
1011					Gamma ROS Statistics using Imputed Non-Detects							
1012					GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs							
1013					GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)							
1014					For such situations, GROS method may yield incorrect values of UCLs and BTVs							
1015					This is especially true when the sample size is small.							
1016					For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates							
1017					Minimum	0.01				Mean	3654	
1018					Maximum	36400				Median	2600	
1019					SD	5484				CV	1.501	
1020					k hat (MLE)	0.463				k star (bias corrected MLE)	0.45	
1021					Theta hat (MLE)	7890				Theta star (bias corrected MLE)	8117	
1022					nu hat (MLE)	51.86				nu star (bias corrected)	50.42	
1023					Adjusted Level of Significance (β)	0.0457						
1024					Approximate Chi Square Value (50.42, α)	35.11				Adjusted Chi Square Value (50.42, β)	34.77	
1025					95% Gamma Approximate UCL (use when n>=50)	5246				95% Gamma Adjusted UCL (use when n<50)	5297	
1026												
1027					Estimates of Gamma Parameters using KM Estimates							
1028					Mean (KM)	3698				SD (KM)	5406	
1029					Variance (KM)	29226247				SE of Mean (KM)	729.6	
1030					k hat (KM)	0.468				k star (KM)	0.455	
1031					nu hat (KM)	52.41				nu star (KM)	50.94	
1032					theta hat (KM)	7903				theta star (KM)	8132	
1033					80% gamma percentile (KM)	6041				90% gamma percentile (KM)	10199	
1034					95% gamma percentile (KM)	14692				99% gamma percentile (KM)	25843	
1035												
1036					Gamma Kaplan-Meier (KM) Statistics							
1037					Approximate Chi Square Value (50.94, α)	35.55				Adjusted Chi Square Value (50.94, β)	35.21	
1038					95% Gamma Approximate KM-UCL (use when n>=50)	5299				95% Gamma Adjusted KM-UCL (use when n<50)	5350	
1039												
1040					Lognormal GOF Test on Detected Observations Only							
1041					Shapiro Wilk Approximate Test Statistic	0.887				Shapiro Wilk GOF Test		
1042					5% Shapiro Wilk P Value	5.2799E-5				Detected Data Not Lognormal at 5% Significance Level		
1043					Lilliefors Test Statistic	0.18				Lilliefors GOF Test		
1044					5% Lilliefors Critical Value	0.123				Detected Data Not Lognormal at 5% Significance Level		
1045					Detected Data Not Lognormal at 5% Significance Level							
1046												
1047					Lognormal ROS Statistics Using Imputed Non-Detects							
1048					Mean in Original Scale	3705				Mean in Log Scale	7.792	
1049					SD in Original Scale	5451				SD in Log Scale	0.838	
1050					95% t UCL (assumes normality of ROS data)	4924				95% Percentile Bootstrap UCL	5021	
1051					95% BCA Bootstrap UCL	5572				95% Bootstrap t UCL	6305	
1052					95% H-UCL (Log ROS)	4391						
1053												
1054					Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution							
1055					KM Mean (logged)	7.781				KM Geo Mean	2395	
1056					KM SD (logged)	0.848				95% Critical H Value (KM-Log)	2.169	
1057					KM Standard Error of Mean (logged)	0.114				95% H-UCL (KM -Log)	4398	
1058					KM SD (logged)	0.848				95% Critical H Value (KM-Log)	2.169	
1059					KM Standard Error of Mean (logged)	0.114						
1060												

	A	B	C	D	E	F	G	H	I	J	K	L
1061	DL/2 Statistics											
1062	DL/2 Normal						DL/2 Log-Transformed					
1063	Mean in Original Scale					3676	Mean in Log Scale					7.719
1064	SD in Original Scale					5469	SD in Log Scale					0.985
1065	95% t UCL (Assumes normality)					4899	95% H-Stat UCL					4971
1066	DL/2 is not a recommended method, provided for comparisons and historical reasons											
1067												
1068	Nonparametric Distribution Free UCL Statistics											
1069	Data do not follow a Discernible Distribution at 5% Significance Level											
1070												
1071	Suggested UCL to Use											
1072	95% KM (Chebyshev) UCL					6879						
1073												
1074	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1075	Recommendations are based upon data size, data distribution, and skewness.											
1076	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1077	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1078												
1079	Result2_ug/kg (mercury)											
1080												
1081	General Statistics											
1082	Total Number of Observations					8	Number of Distinct Observations					3
1083	Number of Detects					2	Number of Non-Detects					6
1084	Number of Distinct Detects					2	Number of Distinct Non-Detects					1
1085	Minimum Detect					27	Minimum Non-Detect					20
1086	Maximum Detect					33	Maximum Non-Detect					20
1087	Variance Detects					18	Percent Non-Detects					75%
1088	Mean Detects					30	SD Detects					4.243
1089	Median Detects					30	CV Detects					0.141
1090	Skewness Detects					N/A	Kurtosis Detects					N/A
1091	Mean of Logged Detects					3.396	SD of Logged Detects					0.142
1092												
1093	Warning: Data set has only 2 Detected Values.											
1094	This is not enough to compute meaningful or reliable statistics and estimates.											
1095												
1096												
1097	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
1098	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
1099	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
1100	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
1101												
1102	Normal GOF Test on Detects Only											
1103	Not Enough Data to Perform GOF Test											
1104												
1105	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
1106	KM Mean					22.5	KM Standard Error of Mean					2.291
1107	KM SD					4.583	95% KM (BCA) UCL					N/A
1108	95% KM (t) UCL					26.84	95% KM (Percentile Bootstrap) UCL					N/A
1109	95% KM (z) UCL					26.27	95% KM Bootstrap t UCL					N/A
1110	90% KM Chebyshev UCL					29.37	95% KM Chebyshev UCL					32.49
1111	97.5% KM Chebyshev UCL					36.81	99% KM Chebyshev UCL					45.3
1112												
1113	Gamma GOF Tests on Detected Observations Only											

	A	B	C	D	E	F	G	H	I	J	K	L	
1114	Not Enough Data to Perform GOF Test												
1115													
1116	Gamma Statistics on Detected Data Only												
1117					k hat (MLE)	99.67					k star (bias corrected MLE)	N/A	
1118					Theta hat (MLE)	0.301					Theta star (bias corrected MLE)	N/A	
1119					nu hat (MLE)	398.7					nu star (bias corrected)	N/A	
1120					Mean (detects)	30							
1121													
1122	Estimates of Gamma Parameters using KM Estimates												
1123					Mean (KM)	22.5					SD (KM)	4.583	
1124					Variance (KM)	21					SE of Mean (KM)	2.291	
1125					k hat (KM)	24.11					k star (KM)	15.15	
1126					nu hat (KM)	385.7					nu star (KM)	242.4	
1127					theta hat (KM)	0.933					theta star (KM)	1.485	
1128					80% gamma percentile (KM)	27.17					90% gamma percentile (KM)	30.15	
1129					95% gamma percentile (KM)	32.77					99% gamma percentile (KM)	38.08	
1130													
1131	Gamma Kaplan-Meier (KM) Statistics												
1132											Adjusted Level of Significance (β)	0.0195	
1133	Approximate Chi Square Value (242.40, α)					207.4						Adjusted Chi Square Value (242.40, β)	199.1
1134	95% Gamma Approximate KM-UCL (use when n>=50)					26.3						95% Gamma Adjusted KM-UCL (use when n<50)	27.39
1135													
1136	Lognormal GOF Test on Detected Observations Only												
1137	Not Enough Data to Perform GOF Test												
1138													
1139	Lognormal ROS Statistics Using Imputed Non-Detects												
1140					Mean in Original Scale	18.47					Mean in Log Scale	2.836	
1141					SD in Original Scale	8.043					SD in Log Scale	0.424	
1142	95% t UCL (assumes normality of ROS data)				23.86					95% Percentile Bootstrap UCL	23.1		
1143					95% BCA Bootstrap UCL	23.95					95% Bootstrap t UCL	27.14	
1144					95% H-UCL (Log ROS)	26.69							
1145													
1146	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution												
1147					KM Mean (logged)	3.096					KM Geo Mean	22.11	
1148					KM SD (logged)	0.181					95% Critical H Value (KM-Log)	1.923	
1149	KM Standard Error of Mean (logged)				0.0903					95% H-UCL (KM -Log)	25.62		
1150					KM SD (logged)	0.181					95% Critical H Value (KM-Log)	1.923	
1151	KM Standard Error of Mean (logged)				0.0903								
1152													
1153	DL/2 Statistics												
1154	DL/2 Normal					DL/2 Log-Transformed							
1155					Mean in Original Scale	15					Mean in Log Scale	2.576	
1156					SD in Original Scale	9.396					SD in Log Scale	0.509	
1157	95% t UCL (Assumes normality)				21.29					95% H-Stat UCL	23.61		
1158	DL/2 is not a recommended method, provided for comparisons and historical reasons												
1159													
1160	Nonparametric Distribution Free UCL Statistics												
1161	Data do not follow a Discernible Distribution at 5% Significance Level												
1162													
1163	Suggested UCL to Use												
1164					95% KM (t) UCL	26.84					KM H-UCL	25.62	
1165					95% KM (BCA) UCL	N/A							
1166	Warning: One or more Recommended UCL(s) not available!												

	A	B	C	D	E	F	G	H	I	J	K	L
1167												
1168	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1169	Recommendations are based upon data size, data distribution, and skewness.											
1170	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1171	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1172												
1173	Result2_ug/kg (mercury, hg)											
1174												
1175	General Statistics											
1176	Total Number of Observations					56	Number of Distinct Observations					5
1177	Number of Detects					7	Number of Non-Detects					49
1178	Number of Distinct Detects					4	Number of Distinct Non-Detects					1
1179	Minimum Detect					21	Minimum Non-Detect					20
1180	Maximum Detect					28	Maximum Non-Detect					20
1181	Variance Detects					8.476	Percent Non-Detects					87.5%
1182	Mean Detects					23.14	SD Detects					2.911
1183	Median Detects					21	CV Detects					0.126
1184	Skewness Detects					0.938	Kurtosis Detects					-0.801
1185	Mean of Logged Detects					3.135	SD of Logged Detects					0.122
1186												
1187	Normal GOF Test on Detects Only											
1188	Shapiro Wilk Test Statistic					0.78	Shapiro Wilk GOF Test					
1189	5% Shapiro Wilk Critical Value					0.803	Detected Data Not Normal at 5% Significance Level					
1190	Lilliefors Test Statistic					0.341	Lilliefors GOF Test					
1191	5% Lilliefors Critical Value					0.304	Detected Data Not Normal at 5% Significance Level					
1192	Detected Data Not Normal at 5% Significance Level											
1193												
1194	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
1195	KM Mean					20.39	KM Standard Error of Mean					0.204
1196	KM SD					1.41	95% KM (BCA) UCL					N/A
1197	95% KM (t) UCL					20.73	95% KM (Percentile Bootstrap) UCL					N/A
1198	95% KM (z) UCL					20.73	95% KM Bootstrap t UCL					N/A
1199	90% KM Chebyshev UCL					21	95% KM Chebyshev UCL					21.28
1200	97.5% KM Chebyshev UCL					21.66	99% KM Chebyshev UCL					22.42
1201												
1202	Gamma GOF Tests on Detected Observations Only											
1203	A-D Test Statistic					0.832	Anderson-Darling GOF Test					
1204	5% A-D Critical Value					0.708	Detected Data Not Gamma Distributed at 5% Significance Level					
1205	K-S Test Statistic					0.36	Kolmogorov-Smirnov GOF					
1206	5% K-S Critical Value					0.311	Detected Data Not Gamma Distributed at 5% Significance Level					
1207	Detected Data Not Gamma Distributed at 5% Significance Level											
1208												
1209	Gamma Statistics on Detected Data Only											
1210	k hat (MLE)					77.33	k star (bias corrected MLE)					44.28
1211	Theta hat (MLE)					0.299	Theta star (bias corrected MLE)					0.523
1212	nu hat (MLE)					1083	nu star (bias corrected)					620
1213	Mean (detects)					23.14						
1214												
1215	Gamma ROS Statistics using Imputed Non-Detects											
1216	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
1217	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
1218	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
1219	This is especially true when the sample size is small.											

	A	B	C	D	E	F	G	H	I	J	K	L
1220	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
1221					Minimum	0.01					Mean	10.71
1222					Maximum	28					Median	10.24
1223					SD	7.019					CV	0.655
1224					k hat (MLE)	0.911					k star (bias corrected MLE)	0.874
1225					Theta hat (MLE)	11.76					Theta star (bias corrected MLE)	12.25
1226					nu hat (MLE)	102.1					nu star (bias corrected)	97.93
1227					Adjusted Level of Significance (β)	0.0457						
1228					Approximate Chi Square Value (97.93, α)	76.1					Adjusted Chi Square Value (97.93, β)	75.59
1229					95% Gamma Approximate UCL (use when n>=50)	13.79					95% Gamma Adjusted UCL (use when n<50)	13.88
1230												
1231	Estimates of Gamma Parameters using KM Estimates											
1232					Mean (KM)	20.39					SD (KM)	1.41
1233					Variance (KM)	1.989					SE of Mean (KM)	0.204
1234					k hat (KM)	209.1					k star (KM)	197.9
1235					nu hat (KM)	23423					nu star (KM)	22170
1236					theta hat (KM)	0.0975					theta star (KM)	0.103
1237					80% gamma percentile (KM)	21.6					90% gamma percentile (KM)	22.27
1238					95% gamma percentile (KM)	22.83					99% gamma percentile (KM)	23.92
1239												
1240	Gamma Kaplan-Meier (KM) Statistics											
1241					Approximate Chi Square Value (N/A, α)	21824					Adjusted Chi Square Value (N/A, β)	21815
1242					95% Gamma Approximate KM-UCL (use when n>=50)	20.72					95% Gamma Adjusted KM-UCL (use when n<50)	20.72
1243												
1244	Lognormal GOF Test on Detected Observations Only											
1245					Shapiro Wilk Test Statistic	0.779					Shapiro Wilk GOF Test	
1246					5% Shapiro Wilk Critical Value	0.803					Detected Data Not Lognormal at 5% Significance Level	
1247					Lilliefors Test Statistic	0.344					Lilliefors GOF Test	
1248					5% Lilliefors Critical Value	0.304					Detected Data Not Lognormal at 5% Significance Level	
1249	Detected Data Not Lognormal at 5% Significance Level											
1250												
1251	Lognormal ROS Statistics Using Imputed Non-Detects											
1252					Mean in Original Scale	13.8					Mean in Log Scale	2.568
1253					SD in Original Scale	4.818					SD in Log Scale	0.341
1254					95% t UCL (assumes normality of ROS data)	14.88					95% Percentile Bootstrap UCL	14.89
1255					95% BCA Bootstrap UCL	14.95					95% Bootstrap t UCL	15.03
1256					95% H-UCL (Log ROS)	14.96						
1257												
1258	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
1259					KM Mean (logged)	3.013					KM Geo Mean	20.35
1260					KM SD (logged)	0.0609					95% Critical H Value (KM-Log)	N/A
1261					KM Standard Error of Mean (logged)	0.00879					95% H-UCL (KM -Log)	N/A
1262					KM SD (logged)	0.0609					95% Critical H Value (KM-Log)	N/A
1263					KM Standard Error of Mean (logged)	0.00879						
1264												
1265	DL/2 Statistics											
1266					DL/2 Normal						DL/2 Log-Transformed	
1267					Mean in Original Scale	11.64					Mean in Log Scale	2.407
1268					SD in Original Scale	4.49					SD in Log Scale	0.281
1269					95% t UCL (Assumes normality)	12.65					95% H-Stat UCL	12.31
1270	DL/2 is not a recommended method, provided for comparisons and historical reasons											
1271												
1272	Nonparametric Distribution Free UCL Statistics											

	A	B	C	D	E	F	G	H	I	J	K	L
1273	Data do not follow a Discernible Distribution at 5% Significance Level											
1274												
1275	Suggested UCL to Use											
1276	95% KM (t) UCL				20.73		KM H-UCL				N/A	
1277	95% KM (BCA) UCL				N/A							
1278	Warning: One or more Recommended UCL(s) not available!											
1279												
1280	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1281	Recommendations are based upon data size, data distribution, and skewness.											
1282	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1283	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1284												
1285	Result2_ug/kg (molybdenum, mo)											
1286												
1287	General Statistics											
1288	Total Number of Observations				56		Number of Distinct Observations				1	
1289	Number of Detects				0		Number of Non-Detects				56	
1290	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
1291												
1292	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1293	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1294	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1295												
1296	The data set for variable Result2_ug/kg (molybdenum, mo) was not processed!											
1297												
1298												
1299	Result2_ug/kg (molybdenum)											
1300												
1301	General Statistics											
1302	Total Number of Observations				8		Number of Distinct Observations				1	
1303	Number of Detects				0		Number of Non-Detects				8	
1304	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
1305												
1306	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1307	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1308	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1309												
1310	The data set for variable Result2_ug/kg (molybdenum) was not processed!											
1311												
1312												
1313												
1314	Result2_ug/kg (nickel)											
1315												
1316	General Statistics											
1317	Total Number of Observations				8		Number of Distinct Observations				8	
1318							Number of Missing Observations				0	
1319	Minimum				8800		Mean				16888	
1320	Maximum				22000		Median				17200	
1321	SD				4588		Std. Error of Mean				1622	
1322	Coefficient of Variation				0.272		Skewness				-0.609	
1323												
1324	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
1325	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											

	A	B	C	D	E	F	G	H	I	J	K	L
1326	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
1327	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
1328												
1329	Normal GOF Test											
1330	Shapiro Wilk Test Statistic				0.895	Shapiro Wilk GOF Test						
1331	5% Shapiro Wilk Critical Value				0.818	Data appear Normal at 5% Significance Level						
1332	Lilliefors Test Statistic				0.23	Lilliefors GOF Test						
1333	5% Lilliefors Critical Value				0.283	Data appear Normal at 5% Significance Level						
1334	Data appear Normal at 5% Significance Level											
1335												
1336	Assuming Normal Distribution											
1337	95% Normal UCL					95% UCLs (Adjusted for Skewness)						
1338	95% Student's-t UCL					19961	95% Adjusted-CLT UCL (Chen-1995)					19182
1339							95% Modified-t UCL (Johnson-1978)					19902
1340												
1341	Gamma GOF Test											
1342	A-D Test Statistic				0.525	Anderson-Darling Gamma GOF Test						
1343	5% A-D Critical Value				0.715	Detected data appear Gamma Distributed at 5% Significance Level						
1344	K-S Test Statistic				0.248	Kolmogorov-Smirnov Gamma GOF Test						
1345	5% K-S Critical Value				0.294	Detected data appear Gamma Distributed at 5% Significance Level						
1346	Detected data appear Gamma Distributed at 5% Significance Level											
1347												
1348	Gamma Statistics											
1349	k hat (MLE)				13.29	k star (bias corrected MLE)					8.39	
1350	Theta hat (MLE)				1271	Theta star (bias corrected MLE)					2013	
1351	nu hat (MLE)				212.6	nu star (bias corrected)					134.2	
1352	MLE Mean (bias corrected)				16888	MLE Sd (bias corrected)					5830	
1353						Approximate Chi Square Value (0.05)					108.5	
1354	Adjusted Level of Significance				0.0195	Adjusted Chi Square Value					102.6	
1355												
1356	Assuming Gamma Distribution											
1357	95% Approximate Gamma UCL (use when n>=50))				20899	95% Adjusted Gamma UCL (use when n<50)					22092	
1358												
1359	Lognormal GOF Test											
1360	Shapiro Wilk Test Statistic				0.859	Shapiro Wilk Lognormal GOF Test						
1361	5% Shapiro Wilk Critical Value				0.818	Data appear Lognormal at 5% Significance Level						
1362	Lilliefors Test Statistic				0.233	Lilliefors Lognormal GOF Test						
1363	5% Lilliefors Critical Value				0.283	Data appear Lognormal at 5% Significance Level						
1364	Data appear Lognormal at 5% Significance Level											
1365												
1366	Lognormal Statistics											
1367	Minimum of Logged Data				9.083	Mean of logged Data					9.696	
1368	Maximum of Logged Data				9.999	SD of logged Data					0.309	
1369												
1370	Assuming Lognormal Distribution											
1371	95% H-UCL				21705	90% Chebyshev (MVUE) UCL					22518	
1372	95% Chebyshev (MVUE) UCL				25042	97.5% Chebyshev (MVUE) UCL					28545	
1373	99% Chebyshev (MVUE) UCL				35427							
1374												
1375	Nonparametric Distribution Free UCL Statistics											
1376	Data appear to follow a Discernible Distribution at 5% Significance Level											
1377												
1378	Nonparametric Distribution Free UCLs											

	A	B	C	D	E	F	G	H	I	J	K	L
1379				95% CLT UCL		19556				95% Jackknife UCL		19961
1380				95% Standard Bootstrap UCL		19383				95% Bootstrap-t UCL		19528
1381				95% Hall's Bootstrap UCL		19075				95% Percentile Bootstrap UCL		19363
1382				95% BCA Bootstrap UCL		19188						
1383				90% Chebyshev(Mean, Sd) UCL		21754				95% Chebyshev(Mean, Sd) UCL		23958
1384				97.5% Chebyshev(Mean, Sd) UCL		27018				99% Chebyshev(Mean, Sd) UCL		33027
1385												
1386				Suggested UCL to Use								
1387				95% Student's-t UCL		19961						
1388												
1389				Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.								
1390				Recommendations are based upon data size, data distribution, and skewness.								
1391				These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).								
1392				However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.								
1393												
1394				Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be								
1395				reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.								
1396												
1397												
1398	Result2_ug/kg (nickel, ni)											
1399												
1400				General Statistics								
1401				Total Number of Observations		56				Number of Distinct Observations		52
1402										Number of Missing Observations		0
1403				Minimum		5000				Mean		16395
1404				Maximum		25400				Median		17350
1405				SD		5550				Std. Error of Mean		741.6
1406				Coefficient of Variation		0.339				Skewness		-0.451
1407												
1408				Normal GOF Test								
1409				Shapiro Wilk Test Statistic		0.93				Shapiro Wilk GOF Test		
1410				5% Shapiro Wilk P Value		0.0034				Data Not Normal at 5% Significance Level		
1411				Lilliefors Test Statistic		0.143				Lilliefors GOF Test		
1412				5% Lilliefors Critical Value		0.118				Data Not Normal at 5% Significance Level		
1413				Data Not Normal at 5% Significance Level								
1414												
1415				Assuming Normal Distribution								
1416				95% Normal UCL						95% UCLs (Adjusted for Skewness)		
1417				95% Student's-t UCL		17635				95% Adjusted-CLT UCL (Chen-1995)		17567
1418										95% Modified-t UCL (Johnson-1978)		17628
1419												
1420				Gamma GOF Test								
1421				A-D Test Statistic		1.968				Anderson-Darling Gamma GOF Test		
1422				5% A-D Critical Value		0.752				Data Not Gamma Distributed at 5% Significance Level		
1423				K-S Test Statistic		0.167				Kolmogorov-Smirnov Gamma GOF Test		
1424				5% K-S Critical Value		0.119				Data Not Gamma Distributed at 5% Significance Level		
1425				Data Not Gamma Distributed at 5% Significance Level								
1426												
1427				Gamma Statistics								
1428				k hat (MLE)		7.048				k star (bias corrected MLE)		6.683
1429				Theta hat (MLE)		2326				Theta star (bias corrected MLE)		2453
1430				nu hat (MLE)		789.4				nu star (bias corrected)		748.5
1431				MLE Mean (bias corrected)		16395				MLE Sd (bias corrected)		6342

	A	B	C	D	E	F	G	H	I	J	K	L
1432							Approximate Chi Square Value (0.05)					686
1433	Adjusted Level of Significance					0.0457	Adjusted Chi Square Value					684.4
1434												
1435	Assuming Gamma Distribution											
1436	95% Approximate Gamma UCL (use when n>=50))					17888	95% Adjusted Gamma UCL (use when n<50)					17929
1437												
1438	Lognormal GOF Test											
1439	Shapiro Wilk Test Statistic					0.872	Shapiro Wilk Lognormal GOF Test					
1440	5% Shapiro Wilk P Value					2.7547E-6	Data Not Lognormal at 5% Significance Level					
1441	Lilliefors Test Statistic					0.172	Lilliefors Lognormal GOF Test					
1442	5% Lilliefors Critical Value					0.118	Data Not Lognormal at 5% Significance Level					
1443	Data Not Lognormal at 5% Significance Level											
1444												
1445	Lognormal Statistics											
1446	Minimum of Logged Data					8.517	Mean of logged Data					9.632
1447	Maximum of Logged Data					10.14	SD of logged Data					0.413
1448												
1449	Assuming Lognormal Distribution											
1450	95% H-UCL					18385	90% Chebyshev (MVUE) UCL					19419
1451	95% Chebyshev (MVUE) UCL					20706	97.5% Chebyshev (MVUE) UCL					22493
1452	99% Chebyshev (MVUE) UCL					26003						
1453												
1454	Nonparametric Distribution Free UCL Statistics											
1455	Data do not follow a Discernible Distribution (0.05)											
1456												
1457	Nonparametric Distribution Free UCLs											
1458	95% CLT UCL					17615	95% Jackknife UCL					17635
1459	95% Standard Bootstrap UCL					17601	95% Bootstrap-t UCL					17564
1460	95% Hall's Bootstrap UCL					17559	95% Percentile Bootstrap UCL					17596
1461	95% BCA Bootstrap UCL					17577						
1462	90% Chebyshev(Mean, Sd) UCL					18620	95% Chebyshev(Mean, Sd) UCL					19627
1463	97.5% Chebyshev(Mean, Sd) UCL					21026	99% Chebyshev(Mean, Sd) UCL					23774
1464												
1465	Suggested UCL to Use											
1466	95% Student's-t UCL					17635	or 95% Modified-t UCL					17628
1467												
1468	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1469	Recommendations are based upon data size, data distribution, and skewness.											
1470	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1471	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1472												
1473	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
1474	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
1475												
1476	Result2_ug/kg (oro (c29-c32))											
1477												
1478	General Statistics											
1479	Total Number of Observations					56	Number of Distinct Observations					1
1480	Number of Detects					0	Number of Non-Detects					56
1481	Number of Distinct Detects					0	Number of Distinct Non-Detects					1
1482												
1483	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1484	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											

	A	B	C	D	E	F	G	H	I	J	K	L
1485	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1486												
1487	The data set for variable Result2_ug/kg (oro (c29-c32)) was not processed!											
1488												
1489												
1490	Result2_ug/kg (pce)											
1491												
1492	General Statistics											
1493	Total Number of Observations				8	Number of Distinct Observations				4		
1494	Number of Detects				3	Number of Non-Detects				5		
1495	Number of Distinct Detects				3	Number of Distinct Non-Detects				1		
1496	Minimum Detect				2	Minimum Non-Detect				1		
1497	Maximum Detect				58.7	Maximum Non-Detect				1		
1498	Variance Detects				988.6	Percent Non-Detects				62.5%		
1499	Mean Detects				22.5	SD Detects				31.44		
1500	Median Detects				6.8	CV Detects				1.397		
1501	Skewness Detects				1.687	Kurtosis Detects				N/A		
1502	Mean of Logged Detects				2.228	SD of Logged Detects				1.711		
1503												
1504	Warning: Data set has only 3 Detected Values.											
1505	This is not enough to compute meaningful or reliable statistics and estimates.											
1506												
1507												
1508	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
1509	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
1510	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
1511	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
1512												
1513	Normal GOF Test on Detects Only											
1514	Shapiro Wilk Test Statistic				0.813	Shapiro Wilk GOF Test						
1515	5% Shapiro Wilk Critical Value				0.767	Detected Data appear Normal at 5% Significance Level						
1516	Lilliefors Test Statistic				0.358	Lilliefors GOF Test						
1517	5% Lilliefors Critical Value				0.425	Detected Data appear Normal at 5% Significance Level						
1518	Detected Data appear Normal at 5% Significance Level											
1519												
1520	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
1521	KM Mean				9.063	KM Standard Error of Mean				8.164		
1522	KM SD				18.85	95% KM (BCA) UCL				N/A		
1523	95% KM (t) UCL				24.53	95% KM (Percentile Bootstrap) UCL				N/A		
1524	95% KM (z) UCL				22.49	95% KM Bootstrap t UCL				N/A		
1525	90% KM Chebyshev UCL				33.56	95% KM Chebyshev UCL				44.65		
1526	97.5% KM Chebyshev UCL				60.05	99% KM Chebyshev UCL				90.3		
1527												
1528	Gamma GOF Tests on Detected Observations Only											
1529	Not Enough Data to Perform GOF Test											
1530												
1531	Gamma Statistics on Detected Data Only											
1532	k hat (MLE)				0.684	k star (bias corrected MLE)				N/A		
1533	Theta hat (MLE)				32.88	Theta star (bias corrected MLE)				N/A		
1534	nu hat (MLE)				4.106	nu star (bias corrected)				N/A		
1535	Mean (detects)				22.5							
1536												
1537	Gamma ROS Statistics using Imputed Non-Detects											

	A	B	C	D	E	F	G	H	I	J	K	L
1538	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
1539	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
1540	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
1541	This is especially true when the sample size is small.											
1542	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
1543				Minimum	0.01					Mean	8.444	
1544				Maximum	58.7					Median	0.01	
1545				SD	20.44					CV	2.421	
1546				k hat (MLE)	0.179					k star (bias corrected MLE)	0.195	
1547				Theta hat (MLE)	47.11					Theta star (bias corrected MLE)	43.22	
1548				nu hat (MLE)	2.867					nu star (bias corrected)	3.126	
1549				Adjusted Level of Significance (β)	0.0195							
1550				Approximate Chi Square Value (3.13, α)	0.411					Adjusted Chi Square Value (3.13, β)	0.237	
1551				95% Gamma Approximate UCL (use when n>=50)	64.28					95% Gamma Adjusted UCL (use when n<50)	N/A	
1552												
1553	Estimates of Gamma Parameters using KM Estimates											
1554				Mean (KM)	9.063					SD (KM)	18.85	
1555				Variance (KM)	355.5					SE of Mean (KM)	8.164	
1556				k hat (KM)	0.231					k star (KM)	0.228	
1557				nu hat (KM)	3.697					nu star (KM)	3.644	
1558				theta hat (KM)	39.23					theta star (KM)	39.8	
1559				80% gamma percentile (KM)	12.7					90% gamma percentile (KM)	27.34	
1560				95% gamma percentile (KM)	45.07					99% gamma percentile (KM)	92.91	
1561												
1562	Gamma Kaplan-Meier (KM) Statistics											
1563				Approximate Chi Square Value (3.64, α)	0.586					Adjusted Chi Square Value (3.64, β)	0.35	
1564				95% Gamma Approximate KM-UCL (use when n>=50)	56.33					95% Gamma Adjusted KM-UCL (use when n<50)	94.45	
1565												
1566	Lognormal GOF Test on Detected Observations Only											
1567				Shapiro Wilk Test Statistic	0.975					Shapiro Wilk GOF Test		
1568				5% Shapiro Wilk Critical Value	0.767					Detected Data appear Lognormal at 5% Significance Level		
1569				Lilliefors Test Statistic	0.239					Lilliefors GOF Test		
1570				5% Lilliefors Critical Value	0.425					Detected Data appear Lognormal at 5% Significance Level		
1571	Detected Data appear Lognormal at 5% Significance Level											
1572												
1573	Lognormal ROS Statistics Using Imputed Non-Detects											
1574				Mean in Original Scale	8.466					Mean in Log Scale	-2.004	
1575				SD in Original Scale	20.43					SD in Log Scale	4.037	
1576				95% t UCL (assumes normality of ROS data)	22.15					95% Percentile Bootstrap UCL	22.27	
1577				95% BCA Bootstrap UCL	29.86					95% Bootstrap t UCL	247.3	
1578				95% H-UCL (Log ROS)	4.350E+10							
1579												
1580	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
1581				KM Mean (logged)	0.835					KM Geo Mean	2.306	
1582				KM SD (logged)	1.376					95% Critical H Value (KM-Log)	4.405	
1583				KM Standard Error of Mean (logged)	0.596					95% H-UCL (KM -Log)	58.81	
1584				KM SD (logged)	1.376					95% Critical H Value (KM-Log)	4.405	
1585				KM Standard Error of Mean (logged)	0.596							
1586												
1587	DL/2 Statistics											
1588	DL/2 Normal					DL/2 Log-Transformed						
1589				Mean in Original Scale	8.75					Mean in Log Scale	0.402	
1590				SD in Original Scale	20.3					SD in Log Scale	1.767	

	A	B	C	D	E	F	G	H	I	J	K	L
1591	95% t UCL (Assumes normality)				22.35	95% H-Stat UCL				276.2		
1592	DL/2 is not a recommended method, provided for comparisons and historical reasons											
1593												
1594	Nonparametric Distribution Free UCL Statistics											
1595	Detected Data appear Normal Distributed at 5% Significance Level											
1596												
1597	Suggested UCL to Use											
1598	95% KM (t) UCL				24.53							
1599												
1600	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1601	Recommendations are based upon data size, data distribution, and skewness.											
1602	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1603	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1604												
1605	Result2_ug/kg (selenium)											
1606												
1607	General Statistics											
1608	Total Number of Observations				8	Number of Distinct Observations				1		
1609	Number of Detects				0	Number of Non-Detects				8		
1610	Number of Distinct Detects				0	Number of Distinct Non-Detects				1		
1611												
1612	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1613	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1614	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1615												
1616	The data set for variable Result2_ug/kg (selenium) was not processed!											
1617												
1618												
1619	Result2_ug/kg (selenium, se)											
1620												
1621	General Statistics											
1622	Total Number of Observations				56	Number of Distinct Observations				1		
1623	Number of Detects				0	Number of Non-Detects				56		
1624	Number of Distinct Detects				0	Number of Distinct Non-Detects				1		
1625												
1626	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1627	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1628	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1629												
1630	The data set for variable Result2_ug/kg (selenium, se) was not processed!											
1631												
1632												
1633	Result2_ug/kg (silver)											
1634												
1635	General Statistics											
1636	Total Number of Observations				8	Number of Distinct Observations				1		
1637	Number of Detects				0	Number of Non-Detects				8		
1638	Number of Distinct Detects				0	Number of Distinct Non-Detects				1		
1639												
1640	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1641	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1642	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1643												

	A	B	C	D	E	F	G	H	I	J	K	L
1644	The data set for variable Result2_ug/kg (silver) was not processed!											
1645												
1646												
1647	Result2_ug/kg (silver, ag)											
1648												
1649	General Statistics											
1650	Total Number of Observations				56		Number of Distinct Observations				1	
1651	Number of Detects				0		Number of Non-Detects				56	
1652	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
1653												
1654	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1655	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1656	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1657												
1658	The data set for variable Result2_ug/kg (silver, ag) was not processed!											
1659												
1660												
1661	Result2_ug/kg (tce)											
1662												
1663	General Statistics											
1664	Total Number of Observations				8		Number of Distinct Observations				1	
1665	Number of Detects				0		Number of Non-Detects				8	
1666	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
1667												
1668	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1669	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1670	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1671												
1672	The data set for variable Result2_ug/kg (tce) was not processed!											
1673												
1674												
1675	Result2_ug/kg (thallium)											
1676												
1677	General Statistics											
1678	Total Number of Observations				8		Number of Distinct Observations				1	
1679	Number of Detects				0		Number of Non-Detects				8	
1680	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
1681												
1682	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1683	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1684	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1685												
1686	The data set for variable Result2_ug/kg (thallium) was not processed!											
1687												
1688												
1689	Result2_ug/kg (thallium, tl)											
1690												
1691	General Statistics											
1692	Total Number of Observations				56		Number of Distinct Observations				1	
1693	Number of Detects				0		Number of Non-Detects				56	
1694	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
1695												
1696	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											

	A	B	C	D	E	F	G	H	I	J	K	L
1697	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1698	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1699												
1700	The data set for variable Result2_ug/kg (thallium, tl) was not processed!											
1701												
1702												
1703	Result2_ug/kg (toluene)											
1704												
1705	General Statistics											
1706	Total Number of Observations				8		Number of Distinct Observations				1	
1707	Number of Detects				0		Number of Non-Detects				8	
1708	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
1709												
1710	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1711	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1712	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1713												
1714	The data set for variable Result2_ug/kg (toluene) was not processed!											
1715												
1716												
1717	Result2_ug/kg (trans-1,2-dce)											
1718												
1719	General Statistics											
1720	Total Number of Observations				8		Number of Distinct Observations				1	
1721	Number of Detects				0		Number of Non-Detects				8	
1722	Number of Distinct Detects				0		Number of Distinct Non-Detects				1	
1723												
1724	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1725	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1726	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1727												
1728	The data set for variable Result2_ug/kg (trans-1,2-dce) was not processed!											
1729												
1730												
1731												
1732	Result2_ug/kg (vanadium)											
1733												
1734	General Statistics											
1735	Total Number of Observations				8		Number of Distinct Observations				8	
1736							Number of Missing Observations				0	
1737	Minimum				34500		Mean				54413	
1738	Maximum				66400		Median				55900	
1739	SD				10989		Std. Error of Mean				3885	
1740	Coefficient of Variation				0.202		Skewness				-0.728	
1741												
1742	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
1743	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
1744	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
1745	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
1746												
1747	Normal GOF Test											
1748	Shapiro Wilk Test Statistic				0.929		Shapiro Wilk GOF Test					
1749	5% Shapiro Wilk Critical Value				0.818		Data appear Normal at 5% Significance Level					

	A	B	C	D	E	F	G	H	I	J	K	L	
1750	Lilliefors Test Statistic					0.172	Lilliefors GOF Test						
1751	5% Lilliefors Critical Value					0.283	Data appear Normal at 5% Significance Level						
1752	Data appear Normal at 5% Significance Level												
1753													
1754	Assuming Normal Distribution												
1755	95% Normal UCL						95% UCLs (Adjusted for Skewness)						
1756	95% Student's-t UCL					61774	95% Adjusted-CLT UCL (Chen-1995)					59735	
1757							95% Modified-t UCL (Johnson-1978)					61607	
1758													
1759	Gamma GOF Test												
1760	A-D Test Statistic					0.351	Anderson-Darling Gamma GOF Test						
1761	5% A-D Critical Value					0.716	Detected data appear Gamma Distributed at 5% Significance Level						
1762	K-S Test Statistic					0.192	Kolmogorov-Smirnov Gamma GOF Test						
1763	5% K-S Critical Value					0.294	Detected data appear Gamma Distributed at 5% Significance Level						
1764	Detected data appear Gamma Distributed at 5% Significance Level												
1765													
1766	Gamma Statistics												
1767	k hat (MLE)					25.05	k star (bias corrected MLE)					15.74	
1768	Theta hat (MLE)					2172	Theta star (bias corrected MLE)					3457	
1769	nu hat (MLE)					400.8	nu star (bias corrected)					251.8	
1770	MLE Mean (bias corrected)					54413	MLE Sd (bias corrected)					13716	
1771							Approximate Chi Square Value (0.05)					216.1	
1772	Adjusted Level of Significance					0.0195	Adjusted Chi Square Value					207.7	
1773													
1774	Assuming Gamma Distribution												
1775	95% Approximate Gamma UCL (use when n>=50))					63413	95% Adjusted Gamma UCL (use when n<50)					65977	
1776													
1777	Lognormal GOF Test												
1778	Shapiro Wilk Test Statistic					0.897	Shapiro Wilk Lognormal GOF Test						
1779	5% Shapiro Wilk Critical Value					0.818	Data appear Lognormal at 5% Significance Level						
1780	Lilliefors Test Statistic					0.184	Lilliefors Lognormal GOF Test						
1781	5% Lilliefors Critical Value					0.283	Data appear Lognormal at 5% Significance Level						
1782	Data appear Lognormal at 5% Significance Level												
1783													
1784	Lognormal Statistics												
1785	Minimum of Logged Data					10.45	Mean of logged Data					10.88	
1786	Maximum of Logged Data					11.1	SD of logged Data					0.221	
1787													
1788	Assuming Lognormal Distribution												
1789	95% H-UCL					64412	90% Chebyshev (MVUE) UCL					67292	
1790	95% Chebyshev (MVUE) UCL					73095	97.5% Chebyshev (MVUE) UCL					81149	
1791	99% Chebyshev (MVUE) UCL					96970							
1792													
1793	Nonparametric Distribution Free UCL Statistics												
1794	Data appear to follow a Discernible Distribution at 5% Significance Level												
1795													
1796	Nonparametric Distribution Free UCLs												
1797	95% CLT UCL					60803	95% Jackknife UCL					61774	
1798	95% Standard Bootstrap UCL					60437	95% Bootstrap-t UCL					60797	
1799	95% Hall's Bootstrap UCL					59530	95% Percentile Bootstrap UCL					60375	
1800	95% BCA Bootstrap UCL					59663							
1801	90% Chebyshev(Mean, Sd) UCL					66069	95% Chebyshev(Mean, Sd) UCL					71348	
1802	97.5% Chebyshev(Mean, Sd) UCL					78676	99% Chebyshev(Mean, Sd) UCL					93071	

	A	B	C	D	E	F	G	H	I	J	K	L
1803												
1804	Suggested UCL to Use											
1805	95% Student's-t UCL					61774						
1806												
1807	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1808	Recommendations are based upon data size, data distribution, and skewness.											
1809	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1810	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1811												
1812	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
1813	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
1814												
1815												
1816	Result2_ug/kg (vanadium, v)											
1817												
1818	General Statistics											
1819	Total Number of Observations					56	Number of Distinct Observations					53
1820							Number of Missing Observations					0
1821	Minimum					32800	Mean					57304
1822	Maximum					81300	Median					58900
1823	SD					12495	Std. Error of Mean					1670
1824	Coefficient of Variation					0.218	Skewness					-0.256
1825												
1826	Normal GOF Test											
1827	Shapiro Wilk Test Statistic					0.958	Shapiro Wilk GOF Test					
1828	5% Shapiro Wilk P Value					0.1	Data appear Normal at 5% Significance Level					
1829	Lilliefors Test Statistic					0.0981	Lilliefors GOF Test					
1830	5% Lilliefors Critical Value					0.118	Data appear Normal at 5% Significance Level					
1831	Data appear Normal at 5% Significance Level											
1832												
1833	Assuming Normal Distribution											
1834	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
1835	95% Student's-t UCL					60097	95% Adjusted-CLT UCL (Chen-1995)					59989
1836							95% Modified-t UCL (Johnson-1978)					60088
1837												
1838	Gamma GOF Test											
1839	A-D Test Statistic					0.923	Anderson-Darling Gamma GOF Test					
1840	5% A-D Critical Value					0.749	Data Not Gamma Distributed at 5% Significance Level					
1841	K-S Test Statistic					0.126	Kolmogorov-Smirnov Gamma GOF Test					
1842	5% K-S Critical Value					0.119	Data Not Gamma Distributed at 5% Significance Level					
1843	Data Not Gamma Distributed at 5% Significance Level											
1844												
1845	Gamma Statistics											
1846	k hat (MLE)					19.66	k star (bias corrected MLE)					18.62
1847	Theta hat (MLE)					2914	Theta star (bias corrected MLE)					3077
1848	nu hat (MLE)					2202	nu star (bias corrected)					2086
1849	MLE Mean (bias corrected)					57304	MLE Sd (bias corrected)					13279
1850							Approximate Chi Square Value (0.05)					1981
1851	Adjusted Level of Significance					0.0457	Adjusted Chi Square Value					1978
1852												
1853	Assuming Gamma Distribution											
1854	95% Approximate Gamma UCL (use when n>=50))					60344	95% Adjusted Gamma UCL (use when n<50)					60426
1855												

	A	B	C	D	E	F	G	H	I	J	K	L
1856	Lognormal GOF Test											
1857	Shapiro Wilk Test Statistic				0.93	Shapiro Wilk Lognormal GOF Test						
1858	5% Shapiro Wilk P Value				0.00337	Data Not Lognormal at 5% Significance Level						
1859	Lilliefors Test Statistic				0.137	Lilliefors Lognormal GOF Test						
1860	5% Lilliefors Critical Value				0.118	Data Not Lognormal at 5% Significance Level						
1861	Data Not Lognormal at 5% Significance Level											
1862												
1863	Lognormal Statistics											
1864	Minimum of Logged Data				10.4	Mean of logged Data						10.93
1865	Maximum of Logged Data				11.31	SD of logged Data						0.235
1866												
1867	Assuming Lognormal Distribution											
1868	95% H-UCL				60623	90% Chebyshev (MVUE) UCL						62845
1869	95% Chebyshev (MVUE) UCL				65319	97.5% Chebyshev (MVUE) UCL						68752
1870	99% Chebyshev (MVUE) UCL				75497							
1871												
1872	Nonparametric Distribution Free UCL Statistics											
1873	Data appear to follow a Discernible Distribution at 5% Significance Level											
1874												
1875	Nonparametric Distribution Free UCLs											
1876	95% CLT UCL				60050	95% Jackknife UCL						60097
1877	95% Standard Bootstrap UCL				59995	95% Bootstrap-t UCL						60042
1878	95% Hall's Bootstrap UCL				60105	95% Percentile Bootstrap UCL						60029
1879	95% BCA Bootstrap UCL				59964							
1880	90% Chebyshev(Mean, Sd) UCL				62313	95% Chebyshev(Mean, Sd) UCL						64582
1881	97.5% Chebyshev(Mean, Sd) UCL				67731	99% Chebyshev(Mean, Sd) UCL						73917
1882												
1883	Suggested UCL to Use											
1884	95% Student's-t UCL				60097							
1885												
1886	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1887	Recommendations are based upon data size, data distribution, and skewness.											
1888	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1889	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1890												
1891	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
1892	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
1893												
1894												
1895	Result2_ug/kg (zinc)											
1896												
1897	General Statistics											
1898	Total Number of Observations				8	Number of Distinct Observations						8
1899						Number of Missing Observations						0
1900	Minimum				41500	Mean						60475
1901	Maximum				75100	Median						61250
1902	SD				12711	Std. Error of Mean						4494
1903	Coefficient of Variation				0.21	Skewness						-0.225
1904												
1905	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
1906	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
1907	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
1908	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											

	A	B	C	D	E	F	G	H	I	J	K	L
1909												
1910	Normal GOF Test											
1911	Shapiro Wilk Test Statistic					0.91	Shapiro Wilk GOF Test					
1912	5% Shapiro Wilk Critical Value					0.818	Data appear Normal at 5% Significance Level					
1913	Lilliefors Test Statistic					0.177	Lilliefors GOF Test					
1914	5% Lilliefors Critical Value					0.283	Data appear Normal at 5% Significance Level					
1915	Data appear Normal at 5% Significance Level											
1916												
1917	Assuming Normal Distribution											
1918	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
1919	95% Student's-t UCL						68989	95% Adjusted-CLT UCL (Chen-1995)				67484
1920								95% Modified-t UCL (Johnson-1978)				68929
1921												
1922	Gamma GOF Test											
1923	A-D Test Statistic					0.401	Anderson-Darling Gamma GOF Test					
1924	5% A-D Critical Value					0.716	Detected data appear Gamma Distributed at 5% Significance Level					
1925	K-S Test Statistic					0.202	Kolmogorov-Smirnov Gamma GOF Test					
1926	5% K-S Critical Value					0.294	Detected data appear Gamma Distributed at 5% Significance Level					
1927	Detected data appear Gamma Distributed at 5% Significance Level											
1928												
1929	Gamma Statistics											
1930	k hat (MLE)					24.63	k star (bias corrected MLE)					15.48
1931	Theta hat (MLE)					2455	Theta star (bias corrected MLE)					3907
1932	nu hat (MLE)					394.1	nu star (bias corrected)					247.7
1933	MLE Mean (bias corrected)					60475	MLE Sd (bias corrected)					15371
1934							Approximate Chi Square Value (0.05)					212.2
1935	Adjusted Level of Significance					0.0195	Adjusted Chi Square Value					203.9
1936												
1937	Assuming Gamma Distribution											
1938	95% Approximate Gamma UCL (use when n>=50))					70572	95% Adjusted Gamma UCL (use when n<50)					73452
1939												
1940	Lognormal GOF Test											
1941	Shapiro Wilk Test Statistic					0.908	Shapiro Wilk Lognormal GOF Test					
1942	5% Shapiro Wilk Critical Value					0.818	Data appear Lognormal at 5% Significance Level					
1943	Lilliefors Test Statistic					0.196	Lilliefors Lognormal GOF Test					
1944	5% Lilliefors Critical Value					0.283	Data appear Lognormal at 5% Significance Level					
1945	Data appear Lognormal at 5% Significance Level											
1946												
1947	Lognormal Statistics											
1948	Minimum of Logged Data					10.63	Mean of logged Data					10.99
1949	Maximum of Logged Data					11.23	SD of logged Data					0.219
1950												
1951	Assuming Lognormal Distribution											
1952	95% H-UCL					71415	90% Chebyshev (MVUE) UCL					74609
1953	95% Chebyshev (MVUE) UCL					80996	97.5% Chebyshev (MVUE) UCL					89861
1954	99% Chebyshev (MVUE) UCL					107275						
1955												
1956	Nonparametric Distribution Free UCL Statistics											
1957	Data appear to follow a Discernible Distribution at 5% Significance Level											
1958												
1959	Nonparametric Distribution Free UCLs											
1960	95% CLT UCL					67867	95% Jackknife UCL					68989
1961	95% Standard Bootstrap UCL					67378	95% Bootstrap-t UCL					69296

	A	B	C	D	E	F	G	H	I	J	K	L
1962	95% Hall's Bootstrap UCL					66439	95% Percentile Bootstrap UCL					67400
1963	95% BCA Bootstrap UCL					66988						
1964	90% Chebyshev(Mean, Sd) UCL					73957	95% Chebyshev(Mean, Sd) UCL					80064
1965	97.5% Chebyshev(Mean, Sd) UCL					88539	99% Chebyshev(Mean, Sd) UCL					105189
1966												
1967	Suggested UCL to Use											
1968	95% Student's-t UCL					68989						
1969												
1970	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1971	Recommendations are based upon data size, data distribution, and skewness.											
1972	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1973	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1974												
1975	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
1976	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
1977												
1978												
1979	Result2_ug/kg (zinc, zn)											
1980												
1981	General Statistics											
1982	Total Number of Observations					56	Number of Distinct Observations					53
1983							Number of Missing Observations					0
1984	Minimum					22700	Mean					354418
1985	Maximum					7050000	Median					62900
1986	SD					1323482	Std. Error of Mean					176858
1987	Coefficient of Variation					3.734	Skewness					4.623
1988												
1989	Normal GOF Test											
1990	Shapiro Wilk Test Statistic					0.252	Shapiro Wilk GOF Test					
1991	5% Shapiro Wilk P Value					0	Data Not Normal at 5% Significance Level					
1992	Lilliefors Test Statistic					0.528	Lilliefors GOF Test					
1993	5% Lilliefors Critical Value					0.118	Data Not Normal at 5% Significance Level					
1994	Data Not Normal at 5% Significance Level											
1995												
1996	Assuming Normal Distribution											
1997	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
1998	95% Student's-t UCL					650307	95% Adjusted-CLT UCL (Chen-1995)					762078
1999							95% Modified-t UCL (Johnson-1978)					668518
2000												
2001	Gamma GOF Test											
2002	A-D Test Statistic					17.04	Anderson-Darling Gamma GOF Test					
2003	5% A-D Critical Value					0.836	Data Not Gamma Distributed at 5% Significance Level					
2004	K-S Test Statistic					0.528	Kolmogorov-Smirnov Gamma GOF Test					
2005	5% K-S Critical Value					0.127	Data Not Gamma Distributed at 5% Significance Level					
2006	Data Not Gamma Distributed at 5% Significance Level											
2007												
2008	Gamma Statistics											
2009	k hat (MLE)					0.412	k star (bias corrected MLE)					0.402
2010	Theta hat (MLE)					859583	Theta star (bias corrected MLE)					881351
2011	nu hat (MLE)					46.18	nu star (bias corrected)					45.04
2012	MLE Mean (bias corrected)					354418	MLE Sd (bias corrected)					558898
2013							Approximate Chi Square Value (0.05)					30.64
2014	Adjusted Level of Significance					0.0457	Adjusted Chi Square Value					30.33

	A	B	C	D	E	F	G	H	I	J	K	L
2015												
2016	Assuming Gamma Distribution											
2017	95% Approximate Gamma UCL (use when n>=50))					520898	95% Adjusted Gamma UCL (use when n<50)					526291
2018												
2019	Lognormal GOF Test											
2020	Shapiro Wilk Test Statistic					0.485	Shapiro Wilk Lognormal GOF Test					
2021	5% Shapiro Wilk P Value					0	Data Not Lognormal at 5% Significance Level					
2022	Lilliefors Test Statistic					0.395	Lilliefors Lognormal GOF Test					
2023	5% Lilliefors Critical Value					0.118	Data Not Lognormal at 5% Significance Level					
2024	Data Not Lognormal at 5% Significance Level											
2025												
2026	Lognormal Statistics											
2027	Minimum of Logged Data					10.03	Mean of logged Data					11.19
2028	Maximum of Logged Data					15.77	SD of logged Data					1.065
2029												
2030	Assuming Lognormal Distribution											
2031	95% H-UCL					180861	90% Chebyshev (MVUE) UCL					190282
2032	95% Chebyshev (MVUE) UCL					219507	97.5% Chebyshev (MVUE) UCL					260070
2033	99% Chebyshev (MVUE) UCL					339748						
2034												
2035	Nonparametric Distribution Free UCL Statistics											
2036	Data do not follow a Discernible Distribution (0.05)											
2037												
2038	Nonparametric Distribution Free UCLs											
2039	95% CLT UCL					645323	95% Jackknife UCL					650307
2040	95% Standard Bootstrap UCL					638960	95% Bootstrap-t UCL					1171173
2041	95% Hall's Bootstrap UCL					737216	95% Percentile Bootstrap UCL					669286
2042	95% BCA Bootstrap UCL					818089						
2043	90% Chebyshev(Mean, Sd) UCL					884991	95% Chebyshev(Mean, Sd) UCL					1125323
2044	97.5% Chebyshev(Mean, Sd) UCL					1458894	99% Chebyshev(Mean, Sd) UCL					2114130
2045												
2046	Suggested UCL to Use											
2047	95% Chebyshev (Mean, Sd) UCL					1125323						
2048												
2049	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
2050	Recommendations are based upon data size, data distribution, and skewness.											
2051	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
2052	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
2053												

APPENDIX B

SESOIL Model Input Reports

Climate Inputs

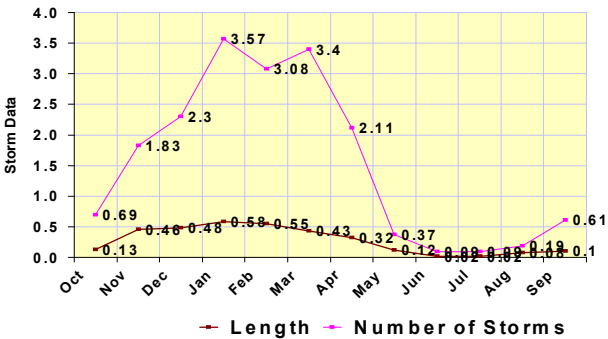
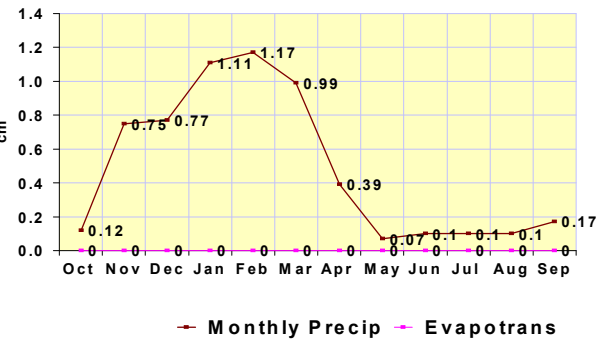
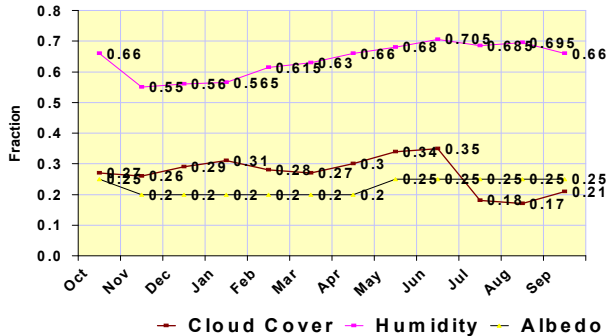
Scenario 1

Climate Report

Location Description: LOS ANGELES, CIVIC CENTER

Climatic Input File: C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Month	Temperature		Precipitation		Evapotranspiration Rate		Storms		Cloud Cover	Albedo	Humidity
Units	°C	°F	cm	Inches	cm	Inches	# per Month	Length Days	Fraction	Fraction	Fraction
October	20.94	69.69	0.12	0.05	0.00	0.00	0.69	0.130	0.270	0.250	0.660
November	17.22	63.00	0.75	0.30	0.00	0.00	1.83	0.460	0.260	0.200	0.550
December	14.61	58.30	0.77	0.30	0.00	0.00	2.30	0.480	0.290	0.200	0.560
January	14.61	58.30	1.11	0.44	0.00	0.00	3.57	0.580	0.310	0.200	0.565
February	15.61	60.10	1.17	0.46	0.00	0.00	3.08	0.550	0.280	0.200	0.615
March	15.94	60.69	0.99	0.39	0.00	0.00	3.40	0.430	0.270	0.200	0.630
April	17.39	63.30	0.39	0.15	0.00	0.00	2.11	0.320	0.300	0.200	0.660
May	18.78	65.80	0.07	0.03	0.00	0.00	0.37	0.120	0.340	0.250	0.680
June	20.94	69.69	0.1	0.04	0.00	0.00	0.09	0.020	0.350	0.250	0.705
July	23.50	74.30	0.1	0.04	0.00	0.00	0.09	0.020	0.180	0.250	0.685
August	23.94	75.09	0.1	0.04	0.00	0.00	0.19	0.080	0.170	0.250	0.695
September	23.17	73.71	0.17	0.07	0.00	0.00	0.61	0.100	0.210	0.250	0.660
Total			5.84	2.30	0.00	0.00					



Climate Inputs

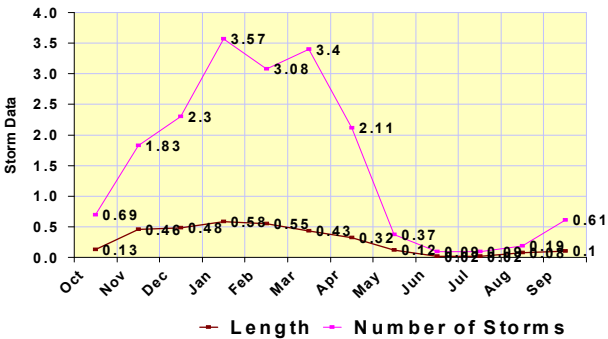
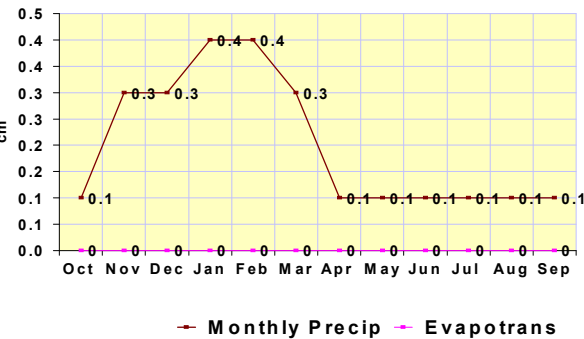
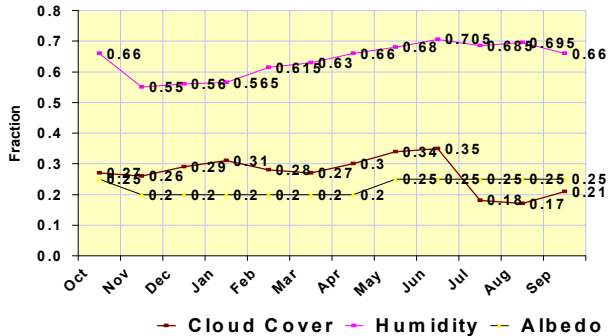
Scenario 2

Climate Report

Location Description: LOS ANGELES, CIVIC CENTER

Climatic Input File: C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Month	Temperature		Precipitation		Evapotranspiration Rate		Storms		Cloud Cover	Albedo	Humidity
Units	°C	°F	cm	Inches	cm	Inches	# per Month	Length Days	Fraction	Fraction	Fraction
October	20.94	69.69	0.1	0.04	0.00	0.00	0.69	0.130	0.270	0.250	0.660
November	17.22	63.00	0.3	0.12	0.00	0.00	1.83	0.460	0.260	0.200	0.550
December	14.61	58.30	0.3	0.12	0.00	0.00	2.30	0.480	0.290	0.200	0.560
January	14.61	58.30	0.4	0.16	0.00	0.00	3.57	0.580	0.310	0.200	0.565
February	15.61	60.10	0.4	0.16	0.00	0.00	3.08	0.550	0.280	0.200	0.615
March	15.94	60.69	0.3	0.12	0.00	0.00	3.40	0.430	0.270	0.200	0.630
April	17.39	63.30	0.1	0.04	0.00	0.00	2.11	0.320	0.300	0.200	0.660
May	18.78	65.80	0.1	0.04	0.00	0.00	0.37	0.120	0.340	0.250	0.680
June	20.94	69.69	0.1	0.04	0.00	0.00	0.09	0.020	0.350	0.250	0.705
July	23.50	74.30	0.1	0.04	0.00	0.00	0.09	0.020	0.180	0.250	0.685
August	23.94	75.09	0.1	0.04	0.00	0.00	0.19	0.080	0.170	0.250	0.695
September	23.17	73.71	0.1	0.04	0.00	0.00	0.61	0.100	0.210	0.250	0.660
Total			2.40	0.94	0.00	0.00					



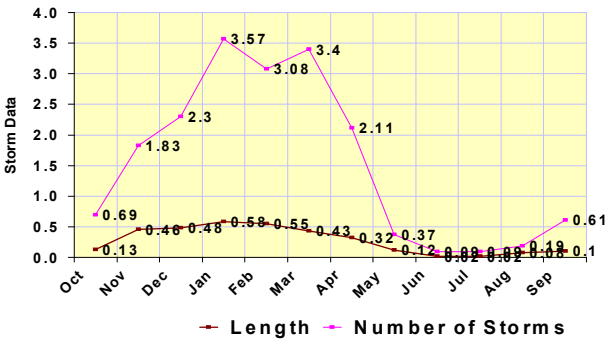
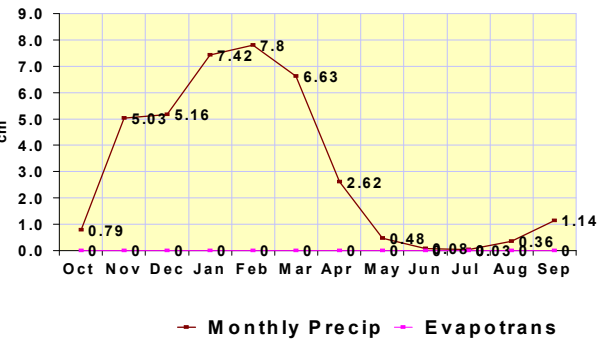
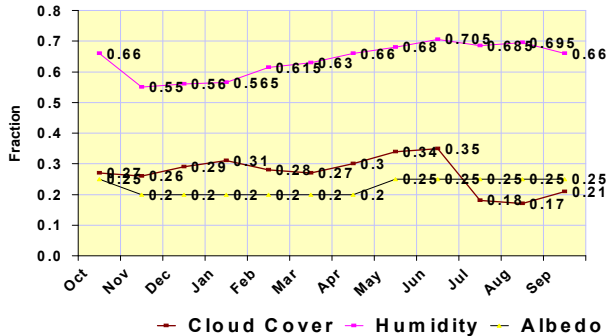
Climate Inputs

Scenario 3

Climate Report

Location Description: LOS ANGELES, CIVIC CENTER
Climatic Input File: C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Month	Temperature		Precipitation		Evapotranspiration Rate		Storms		Cloud Cover	Albedo	Humidity
Units	°C	°F	cm	Inches	cm	Inches	# per Month	Length Days	Fraction	Fraction	Fraction
October	20.94	69.69	0.79	0.31	0.00	0.00	0.69	0.130	0.270	0.250	0.660
November	17.22	63.00	5.03	1.98	0.00	0.00	1.83	0.460	0.260	0.200	0.550
December	14.61	58.30	5.16	2.03	0.00	0.00	2.30	0.480	0.290	0.200	0.560
January	14.61	58.30	7.42	2.92	0.00	0.00	3.57	0.580	0.310	0.200	0.565
February	15.61	60.10	7.80	3.07	0.00	0.00	3.08	0.550	0.280	0.200	0.615
March	15.94	60.69	6.63	2.61	0.00	0.00	3.40	0.430	0.270	0.200	0.630
April	17.39	63.30	2.62	1.03	0.00	0.00	2.11	0.320	0.300	0.200	0.660
May	18.78	65.80	0.48	0.19	0.00	0.00	0.37	0.120	0.340	0.250	0.680
June	20.94	69.69	0.08	0.03	0.00	0.00	0.09	0.020	0.350	0.250	0.705
July	23.50	74.30	0.03	0.01	0.00	0.00	0.09	0.020	0.180	0.250	0.685
August	23.94	75.09	0.36	0.14	0.00	0.00	0.19	0.080	0.170	0.250	0.695
September	23.17	73.71	1.14	0.45	0.00	0.00	0.61	0.100	0.210	0.250	0.660
Total			37.54	14.78	0.00	0.00					



Soil Parameters and
Constituent Inputs
All Scenarios

SESOIL Profile and Load Report

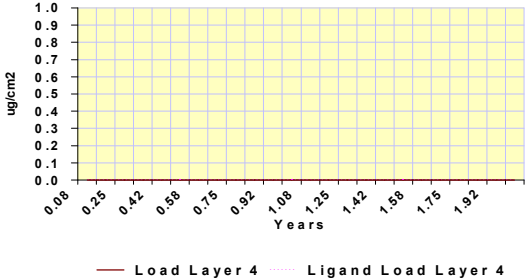
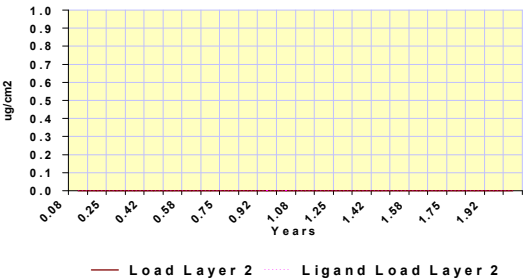
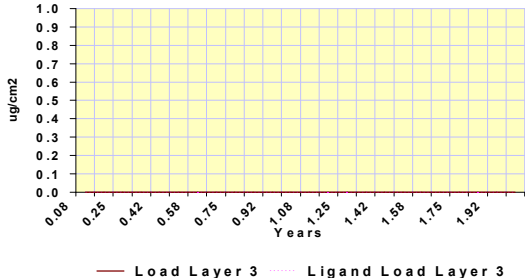
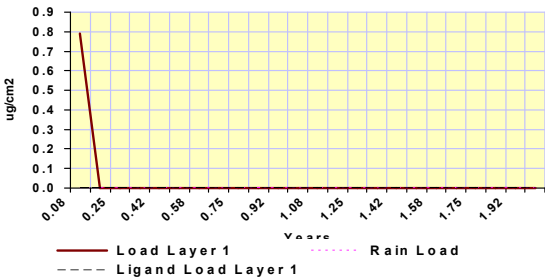
Layer No.	Number of Sub-Layers	Thickness		Intrinsic Permeability	Organic Carbon Content	Adsorption Coefficient	Cation Exchange Capacity	Freundlich Exponent	Solid Phase Degradation Rate	Liquid Phase Degradation Rate	Soil pH
		cm	feet								
1	10	428.0	14.04	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
2	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
3	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
4	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00

Soil Parameters		Chemical Parameters	
Bulk Density (g/cm ³)	1.86	Water Solubility (µg/mL)	2.97E+3
Effective Porosity (fraction)	0.20	Henry's Law (M ³ atm/mol)	3.45E-4
Soil Pore Disconnectedness	3.70	K _{oc} Adsorp (µg/g)/(µg/mL)	93.30
		K _d Adsorp (µg/g)/(µg/mL)	0.00
		Valence (g/mole)	0.00
		Air Diffusion (cm ² /sec)	7.10E-2
		Water Diffusion (cm ² /sec)	7.90E-6
		Molecular Weight (g/mol)	168.00

Application Parameters		Moles Ligand / Moles Chemical	
Area cm ²	1.00E+4	Ligand Molecular Weight(g/mol)	0.00
ft ²	10.76		
Latitude degrees	34.0	Ligand Dissociation Constant	0.00
Spill Index	1	Base Hydrolysis Rate(L/mol/day)	0.00
		Neutral Hydrolysis (L/mol/day)	0.00
		Acid Hydrolysis (L/mol/day)	0.00

Output File: 777NFront
c:\SEV7 WIN7\SO1.OUT
Chemical File: 1,1,2,2-Tetrachloroethane MA DEP
c:\sev7 win7\1 1 2 2-TETRACHLOROETHANE MA DEP.CHM
Soil File: Depth weighted soil
C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI
Application File: 777 N Front Street
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Sublayer Loads	1	2	3	4	5	6	7	8	9	10
Layer 1 (ug/g)	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
Layer 2 (ug/g)										
Layer 3 (ug/g)										
Layer 4 (ug/g)										



SESOIL Profile and Load Report

Layer No.	Number of Sub-Layers	Thickness		Intrinsic Permeability	Organic Carbon Content	Adsorption Coefficient	Cation Exchange Capacity	Freundlich Exponent	Solid Phase Degradation Rate	Liquid Phase Degradation Rate	Soil pH
		cm	feet								
1	10	428.0	14.04	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
2	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
3	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
4	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00

Soil Parameters		Chemical Parameters	
Bulk Density (g/cm ³)	1.86	Water Solubility (µg/mL)	2.25E+3
Effective Porosity (fraction)	0.20	Henry's Law (M ³ atm/mol)	2.61E-2
Soil Pore Disconnectedness	3.70	K _{oc} Adsorp (µg/g)/(µg/mL)	65.00
		K _d Adsorp (µg/g)/(µg/mL)	0.00
		Valence (g/mole)	0.00
		Air Diffusion (cm ² /sec)	9.00E-2
		Water Diffusion (cm ² /sec)	1.04E-5
		Molecular Weight (g/mol)	97.00

Application Parameters		Moles Ligand / Moles Chemical	
Area cm ²	1.00E+4	Ligand Molecular Weight(g/mol)	0.00
ft ²	10.76		
Latitude degrees	34.0	Ligand Dissociation Constant	0.00
Spill Index	1	Base Hydrolysis Rate(L/mol/day)	0.00
		Neutral Hydrolysis (L/mol/day)	0.00
		Acid Hydrolysis (L/mol/day)	0.00

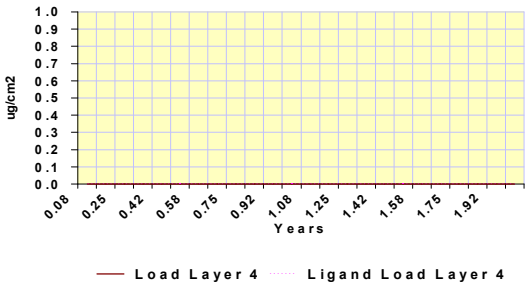
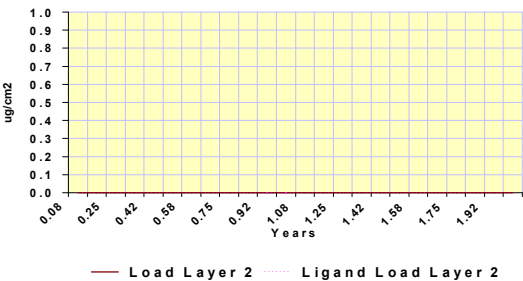
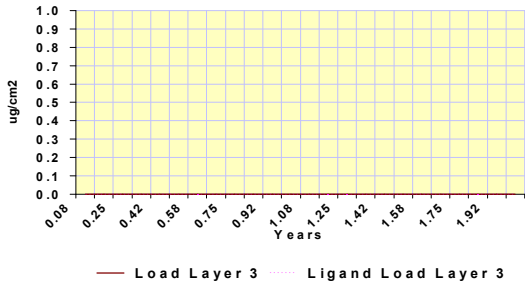
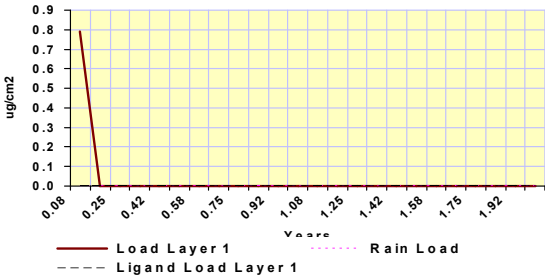
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Chemical File: 1,1-Dichloroethene OEPA 2003
c:\sev7 win7\1 1-DICHLOROETHENE OEPA 2003.CHM

Soil File: Depth weighted soil
C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Sublayer Loads	1	2	3	4	5	6	7	8	9	10
Layer 1 (ug/g)	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
Layer 2 (ug/g)										
Layer 3 (ug/g)										
Layer 4 (ug/g)										



SESOIL Profile and Load Report

Layer No.	Number of Sub-Layers	Thickness		Intrinsic Permeability	Organic Carbon Content	Adsorption Coefficient	Cation Exchange Capacity	Freundlich Exponent	Solid Phase Degradation Rate	Liquid Phase Degradation Rate	Soil pH
		cm	feet								
1	10	428.0	14.04	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
2	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
3	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
4	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00

Soil Parameters		Chemical Parameters			
Bulk Density (g/cm ³)	1.86	Water Solubility (µg/mL)	8.52E+3	Moles Ligand / Moles Chemical	0.00
Effective Porosity (fraction)	0.20	Henry's Law (M ³ atm/mol)	1.18E-3	Ligand Molecular Weight(g/mol)	0.00
Soil Pore Disconnectedness	3.70	K _{oc} Adsorp (µg/g)/(µg/mL)	17.40		
		K _d Adsorp (µg/g)/(µg/mL)	0.00		
		Valence (g/mole)	0.00	Ligand Dissociation Constant	0.00
		Air Diffusion (cm ² /sec)	.104	Base Hydrolysis Rate(L/mol/day)	0.00
		Water Diffusion (cm ² /sec)	9.90E-6	Neutral Hydrolysis (L/mol/day)	0.00
		Molecular Weight (g/mol)	99.00	Acid Hydrolysis (L/mol/day)	0.00

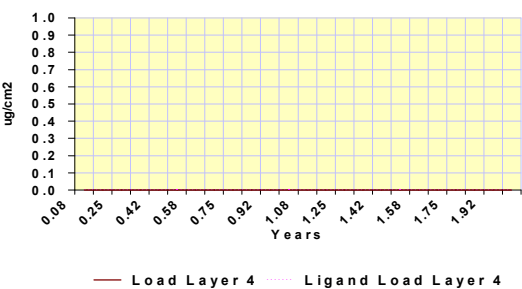
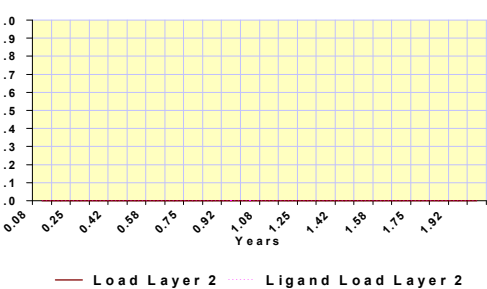
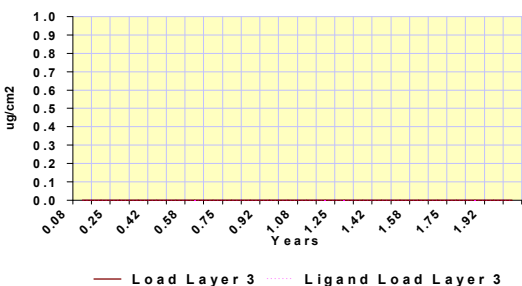
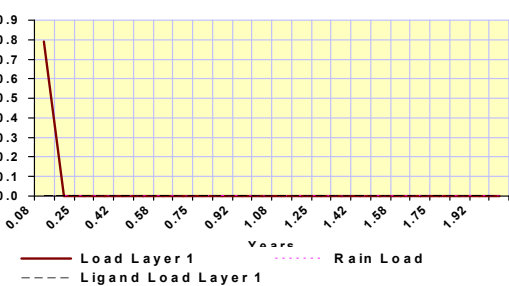
Output File: 777NFront
c:\SEV7 WIN7\S01.OUT

Chemical File: 1,2-Dichloroethane (EDC)
c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil
C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Sublayer Loads	1	2	3	4	5	6	7	8	9	10
Layer 1 (ug/g)	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
Layer 2 (ug/g)										
Layer 3 (ug/g)										
Layer 4 (ug/g)										



SESOIL Profile and Load Report

Layer No.	Number of Sub-Layers	Thickness		Intrinsic Permeability	Organic Carbon Content	Adsorption Coefficient	Cation Exchange Capacity	Freundlich Exponent	Solid Phase Degradation Rate	Liquid Phase Degradation Rate	Soil pH
		cm	feet								
1	10	428.0	14.04	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
2	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
3	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
4	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00

Soil Parameters

Bulk Density (g/cm ³)	1.86
Effective Porosity (fraction)	0.20
Soil Pore Disconnectedness	3.70

Application Parameters

Area	cm ²	1.00E+4
	ft ²	10.76
Latitude	degrees	34.0
Spill Index		1

Chemical Parameters

Water Solubility (µg/mL)	2.80E+3	Moles Ligand / Moles Chemical	0.00
Henry's Law (M ³ atm/mol)	3.54E-3	Ligand Molecular Weight(g/mol)	0.00
K _{oc} Adsorp (µg/g)/(µg/mL)	80.80		
K _d Adsorp (µg/g)/(µg/mL)	0.00		
Valence (g/mole)	0.00	Ligand Dissociation Constant	0.00
Air Diffusion (cm ² /sec)	6.26E-2	Base Hydrolysis Rate(L/mol/day)	0.00
Water Diffusion (cm ² /sec)	1.00E-5	Neutral Hydrolysis (L/mol/day)	0.00
Molecular Weight (g/mol)	111.00	Acid Hydrolysis (L/mol/day)	0.00

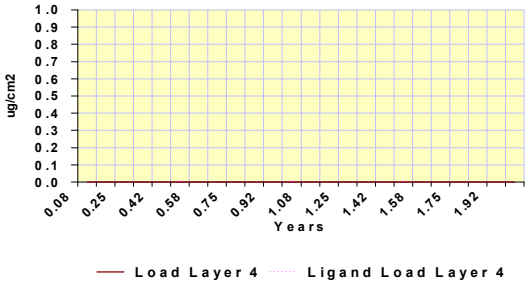
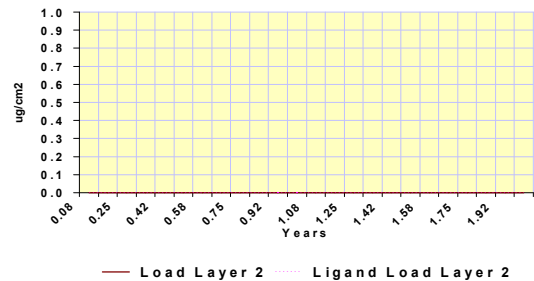
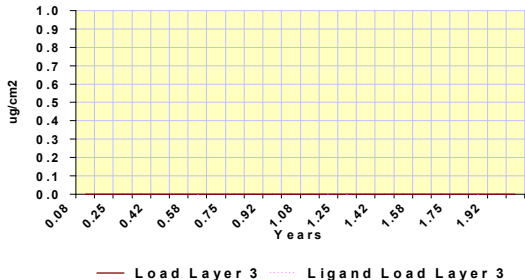
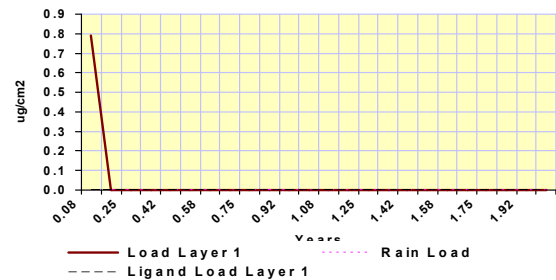
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c:\SEV7 WIN7\S01.OUT

Chemical File: Dichloropropene, 1,3-
c:\sev7 win7\DICHLOROPROPENE 1 3-.CHM

Soil File: Depth weighted soil
C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Sublayer Loads	1	2	3	4	5	6	7	8	9	10
Layer 1 (ug/g)	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
Layer 2 (ug/g)										
Layer 3 (ug/g)										
Layer 4 (ug/g)										



SESOIL Profile and Load Report

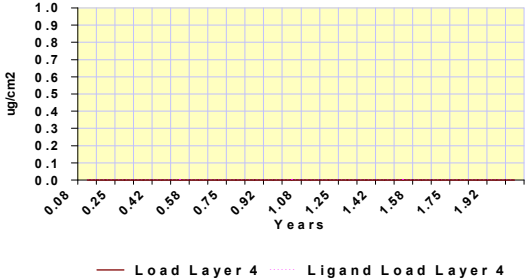
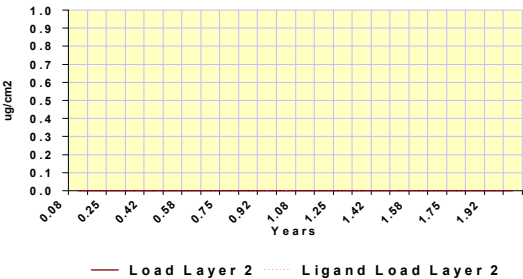
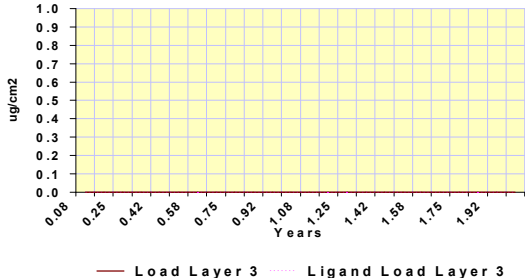
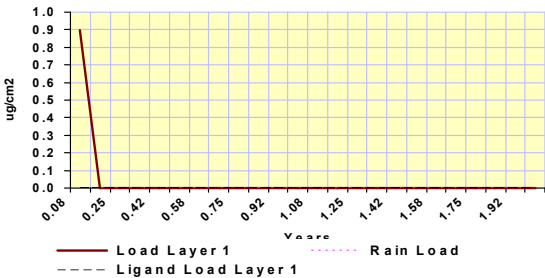
Layer No.	Number of Sub-Layers	Thickness		Intrinsic Permeability	Organic Carbon Content	Adsorption Coefficient	Cation Exchange Capacity	Freundlich Exponent	Solid Phase Degradation Rate	Liquid Phase Degradation Rate	Soil pH
		cm	feet								
1	10	428.0	14.04	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
2	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
3	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
4	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00

Soil Parameters		Chemical Parameters	
Bulk Density (g/cm ³)	1.86	Water Solubility (µg/mL)	1.78E+3
Effective Porosity (fraction)	0.20	Henry's Law (M ³ atm/mol)	5.55E-3
Soil Pore Disconnectedness	3.70	K _{oc} Adsorp (µg/g)/(µg/mL)	31.00
		K _d Adsorp (µg/g)/(µg/mL)	0.00
		Valence (g/mole)	0.00
		Air Diffusion (cm ² /sec)	7.70E-2
		Water Diffusion (cm ² /sec)	9.80E-6
		Molecular Weight (g/mol)	78.10

Application Parameters		Moles Ligand / Moles Chemical	
Area cm ²	1.00E+4	Ligand Molecular Weight(g/mol)	0.00
ft ²	10.76		
Latitude degrees	34.0	Ligand Dissociation Constant	0.00
Spill Index	1	Base Hydrolysis Rate(L/mol/day)	0.00
		Neutral Hydrolysis (L/mol/day)	0.00
		Acid Hydrolysis (L/mol/day)	0.00

Output File: 777NFront
c:\SEV7 WIN7\S01.OUT
Chemical File: Benzene
c:\sev7 win7\BENZENE.CHM
Soil File: Depth weighted soil
C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI
Application File: 777 N Front Street
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Sublayer Loads	1	2	3	4	5	6	7	8	9	10
Layer 1 (ug/g)	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
Layer 2 (ug/g)										
Layer 3 (ug/g)										
Layer 4 (ug/g)										



SESOIL Profile and Load Report

Layer No.	Number of Sub-Layers	Thickness		Intrinsic Permeability	Organic Carbon Content	Adsorption Coefficient	Cation Exchange Capacity	Freundlich Exponent	Solid Phase Degradation Rate	Liquid Phase Degradation Rate	Soil pH
		cm	feet								
1	10	428.0	14.04	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
2	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
3	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
4	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00

Soil Parameters

Bulk Density (g/cm ³)	1.86
Effective Porosity (fraction)	0.20
Soil Pore Disconnectedness	3.70

Application Parameters

Area	cm ²	1.00E+4
	ft ²	10.76
Latitude	degrees	34.0
Spill Index		1

Chemical Parameters

Water Solubility (µg/mL)	1.00E+9	Moles Ligand / Moles Chemical	0.00
Henry's Law (M ³ atm/mol)	0.00	Ligand Molecular Weight(g/mol)	0.00
K _{oc} Adsorp (µg/g)/(µg/mL)	0.00		
K _d Adsorp (µg/g)/(µg/mL)	0.00		
Valence (g/mole)	0.00	Ligand Dissociation Constant	0.00
Air Diffusion (cm ² /sec)	0.00	Base Hydrolysis Rate(L/mol/day)	0.00
Water Diffusion (cm ² /sec)	0.00	Neutral Hydrolysis (L/mol/day)	0.00
Molecular Weight (g/mol)	18.00	Acid Hydrolysis (L/mol/day)	0.00

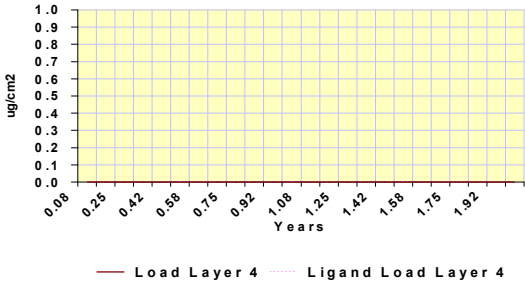
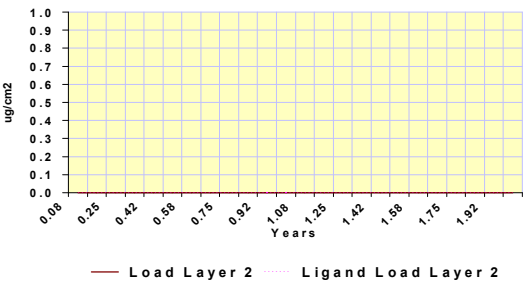
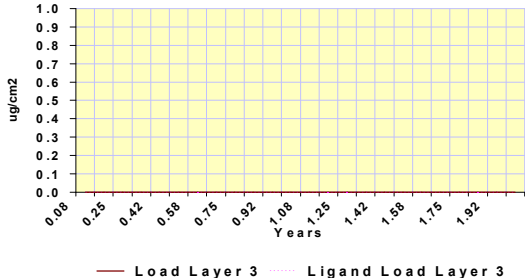
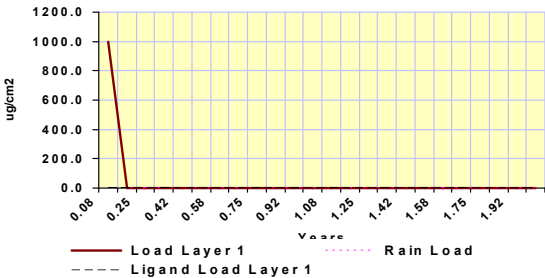
Output File: 777NFront
c:\SEV7 WIN7\S01.OUT

Chemical File: Conservative Tracer
c:\sev7 win7\CONSERVATIVE TRACER.CHM

Soil File: Depth weighted soil
C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Sublayer Loads	1	2	3	4	5	6	7	8	9	10
Layer 1 (ug/g)	1.00E+02	1.00E+02	1.00E+02	1.00E+02	1.00E+02	1.00E+02	1.00E+02	1.00E+02	1.00E+02	1.00E+02
Layer 2 (ug/g)										
Layer 3 (ug/g)										
Layer 4 (ug/g)										



SESOIL Profile and Load Report

Layer No.	Number of Sub-Layers	Thickness		Intrinsic Permeability	Organic Carbon Content	Adsorption Coefficient	Cation Exchange Capacity	Freundlich Exponent	Solid Phase Degradation Rate	Liquid Phase Degradation Rate	Soil pH
		cm	feet	cm ²	percent	$\frac{\mu\text{g/g}}{\mu\text{g/mL}}$	$\frac{\text{mEq}}{100 \text{ g soil}}$	unitless	1/day	1/day	pH
1	10	428.0	14.04	1.00E-8	0.01	1800000	100.00	1.00	0.00E+00	0.00E+00	7.00
2	10	873.0	28.64	1.00E-8	0.01	1800000	100.00	1.00	0.00E+00	0.00E+00	7.00
3	10	873.0	28.64	1.00E-8	0.01	1800000	100.00	1.00	0.00E+00	0.00E+00	7.00
4	10	873.0	28.64	1.00E-8	0.01	1800000	100.00	1.00	0.00E+00	0.00E+00	7.00

Soil Parameters

Bulk Density (g/cm ³)	1.86
Effective Porosity (fraction)	0.20
Soil Pore Disconnectedness	3.70

Chemical Parameters

Water Solubility (µg/mL)	1.20E+4	Moles Ligand / Moles Chemical	0.00
Henry's Law (M ³ atm/mol)	0.00	Ligand Molecular Weight (g/mol)	0.00
K_{oc} Adsorp (µg/g)/(µg/mL)	0.00		
K_d Adsorp (µg/g)/(µg/mL)	1800000		
Valence (g/mole)	0.00	Ligand Dissociation Constant	0.00
Air Diffusion (cm ² /sec)	0.00	Base Hydrolysis Rate (L/mol/day)	0.00
Water Diffusion (cm ² /sec)	0.00	Neutral Hydrolysis (L/mol/day)	0.00
Molecular Weight (g/mol)	0.00	Acid Hydrolysis (L/mol/day)	0.00

Application Parameters

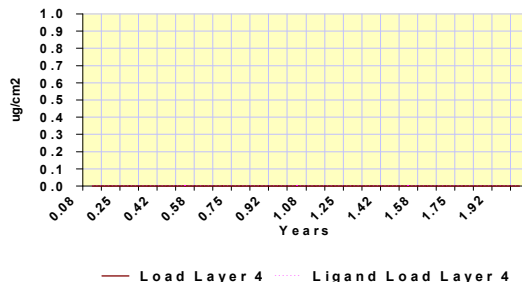
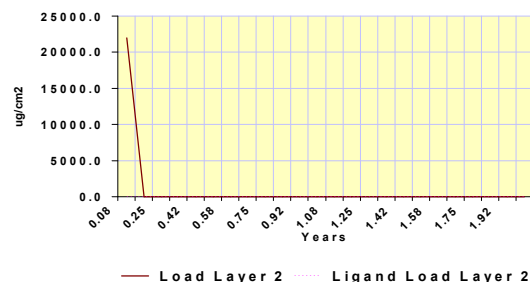
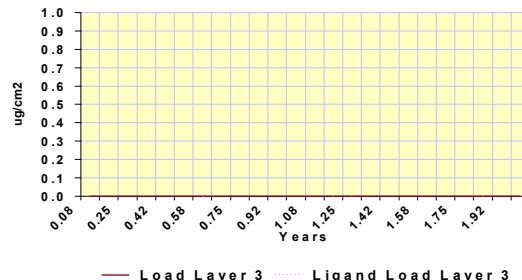
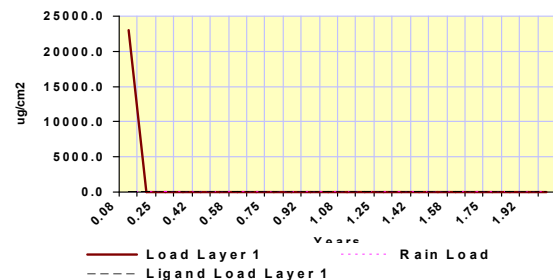
Area	cm ² ft ²	1.00E+4 10.76
Latitude	degrees	34.0
Spill Index		1

Output File: 777NFront
c:\SEV7 WIN7\S01.OUT

Chemical File: Chromium (III) (Insoluble Salts) (Kd)
c:\sev7 win7\CHROMIUM (III) (INSOLUBLE SALTS) (KD).CHM

Soil File: Depth weighted soil
C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

[illegible]

SESOIL Profile and Load Report

Layer No.	Number of Sub-Layers	Thickness		Intrinsic Permeability	Organic Carbon Content	Adsorption Coefficient	Cation Exchange Capacity	Freundlich Exponent	Solid Phase Degradation Rate	Liquid Phase Degradation Rate	Soil pH
		cm	feet								
1	10	428.0	14.04	1.00E-8	0.01	19.00	100.00	1.00	0.00E+00	0.00E+00	7.00
2	10	873.0	28.64	1.00E-8	0.01	19.00	100.00	1.00	0.00E+00	0.00E+00	7.00
3	10	873.0	28.64	1.00E-8	0.01	19.00	100.00	1.00	0.00E+00	0.00E+00	7.00
4	10	873.0	28.64	1.00E-8	0.01	19.00	100.00	1.00	0.00E+00	0.00E+00	7.00

Soil Parameters

Bulk Density (g/cm ³)	1.86
Effective Porosity (fraction)	0.20
Soil Pore Disconnectedness	3.70

Application Parameters

Area	cm ²	1.00E+4
	ft ²	10.76
Latitude	degrees	34.0
Spill Index		1

Chemical Parameters

Water Solubility (µg/mL)	1.20E+4	Moles Ligand / Moles Chemical	0.00
Henry's Law (M ³ atm/mol)	0.00	Ligand Molecular Weight(g/mol)	0.00
K _{oc} Adsorp (µg/g)/(µg/mL)	0.00		
K _d Adsorp (µg/g)/(µg/mL)	19.00		
Valence (g/mole)	6.00	Ligand Dissociation Constant	0.00
Air Diffusion (cm ² /sec)	0.00	Base Hydrolysis Rate(L/mol/day)	0.00
Water Diffusion (cm ² /sec)	0.00	Neutral Hydrolysis (L/mol/day)	0.00
Molecular Weight (g/mol)	0.00	Acid Hydrolysis (L/mol/day)	0.00

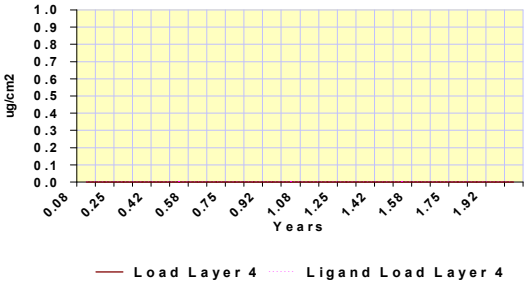
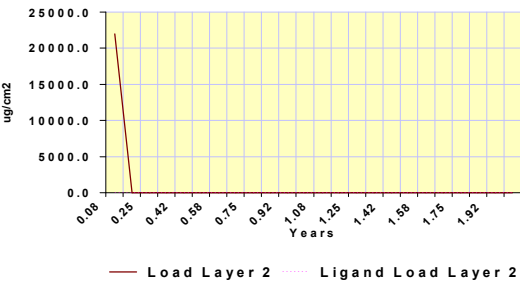
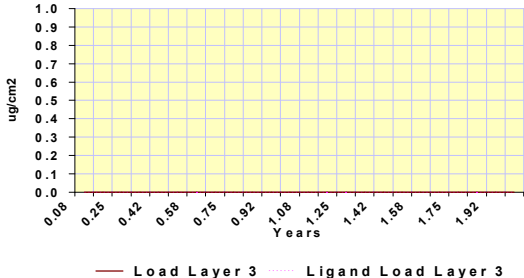
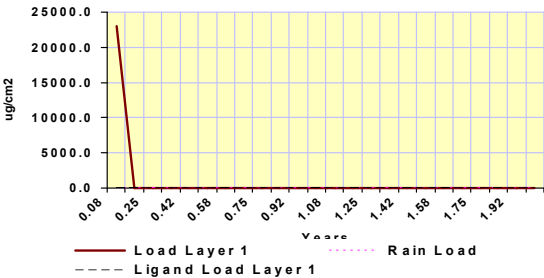
Output File: 777NFront
c:\SEV7 WIN7\S01.OUT

Chemical File: Chromium VI (particulates) (Kd)
c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil
C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Sublayer Loads	1	2	3	4	5	6	7	8	9	10
Layer 1 (ug/g)	2.99E+01	2.99E+01	2.99E+01	2.99E+01	2.99E+01	2.99E+01	2.99E+01	2.99E+01	2.99E+01	2.99E+01
Layer 2 (ug/g)	2.84E+01	2.84E+01	2.84E+01	2.84E+01	2.84E+01	2.84E+01				
Layer 3 (ug/g)										
Layer 4 (ug/g)										



SESOIL Profile and Load Report

Layer No.	Number of Sub-Layers	Thickness		Intrinsic Permeability	Organic Carbon Content	Adsorption Coefficient	Cation Exchange Capacity	Freundlich Exponent	Solid Phase Degradation Rate	Liquid Phase Degradation Rate	Soil pH
		cm	feet								
1	10	428.0	14.04	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
2	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
3	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
4	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00

Soil Parameters

Bulk Density (g/cm ³)	1.86
Effective Porosity (fraction)	0.20
Soil Pore Disconnectedness	3.70

Application Parameters

Area	cm ²	1.00E+4
	ft ²	10.76
Latitude	degrees	34.0
Spill Index		1

Chemical Parameters

Water Solubility (µg/mL)	200.0	Moles Ligand / Moles Chemical	0.00
Henry's Law (M ³ atm/mol)	1.84E-2	Ligand Molecular Weight(g/mol)	0.00
K _{oc} Adsorp (µg/g)/(µg/mL)	265.00		
K _d Adsorp (µg/g)/(µg/mL)	0.00		
Valence (g/mole)	0.00	Ligand Dissociation Constant	0.00
Air Diffusion (cm ² /sec)	7.20E-2	Base Hydrolysis Rate(L/mol/day)	0.00
Water Diffusion (cm ² /sec)	8.20E-6	Neutral Hydrolysis (L/mol/day)	0.00
Molecular Weight (g/mol)	166.00	Acid Hydrolysis (L/mol/day)	0.00

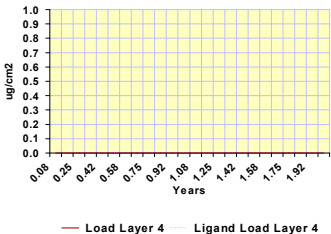
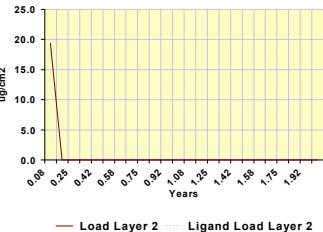
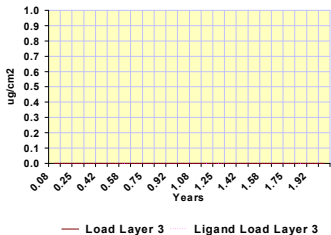
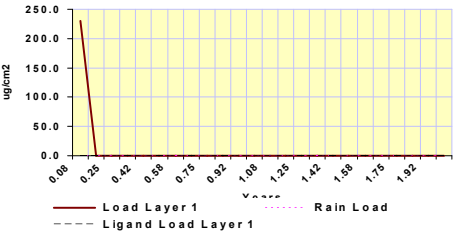
Output File: 777NFront
c:\SEV7 WIN7\S01.OUT

Chemical File: PCE (Tetrachloroethene) OEPA 2003
c:\sev7 win7\PCE (TETRACHLOROETHENE) OEPA 2003.CHM

Soil File: Depth weighted soil
C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Sublayer Loads	1	2	3	4	5	6	7	8	9	10
Layer 1 (ug/g)	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
Layer 2 (ug/g)	2.50E-02	2.50E-02	2.50E-02	2.50E-02	2.50E-02	2.50E-02				
Layer 3 (ug/g)										
Layer 4 (ug/g)										



SESOIL Profile and Load Report

Layer No.	Number of Sub-Layers	Thickness		Intrinsic Permeability	Organic Carbon Content	Adsorption Coefficient	Cation Exchange Capacity	Freundlich Exponent	Solid Phase Degradation Rate	Liquid Phase Degradation Rate	Soil pH
		cm	feet	cm ²	percent	$\frac{\mu\text{g/g}}{\mu\text{g/mL}}$	$\frac{\text{mEq}}{100 \text{ g soil}}$	unitless	1/day	1/day	pH
1	10	428.0	14.04	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
2	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
3	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
4	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00

Soil Parameters

Bulk Density (g/cm ³)	1.86
Effective Porosity (fraction)	0.20
Soil Pore Disconnectedness	3.70

Chemical Parameters

Water Solubility	($\mu\text{g/mL}$)	1.10E+3	Moles Ligand / Moles Chemical	0.00
Henry's Law	($\text{M}^3\text{atm/mol}$)	1.17E-2	Ligand Molecular Weight (g/mol)	0.00
K_{oc} Adsorp	($\mu\text{g/g}$)/($\mu\text{g/mL}$)	166.00		
K_d Adsorp	($\mu\text{g/g}$)/($\mu\text{g/mL}$)	0.00		
Valence	(g/mole)	0.00	Ligand Dissociation Constant	0.00
Air Diffusion	(cm^2/sec)	7.90E-2	Base Hydrolysis Rate (L/mol/day)	0.00
Water Diffusion	(cm^2/sec)	9.10E-6	Neutral Hydrolysis (L/mol/day)	0.00
Molecular Weight	(g/mol)	131.00	Acid Hydrolysis (L/mol/day)	0.00

Application Parameters

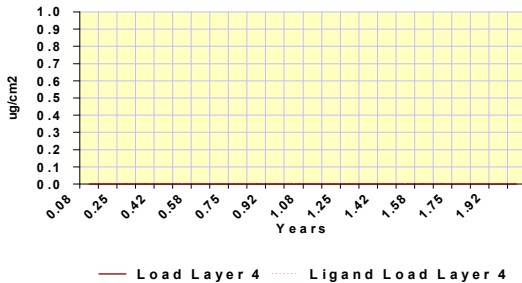
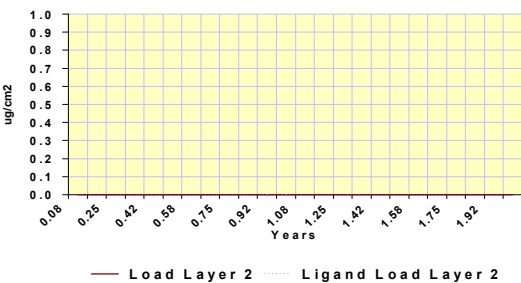
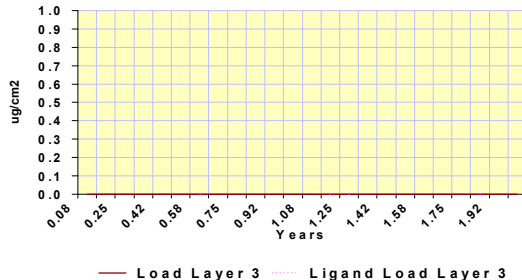
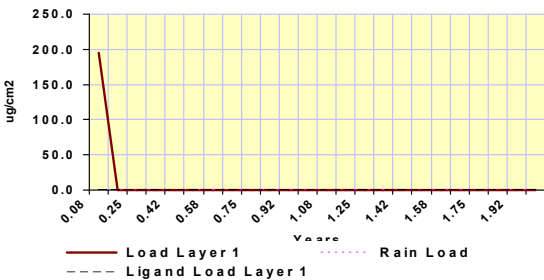
Area	cm ² ft ²	1.00E+4 10.76
Latitude	degrees	34.0
Spill Index		1

Output File: 777NFront
c:\SEV7 WIN7\S01.OUT

Chemical File: Trichloroethylene (TCE)
c:\sev7 win7\TRICHLOROETHYLENE (TCE).CHM

Soil File: Depth weighted soil
C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street
C:\SEV7 WIN7\777NFRONT FINALSETUP SA.APL

[illegible]

SESOIL Profile and Load Report

Layer No.	Number of Sub-Layers	Thickness		Intrinsic Permeability	Organic Carbon Content	Adsorption Coefficient	Cation Exchange Capacity	Freundlich Exponent	Solid Phase Degradation Rate	Liquid Phase Degradation Rate	Soil pH
		cm	feet								
1	10	428.0	14.04	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
2	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
3	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00
4	10	873.0	28.64	1.00E-8	0.01	0.00	100.00	1.00	0.00E+00	0.00E+00	7.00

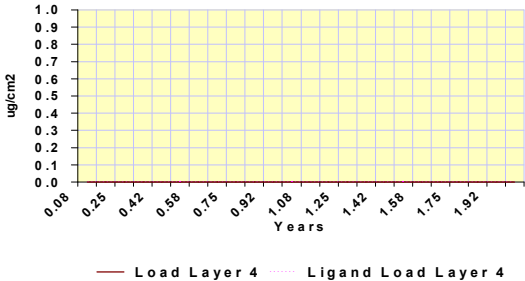
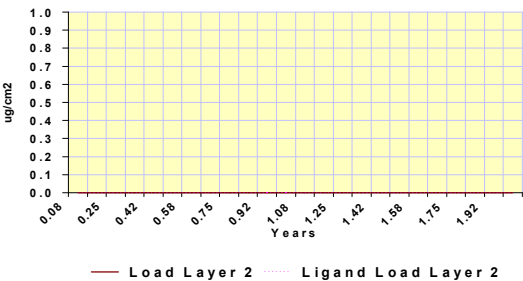
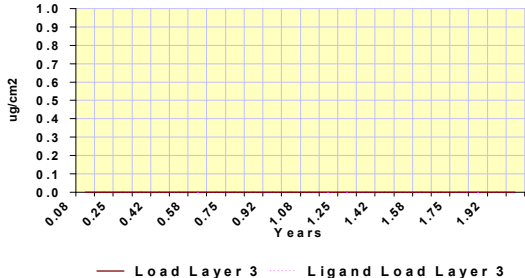
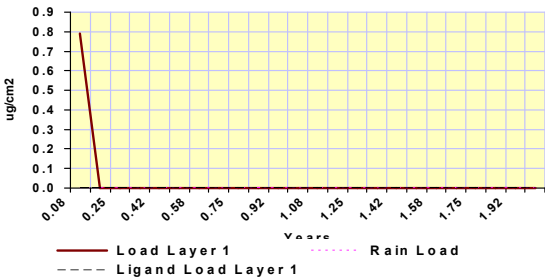
Soil Parameters		Chemical Parameters	
Bulk Density (g/cm ³)	1.86	Water Solubility (µg/mL)	2.76E+3
Effective Porosity (fraction)	0.20	Henry's Law (M ³ atm/mol)	2.24E-2
Soil Pore Disconnectedness	3.70	K _{oc} Adsorp (µg/g)/(µg/mL)	18.60
		K _d Adsorp (µg/g)/(µg/mL)	0.00
		Valence (g/mole)	0.00
		Air Diffusion (cm ² /sec)	.106
		Water Diffusion (cm ² /sec)	1.23E-6
		Molecular Weight (g/mol)	62.50

Moles Ligand / Moles Chemical		0.00
Ligand Molecular Weight(g/mol)		0.00
Ligand Dissociation Constant		0.00
Base Hydrolysis Rate(L/mol/day)		0.00
Neutral Hydrolysis (L/mol/day)		0.00
Acid Hydrolysis (L/mol/day)		0.00

Area	cm ² ft ²	1.00E+4 10.76
Latitude	degrees	34.0
Spill Index		1

Output File: 777NFront
c:\SEV7 WIN7\S01.OUT
Chemical File: Vinyl Chloride
c:\sev7 win7\VINYL CHLORIDE.CHM
Soil File: Depth weighted soil
C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI
Application File: 777 N Front Street
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Sublayer Loads	1	2	3	4	5	6	7	8	9	10
Layer 1 (ug/g)	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
Layer 2 (ug/g)										
Layer 3 (ug/g)										
Layer 4 (ug/g)										



APPENDIX C

Complete SESOIL Model Output Reports

Model Output Files
Scenario 1
Current Site Conditions

SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.405E+04	88.56
In Soil Air	3.526E+00	0.02
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.380E+01	0.09
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	2.340E+01	0.15
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	1.768E+03	11.14
Total Output	1.586E+04	99.96
Total Input	1.587E+04	
Input - Output	6.008E+00	

Maximum leachate concentration: 3.886E-03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: 1,1,2,2-Tetrachloroethane MA DEP

c:\sev7 win7\1 1 2 2-TETRACHLOROETHANE MA DEP.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

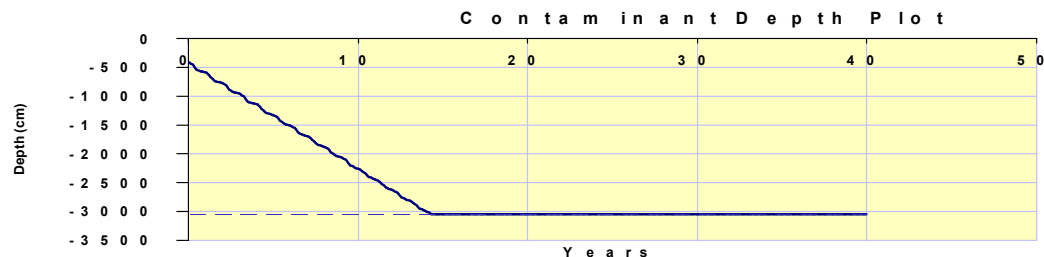
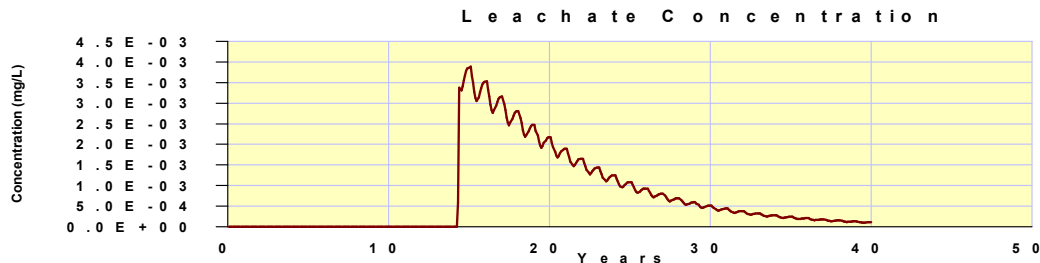
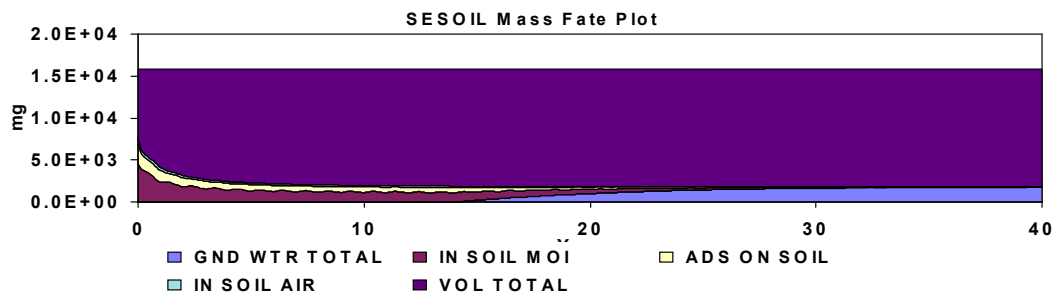
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 14.08 years

Starting Depth: 412.50 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.587E+04	100.04
In Soil Air	3.663E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.321E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	3.215E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	1.587E+04	100.04
Total Input	1.587E+04	
Input - Output	-5.585E+00	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: 1,1-Dichloroethene OEPA 2003

c:\sev7 win7\1 1-DICHLOROETHENE OEPA 2003.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

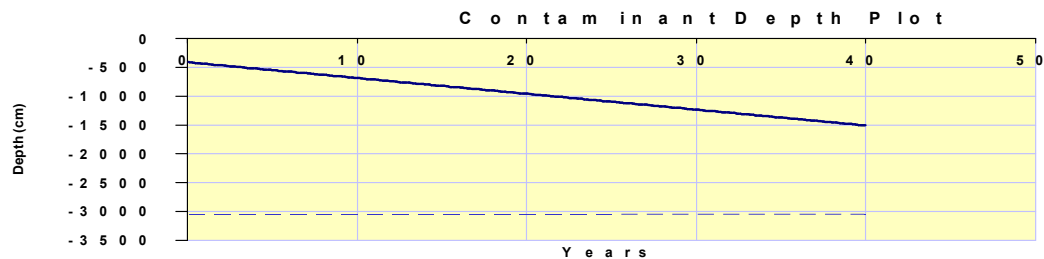
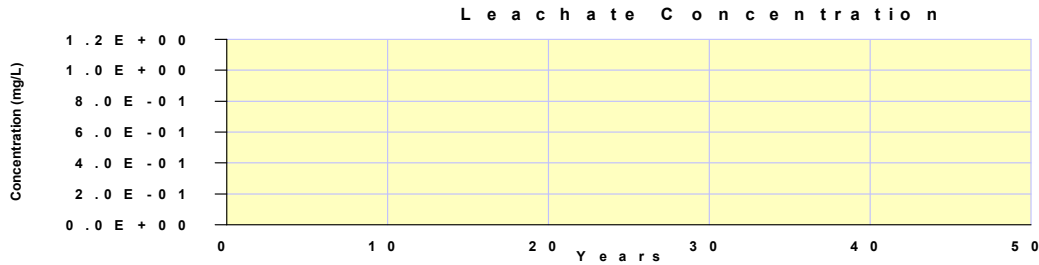
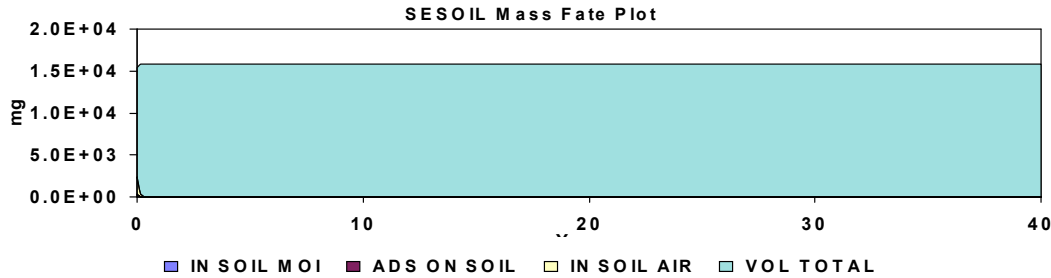
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 96.02 years

Starting Depth: 407.40 cm

Ending Depth: 1507.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.587E+04	100.02
In Soil Air	3.824E-01	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	8.166E-02	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	7.422E-01	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	4.388E+00	0.03
Total Output	1.587E+04	100.05
Total Input	1.587E+04	
Input - Output	-8.163E+00	

Maximum leachate concentration: 3.324E-06 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

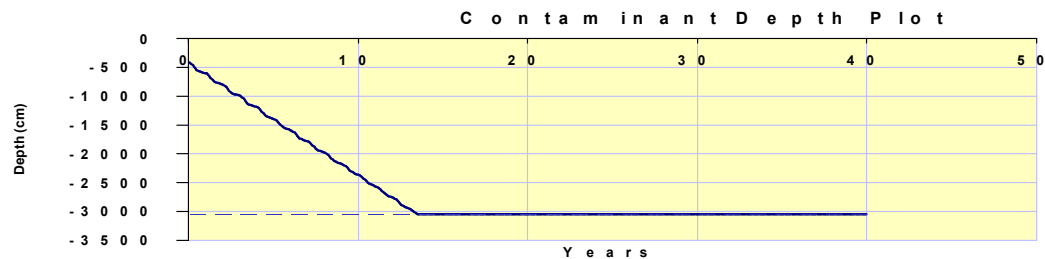
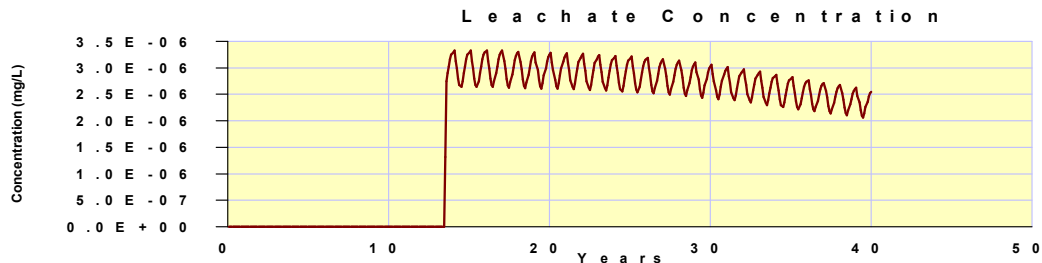
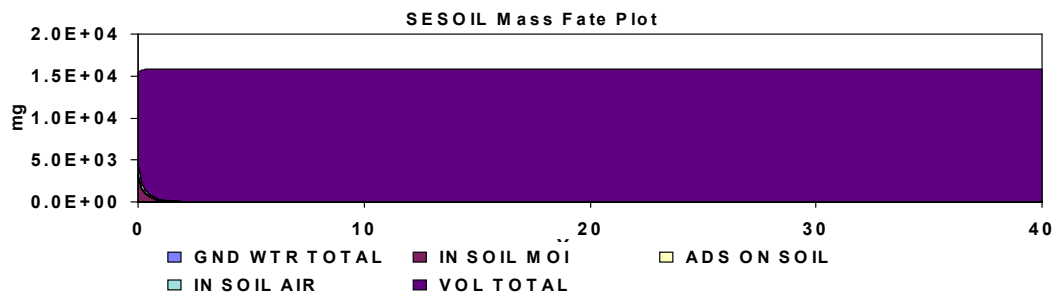
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 13.08 years

Starting Depth: 412.90 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.586E+04	99.97
In Soil Air	2.254E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	7.447E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.458E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	9.749E-04	0.00
Total Output	1.586E+04	99.97
Total Input	1.587E+04	
Input - Output	4.711E+00	

Maximum leachate concentration: 1.001E-09 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: Dichloropropene, 1,3-

c:\sev7 win7\DICHLOROPROPENE 1 3-.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

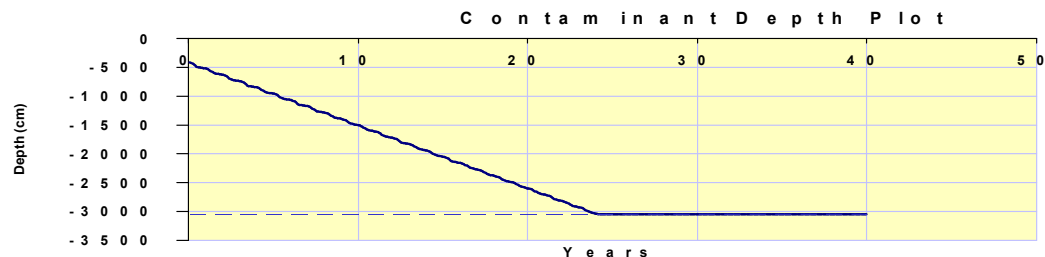
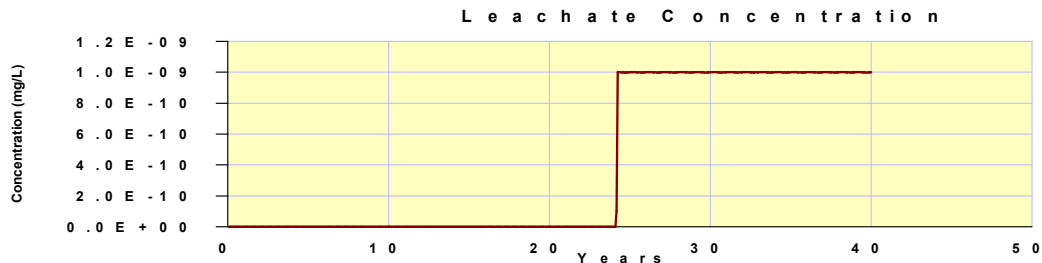
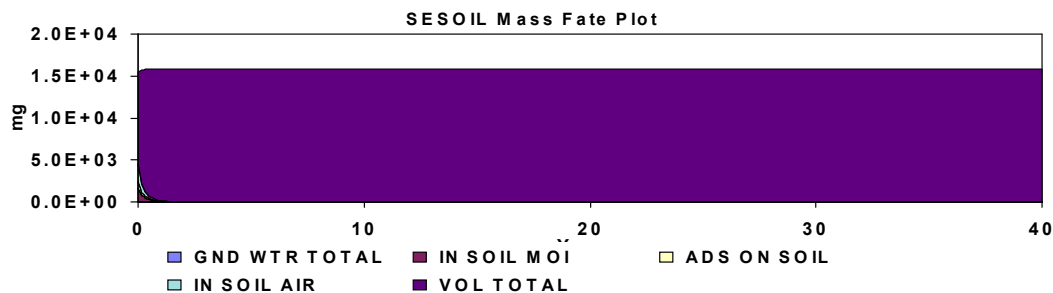
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 24.08 years

Starting Depth: 410.00 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.692E+04	100.01
In Soil Air	1.260E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.019E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	5.200E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	7.226E-04	0.00
Total Output	1.692E+04	100.01
Total Input	1.692E+04	
Input - Output	-1.146E+00	

Maximum leachate concentration: 1.001E-09 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: Benzene

c:\sev7 win7\BENZENE.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

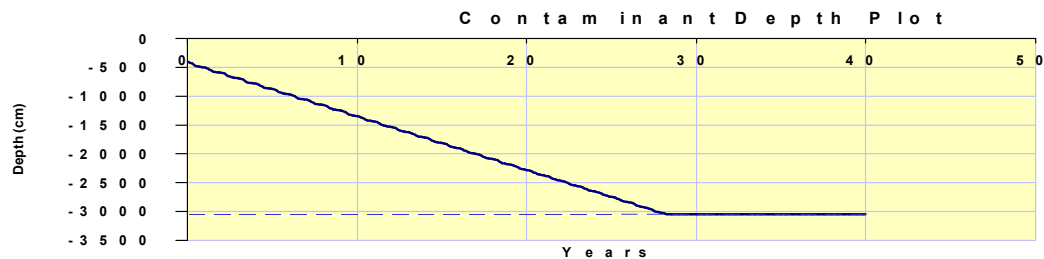
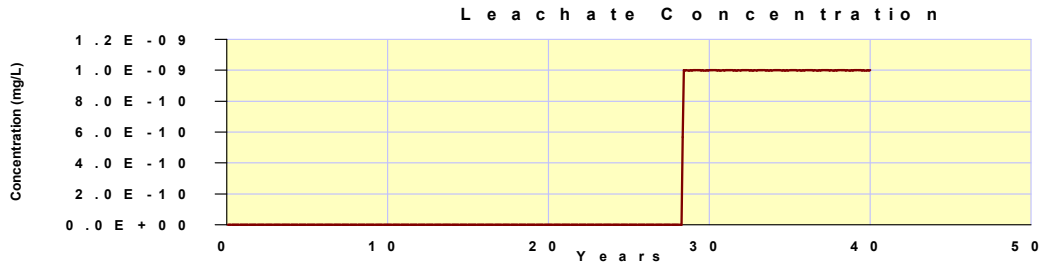
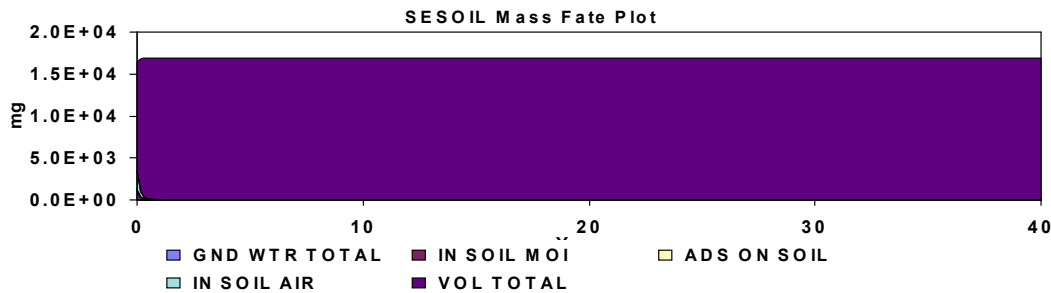
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 28.08 years

Starting Depth: 409.50 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	0.000E+00	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.918E+00	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	8.057E+08	99.95
Total Output	8.057E+08	99.95
Total Input	8.061E+08	
Input - Output	3.968E+05	

Maximum leachate concentration: 7.848E+03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: Conservative Tracer

c:\sev7 win7\CONSERVATIVE TRACER.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

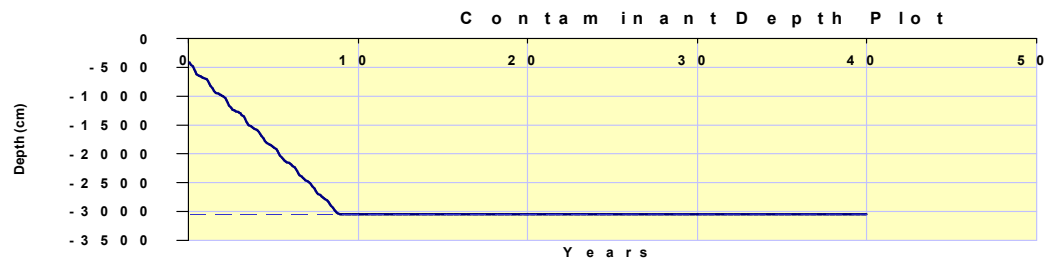
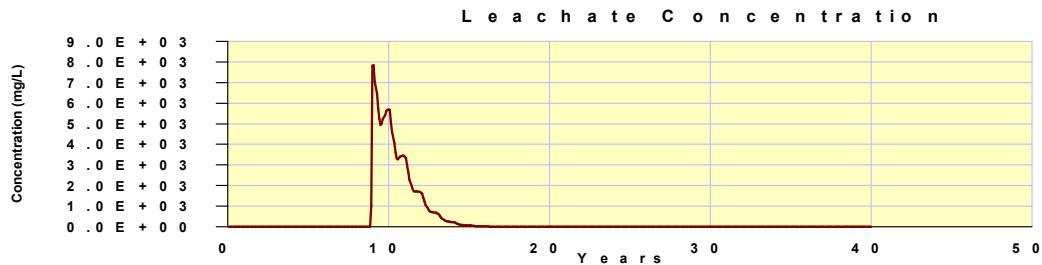
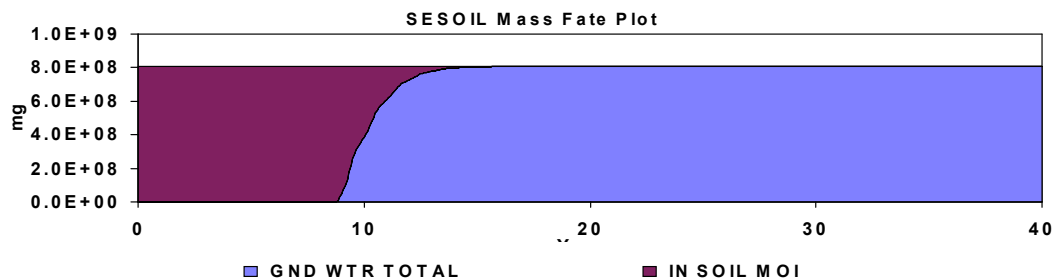
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 8.08 years

Starting Depth: 416.40 cm

Ending Depth: 3047.00 cm

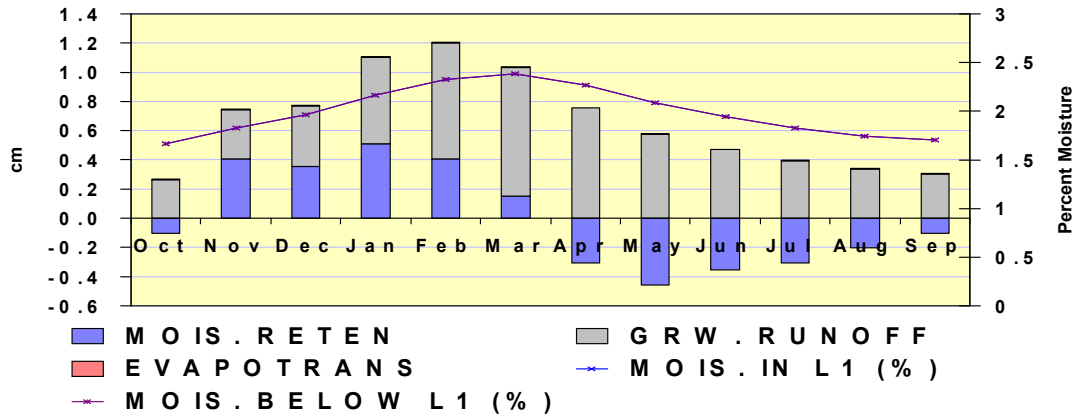
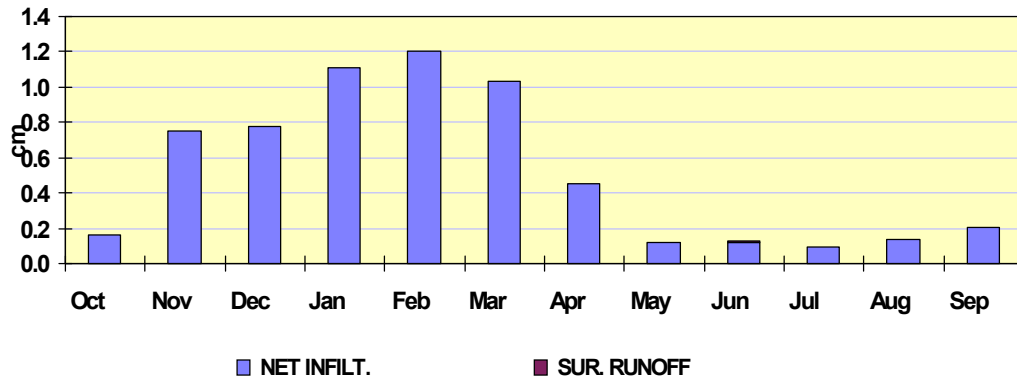
Total Depth: 3047.00 cm



SESOIL Hydrologic Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT



	Surface Water Runoff		Net Infiltration		Evapotranspiration		Soil Moisture Retention		Groundwater Runoff (Recharge)		Soil Moisture	
	cm	Inches	cm	Inches	cm	Inches	cm	Inches	cm	Inches	Layer 1 Percent	Below Layer 1 Percent
October	0.00	0.00	0.17	0.07	0.00	0.00	-0.10	-0.04	0.26	0.10	1.67	1.67
November	0.00	0.00	0.75	0.30	0.00	0.00	0.41	0.16	0.34	0.13	1.83	1.83
December	0.00	0.00	0.78	0.31	0.00	0.00	0.36	0.14	0.42	0.17	1.97	1.97
January	0.00	0.00	1.11	0.44	0.00	0.00	0.51	0.20	0.60	0.24	2.17	2.17
February	0.00	0.00	1.21	0.48	0.00	0.00	0.41	0.16	0.80	0.31	2.33	2.33
March	0.00	0.00	1.04	0.41	0.00	0.00	0.15	0.06	0.88	0.35	2.39	2.39
April	0.00	0.00	0.45	0.18	0.00	0.00	-0.31	-0.12	0.76	0.30	2.27	2.27
May	0.00	0.00	0.12	0.05	0.00	0.00	-0.46	-0.18	0.58	0.23	2.09	2.09
June	0.01	0.00	0.12	0.05	0.00	0.00	-0.36	-0.14	0.47	0.19	1.95	1.95
July	0.00	0.00	0.09	0.04	0.00	0.00	-0.31	-0.12	0.39	0.15	1.83	1.83
August	0.00	0.00	0.14	0.06	0.00	0.00	-0.20	-0.08	0.34	0.13	1.75	1.75
September	0.00	0.00	0.21	0.08	0.00	0.00	-0.10	-0.04	0.30	0.12	1.71	1.71
Total	0.01	0.00	6.17	2.43	0.04	0.01	0.00	0.00	6.13	2.41	--	--

SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.646E+08	99.99
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	4.917E+00	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.646E+08	99.99
Total Input	9.647E+08	
Input - Output	8.999E+04	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: Chromium (III) (Insoluble Salts) (Kd)

c:\sev7 win7\CHROMIUM (III) (INSOLUBLE SALTS) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

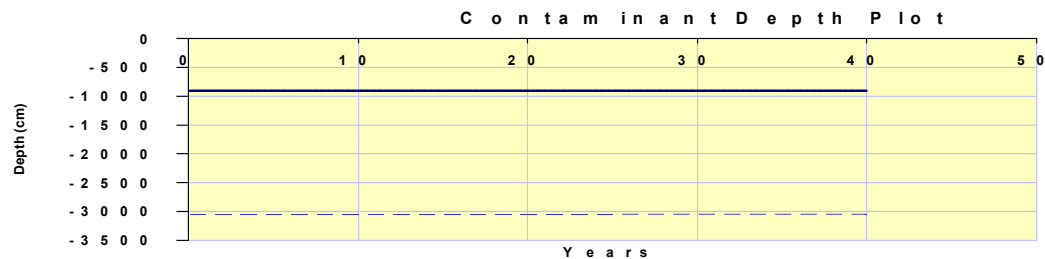
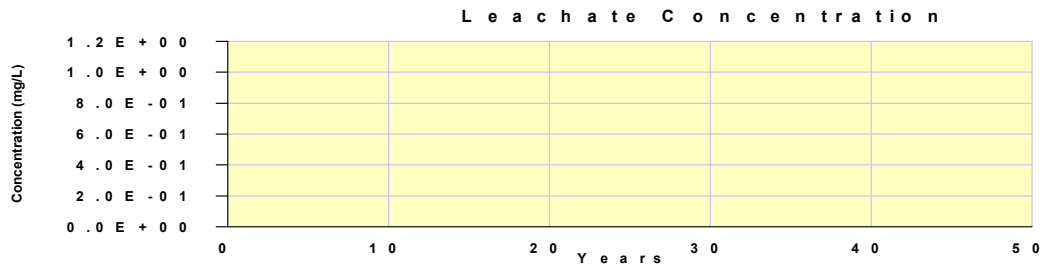
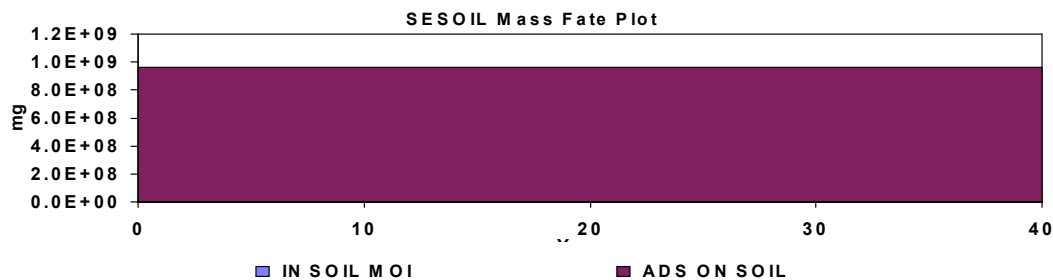
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: years

Starting Depth: 908.20 cm

Ending Depth: 908.20 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.611E+08	99.64
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	4.640E+05	0.05
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.616E+08	99.68
Total Input	9.647E+08	
Input - Output	3.045E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

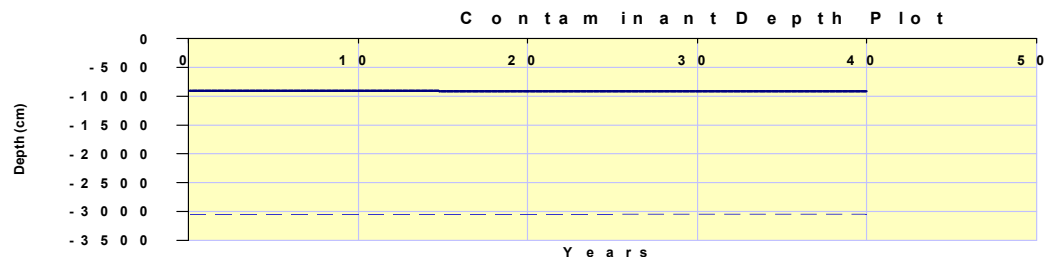
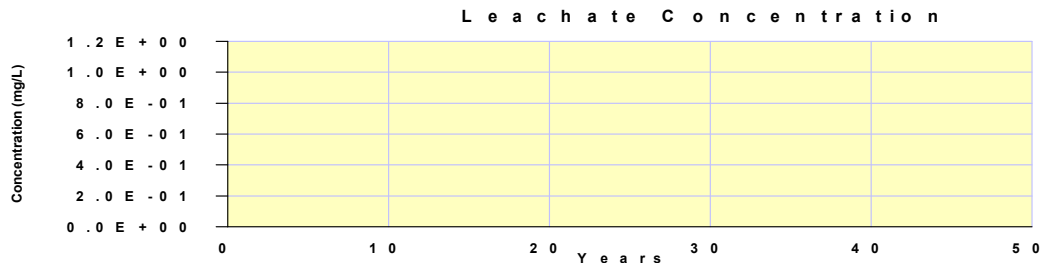
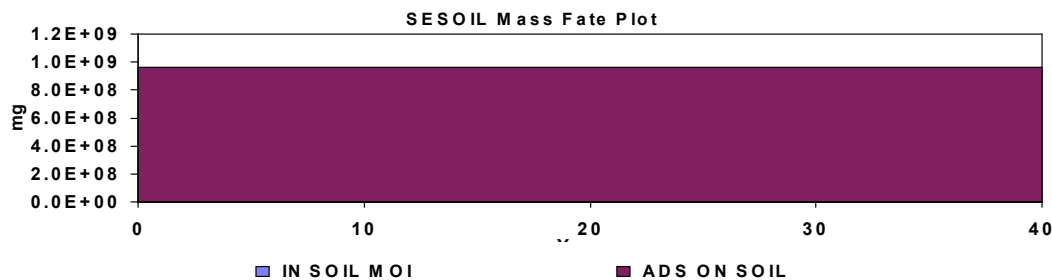
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 1.23E+04 years

Starting Depth: 908.20 cm

Ending Depth: 915.10 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	5.058E+06	100.01
In Soil Air	7.264E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.514E-02	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	9.041E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	5.058E+06	100.01
Total Input	5.058E+06	
Input - Output	-2.713E+02	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: PCE (Tetrachloroethene) OEPA 2003

c:\sev7 win7\PCE (TETRACHLOROETHENE) OEPA 2003.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

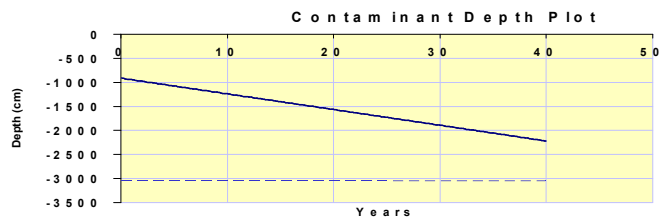
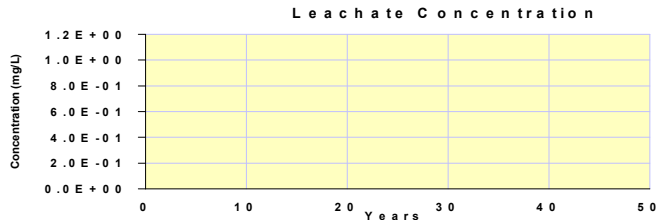
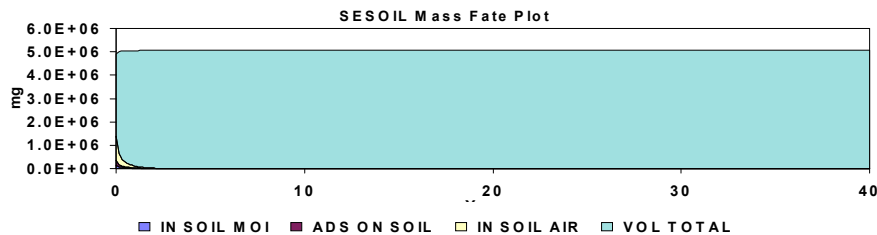
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 65.24 years

Starting Depth: 909.40 cm

Ending Depth: 2220.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	3.919E+06	100.01
In Soil Air	5.172E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.062E-03	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.012E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	3.919E+06	100.01
Total Input	3.919E+06	
Input - Output	-2.285E+02	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: Trichloroethylene (TCE)

c:\sev7 win7\TRICHLOROETHYLENE (TCE).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

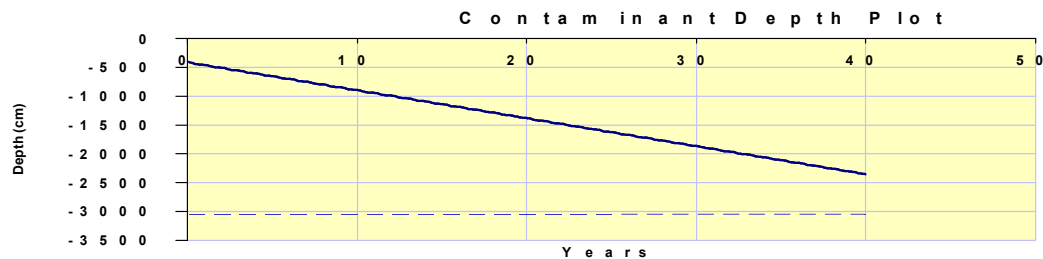
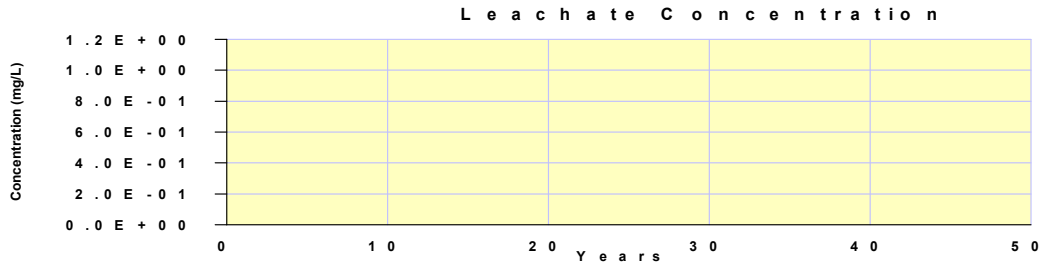
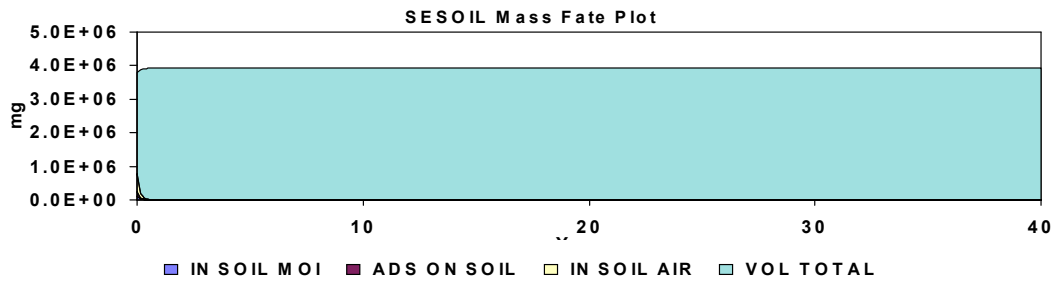
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 54.27 years

Starting Depth: 408.10 cm

Ending Depth: 2353.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.586E+04	99.99
In Soil Air	4.227E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	5.081E-05	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	4.321E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	1.586E+04	99.99
Total Input	1.587E+04	
Input - Output	1.449E+00	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: Vinyl Chloride

c:\sev7 win7\VINYL CHLORIDE.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

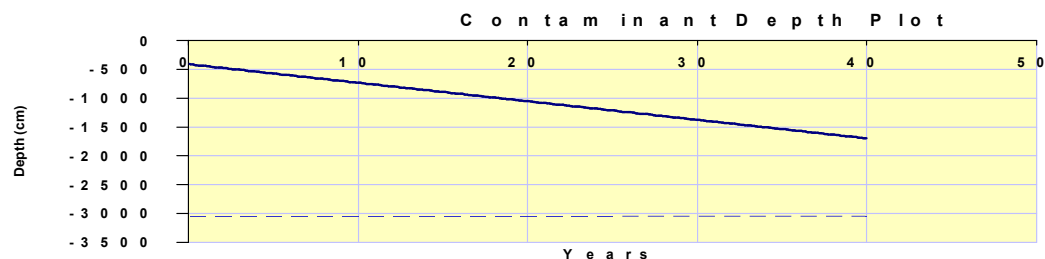
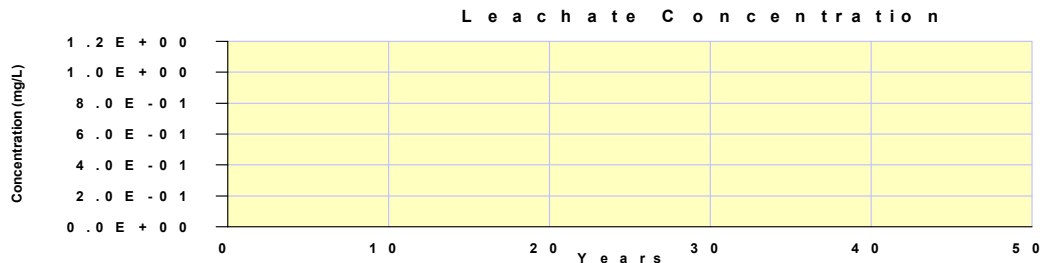
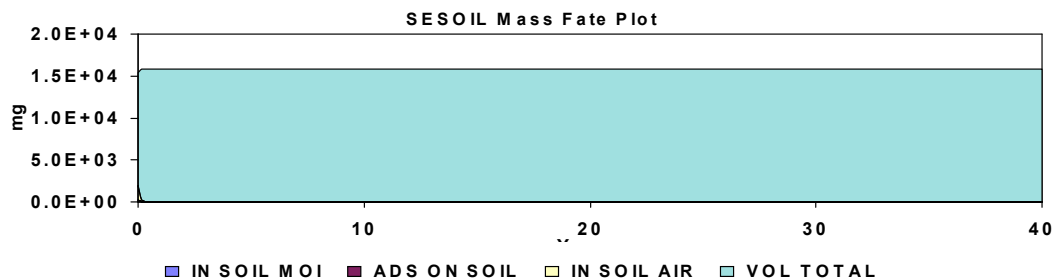
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 82.01 years

Starting Depth: 407.60 cm

Ending Depth: 1695.00 cm

Total Depth: 3047.00 cm



Model Output Files
Scenario 2
Future Site Conditions (Concrete)

SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.573E+04	99.18
In Soil Air	5.376E+00	0.03
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	2.084E+01	0.13
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	3.161E+01	0.20
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	6.889E+01	0.43
Total Output	1.586E+04	99.97
Total Input	1.587E+04	
Input - Output	4.169E+00	

Maximum leachate concentration: 2.869E-04 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: 1,1,2,2-Tetrachloroethane MA DEP

c:\sev7 win7\1 1 2 2-TETRACHLOROETHANE MA DEP.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

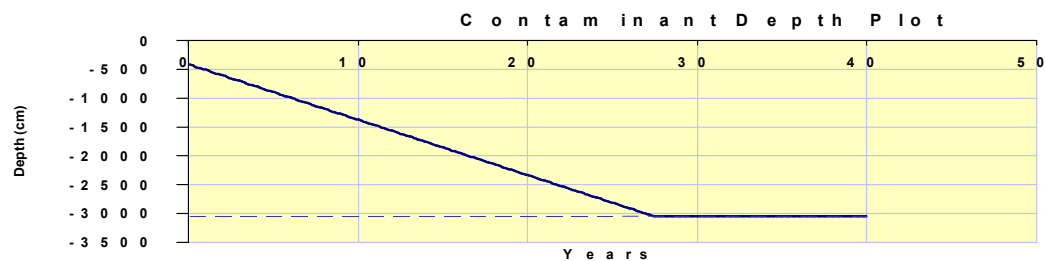
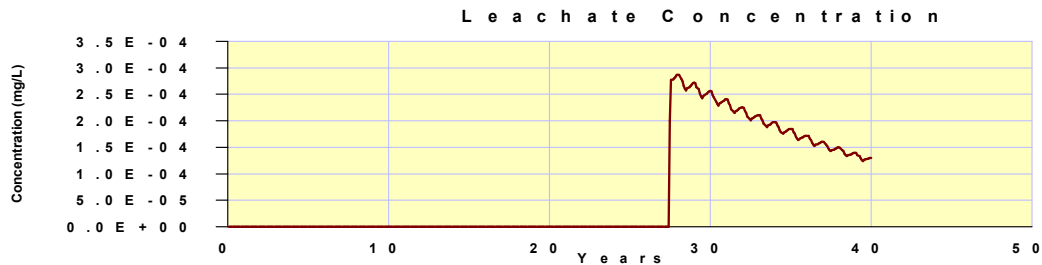
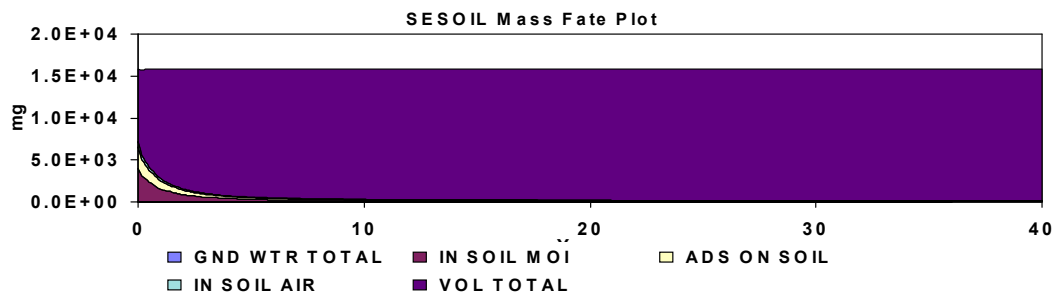
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 27.08 years

Starting Depth: 412.10 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.586E+04	99.99
In Soil Air	1.868E-04	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	6.674E-06	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.452E-05	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	1.586E+04	99.99
Total Input	1.587E+04	
Input - Output	1.560E+00	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: 1,1-Dichloroethene OEPA 2003

c:\sev7 win7\1 1-DICHLOROETHENE OEPA 2003.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

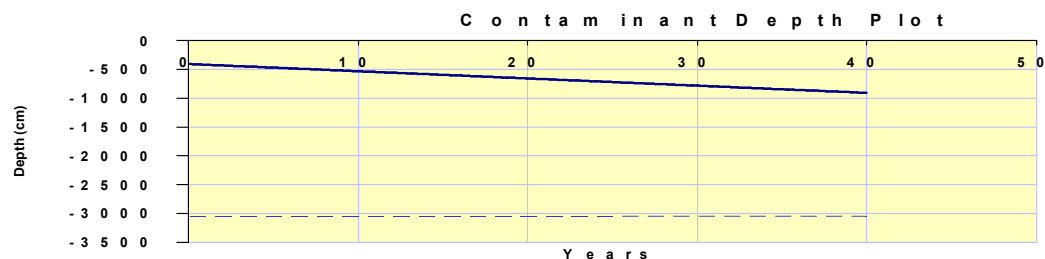
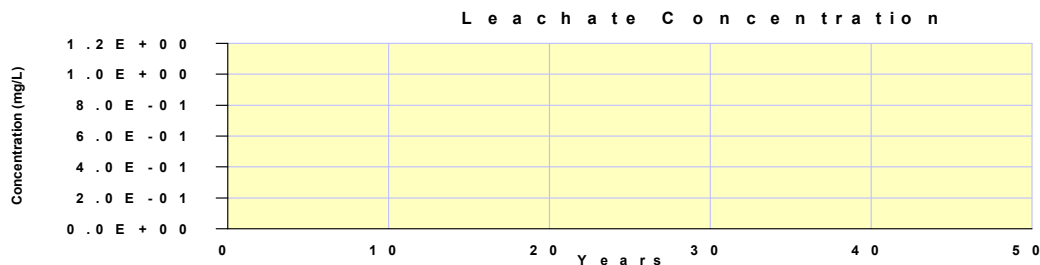
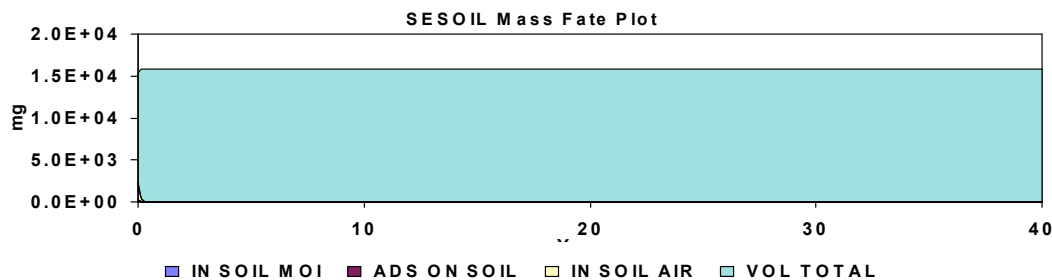
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 210.97 years

Starting Depth: 407.30 cm

Ending Depth: 907.80 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.587E+04	100.03
In Soil Air	2.821E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	5.965E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	4.850E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	3.957E-04	0.00
Total Output	1.587E+04	100.03
Total Input	1.587E+04	
Input - Output	-5.135E+00	

Maximum leachate concentration: 1.001E-09 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

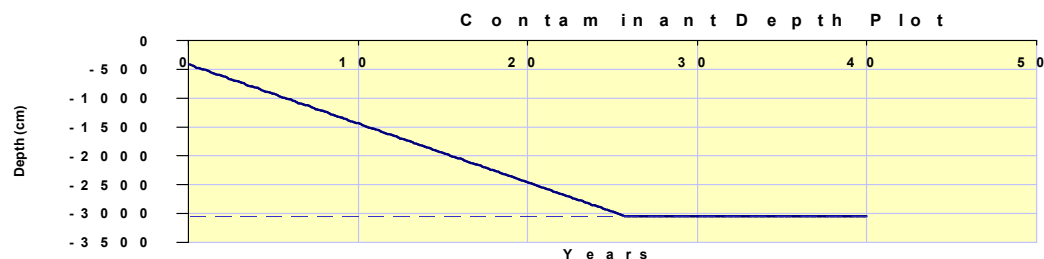
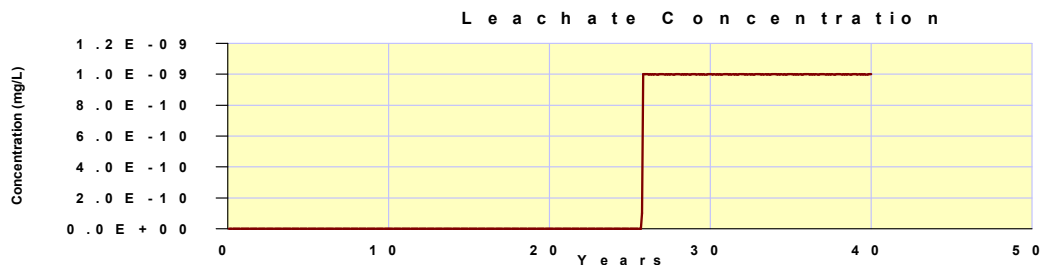
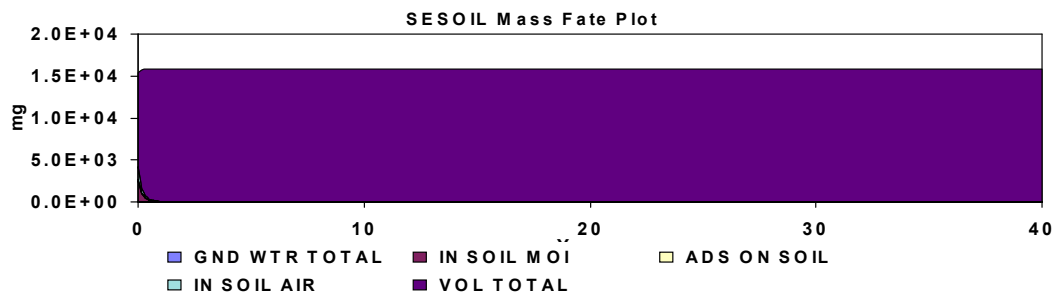
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 25.08 years

Starting Depth: 412.50 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.586E+04	100.00
In Soil Air	1.113E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	3.643E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	6.380E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	1.586E+04	100.00
Total Input	1.587E+04	
Input - Output	4.399E-01	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: Dichloropropene, 1,3-

c:\sev7 win7\DICHLOROPROPENE 1 3-.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

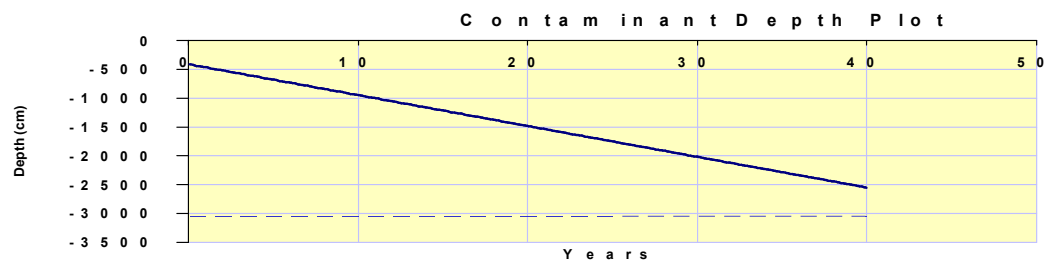
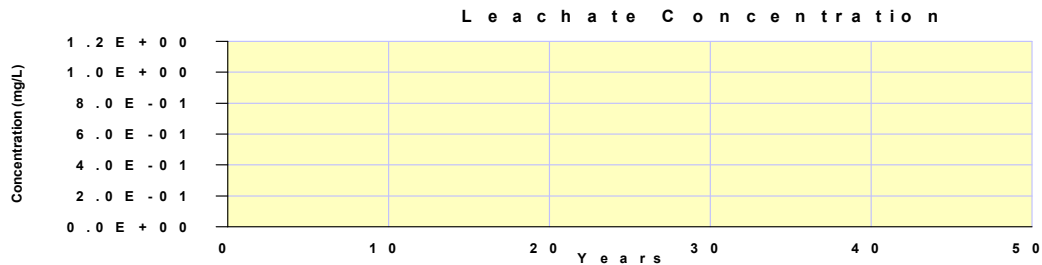
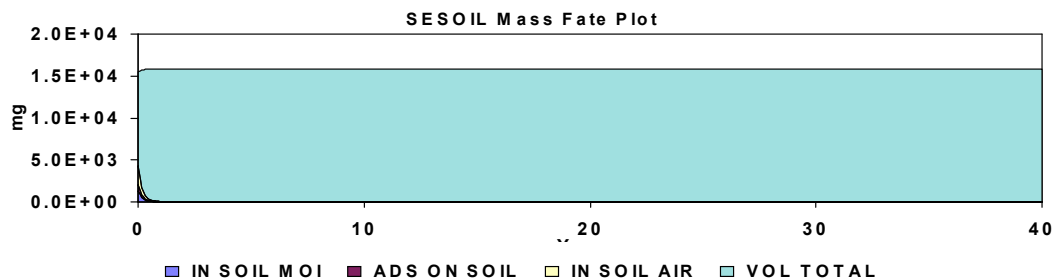
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 49.29 years

Starting Depth: 409.70 cm

Ending Depth: 2550.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.692E+04	100.02
In Soil Air	9.441E-04	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	7.563E-05	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	3.450E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	1.692E+04	100.02
Total Input	1.692E+04	
Input - Output	-2.937E+00	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: Benzene

c:\sev7 win7\BENZENE.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

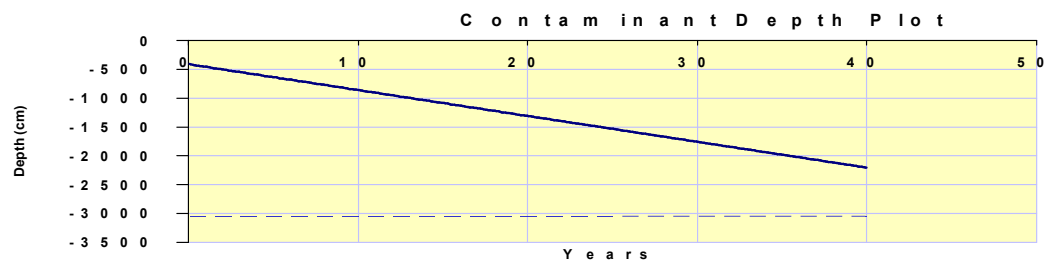
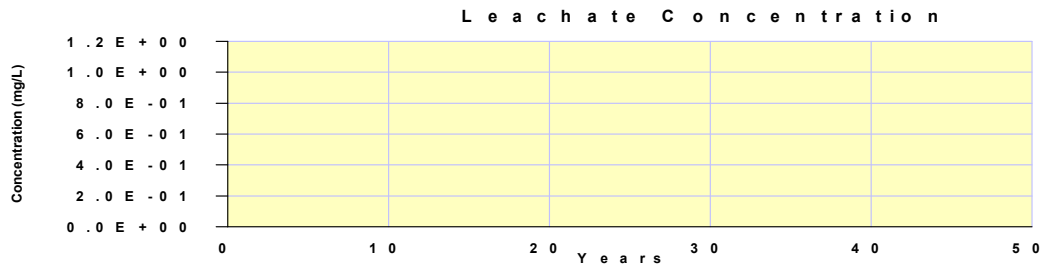
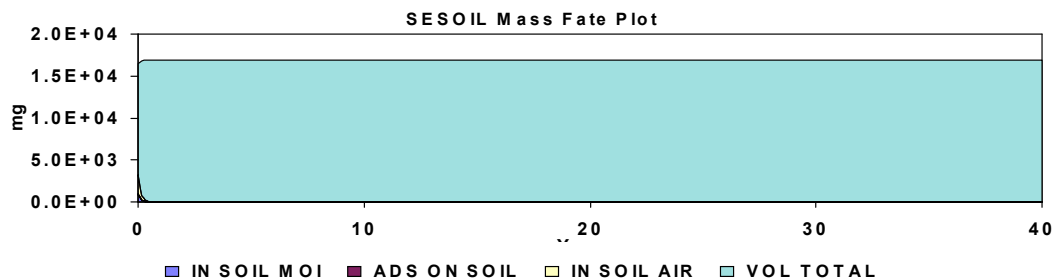
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 58.75 years

Starting Depth: 409.20 cm

Ending Depth: 2205.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.646E+08	99.99
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	4.397E+00	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.646E+08	99.99
Total Input	9.647E+08	
Input - Output	8.999E+04	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: Chromium (III) (Insoluble Salts) (Kd)

c:\sev7 win7\CHROMIUM (III) (INSOLUBLE SALTS) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

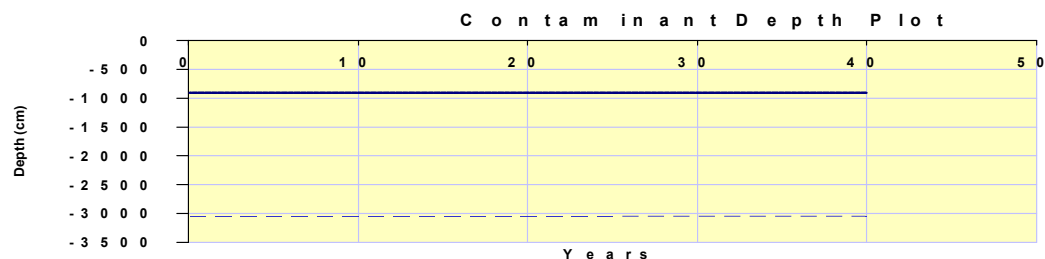
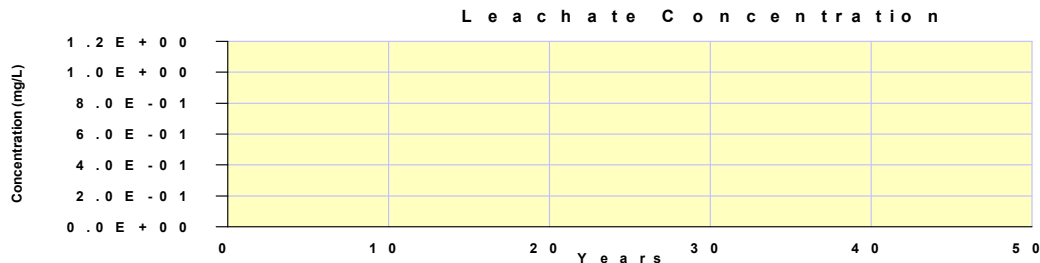
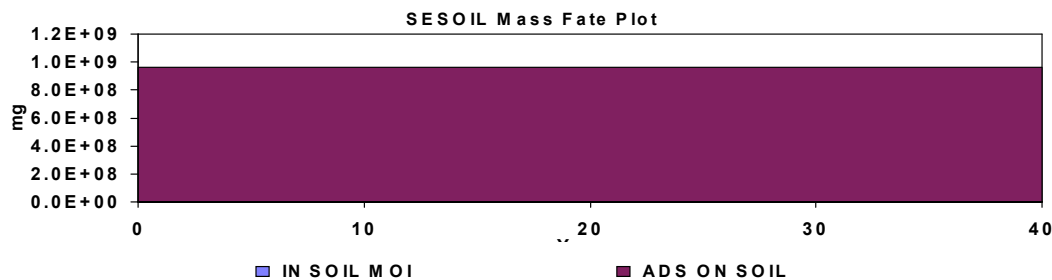
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: years

Starting Depth: 908.20 cm

Ending Depth: 908.20 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.620E+08	99.72
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	4.154E+05	0.04
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.624E+08	99.77
Total Input	9.647E+08	
Input - Output	2.244E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

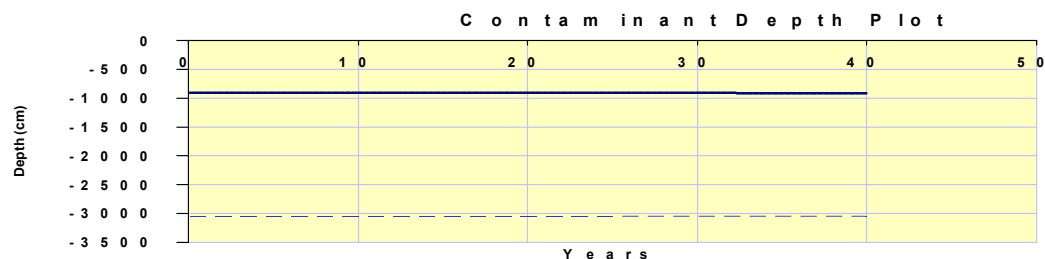
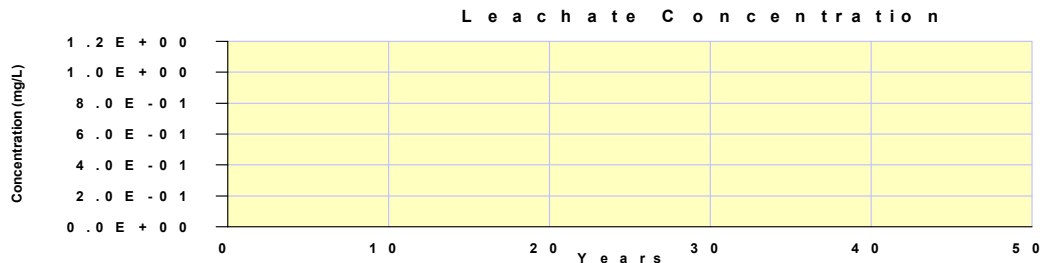
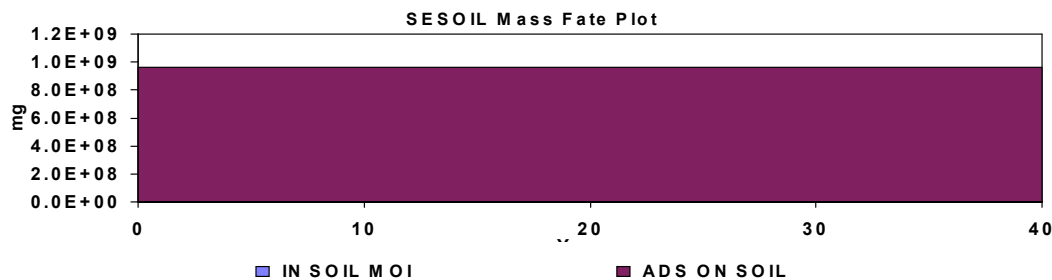
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2.67E+04 years

Starting Depth: 908.20 cm

Ending Depth: 911.40 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	5.058E+06	100.00
In Soil Air	2.858E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	5.903E-03	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	3.151E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	5.058E+06	100.00
Total Input	5.058E+06	
Input - Output	-1.813E+02	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: PCE (Tetrachloroethene) OEPA 2003

c:\sev7 win7\PCE (TETRACHLOROETHENE) OEPA 2003.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

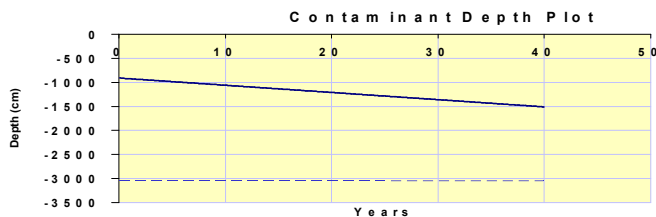
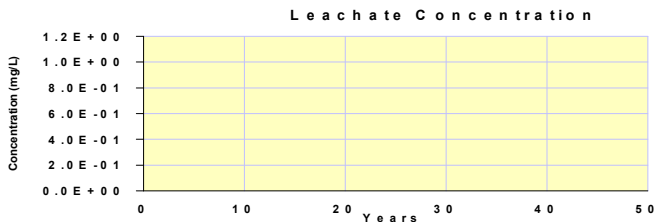
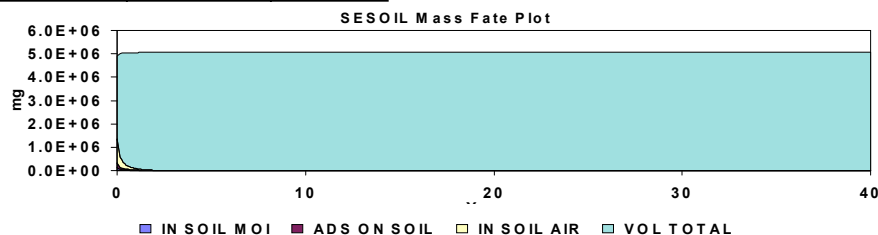
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 142.55 years

Starting Depth: 909.10 cm

Ending Depth: 1509.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	3.919E+06	100.01
In Soil Air	3.609E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	7.341E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	6.256E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	3.919E+06	100.01
Total Input	3.919E+06	
Input - Output	-5.715E+02	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: Trichloroethylene (TCE)

c:\sev7 win7\TRICHLOROETHYLENE (TCE).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

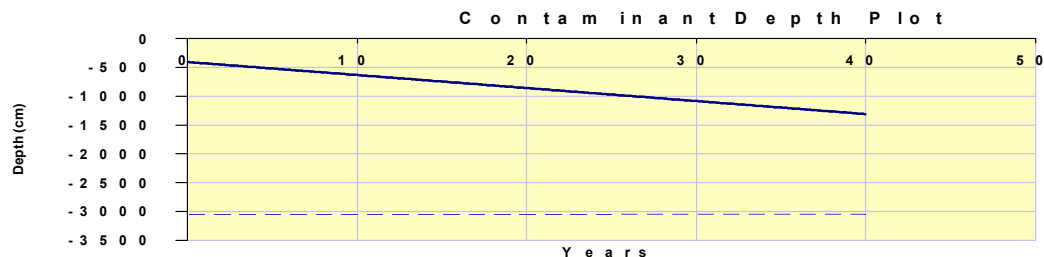
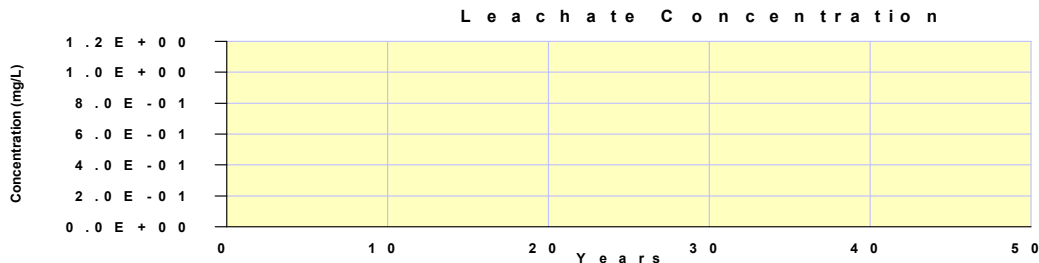
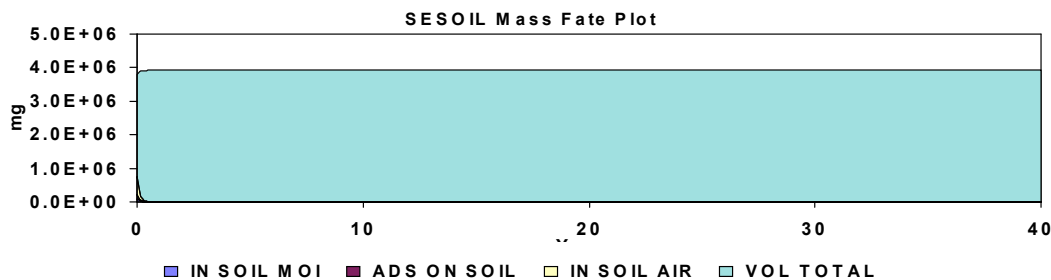
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 116.89 years

Starting Depth: 407.90 cm

Ending Depth: 1311.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.586E+04	100.00
In Soil Air	1.751E-04	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	2.085E-06	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.585E-05	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	1.586E+04	100.00
Total Input	1.587E+04	
Input - Output	5.431E-01	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: Vinyl Chloride

c:\sev7 win7\VINYL CHLORIDE.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

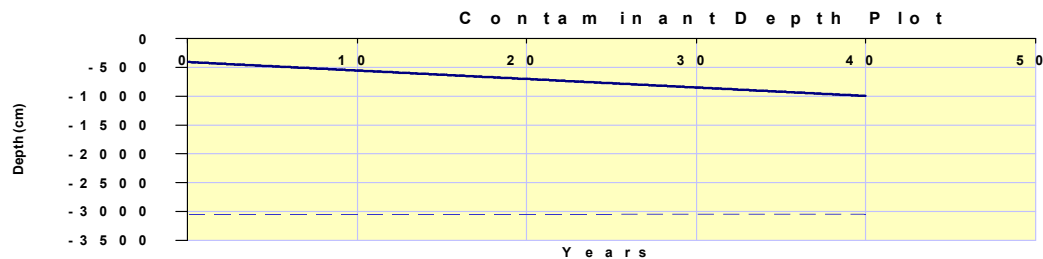
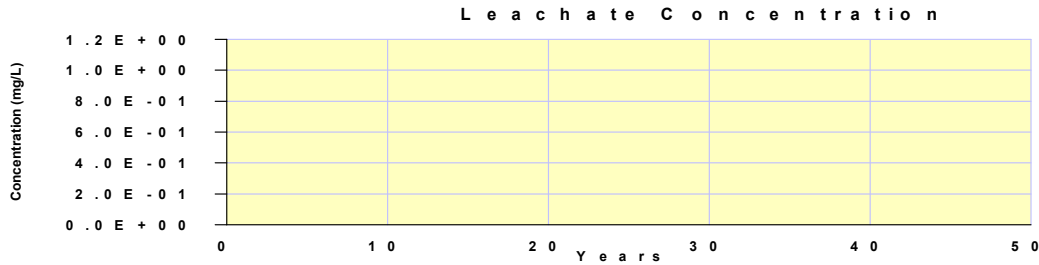
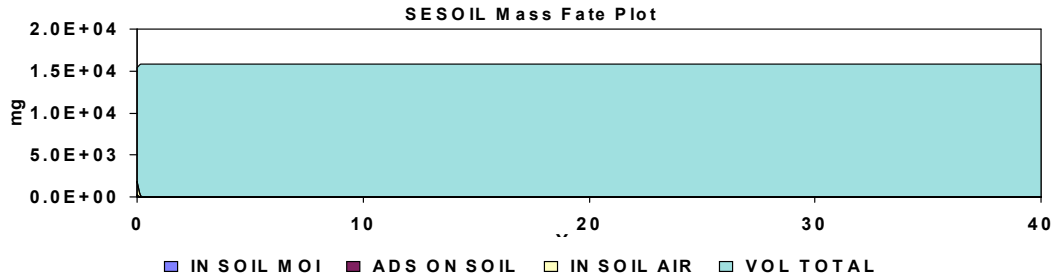
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 179.50 years

Starting Depth: 407.40 cm

Ending Depth: 995.60 cm

Total Depth: 3047.00 cm



Model Output Files
Scenario 3
Future Site Conditions (Soil)

SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	7.930E+03	49.97
In Soil Air	4.914E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.958E-02	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	3.942E-02	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	7.944E+03	50.06
Total Output	1.587E+04	100.03
Total Input	1.587E+04	
Input - Output	-5.051E+00	

Maximum leachate concentration: 2.639E-02 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,1,2,2-Tetrachloroethane MA DEP

c:\sev7 win7\1 1 2 2-TETRACHLOROETHANE MA DEP.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

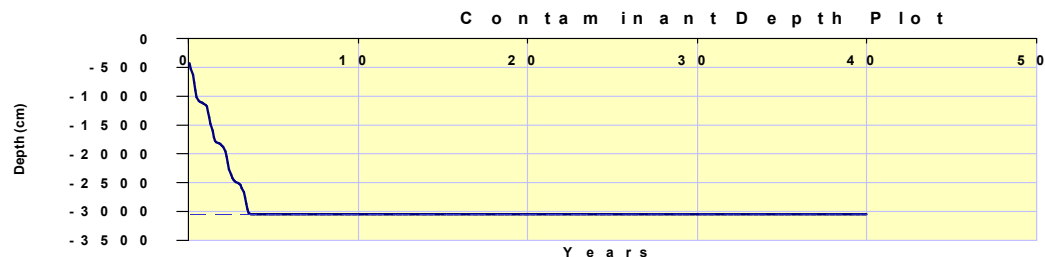
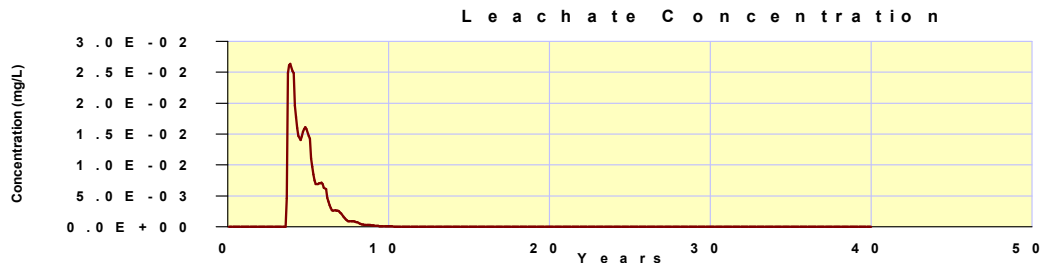
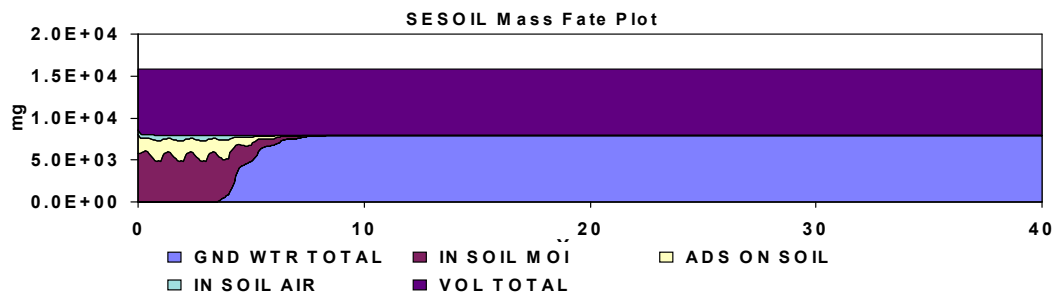
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 3.08 years

Starting Depth: 428.20 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.587E+04	100.00
In Soil Air	1.080E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	3.964E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.145E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	5.198E-04	0.00
Total Output	1.587E+04	100.00
Total Input	1.587E+04	
Input - Output	-5.852E-01	

Maximum leachate concentration: 1.000E-10 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,1-Dichloroethene OEPA 2003

c:\sev7 win7\1 1-DICHLOROETHENE OEPA 2003.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

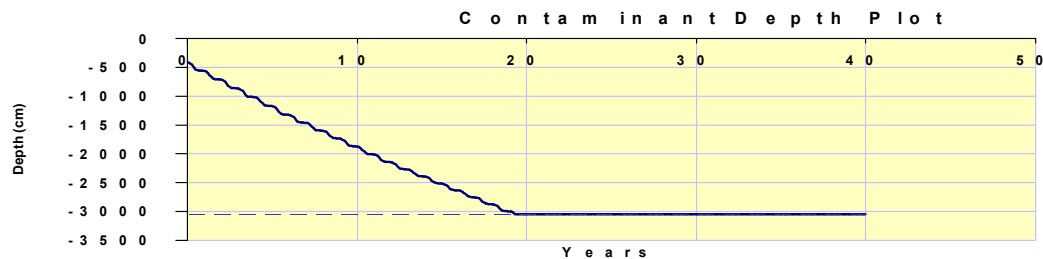
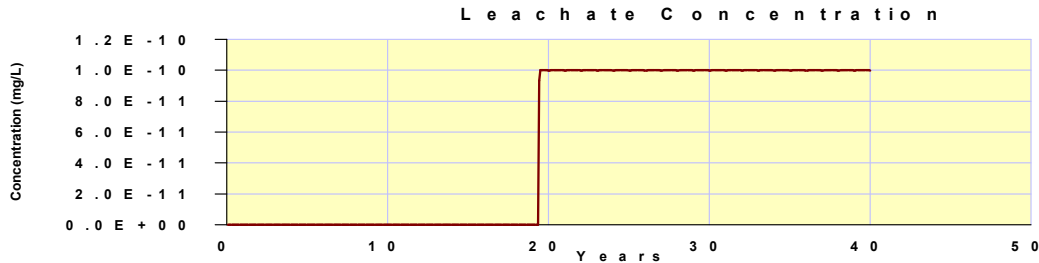
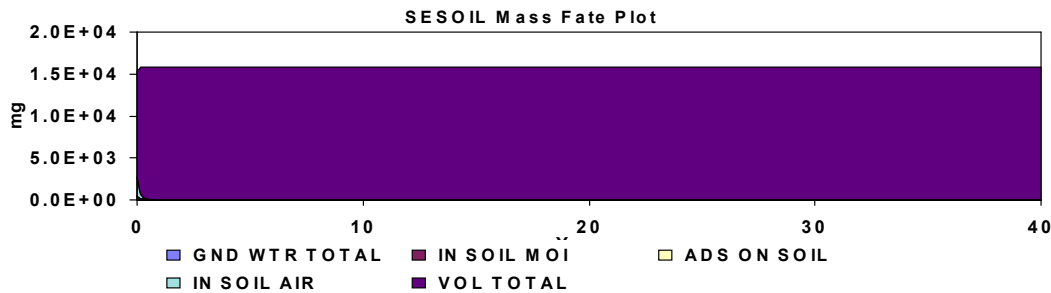
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 19.08 years

Starting Depth: 410.30 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.495E+04	94.24
In Soil Air	4.291E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.442E-02	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	3.355E-02	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	9.076E+02	5.72
Total Output	1.586E+04	99.96
Total Input	1.587E+04	
Input - Output	7.012E+00	

Maximum leachate concentration: 1.093E-03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Dichloropropene, 1,3-

c:\sev7 win7\DICHLOROPROPENE 1 3-.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

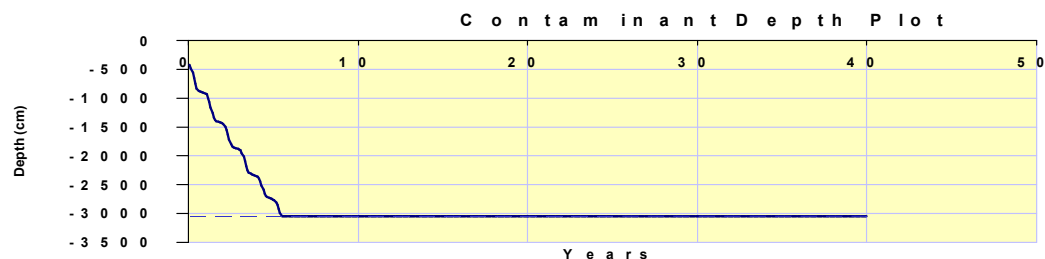
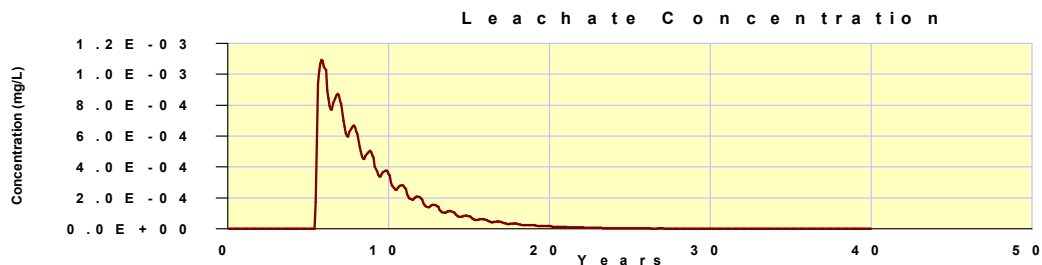
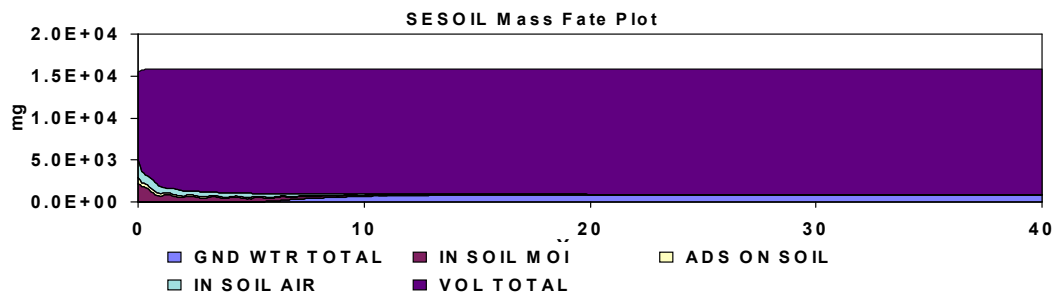
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 5.08 years

Starting Depth: 420.40 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.684E+04	99.57
In Soil Air	1.238E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.019E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	6.174E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	6.504E+01	0.38
Total Output	1.691E+04	99.95
Total Input	1.692E+04	
Input - Output	8.418E+00	

Maximum leachate concentration: 7.789E-05 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Benzene

c:\sev7 win7\BENZENE.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

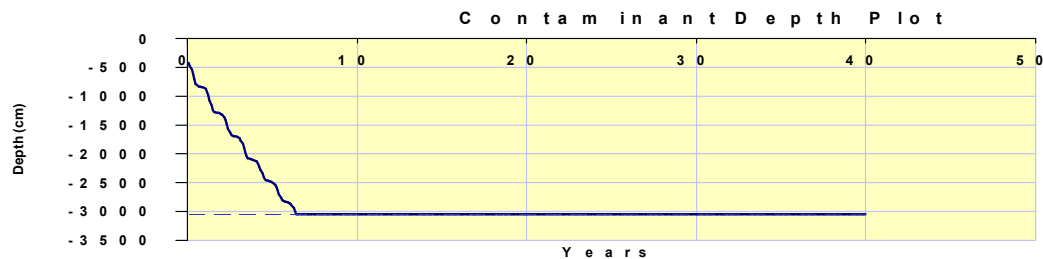
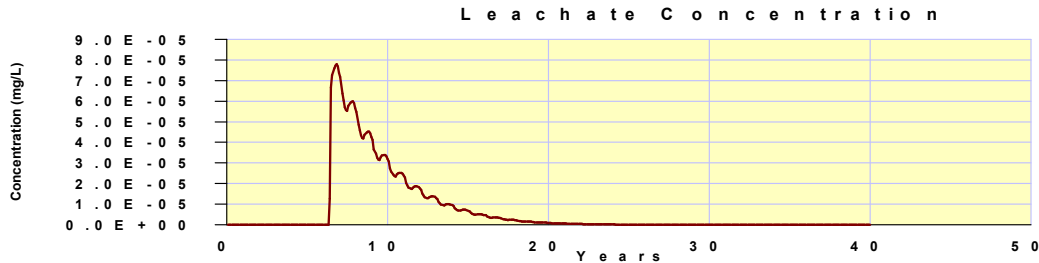
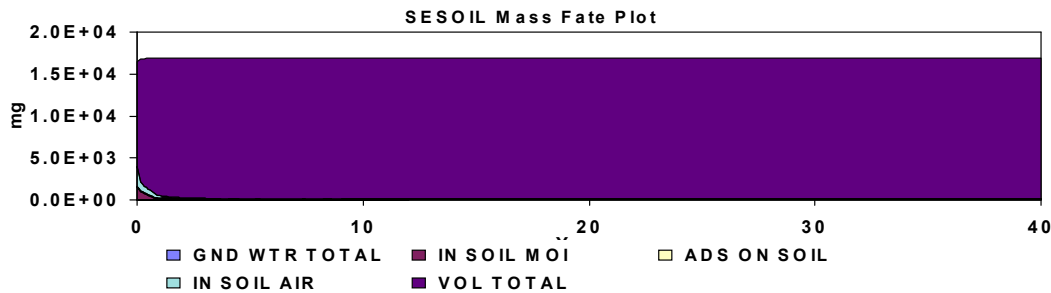
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 6.08 years

Starting Depth: 418.50 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.646E+08	99.99
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	5.838E+00	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.646E+08	99.99
Total Input	9.647E+08	
Input - Output	8.999E+04	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium (III) (Insoluble Salts) (Kd)

c:\sev7 win7\CHROMIUM (III) (INSOLUBLE SALTS) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

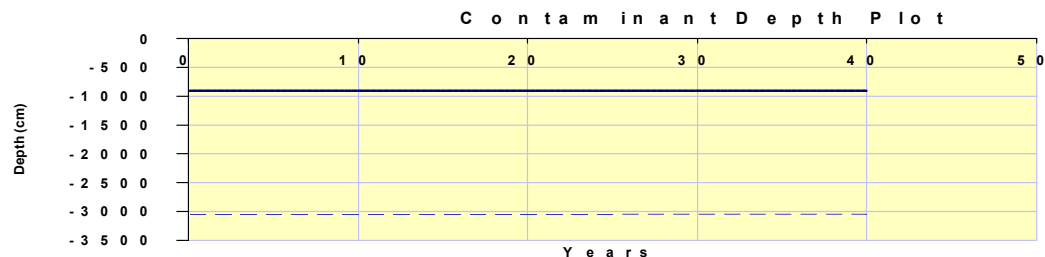
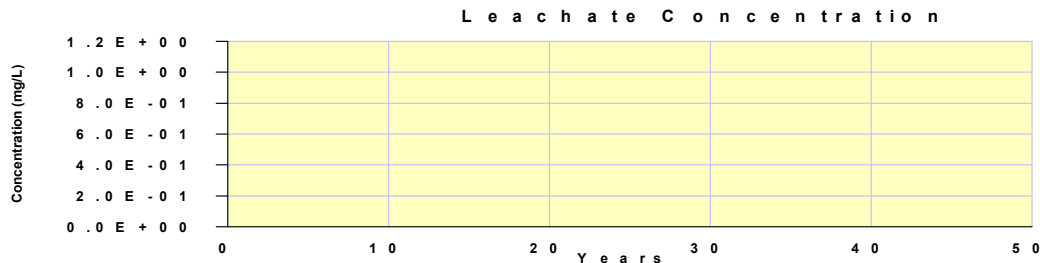
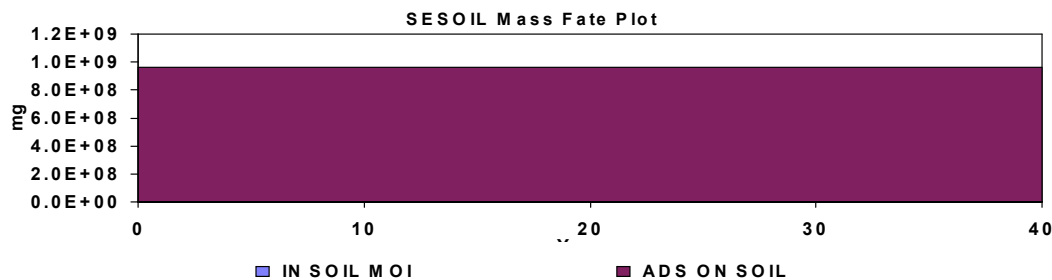
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: years

Starting Depth: 908.20 cm

Ending Depth: 908.20 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.615E+08	99.67
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	5.512E+05	0.06
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.621E+08	99.73
Total Input	9.647E+08	
Input - Output	2.598E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

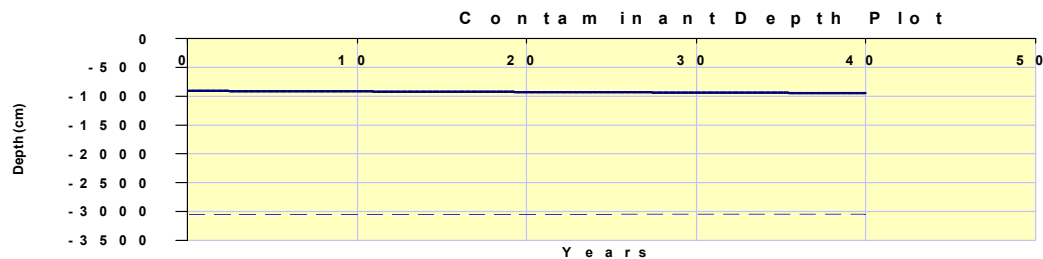
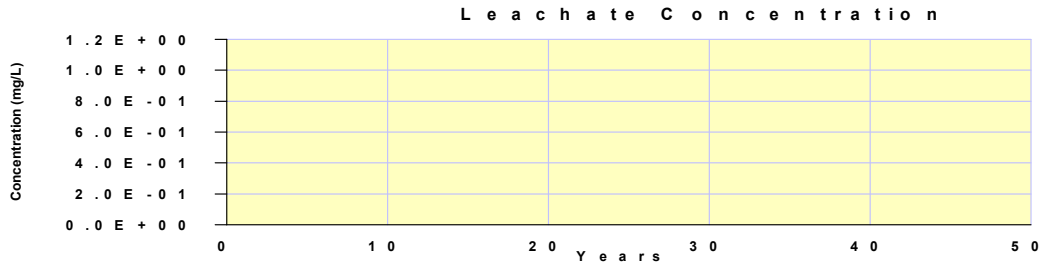
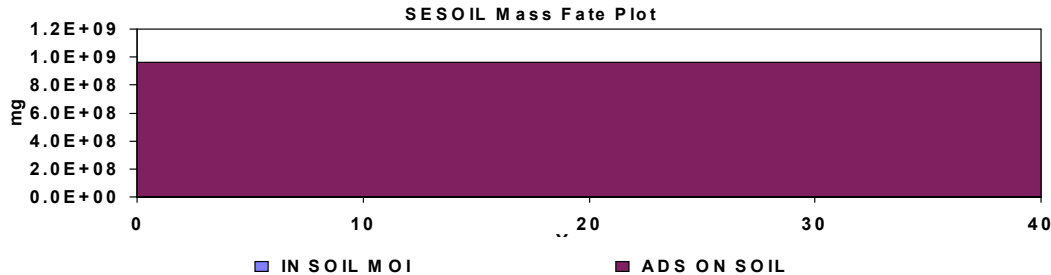
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2222.13 years

Starting Depth: 908.20 cm

Ending Depth: 946.70 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	5.057E+06	100.00
In Soil Air	6.949E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.475E+00	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.045E+00	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	7.502E+02	0.01
Total Output	5.058E+06	100.01
Total Input	5.058E+06	
Input - Output	-6.937E+02	

Maximum leachate concentration: 6.198E-04 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: PCE (Tetrachloroethene) OEPA 2003

c:\sev7 win7\PCE (TETRACHLOROETHENE) OEPA 2003.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

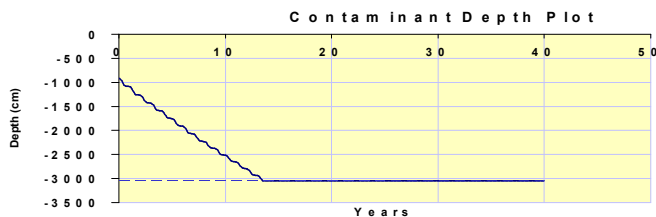
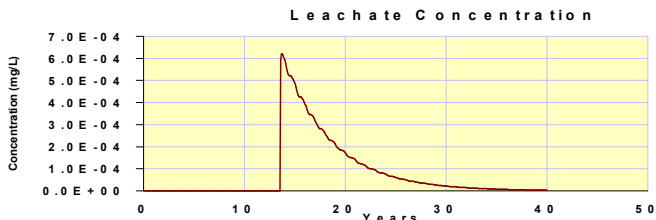
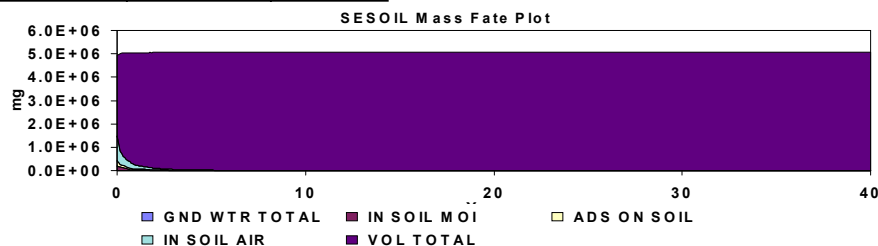
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 13.08 years

Starting Depth: 913.10 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	3.919E+06	100.02
In Soil Air	5.801E-01	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.213E-01	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.372E-01	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	3.521E+01	0.00
Total Output	3.919E+06	100.02
Total Input	3.919E+06	
Input - Output	-6.470E+02	

Maximum leachate concentration: 3.195E-05 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Trichloroethylene (TCE)

c:\sev7 win7\TRICHLOROETHYLENE (TCE).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

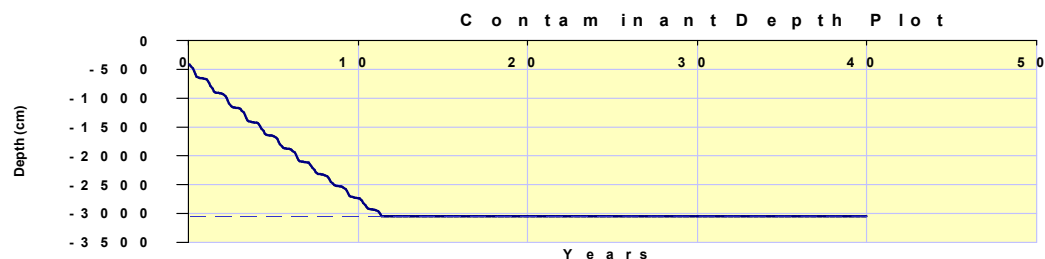
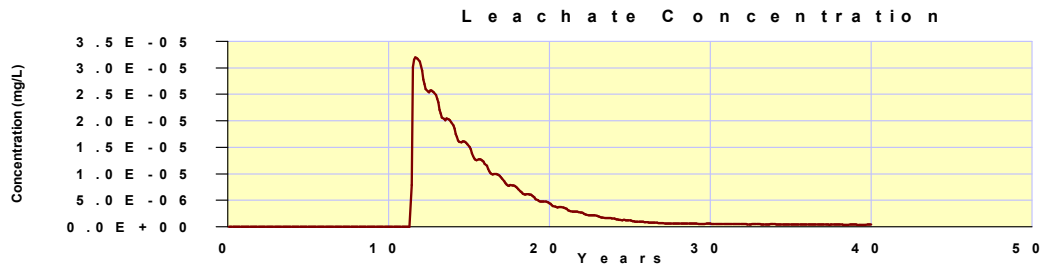
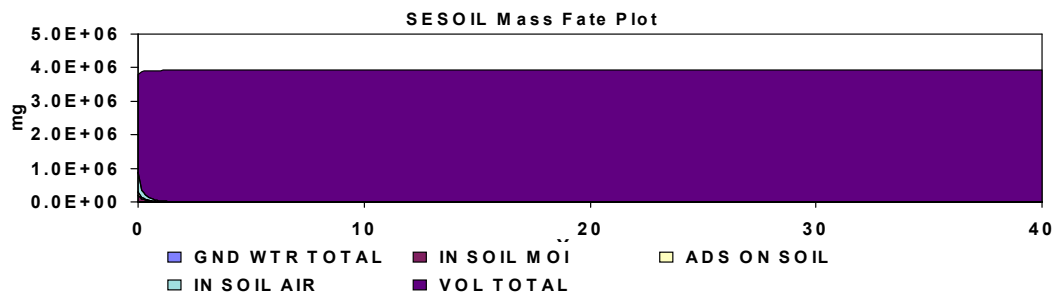
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 11.08 years

Starting Depth: 413.00 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.587E+04	100.04
In Soil Air	1.066E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.304E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.317E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	5.873E-04	0.00
Total Output	1.587E+04	100.04
Total Input	1.587E+04	
Input - Output	-6.694E+00	

Maximum leachate concentration: 1.000E-10 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Vinyl Chloride

c:\sev7 win7\VINYL CHLORIDE.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

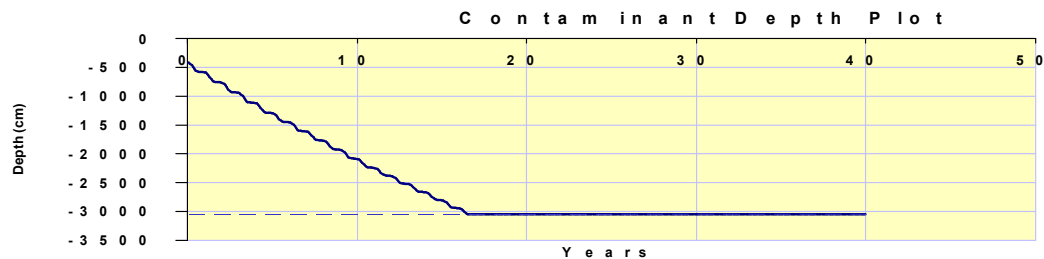
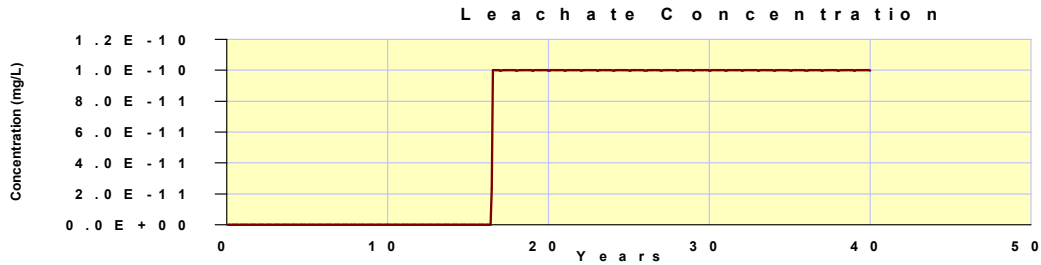
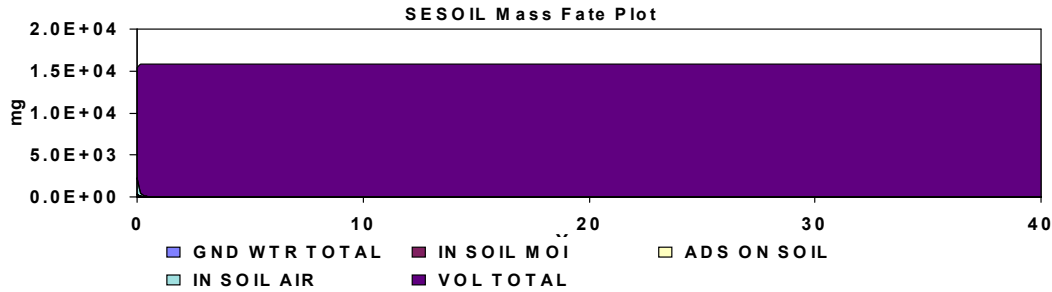
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 16.08 years

Starting Depth: 411.00 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



APPENDIX D

Sensitivity Model Output Reports

Sensitivity Analysis
Scenario 3
1,2-Dichloroethane

Intrinsic Permeability

SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.417E+04	89.32
In Soil Air	2.477E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	4.997E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.674E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	1.701E+03	10.72
Total Output	1.587E+04	100.04
Total Input	1.587E+04	
Input - Output	-5.846E+00	

Maximum leachate concentration: 4.855E-03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

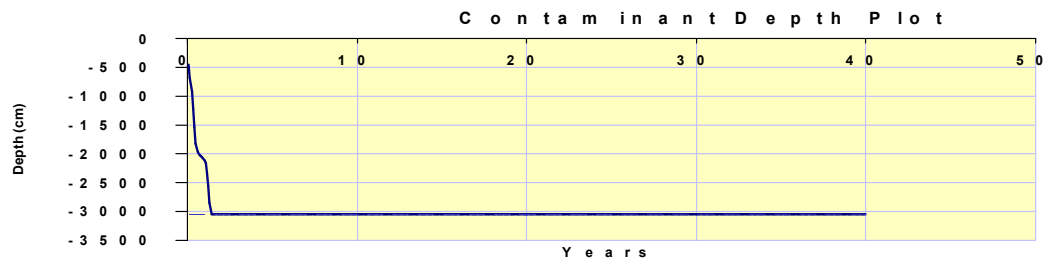
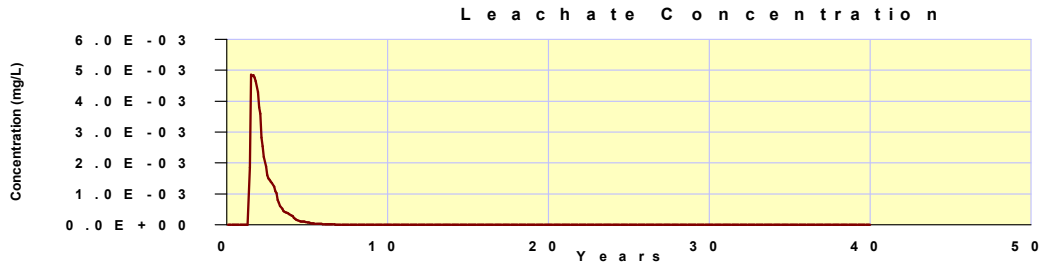
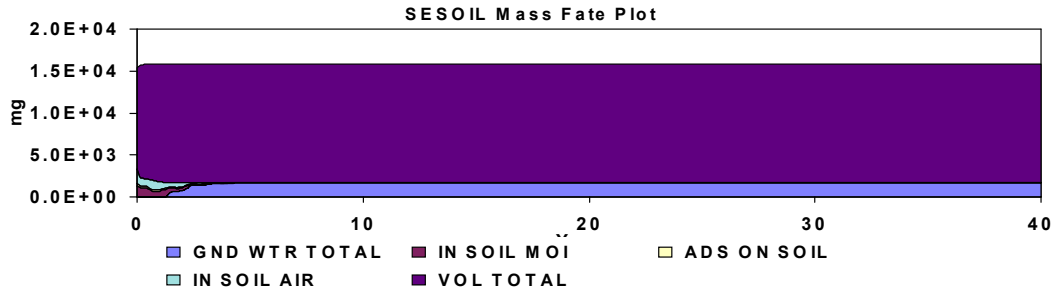
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 1.08 years

Starting Depth: 456.20 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.376E+04	86.71
In Soil Air	1.132E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	2.342E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.388E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	2.110E+03	13.30
Total Output	1.587E+04	100.01
Total Input	1.587E+04	
Input - Output	-1.450E+00	

Maximum leachate concentration: 4.290E-03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

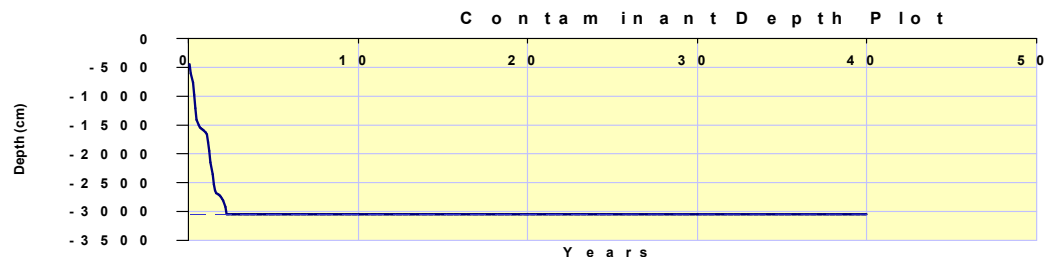
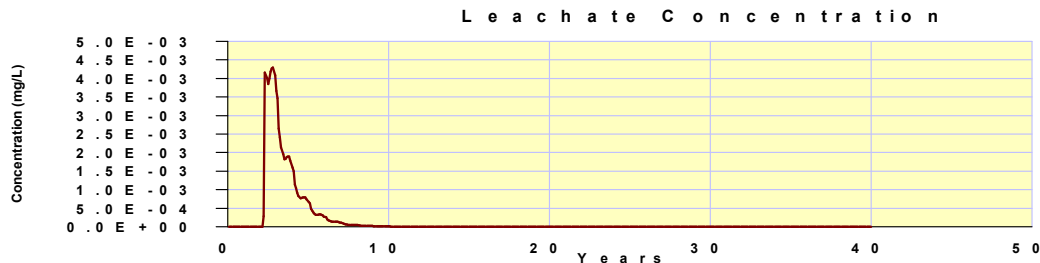
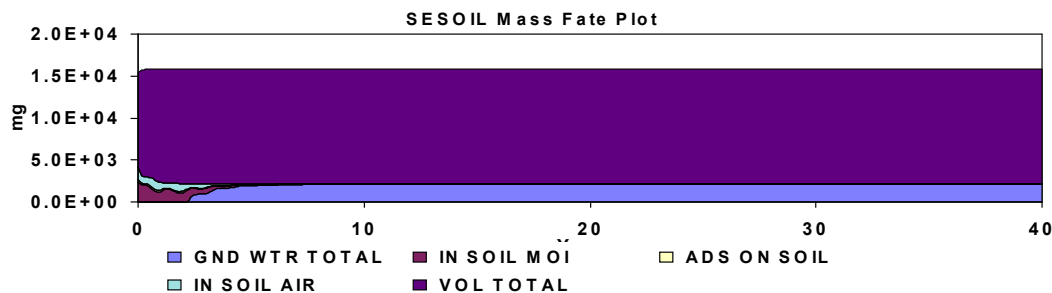
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2.08 years

Starting Depth: 446.10 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.200E+04	75.63
In Soil Air	1.902E-01	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	4.535E-02	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	8.735E-01	0.01
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	3.855E+03	24.29
Total Output	1.585E+04	99.93
Total Input	1.587E+04	
Input - Output	1.152E+01	

Maximum leachate concentration: 6.371E-03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

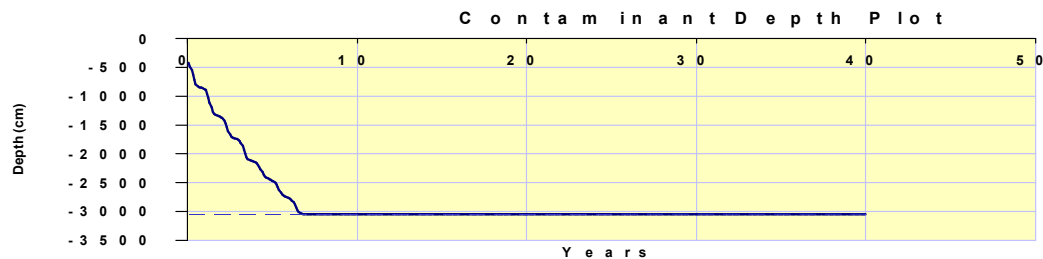
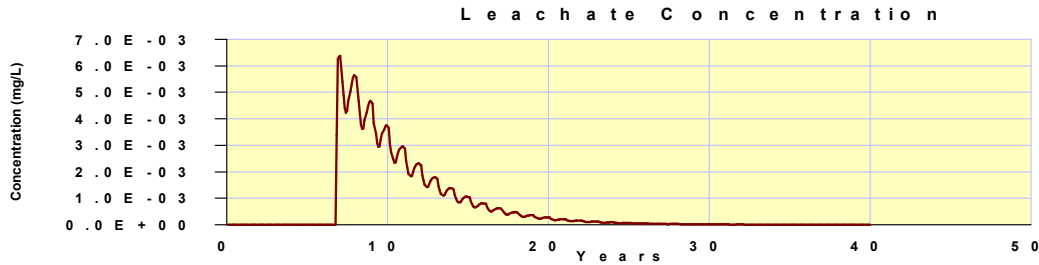
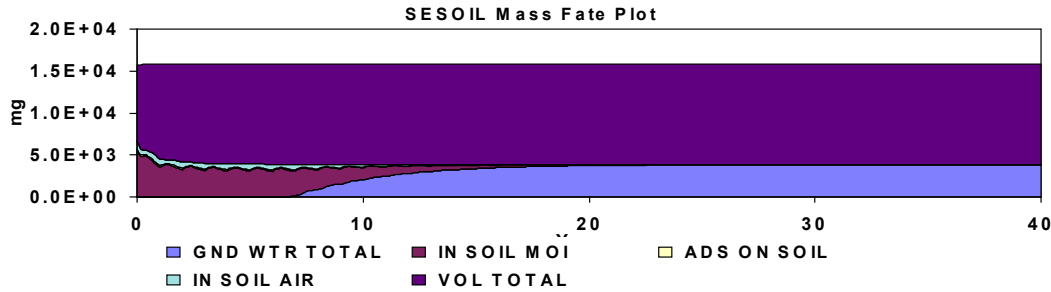
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 6.08 years

Starting Depth: 420.80 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.161E+04	73.19
In Soil Air	9.138E+01	0.58
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	2.497E+01	0.16
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	7.594E+02	4.79
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	3.358E+03	21.16
Total Output	1.584E+04	99.87
Total Input	1.587E+04	
Input - Output	2.116E+01	

Maximum leachate concentration: 5.301E-03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

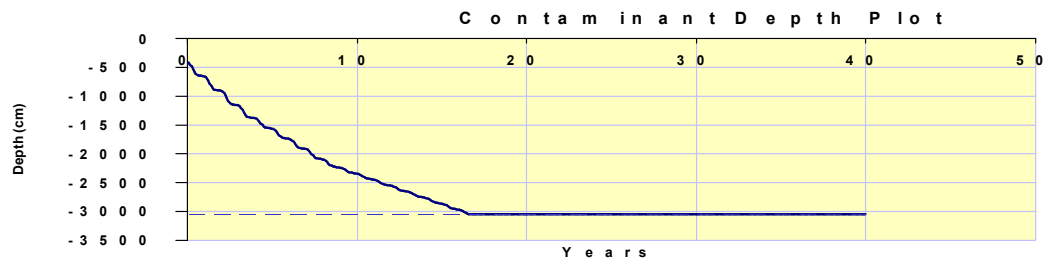
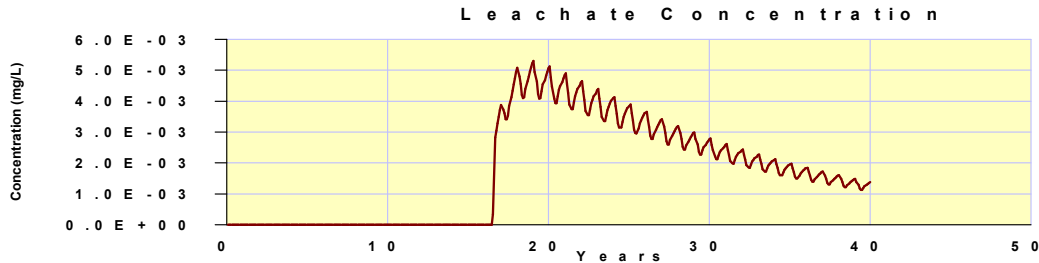
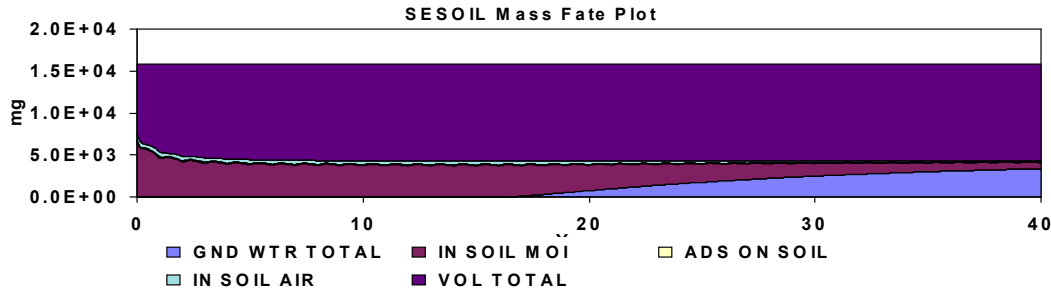
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 16.08 years

Starting Depth: 414.50 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



Effective Porosity

SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.010E+04	63.68
In Soil Air	2.220E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.653E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	5.209E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	5.770E+03	36.36
Total Output	1.587E+04	100.04
Total Input	1.587E+04	
Input - Output	-6.499E+00	

Maximum leachate concentration: 3.066E-02 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

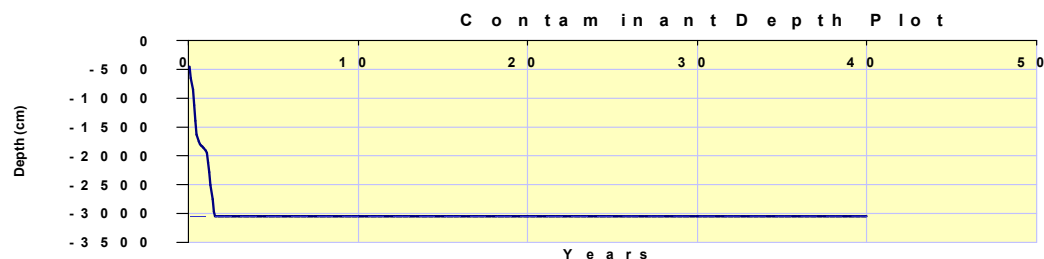
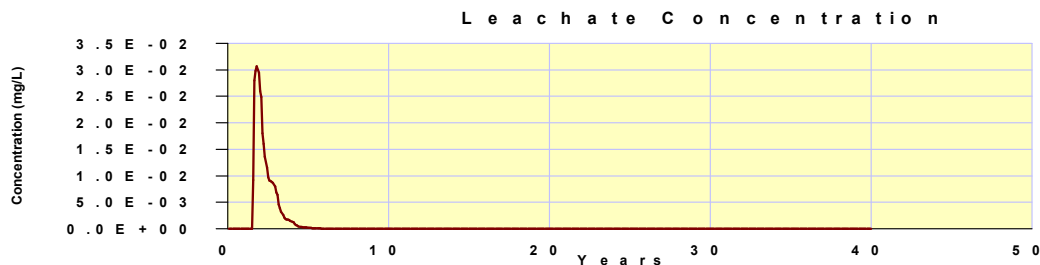
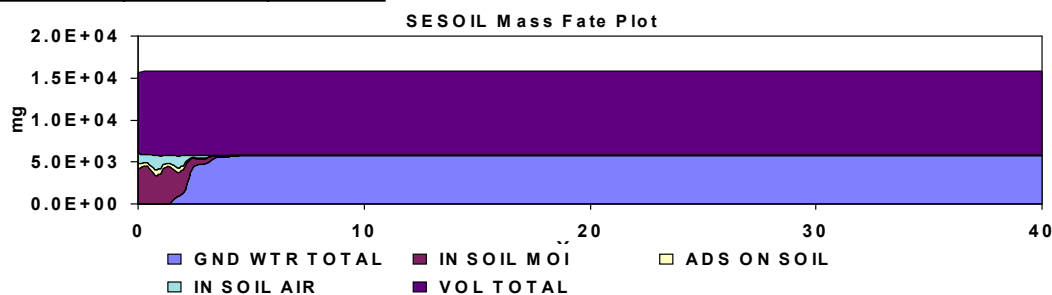
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 1.08 years

Starting Depth: 455.10 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.159E+04	73.07
In Soil Air	2.177E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	6.307E-03	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	5.106E-02	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	4.277E+03	26.96
Total Output	1.587E+04	100.03
Total Input	1.587E+04	
Input - Output	-4.900E+00	

Maximum leachate concentration: 1.297E-02 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

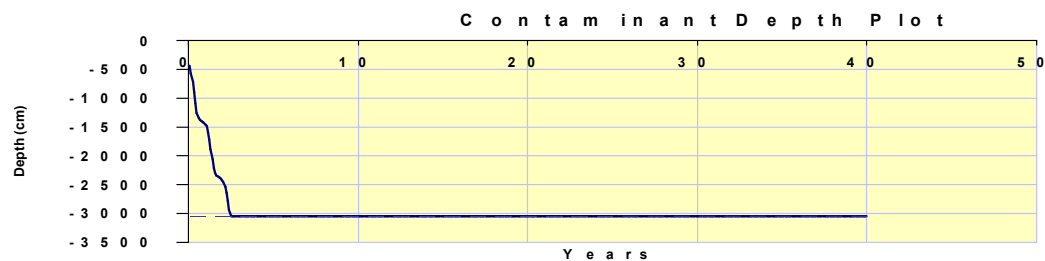
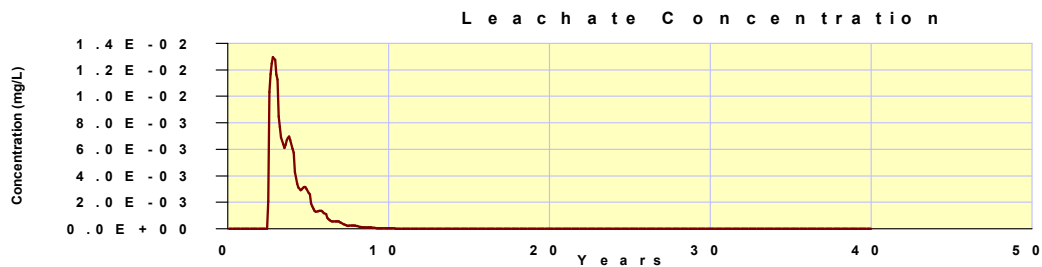
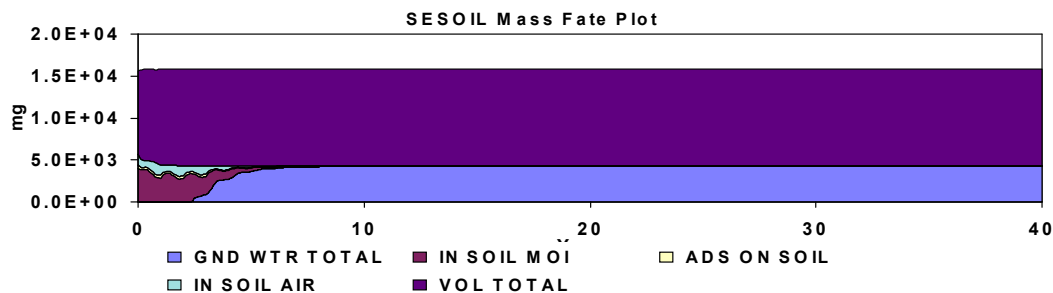
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2.08 years

Starting Depth: 439.00 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.420E+04	89.50
In Soil Air	2.726E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	4.750E-03	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	6.536E-02	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	1.655E+03	10.43
Total Output	1.585E+04	99.93
Total Input	1.587E+04	
Input - Output	1.096E+01	

Maximum leachate concentration: 2.721E-03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

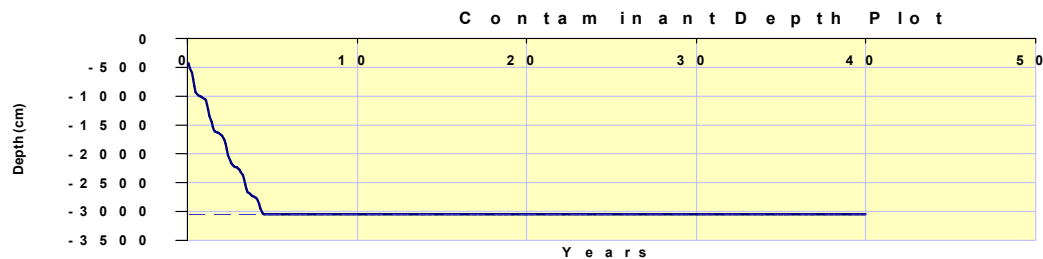
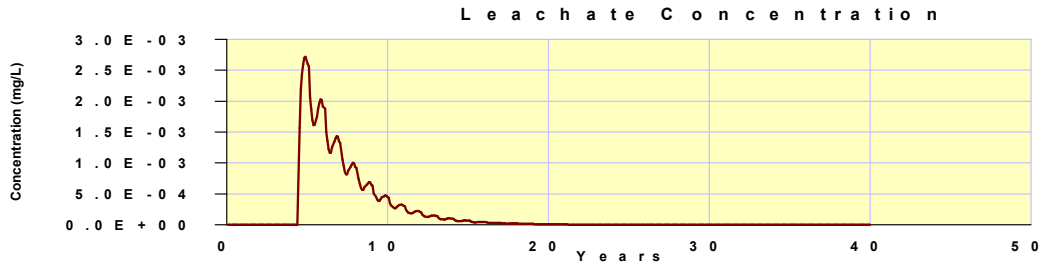
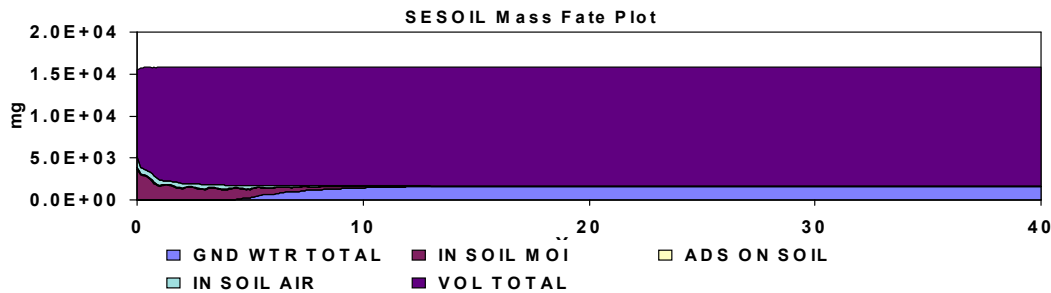
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 4.08 years

Starting Depth: 425.80 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.497E+04	94.36
In Soil Air	5.451E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	7.924E-03	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.320E-01	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	8.884E+02	5.60
Total Output	1.586E+04	99.96
Total Input	1.587E+04	
Input - Output	6.333E+00	

Maximum leachate concentration: 1.218E-03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

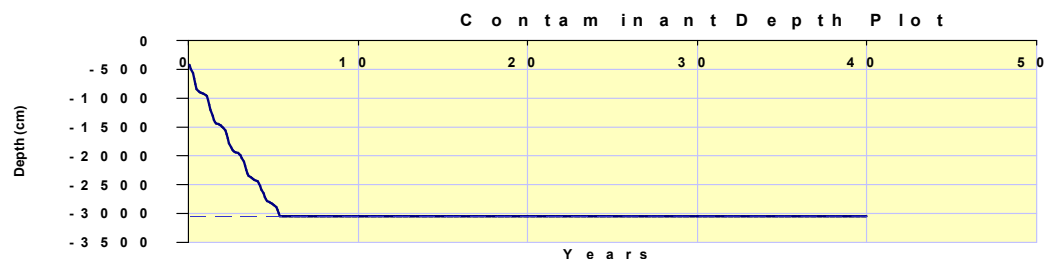
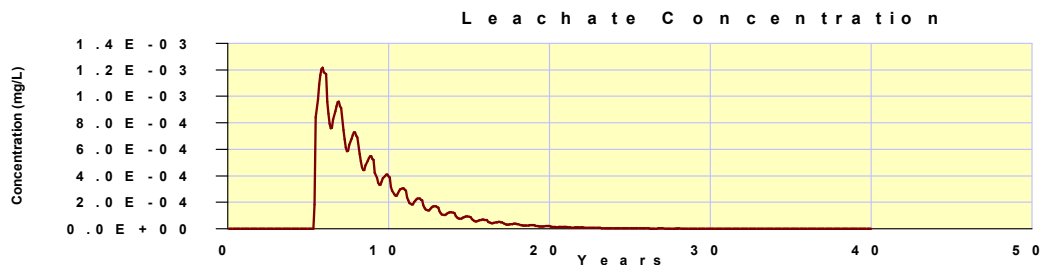
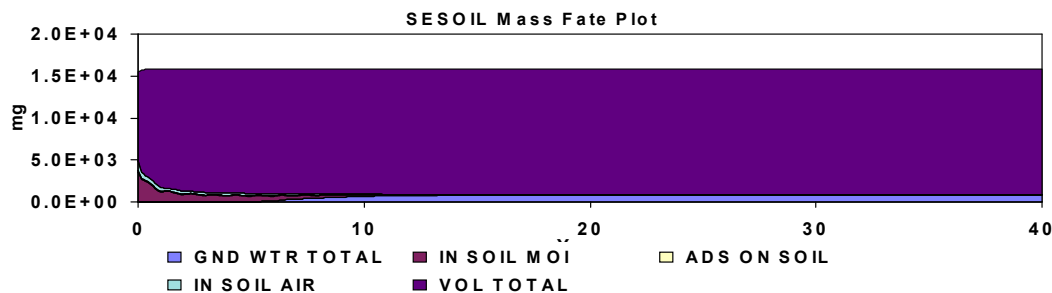
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 5.08 years

Starting Depth: 423.20 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



Soil Disconnectivity Index

SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.321E+04	83.28
In Soil Air	1.867E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	4.014E-03	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	3.906E-02	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	2.657E+03	16.75
Total Output	1.587E+04	100.03
Total Input	1.587E+04	
Input - Output	-4.806E+00	

Maximum leachate concentration: 5.248E-03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

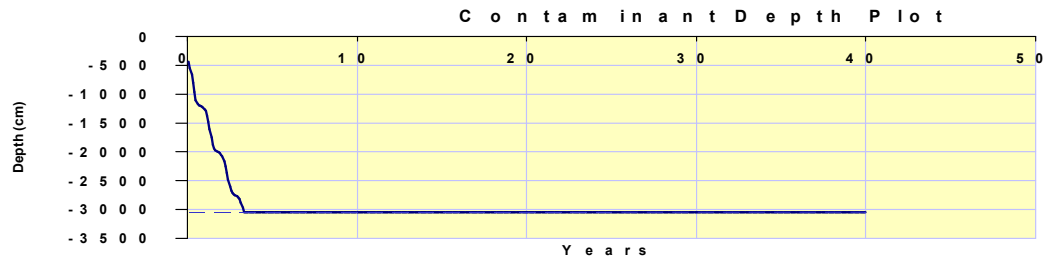
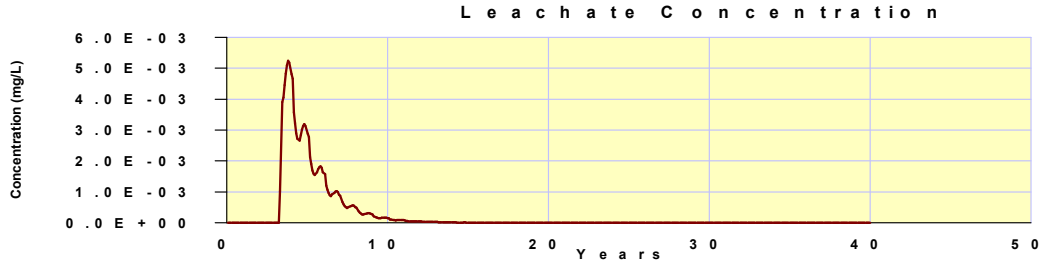
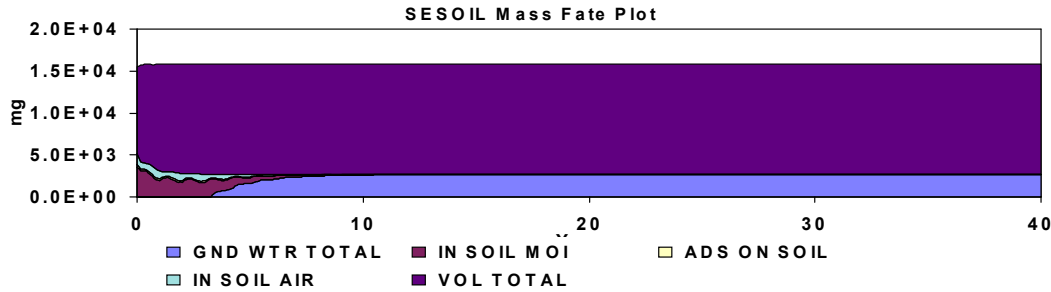
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 3.08 years

Starting Depth: 434.20 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.084E+04	68.36
In Soil Air	1.112E-01	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	2.816E-02	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	6.859E-01	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	5.007E+03	31.55
Total Output	1.585E+04	99.92
Total Input	1.587E+04	
Input - Output	1.305E+01	

Maximum leachate concentration: 7.263E-03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

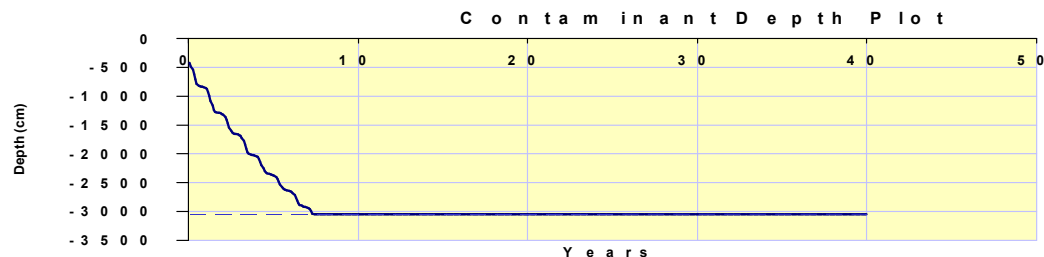
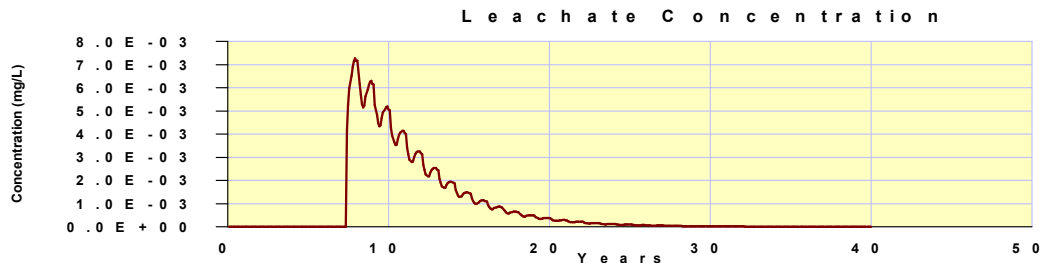
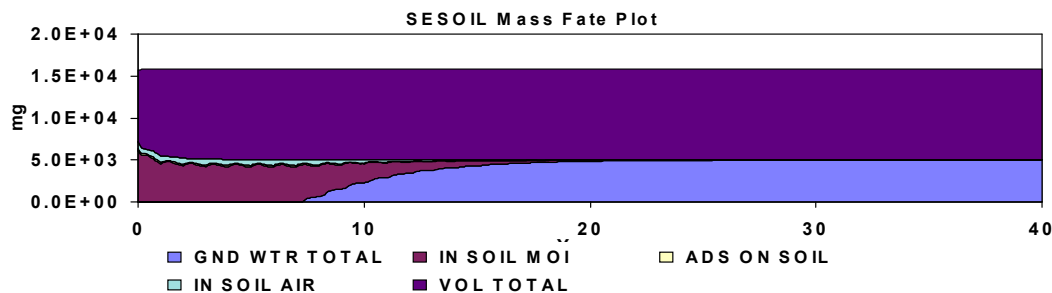
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 7.08 years

Starting Depth: 420.10 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	7.807E+03	49.19
In Soil Air	1.606E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	5.096E-03	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	2.086E-01	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	8.052E+03	50.74
Total Output	1.585E+04	99.94
Total Input	1.587E+04	
Input - Output	1.030E+01	

Maximum leachate concentration: 9.722E-03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

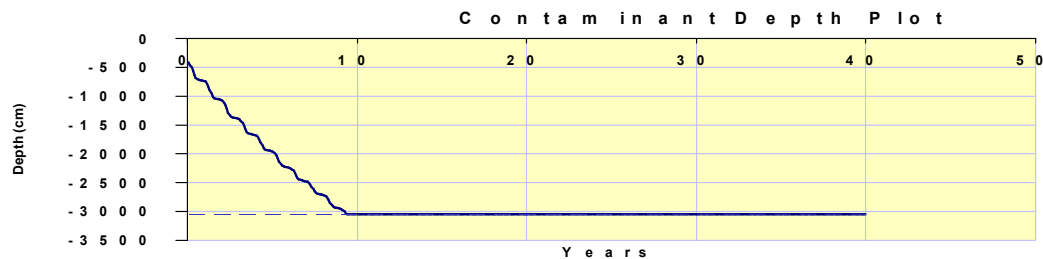
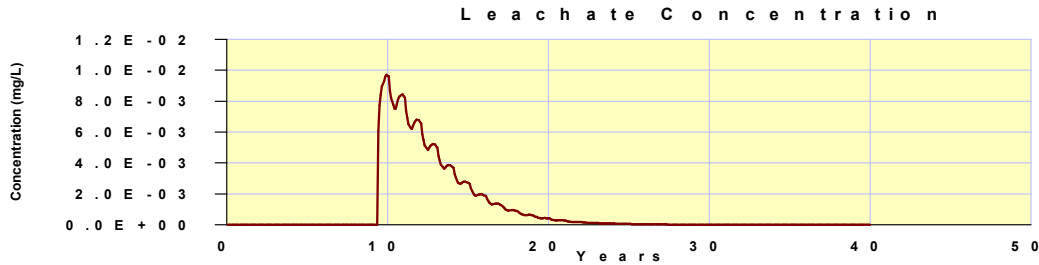
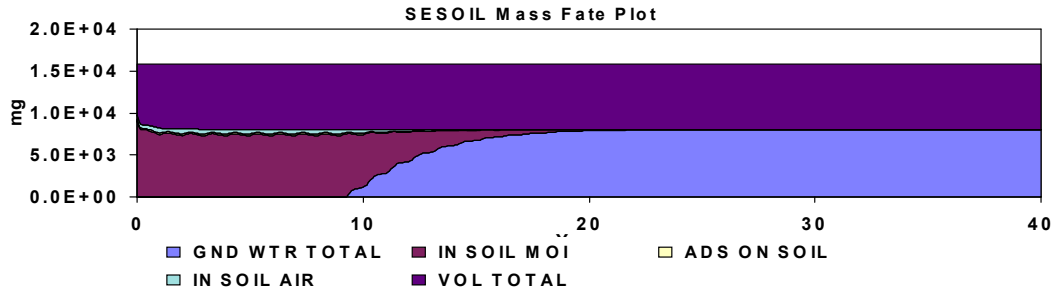
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 9.08 years

Starting Depth: 416.10 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	4.981E+03	31.39
In Soil Air	1.458E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	5.720E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	3.059E-02	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	1.087E+04	68.54
Total Output	1.585E+04	99.93
Total Input	1.587E+04	
Input - Output	1.070E+01	

Maximum leachate concentration: 1.173E-02 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

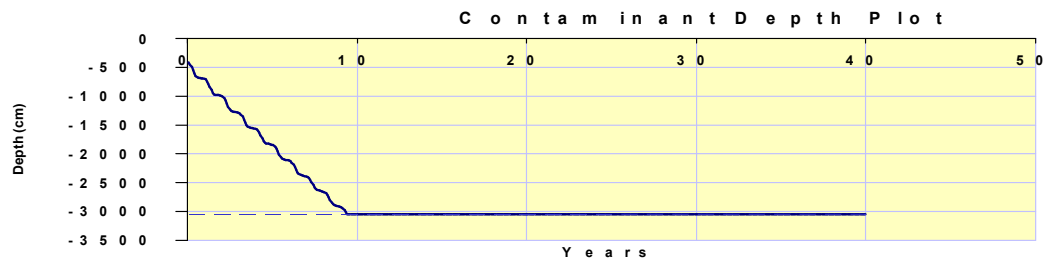
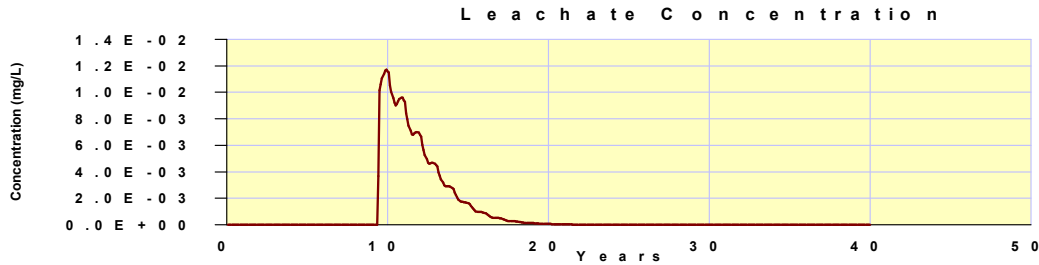
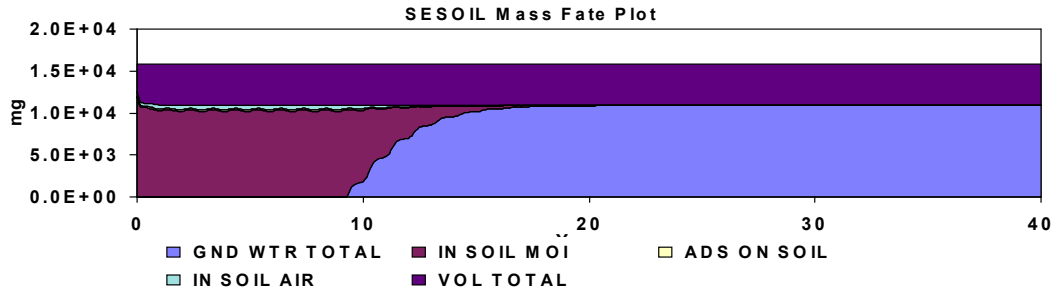
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 9.08 years

Starting Depth: 414.60 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



Organic Carbon Content

SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.311E+04	82.66
In Soil Air	2.759E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	2.584E-03	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	6.472E-02	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	2.752E+03	17.34
Total Output	1.587E+04	100.00
Total Input	1.587E+04	
Input - Output	-2.947E-01	

Maximum leachate concentration: 5.915E-03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

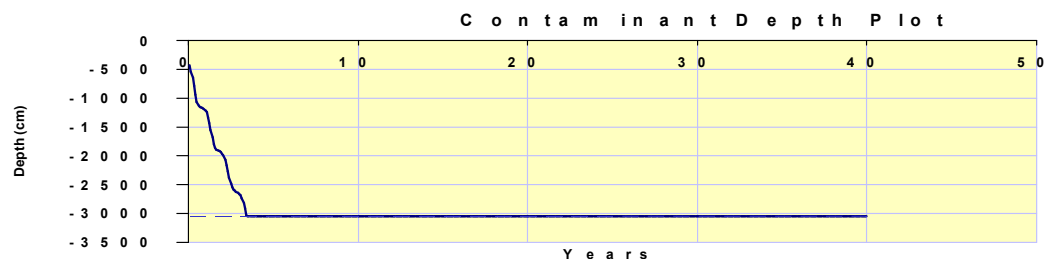
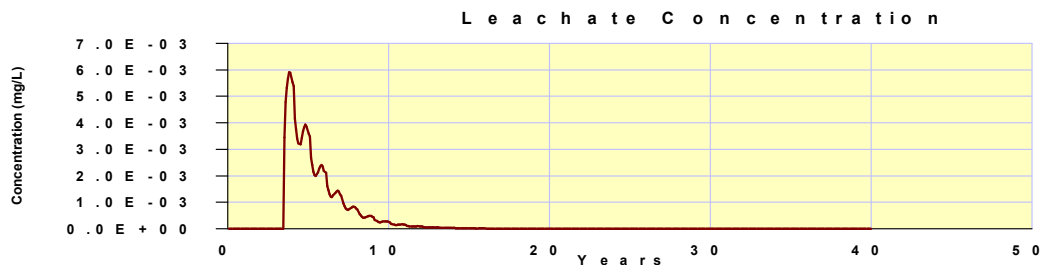
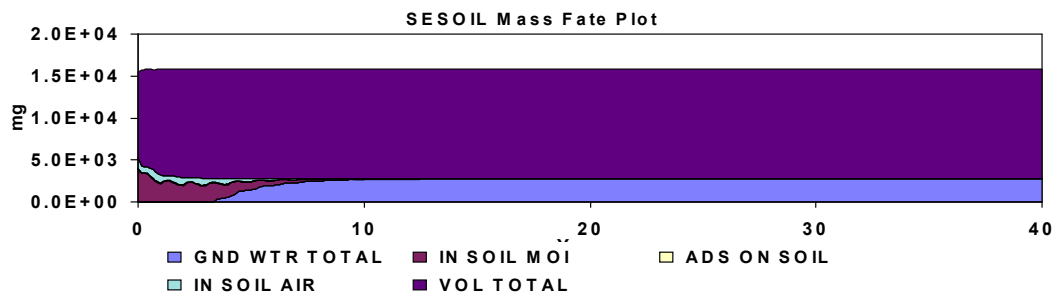
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Time to Groundwater: 3.08 years

Starting Depth: 430.40 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.313E+04	82.75
In Soil Air	2.668E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	0.000E+00	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	6.259E-02	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	2.741E+03	17.27
Total Output	1.587E+04	100.03
Total Input	1.587E+04	
Input - Output	-4.096E+00	

Maximum leachate concentration: 5.910E-03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

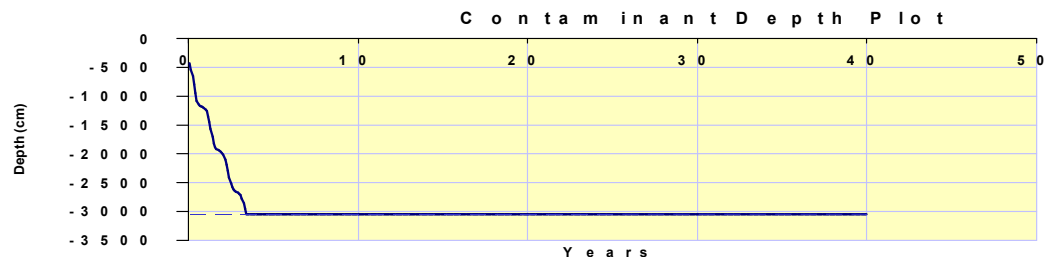
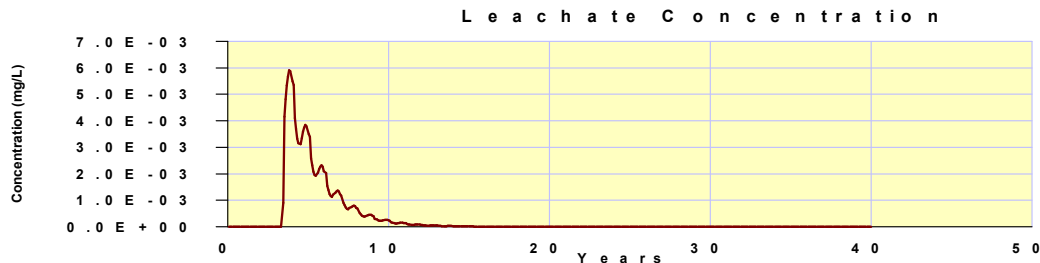
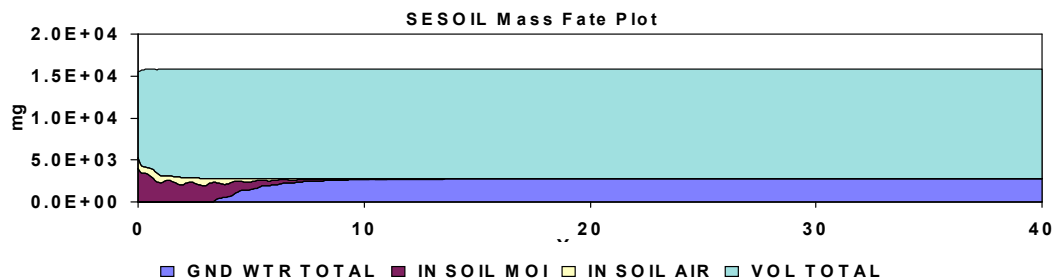
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 3.08 years

Starting Depth: 431.10 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.309E+04	82.50
In Soil Air	2.623E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.827E-03	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	6.153E-02	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	2.779E+03	17.52
Total Output	1.587E+04	100.02
Total Input	1.587E+04	
Input - Output	-2.911E+00	

Maximum leachate concentration: 5.903E-03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

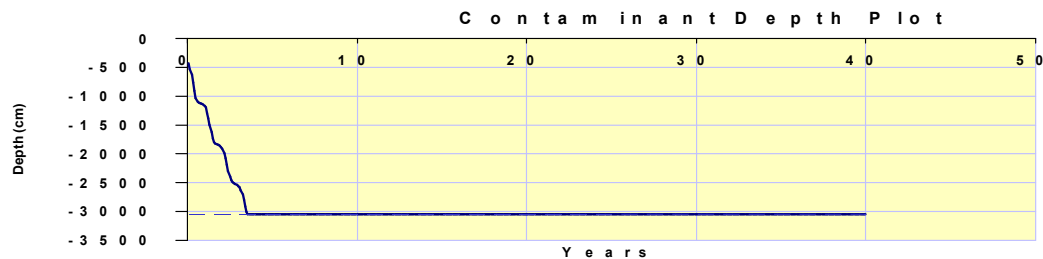
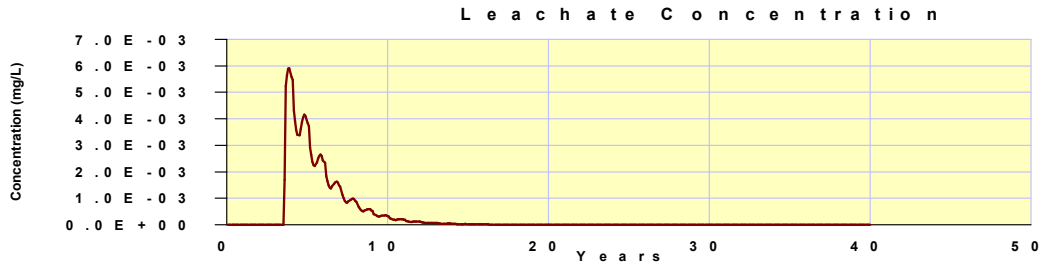
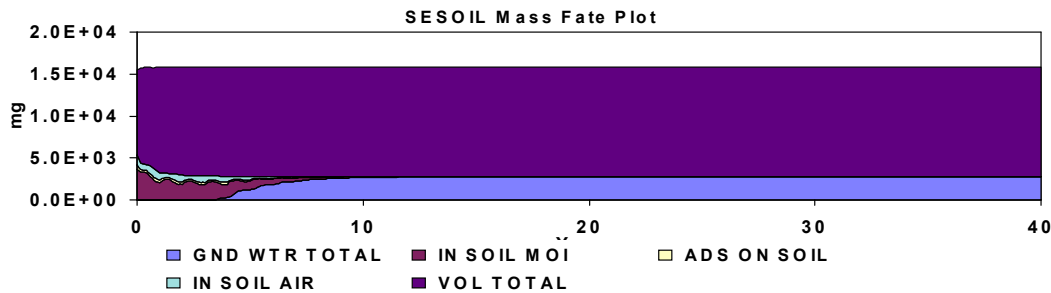
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 3.08 years

Starting Depth: 428.70 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.304E+04	82.21
In Soil Air	3.171E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	2.376E-02	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	7.439E-02	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	2.821E+03	17.78
Total Output	1.586E+04	99.99
Total Input	1.587E+04	
Input - Output	1.707E+00	

Maximum leachate concentration: 4.433E-03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

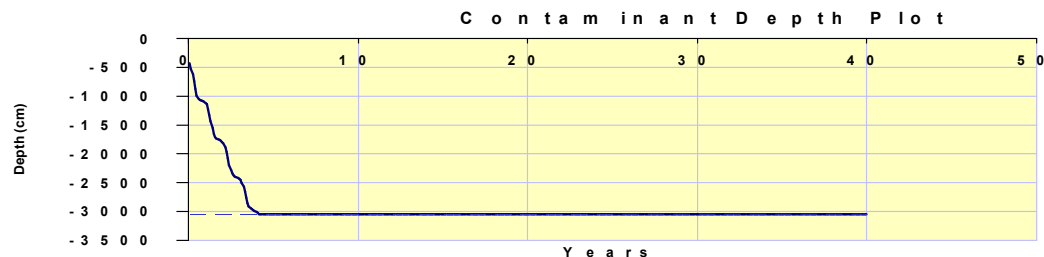
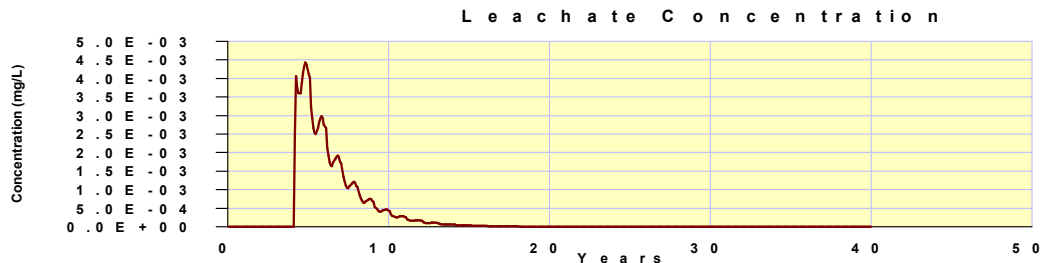
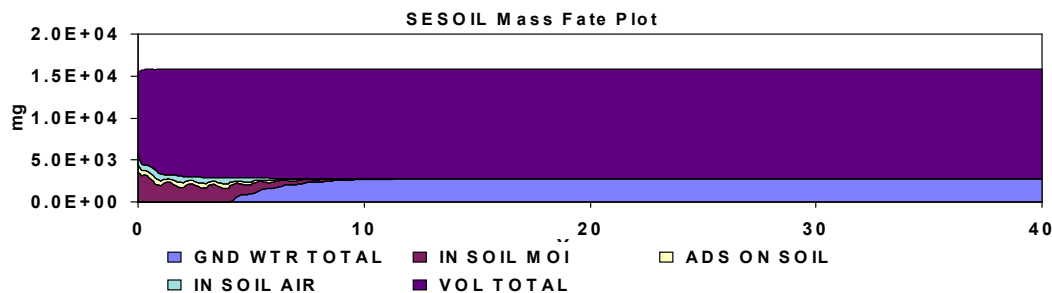
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 4.08 years

Starting Depth: 426.90 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



Biodegradation

SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.079E+04	68.00
In Soil Air	2.632E-04	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	5.720E-05	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	6.174E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	5.079E+03	32.01
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	9.154E-03	0.00
Total Output	1.587E+04	100.01
Total Input	1.587E+04	
Input - Output	-1.782E+00	

Maximum leachate concentration: 1.000E-09 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

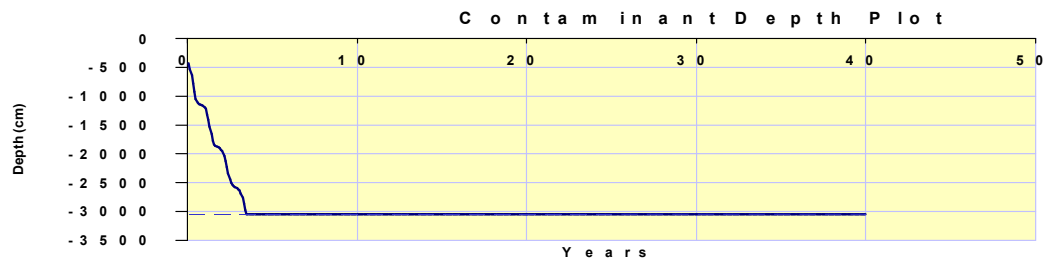
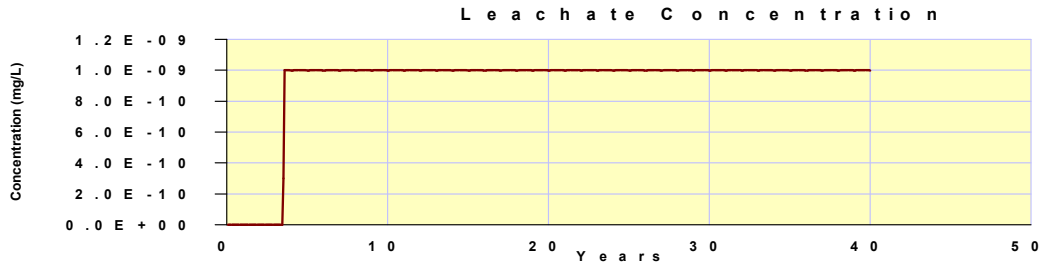
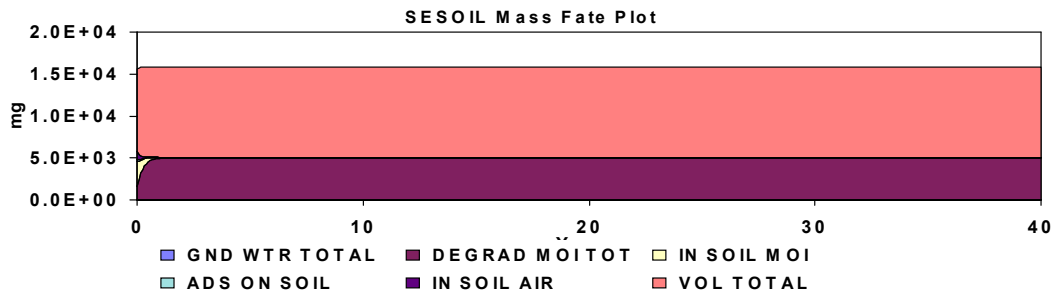
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 3.08 years

Starting Depth: 429.60 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.164E+04	73.39
In Soil Air	3.310E-04	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	7.195E-05	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	7.766E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	4.210E+03	26.53
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	1.126E+01	0.07
Total Output	1.586E+04	99.99
Total Input	1.587E+04	
Input - Output	1.097E+00	

Maximum leachate concentration: 6.631E-05 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

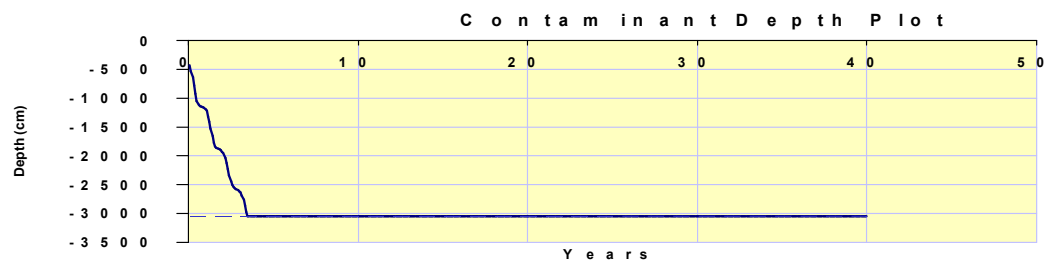
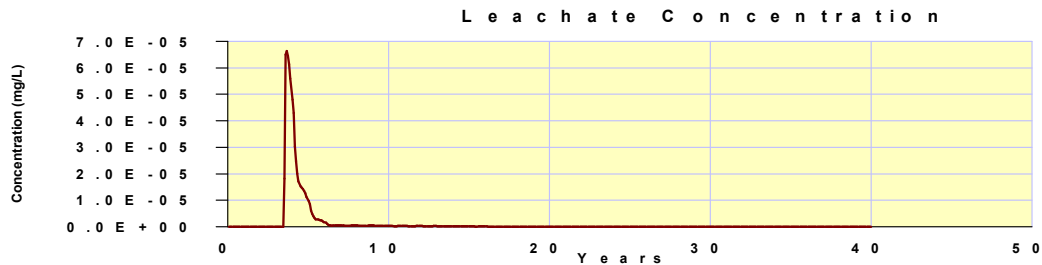
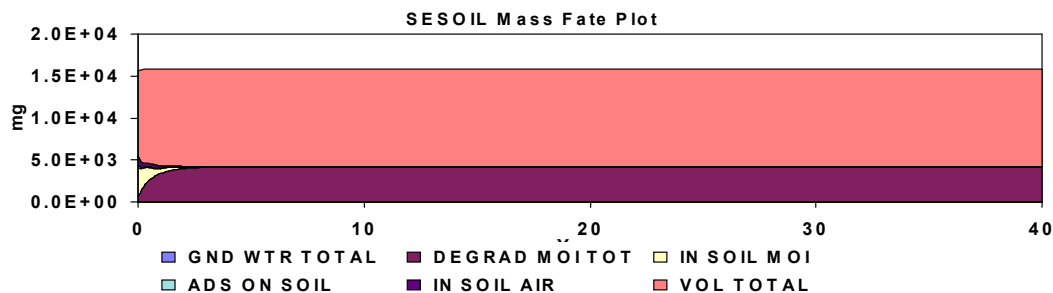
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 3.08 years

Starting Depth: 429.60 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.223E+04	77.09
In Soil Air	6.704E-04	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.457E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	2.174E+02	1.37
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.572E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	3.223E+03	20.31
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	1.920E+02	1.21
Total Output	1.586E+04	99.98
Total Input	1.587E+04	
Input - Output	3.300E+00	

Maximum leachate concentration: 7.663E-04 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

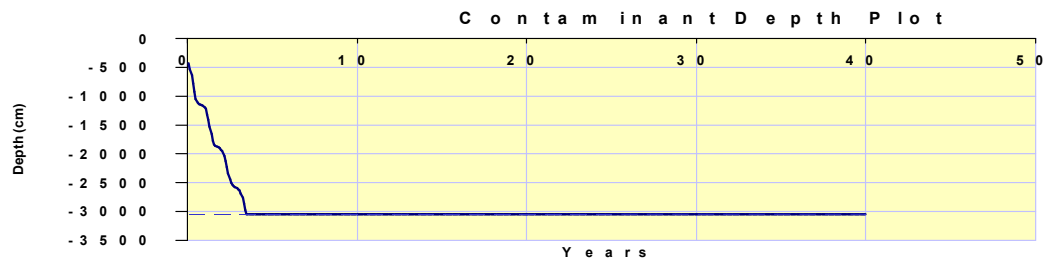
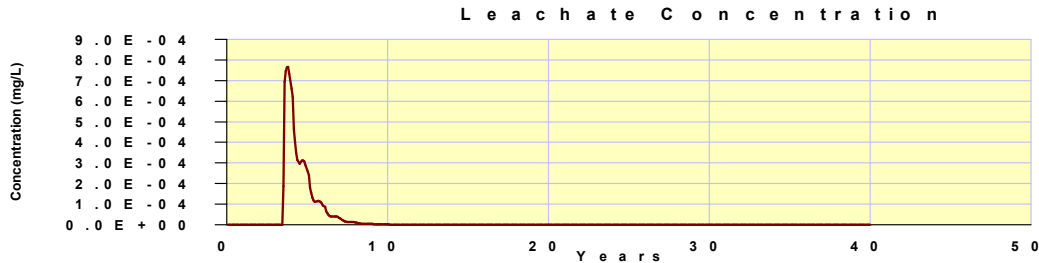
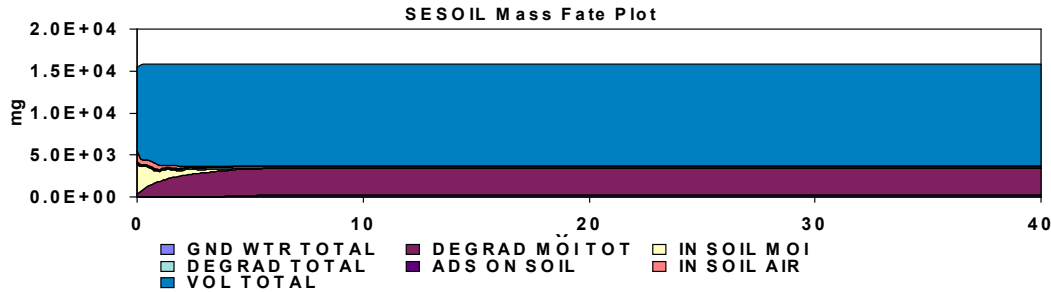
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 3.08 years

Starting Depth: 429.60 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.265E+04	79.77
In Soil Air	9.418E-04	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	2.047E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	1.516E+02	0.96
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	2.209E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	2.212E+03	13.94
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	8.427E+02	5.31
Total Output	1.586E+04	99.98
Total Input	1.587E+04	
Input - Output	3.184E+00	

Maximum leachate concentration: 2.502E-03 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: 1,2-Dichloroethane (EDC)

c:\sev7 win7\1 2-DICHLOROETHANE (EDC).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

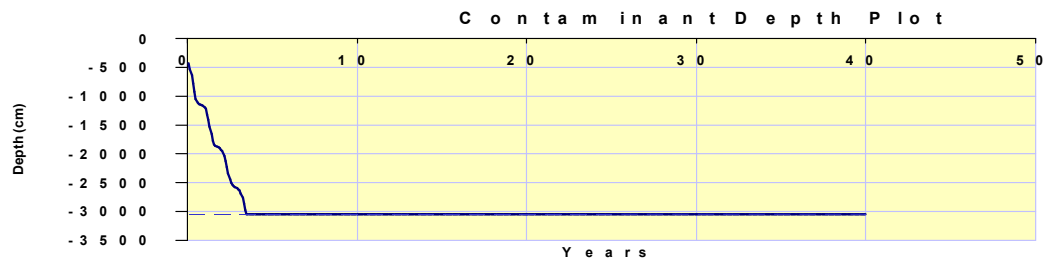
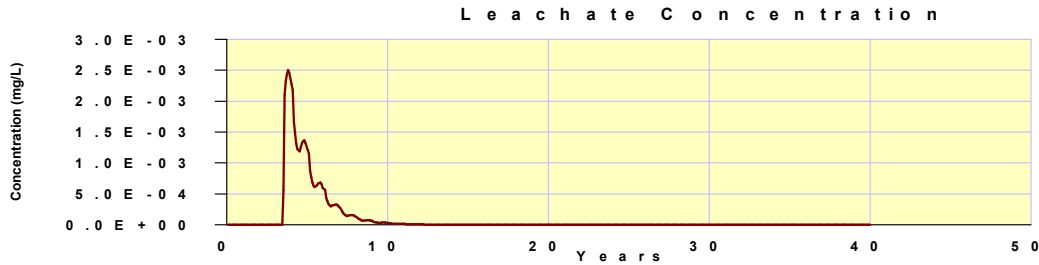
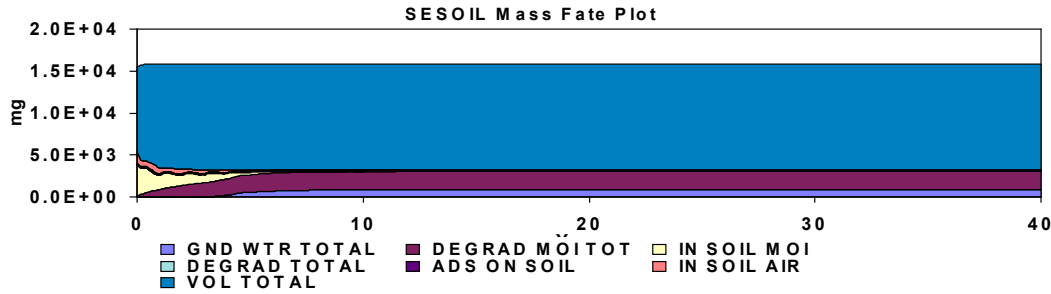
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 3.08 years

Starting Depth: 429.60 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



Sensitivity Analysis
Scenario 3
Chromium VI

Intrinsic Permeability

SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.618E+08	99.71
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.712E+05	0.02
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.620E+08	99.73
Total Input	9.647E+08	
Input - Output	2.638E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

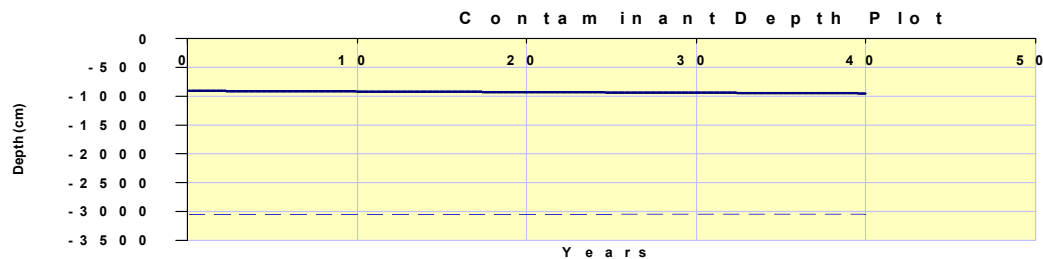
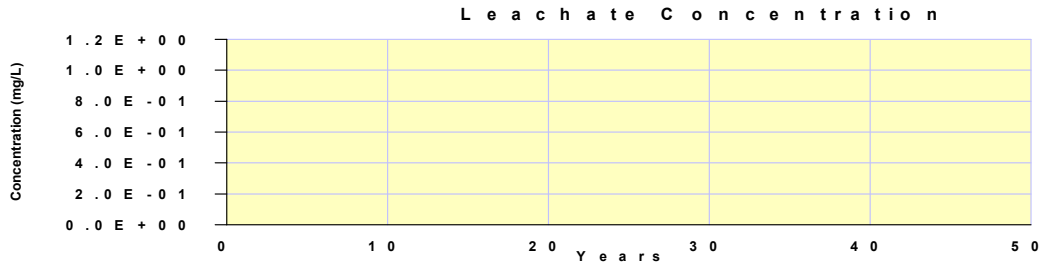
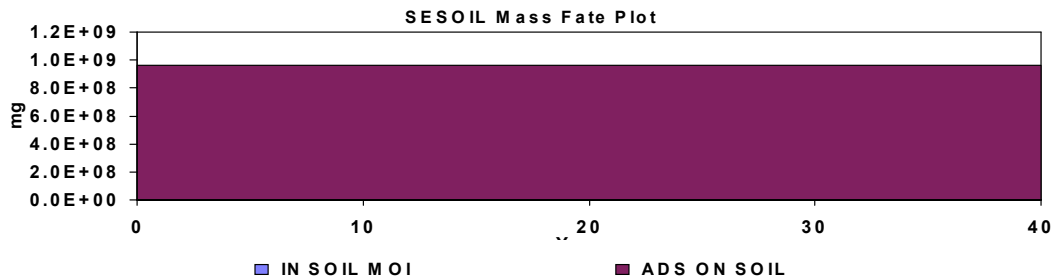
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2017.74 years

Starting Depth: 908.20 cm

Ending Depth: 950.60 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.615E+08	99.68
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	3.027E+05	0.03
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.618E+08	99.71
Total Input	9.647E+08	
Input - Output	2.807E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

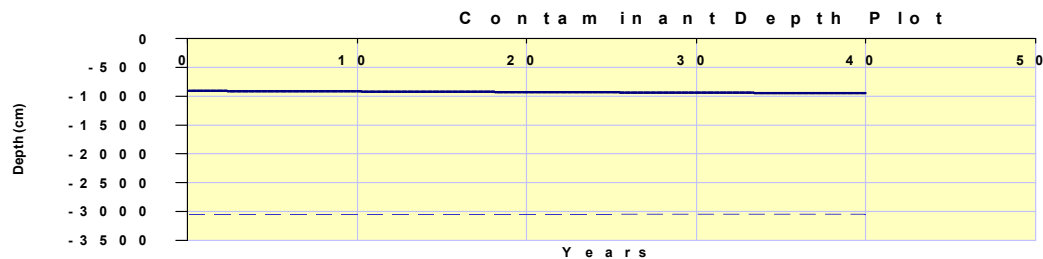
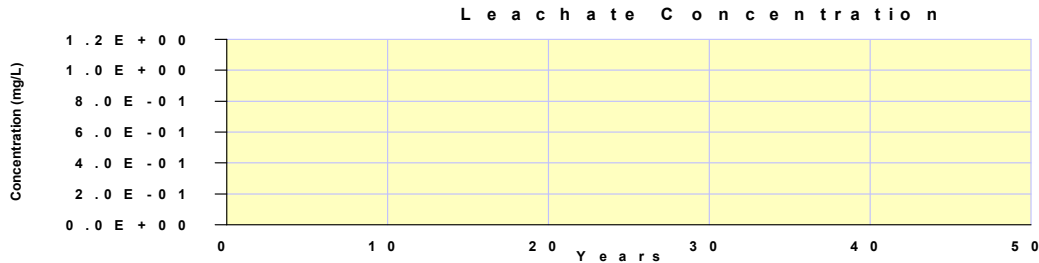
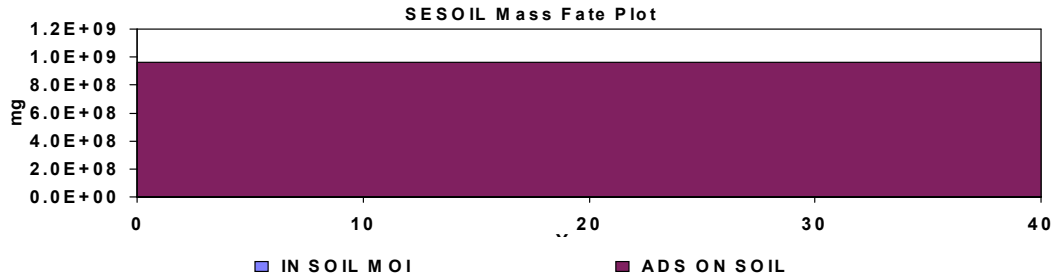
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2086.63 years

Starting Depth: 908.20 cm

Ending Depth: 949.20 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.608E+08	99.60
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	9.832E+05	0.10
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.618E+08	99.70
Total Input	9.647E+08	
Input - Output	2.856E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

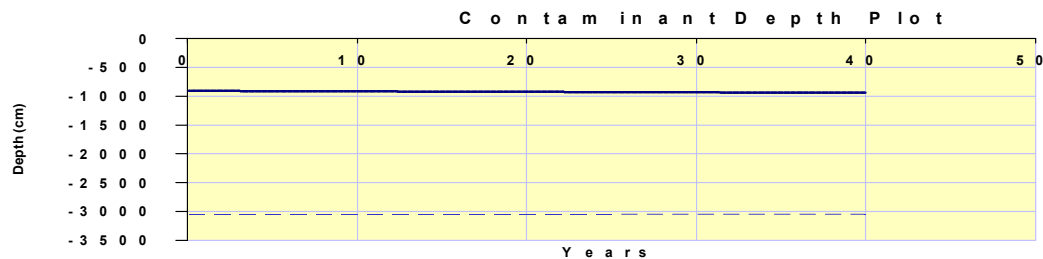
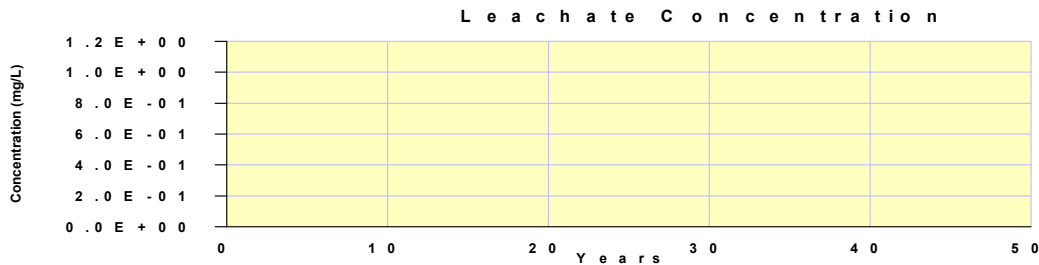
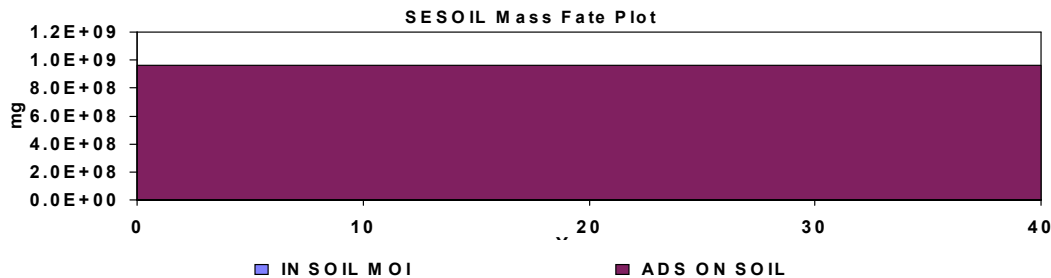
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2553.79 years

Starting Depth: 908.20 cm

Ending Depth: 941.70 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.601E+08	99.53
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.550E+06	0.16
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.616E+08	99.69
Total Input	9.647E+08	
Input - Output	3.019E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL.SOI

Application File: 777 N Front Street

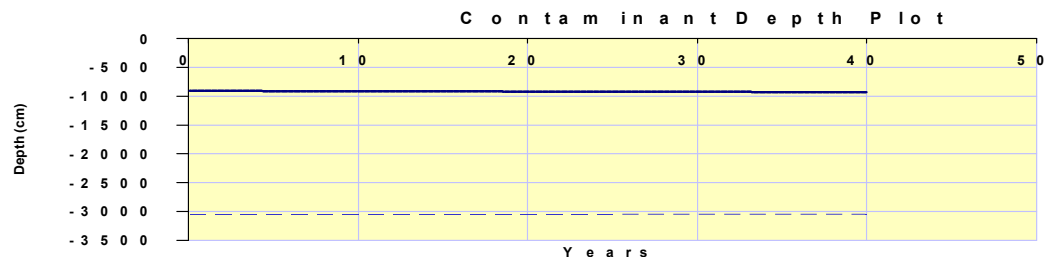
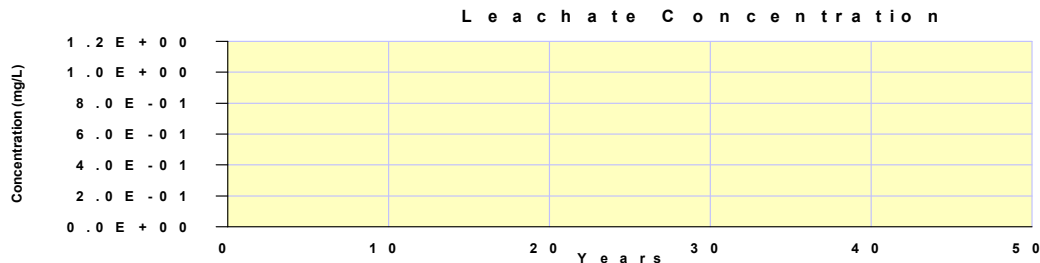
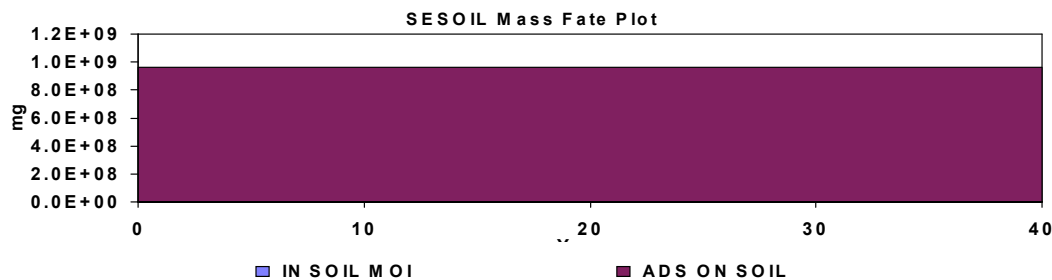
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 3819.29 years

Starting Depth: 908.20 cm

Ending Depth: 930.60 cm

Total Depth: 3047.00 cm



Effective Porosity

SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.616E+08	99.69
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	2.756E+05	0.03
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.619E+08	99.72
Total Input	9.647E+08	
Input - Output	2.744E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

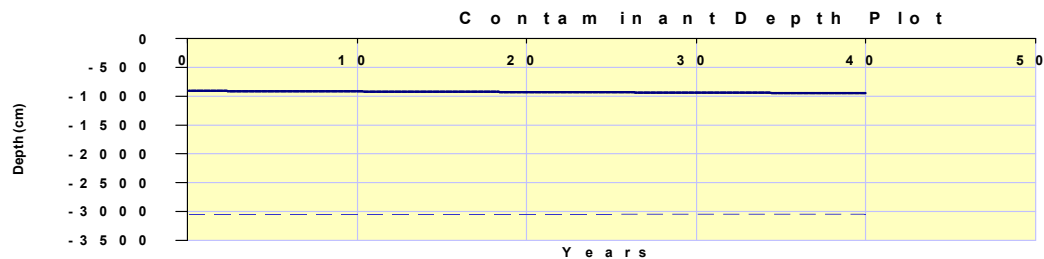
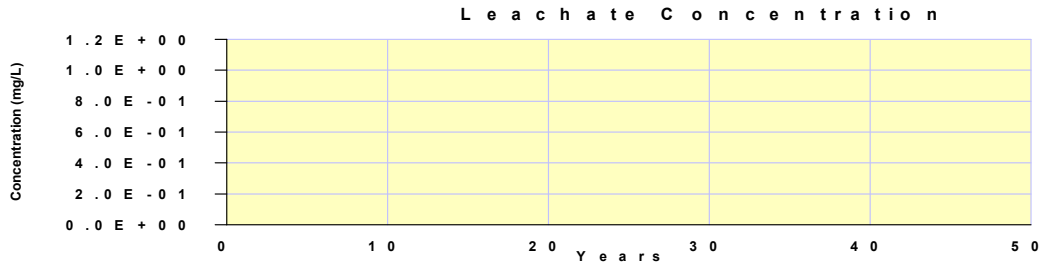
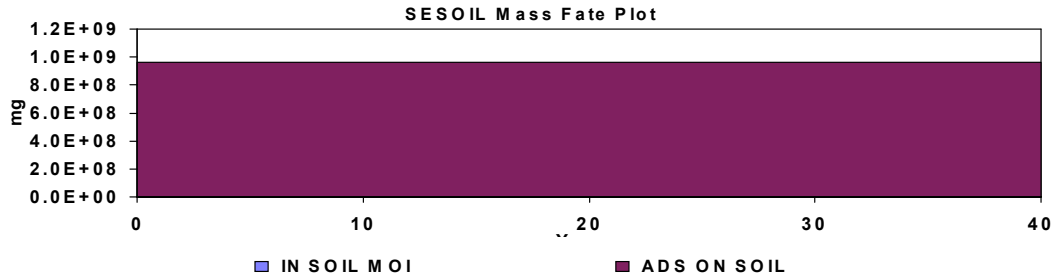
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2144.16 years

Starting Depth: 908.20 cm

Ending Depth: 948.10 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.615E+08	99.68
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	4.134E+05	0.04
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.619E+08	99.72
Total Input	9.647E+08	
Input - Output	2.716E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

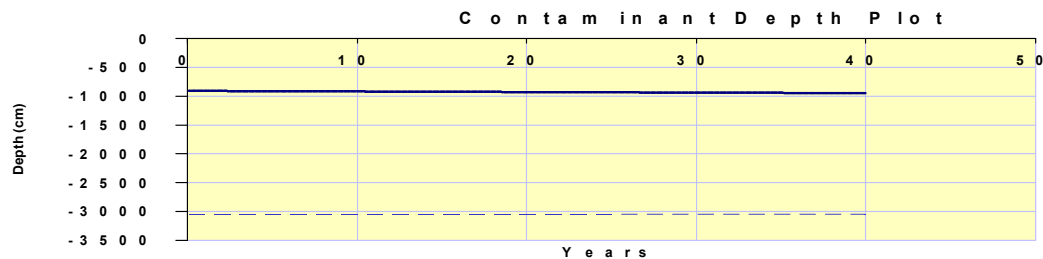
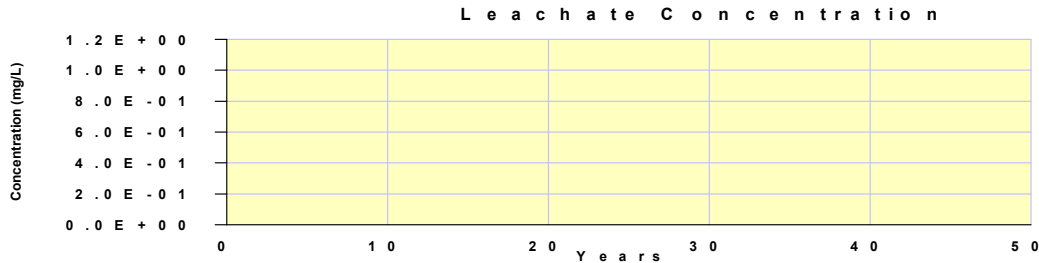
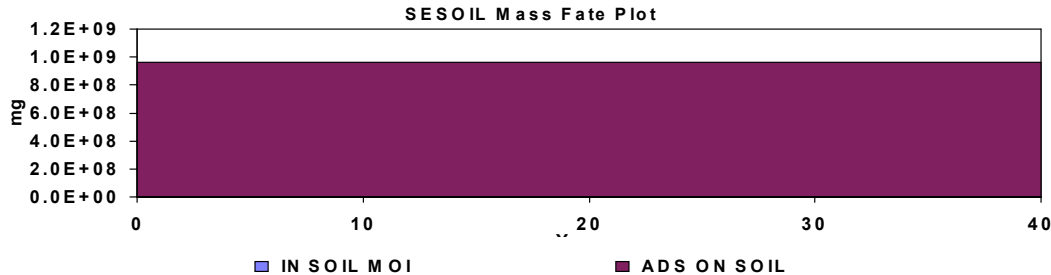
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2176.90 years

Starting Depth: 908.20 cm

Ending Depth: 947.50 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.613E+08	99.65
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	7.025E+05	0.07
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.620E+08	99.72
Total Input	9.647E+08	
Input - Output	2.687E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

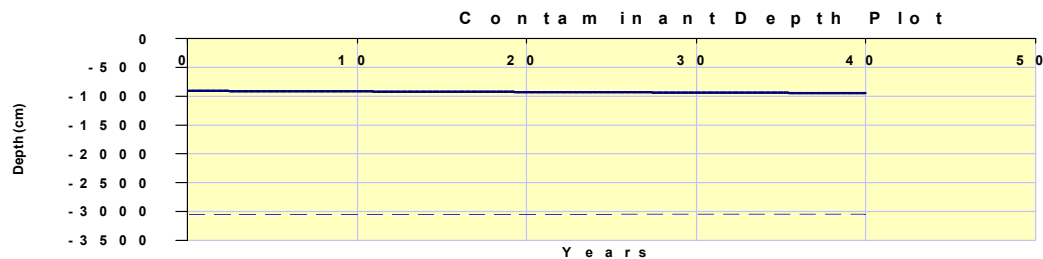
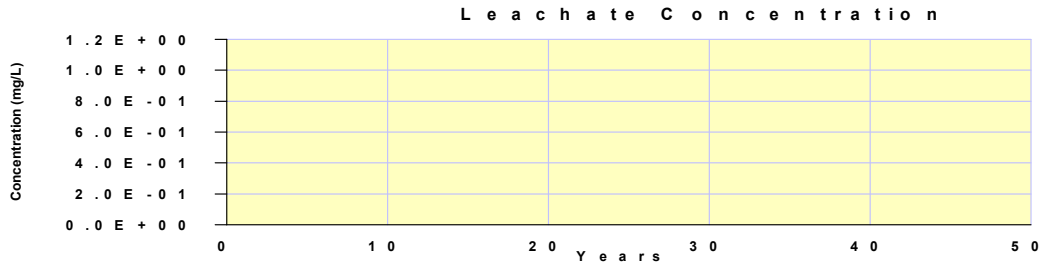
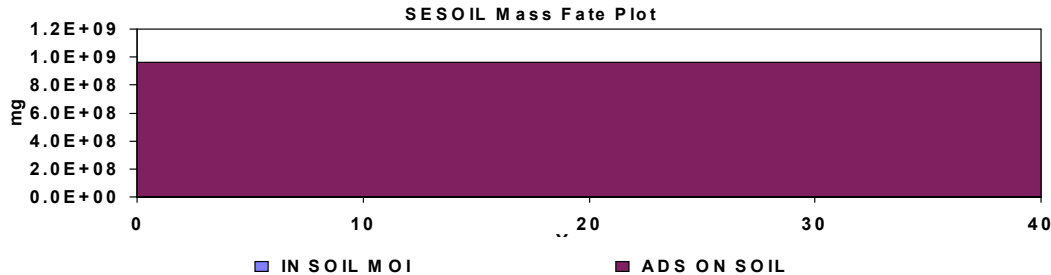
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2222.13 years

Starting Depth: 908.20 cm

Ending Depth: 946.70 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.611E+08	99.63
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	8.511E+05	0.09
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.620E+08	99.72
Total Input	9.647E+08	
Input - Output	2.698E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

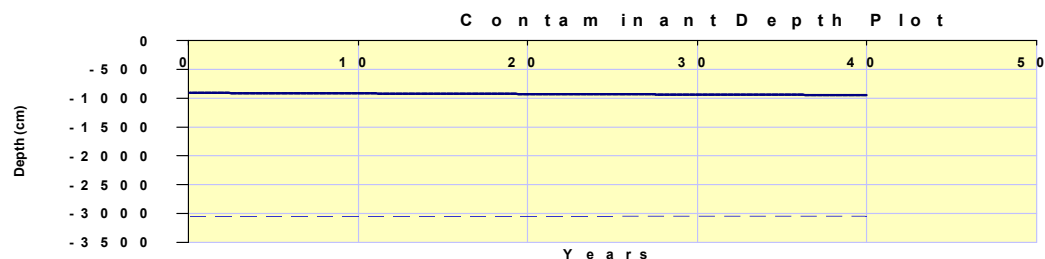
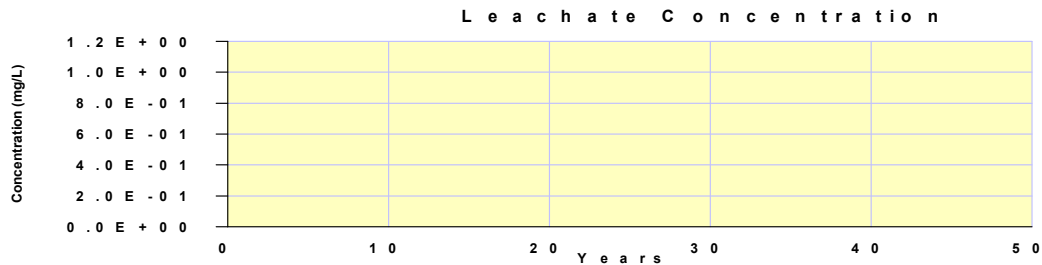
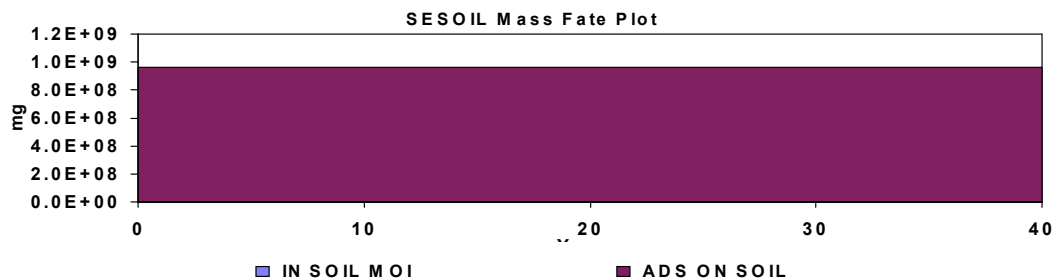
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2251.37 years

Starting Depth: 908.20 cm

Ending Depth: 946.20 cm

Total Depth: 3047.00 cm



Soil Disconnectivity Index

SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.615E+08	99.67
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	4.969E+05	0.05
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.620E+08	99.73
Total Input	9.647E+08	
Input - Output	2.643E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

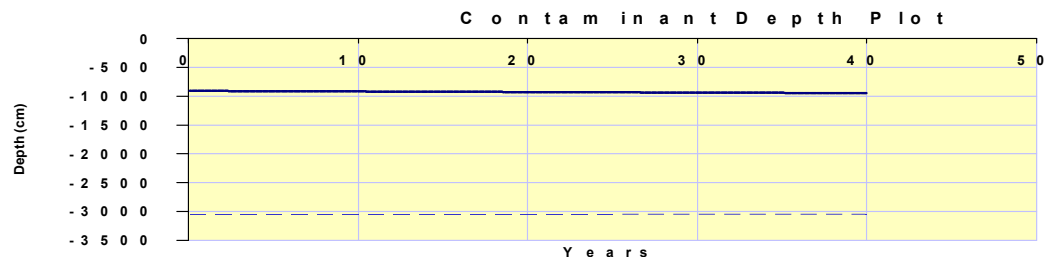
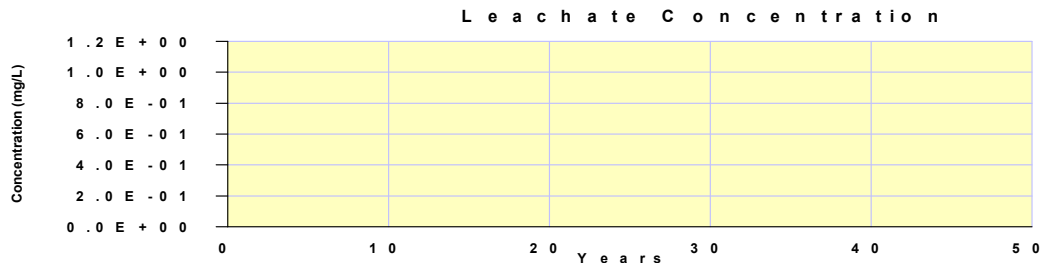
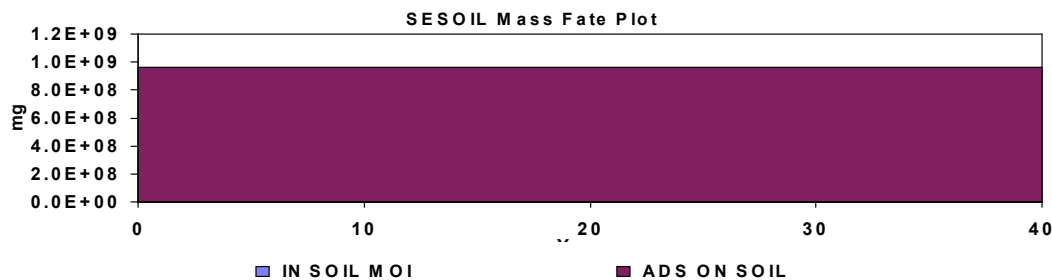
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2176.90 years

Starting Depth: 908.20 cm

Ending Depth: 947.50 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.607E+08	99.59
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.242E+06	0.13
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.620E+08	99.72
Total Input	9.647E+08	
Input - Output	2.687E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

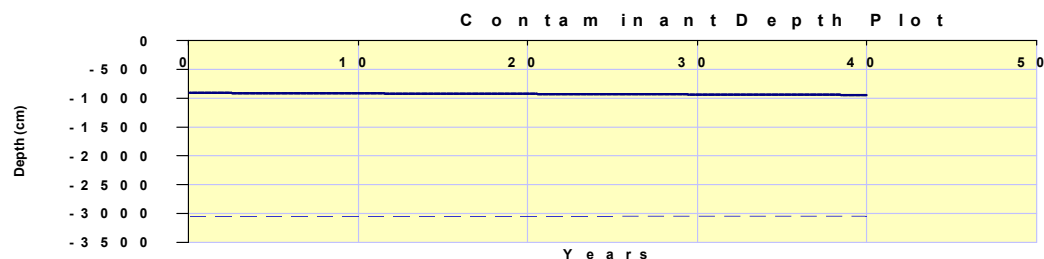
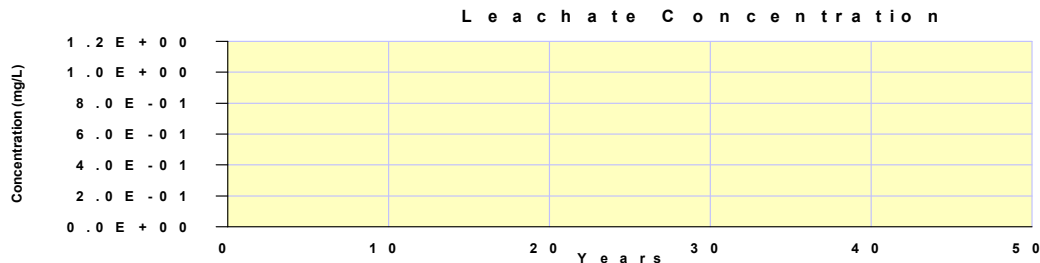
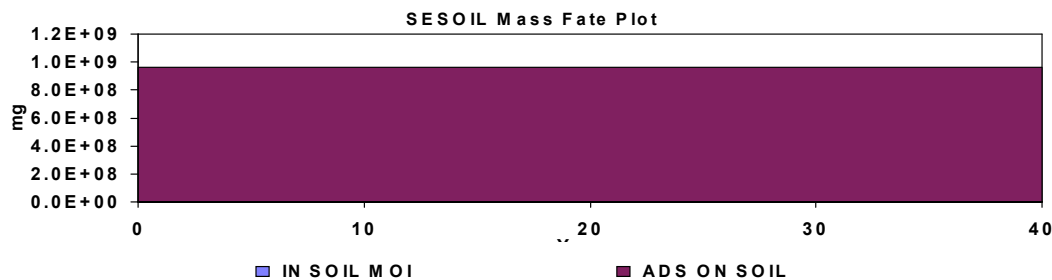
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2403.15 years

Starting Depth: 908.20 cm

Ending Depth: 943.80 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.598E+08	99.49
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	2.087E+06	0.22
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.619E+08	99.71
Total Input	9.647E+08	
Input - Output	2.792E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

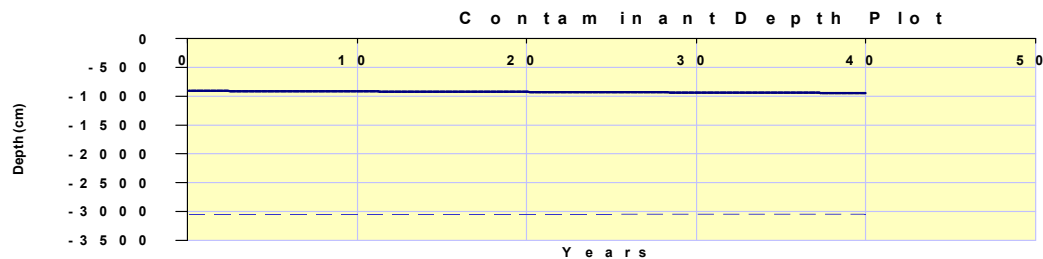
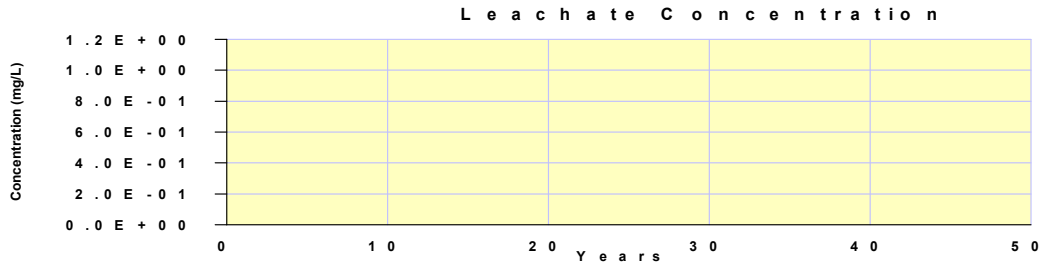
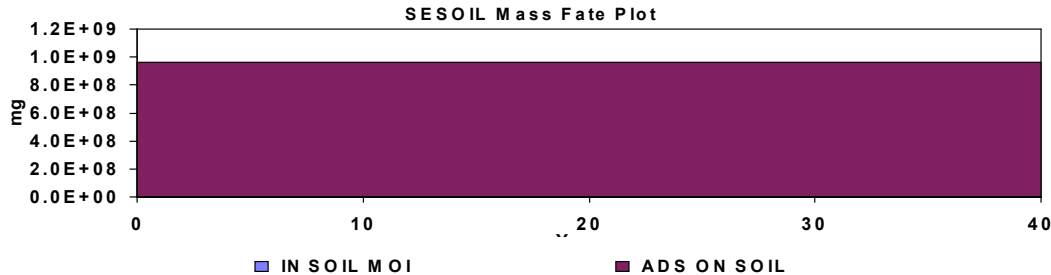
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2312.22 years

Starting Depth: 908.20 cm

Ending Depth: 945.20 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.592E+08	99.43
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	2.725E+06	0.28
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.619E+08	99.71
Total Input	9.647E+08	
Input - Output	2.754E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

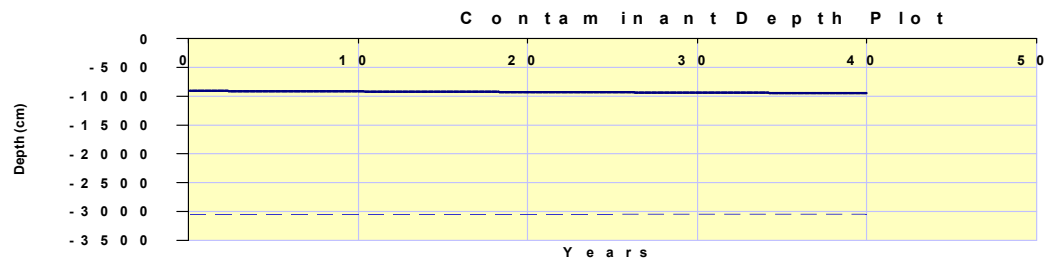
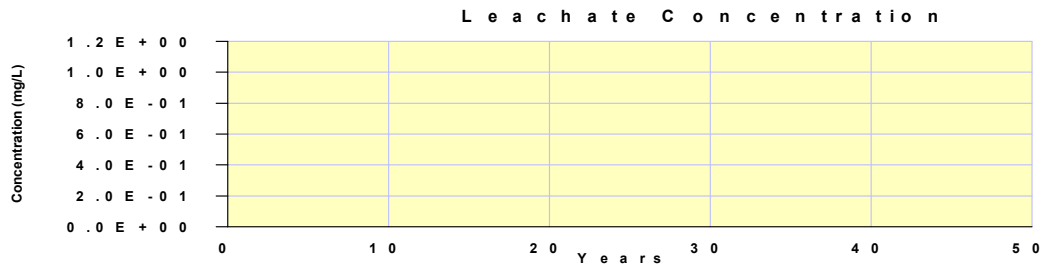
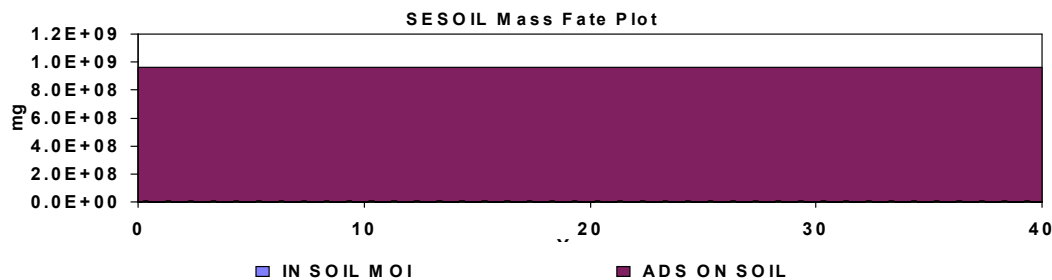
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2122.88 years

Starting Depth: 908.20 cm

Ending Depth: 948.50 cm

Total Depth: 3047.00 cm



Organic Carbon Content

SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.615E+08	99.67
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	5.512E+05	0.06
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.621E+08	99.73
Total Input	9.647E+08	
Input - Output	2.598E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

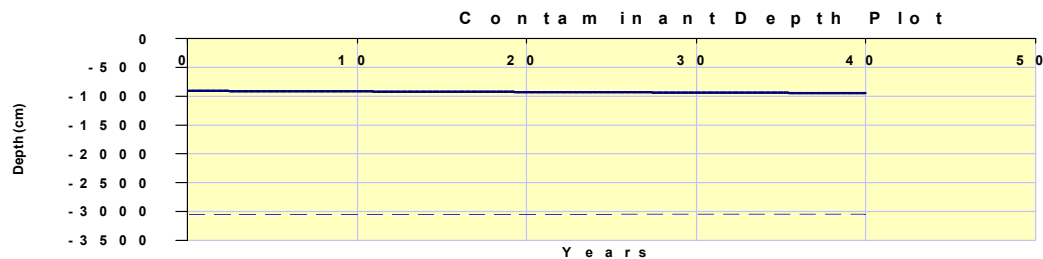
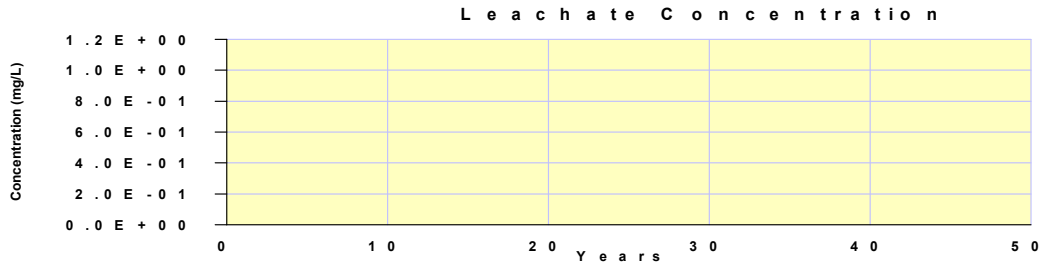
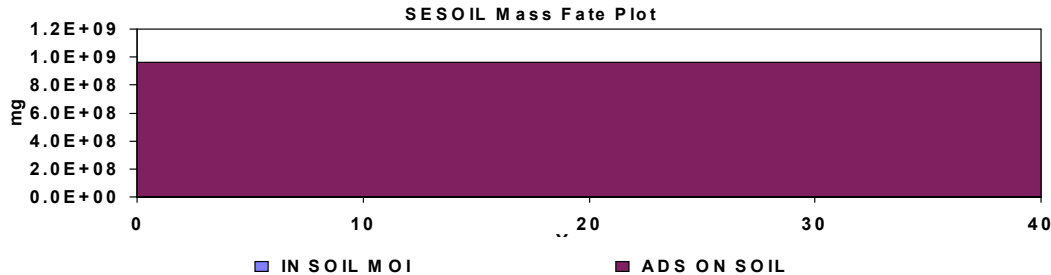
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2222.13 years

Starting Depth: 908.20 cm

Ending Depth: 946.70 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.615E+08	99.67
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	5.512E+05	0.06
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.621E+08	99.73
Total Input	9.647E+08	
Input - Output	2.598E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

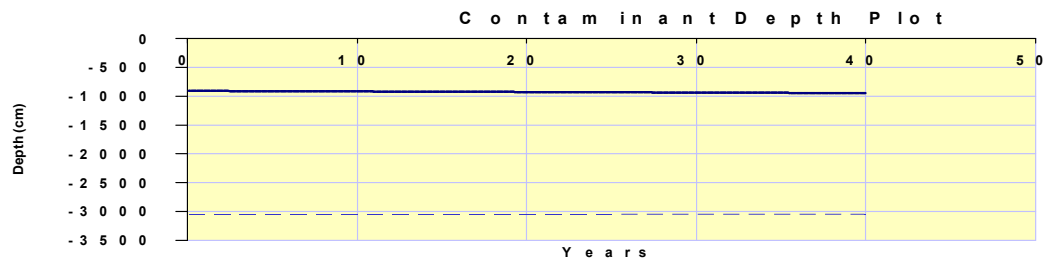
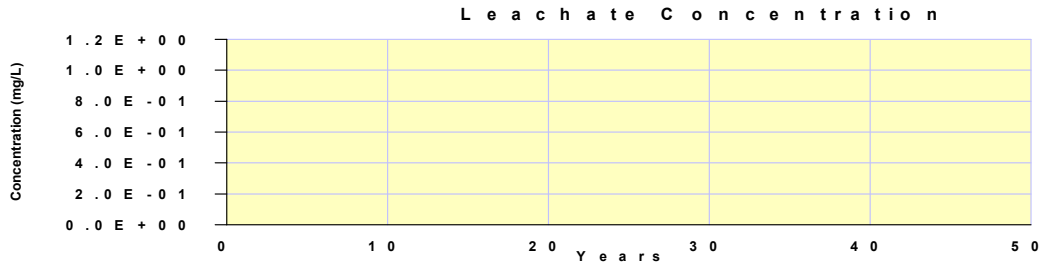
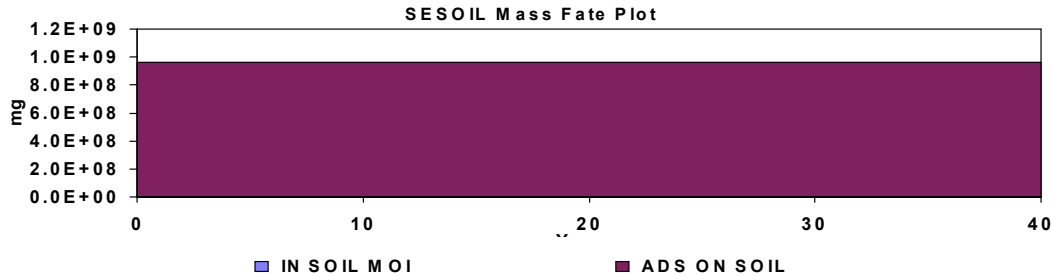
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2222.13 years

Starting Depth: 908.20 cm

Ending Depth: 946.70 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.615E+08	99.67
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	5.512E+05	0.06
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.621E+08	99.73
Total Input	9.647E+08	
Input - Output	2.598E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

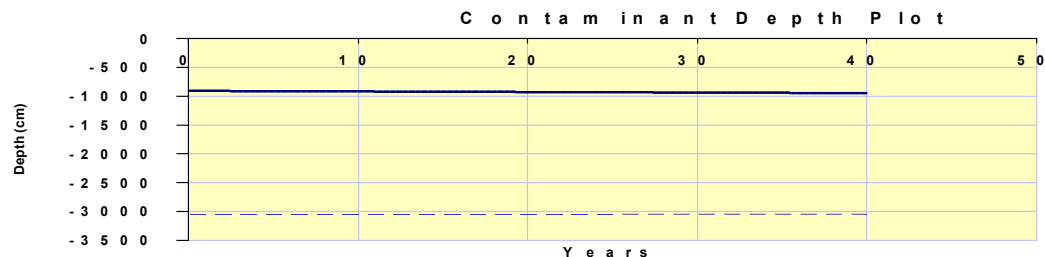
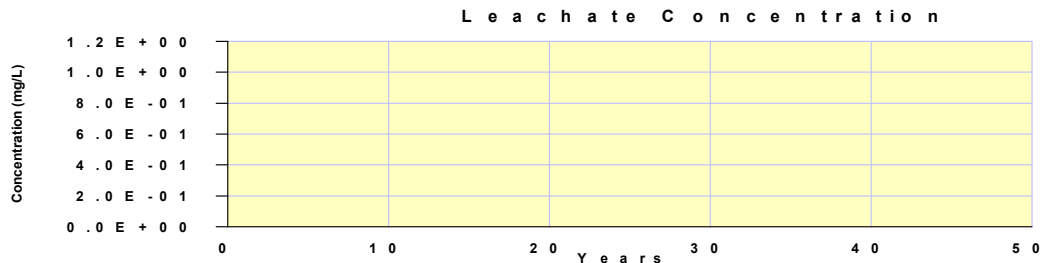
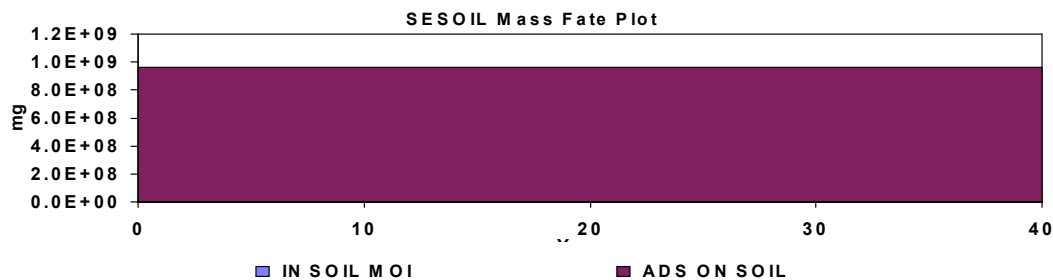
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Time to Groundwater: 2222.13 years

Starting Depth: 908.20 cm

Ending Depth: 946.70 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	0.000E+00	0.00
In Soil Air	0.000E+00	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.615E+08	99.67
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	5.512E+05	0.06
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	9.621E+08	99.73
Total Input	9.647E+08	
Input - Output	2.598E+06	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\CALC_EP_100PRECIP.CLM

Chemical File: Chromium VI (particulates) (Kd)

c:\sev7 win7\CHROMIUM VI (PARTICULATES) (KD).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

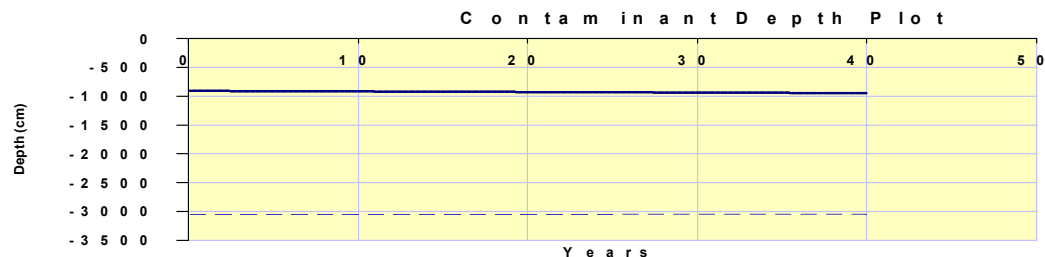
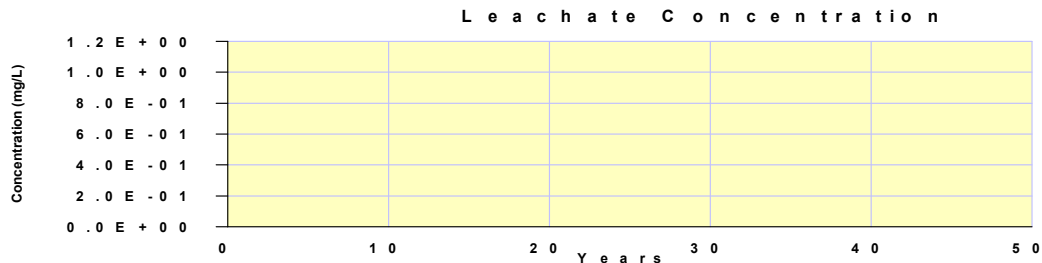
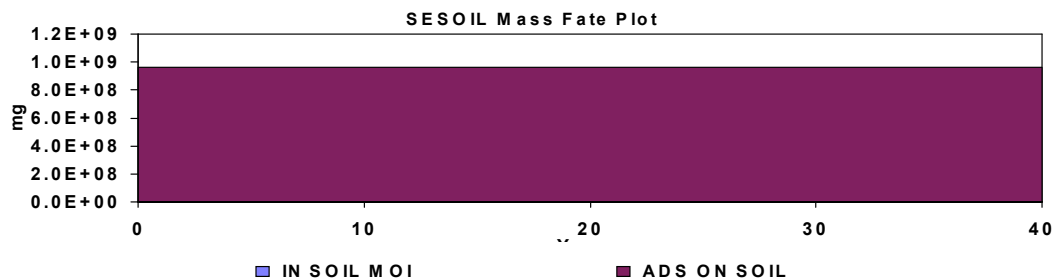
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 2222.13 years

Starting Depth: 908.20 cm

Ending Depth: 946.70 cm

Total Depth: 3047.00 cm



Sensitivity Analysis
Scenario 1
Conservative
Parameter Values

SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	3.918E+06	100.00
In Soil Air	1.941E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	5.299E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	3.654E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	3.918E+06	100.00
Total Input	3.919E+06	
Input - Output	5.663E+01	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: Trichloroethylene (TCE)

c:\sev7 win7\TRICHLOROETHYLENE (TCE).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

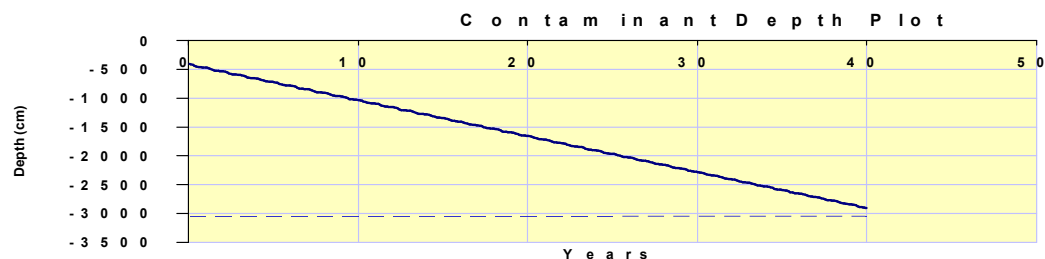
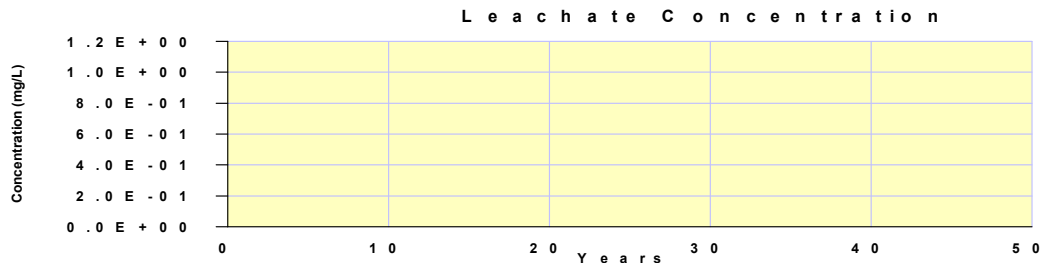
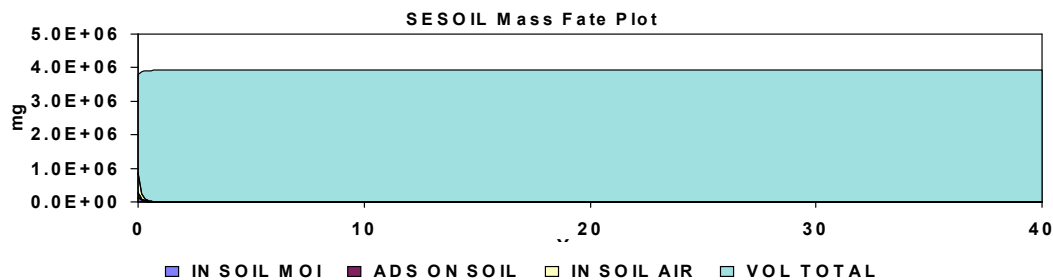
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 42.33 years

Starting Depth: 408.10 cm

Ending Depth: 2902.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	3.919E+06	100.00
In Soil Air	2.087E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	5.455E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.902E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	3.919E+06	100.00
Total Input	3.919E+06	
Input - Output	-1.208E+02	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: Trichloroethylene (TCE)

c:\sev7 win7\TRICHLOROETHYLENE (TCE).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

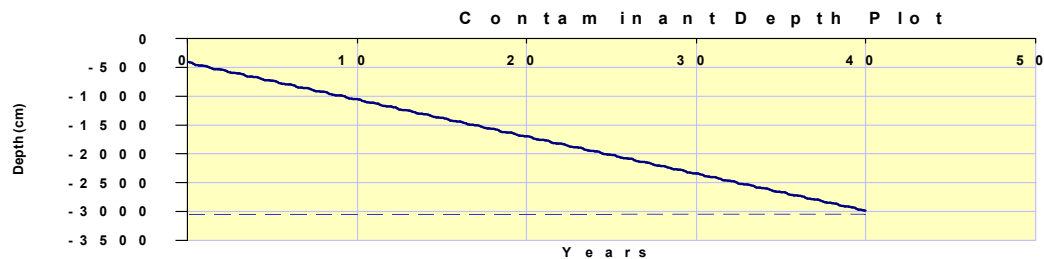
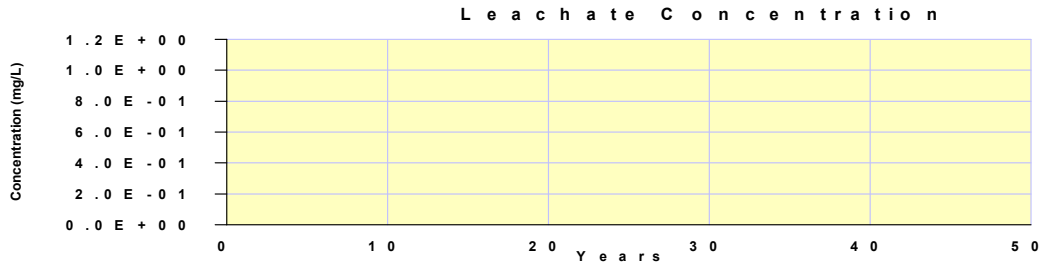
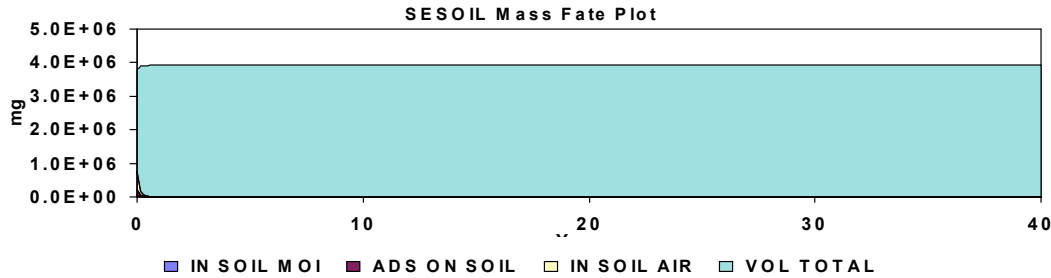
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 41.03 years

Starting Depth: 408.60 cm

Ending Depth: 2981.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	3.919E+06	100.01
In Soil Air	2.131E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	5.455E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	9.808E-05	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	1.101E-04	0.00
Total Output	3.919E+06	100.01
Total Input	3.919E+06	
Input - Output	-5.488E+02	

Maximum leachate concentration: 1.001E-09 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: Trichloroethylene (TCE)

c:\sev7 win7\TRICHLOROETHYLENE (TCE).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

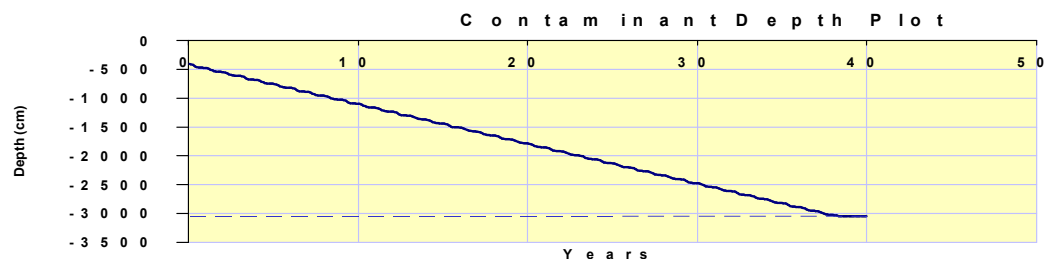
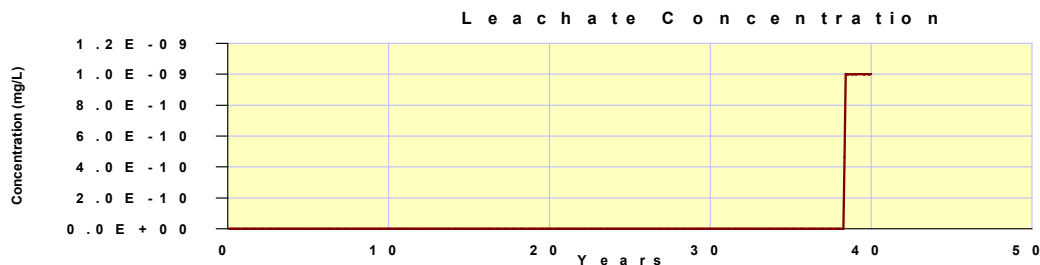
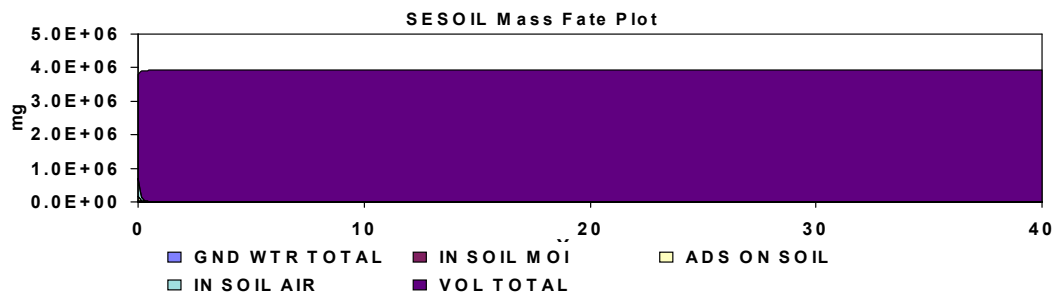
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 38.08 years

Starting Depth: 408.70 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.119E+06	100.00
In Soil Air	3.574E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.486E-03	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	2.071E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	1.119E+06	100.00
Total Input	1.119E+06	
Input - Output	-3.927E+01	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: PCE (Tetrachloroethene) OEPA 2003

c:\sev7 win7\PCE (TETRACHLOROETHENE) OEPA 2003.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

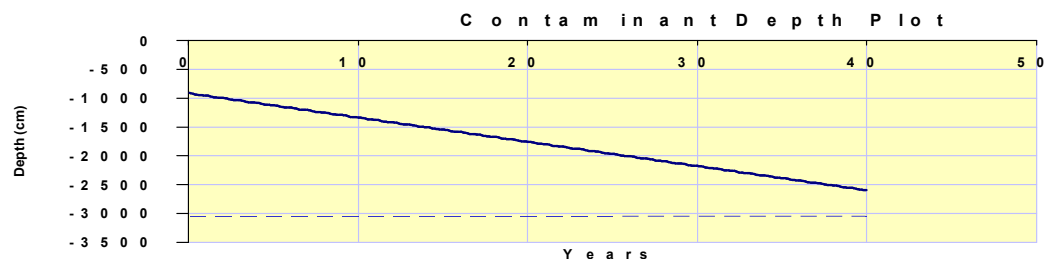
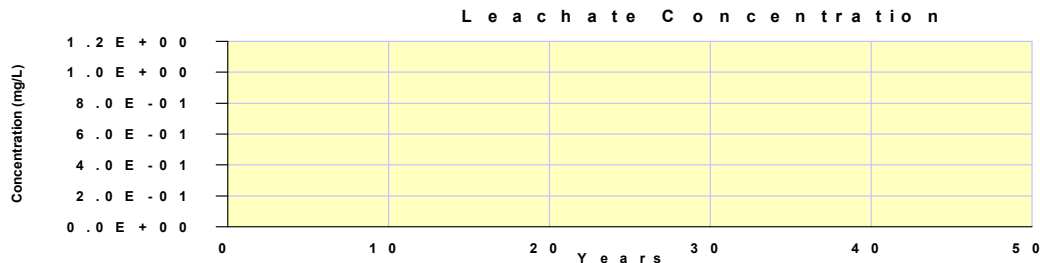
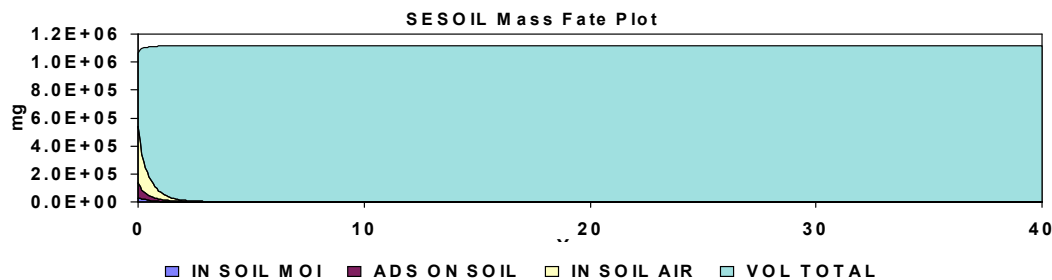
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 50.73 years

Starting Depth: 909.70 cm

Ending Depth: 2595.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.692E+04	100.00
In Soil Air	1.735E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.865E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	6.888E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	1.153E-03	0.00
Total Output	1.692E+04	100.00
Total Input	1.692E+04	
Input - Output	-2.486E-01	

Maximum leachate concentration: 1.001E-09 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: Benzene

c:\sev7 win7\BENZENE.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

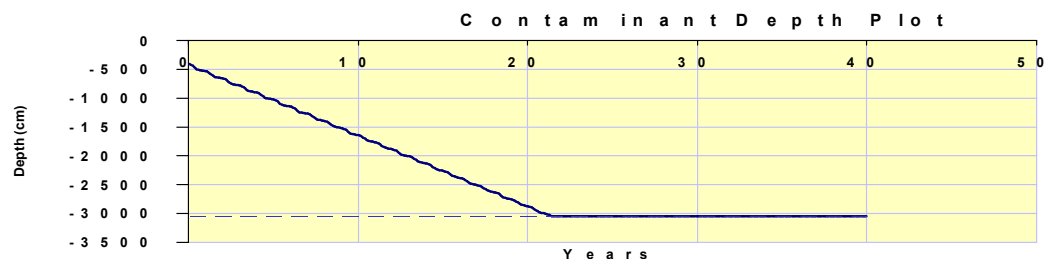
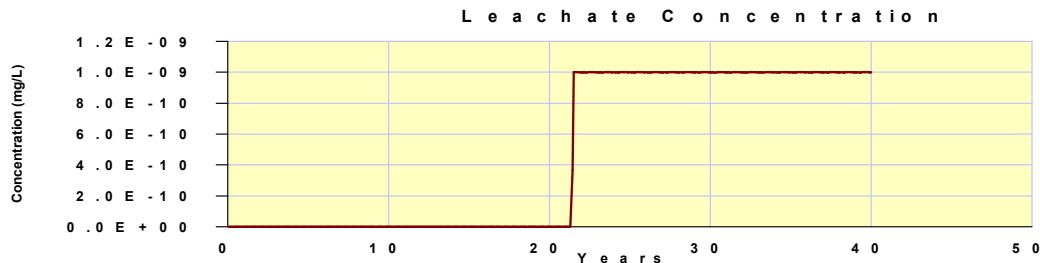
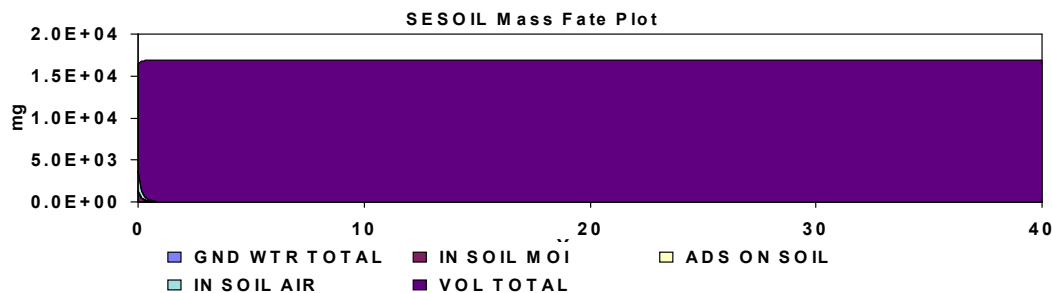
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 21.08 years

Starting Depth: 409.50 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.691E+04	100.00
In Soil Air	1.812E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.865E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	3.483E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	1.284E-03	0.00
Total Output	1.691E+04	100.00
Total Input	1.692E+04	
Input - Output	9.767E-02	

Maximum leachate concentration: 1.002E-09 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: Benzene

c:\sev7 win7\BENZENE.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

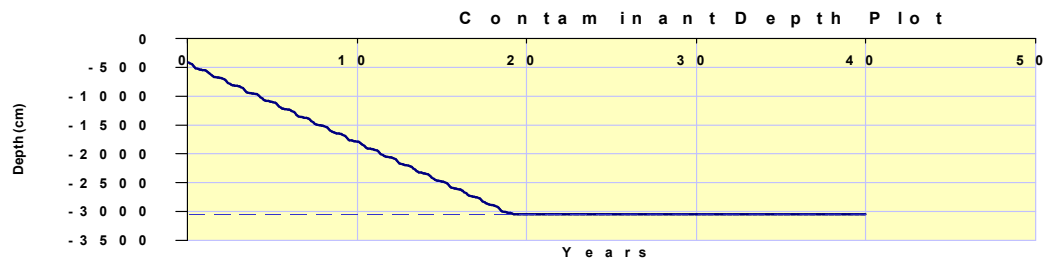
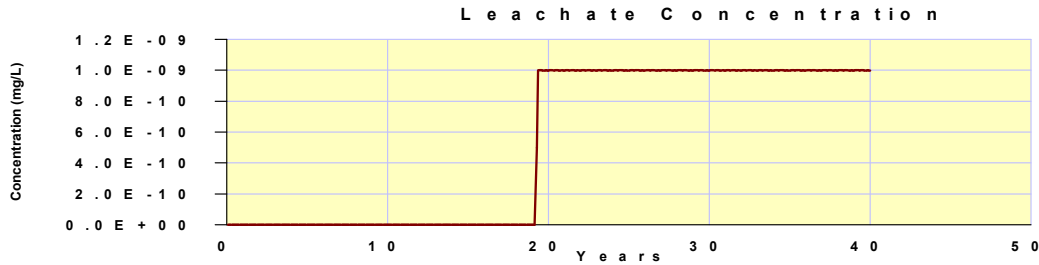
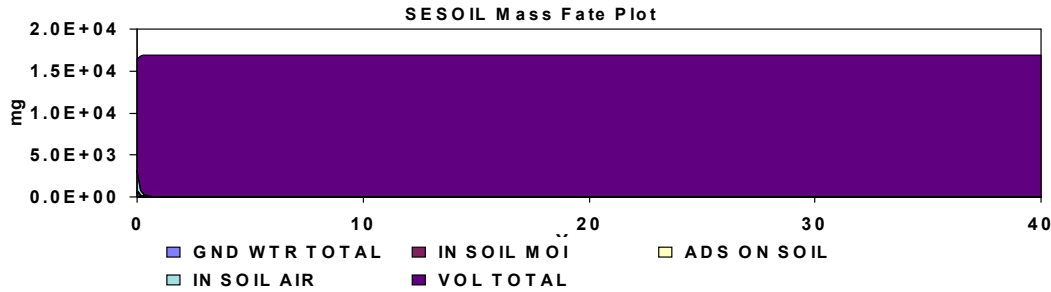
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 19.08 years

Starting Depth: 410.90 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.692E+04	100.04
In Soil Air	1.010E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.019E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	9.808E-05	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	1.485E-03	0.00
Total Output	1.692E+04	100.04
Total Input	1.692E+04	
Input - Output	-6.024E+00	

Maximum leachate concentration: 1.001E-09 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: Benzene

c:\sev7 win7\BENZENE.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

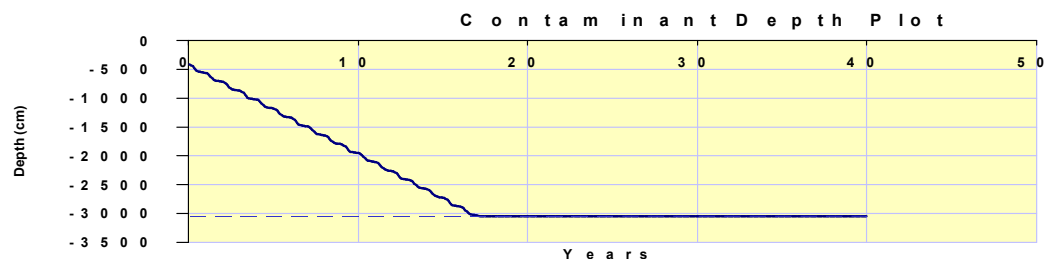
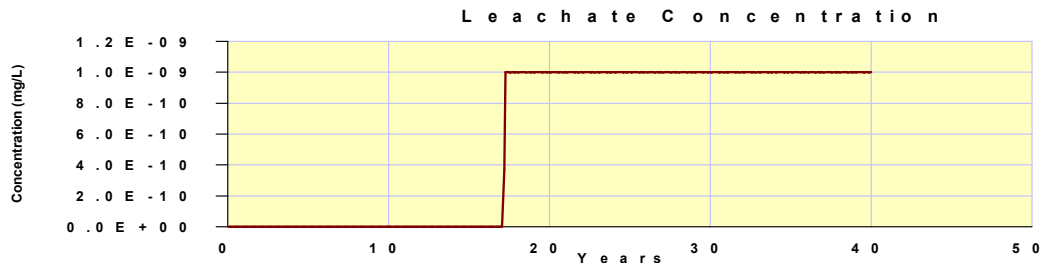
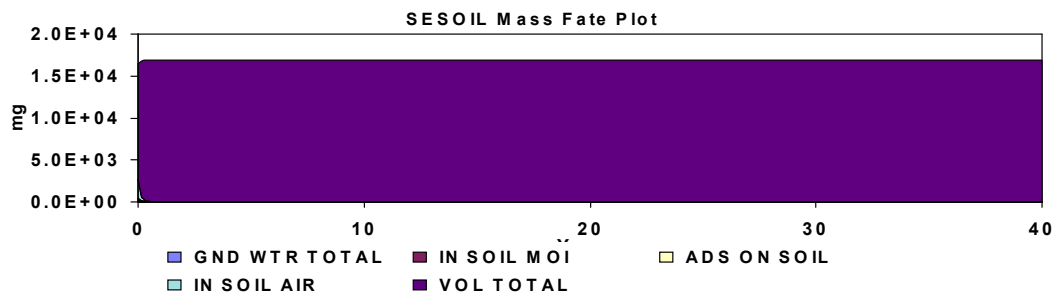
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 17.08 years

Starting Depth: 411.30 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.692E+04	100.02
In Soil Air	2.423E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	2.858E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	2.100E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	8.284E-04	0.00
Total Output	1.692E+04	100.02
Total Input	1.692E+04	
Input - Output	-3.194E+00	

Maximum leachate concentration: 1.000E-09 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: Benzene

c:\sev7 win7\BENZENE.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

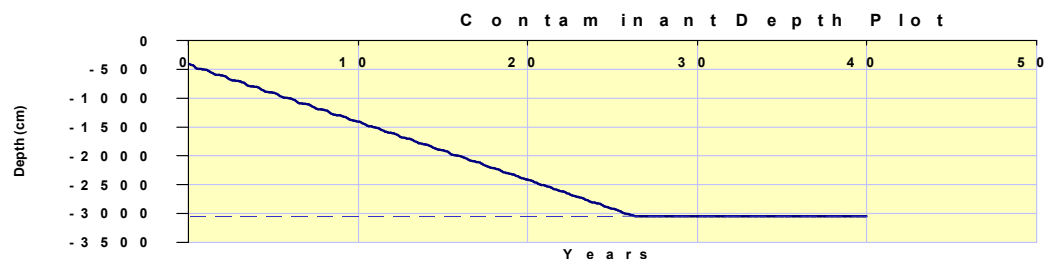
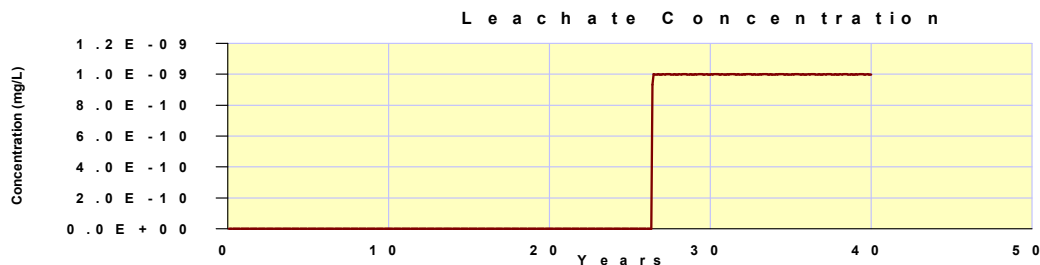
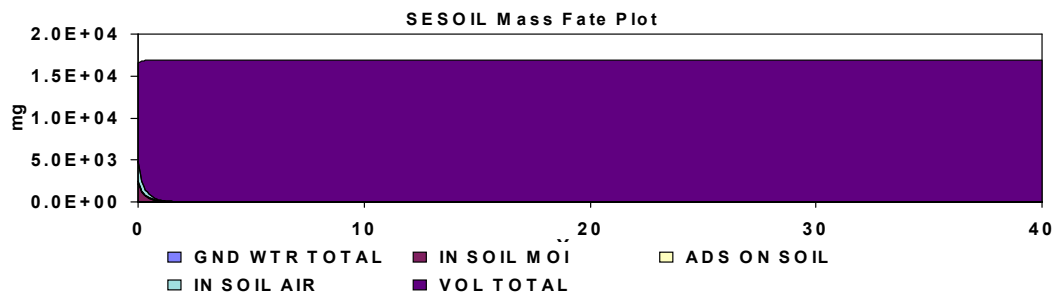
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 26.08 years

Starting Depth: 409.10 cm

Ending Depth: 3047.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	5.058E+06	100.01
In Soil Air	3.498E-01	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.064E-01	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	9.144E-02	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	5.058E+06	100.01
Total Input	5.058E+06	
Input - Output	-5.971E+02	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: PCE (Tetrachloroethene) OEPA 2003

c:\sev7 win7\PCE (TETRACHLOROETHENE) OEPA 2003.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

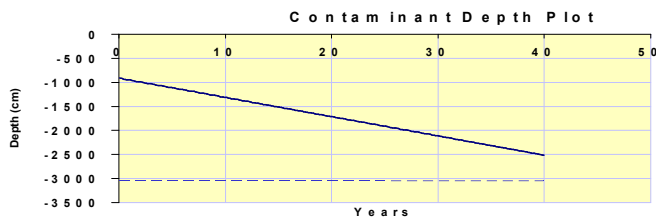
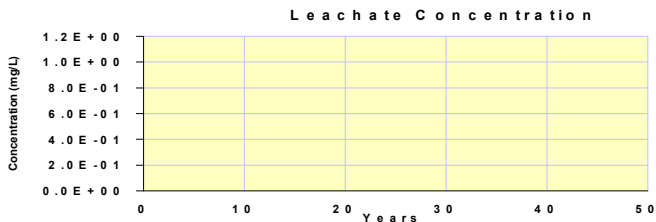
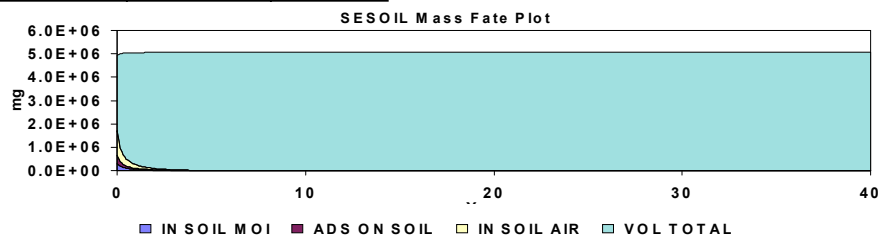
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 53.26 years

Starting Depth: 909.60 cm

Ending Depth: 2515.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	5.058E+06	100.02
In Soil Air	3.734E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.910E-03	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	2.164E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	5.058E+06	100.02
Total Input	5.058E+06	
Input - Output	-8.391E+02	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: PCE (Tetrachloroethene) OEPA 2003

c:\sev7 win7\PCE (TETRACHLOROETHENE) OEPA 2003.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

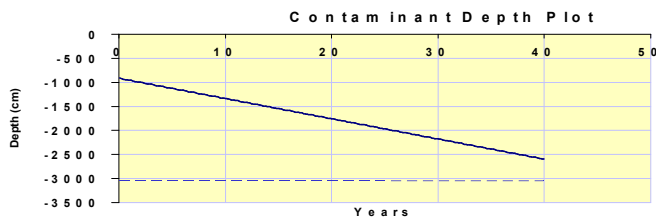
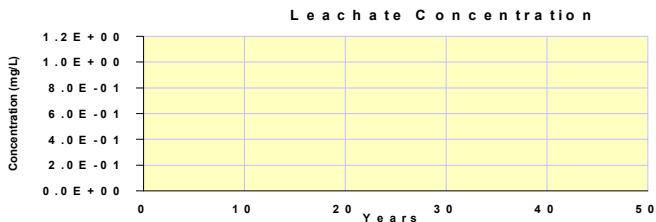
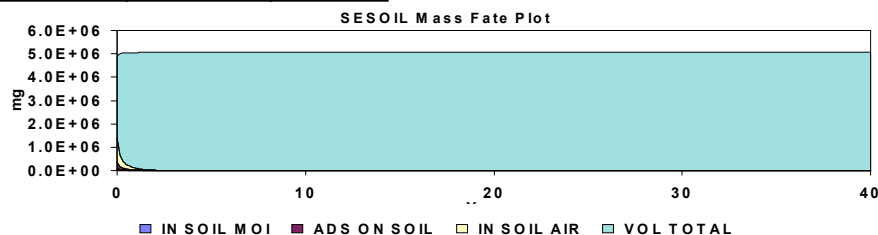
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 50.73 years

Starting Depth: 909.70 cm

Ending Depth: 2595.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	5.058E+06	100.02
In Soil Air	3.441E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	8.942E-03	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.006E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	5.058E+06	100.02
Total Input	5.058E+06	
Input - Output	-7.783E+02	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: PCE (Tetrachloroethene) OEPA 2003

c:\sev7 win7\PCE (TETRACHLOROETHENE) OEPA 2003.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

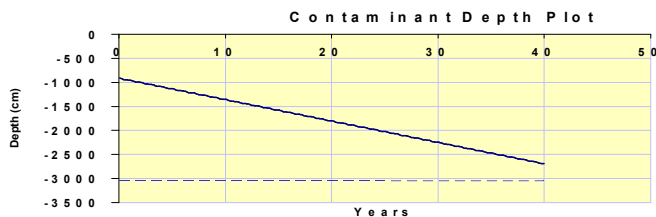
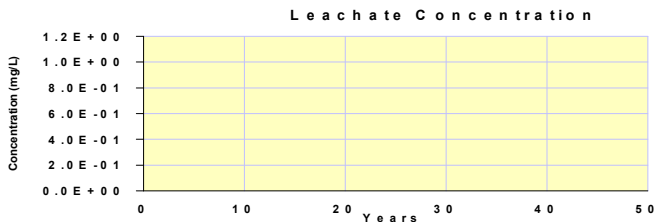
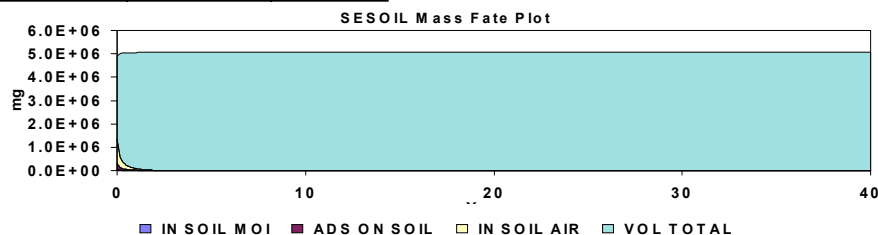
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 48.02 years

Starting Depth: 909.70 cm

Ending Depth: 2690.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	5.058E+06	100.00
In Soil Air	6.531E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.809E-02	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	7.817E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	5.058E+06	100.00
Total Input	5.058E+06	
Input - Output	-2.522E+01	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: PCE (Tetrachloroethene) OEPA 2003

c:\sev7 win7\PCE (TETRACHLOROETHENE) OEPA 2003.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

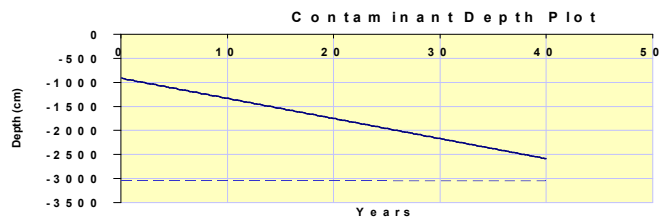
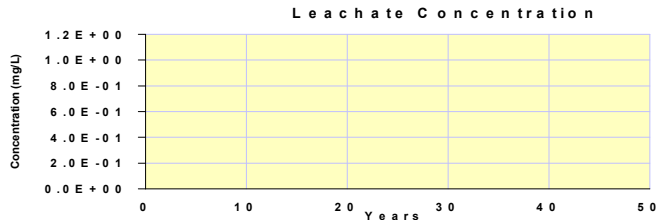
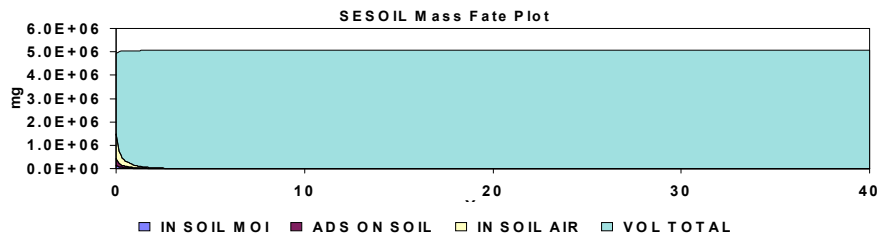
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 50.97 years

Starting Depth: 909.50 cm

Ending Depth: 2587.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	3.919E+06	100.00
In Soil Air	3.307E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.908E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.359E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	3.919E+06	100.00
Total Input	3.919E+06	
Input - Output	-8.216E+01	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_15PRECIP.CLM

Chemical File: Trichloroethylene (TCE)

c:\sev7 win7\TRICHLOROETHYLENE (TCE).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

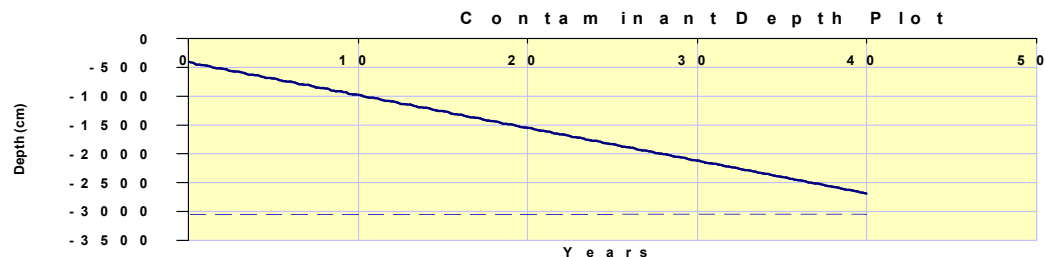
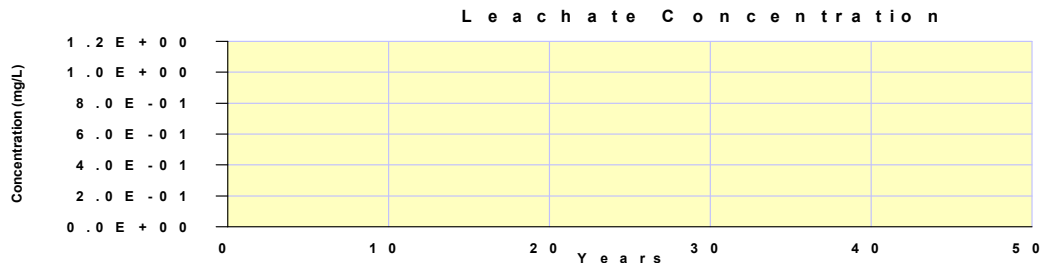
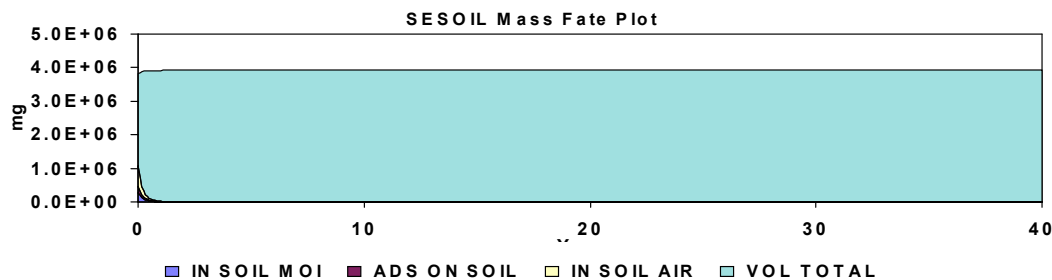
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 46.36 years

Starting Depth: 408.00 cm

Ending Depth: 2685.00 cm

Total Depth: 3047.00 cm



Sensitivity Analysis
Scenario 2
Conservative
Parameter Values

SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	3.919E+06	100.01
In Soil Air	1.035E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	2.798E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.718E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	3.919E+06	100.01
Total Input	3.919E+06	
Input - Output	-3.070E+02	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: Trichloroethylene (TCE)

c:\sev7 win7\TRICHLOROETHYLENE (TCE).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

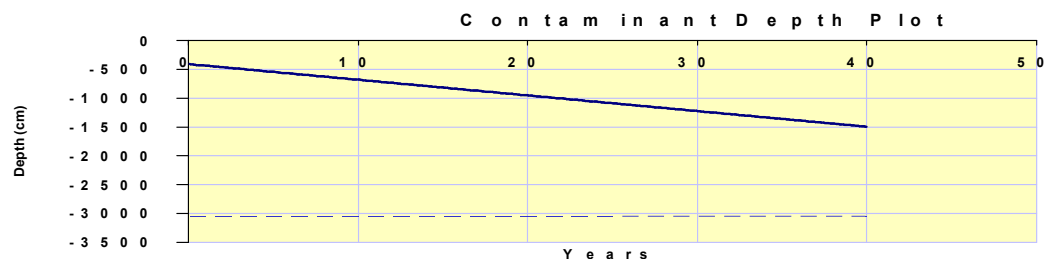
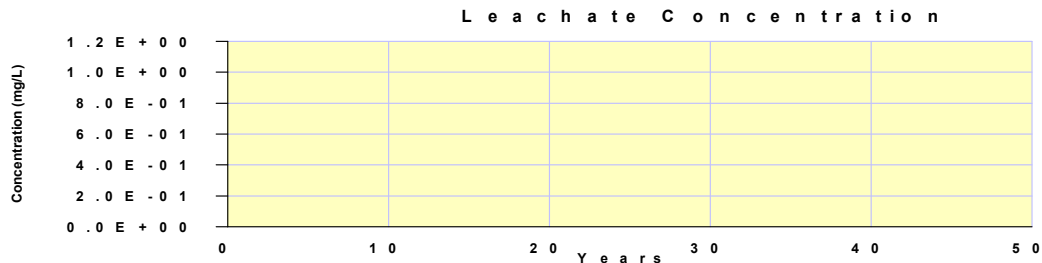
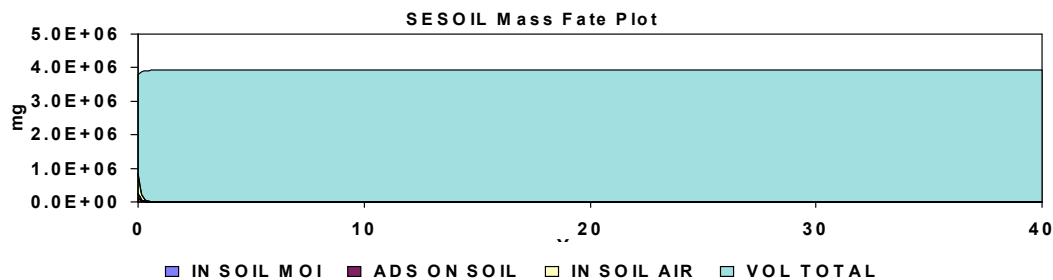
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 97.20 years

Starting Depth: 407.90 cm

Ending Depth: 1494.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	3.919E+06	100.00
In Soil Air	1.075E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	2.798E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	8.821E-05	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	3.919E+06	100.00
Total Input	3.919E+06	
Input - Output	-1.815E+02	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: Trichloroethylene (TCE)

c:\sev7 win7\TRICHLOROETHYLENE (TCE).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

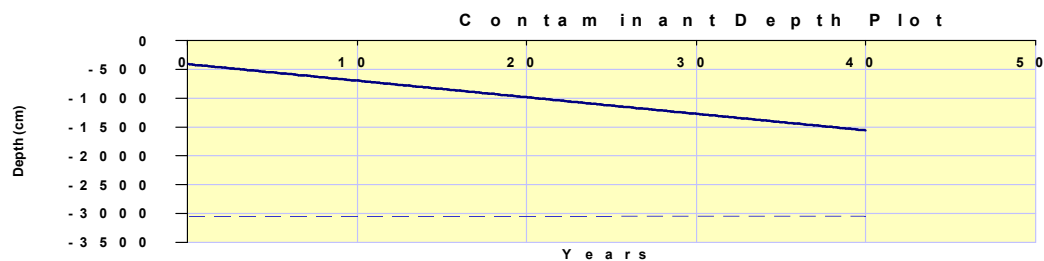
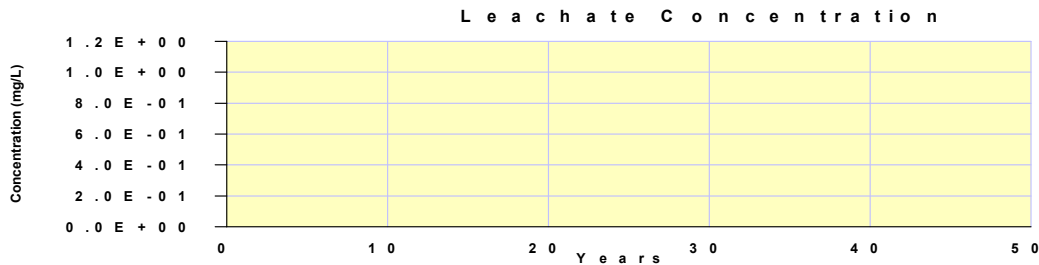
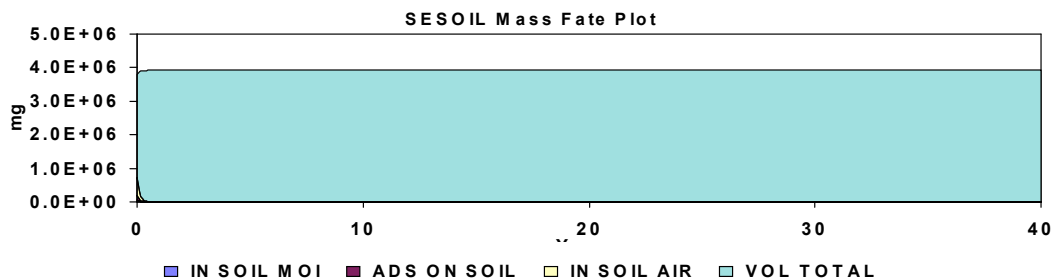
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 91.95 years

Starting Depth: 407.90 cm

Ending Depth: 1556.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.691E+04	99.99
In Soil Air	1.108E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.179E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	3.877E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	1.691E+04	99.99
Total Input	1.692E+04	
Input - Output	1.467E+00	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: Benzene

c:\sev7 win7\BENZENE.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

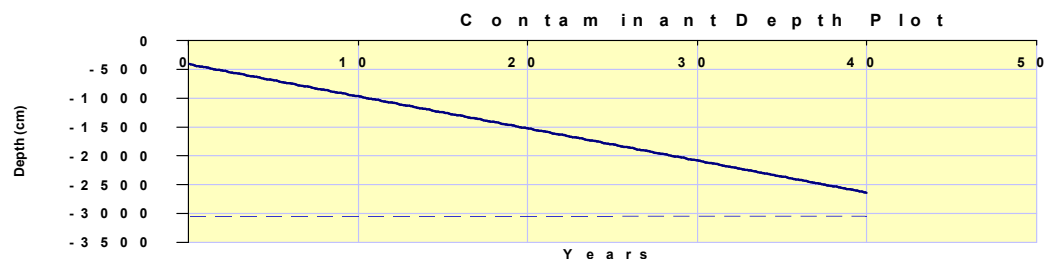
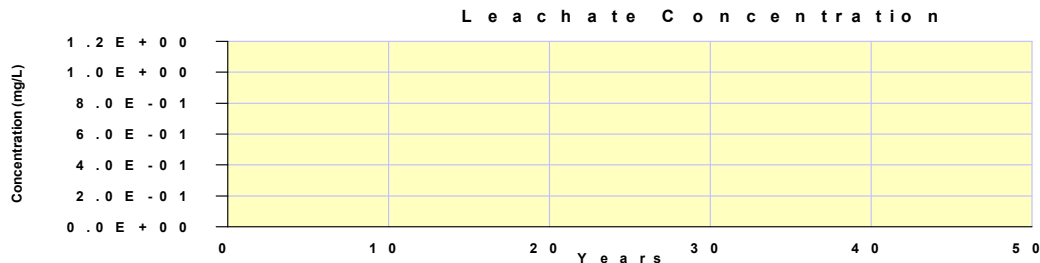
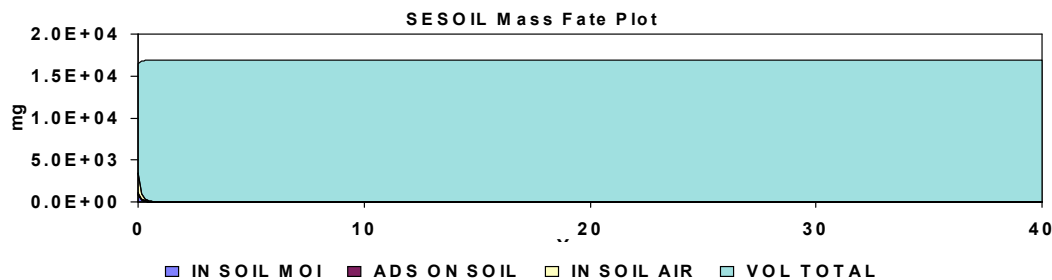
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 47.36 years

Starting Depth: 409.20 cm

Ending Depth: 2637.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.692E+04	100.02
In Soil Air	9.659E-04	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	9.899E-05	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.670E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	1.692E+04	100.02
Total Input	1.692E+04	
Input - Output	-4.095E+00	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: Benzene

c:\sev7 win7\BENZENE.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

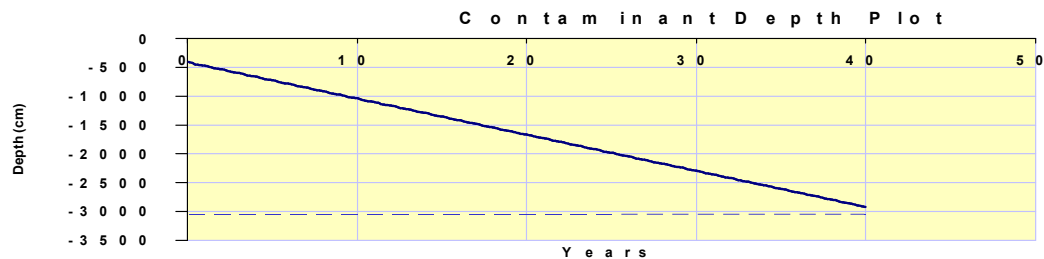
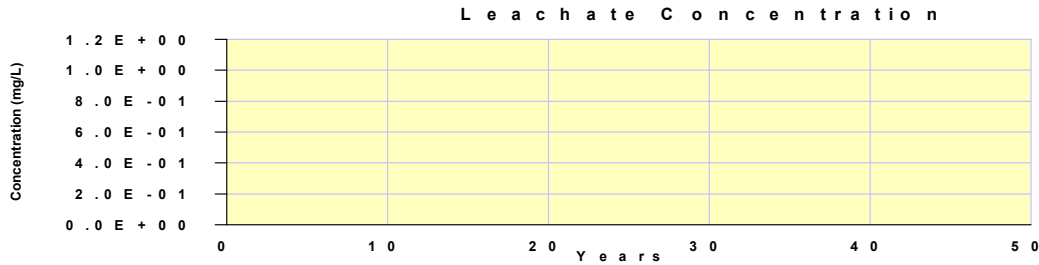
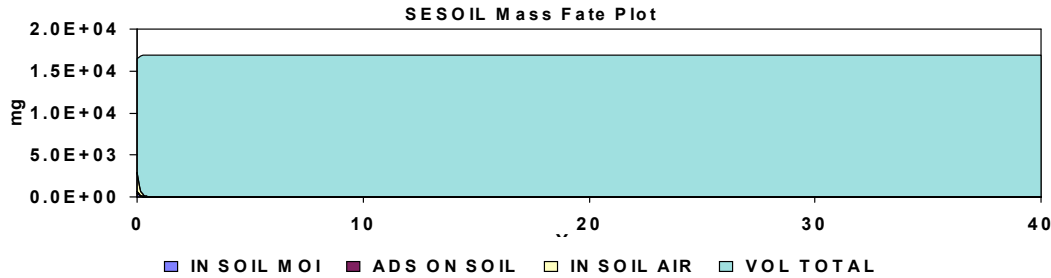
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 42.04 years

Starting Depth: 409.40 cm

Ending Depth: 2919.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	1.691E+04	100.00
In Soil Air	1.141E-03	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	1.311E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	8.279E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	1.691E+04	100.00
Total Input	1.692E+04	
Input - Output	5.721E-02	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: Benzene

c:\sev7 win7\BENZENE.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

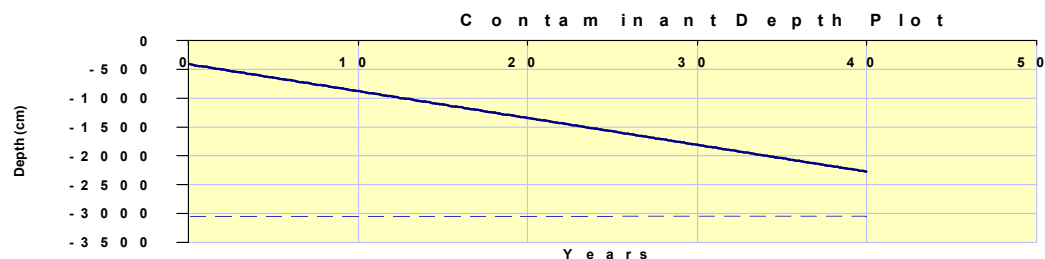
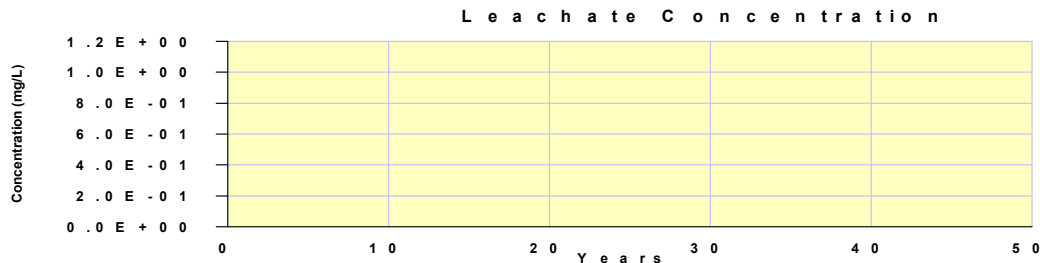
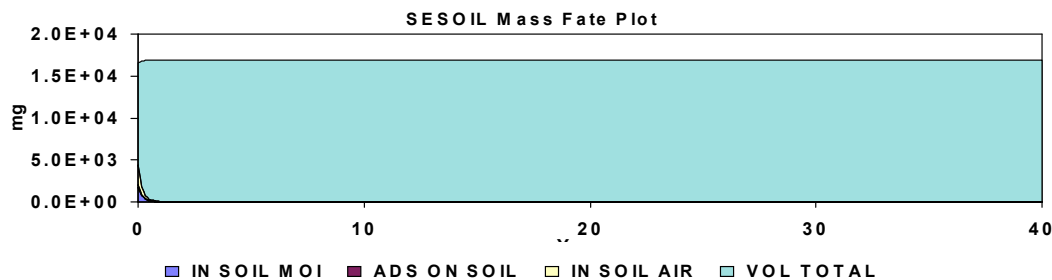
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 56.58 years

Starting Depth: 409.00 cm

Ending Depth: 2274.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	3.918E+06	100.00
In Soil Air	9.062E-04	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	2.642E-04	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	3.116E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	3.918E+06	100.00
Total Input	3.919E+06	
Input - Output	2.163E+01	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: Trichloroethylene (TCE)

c:\sev7 win7\TRICHLOROETHYLENE (TCE).CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

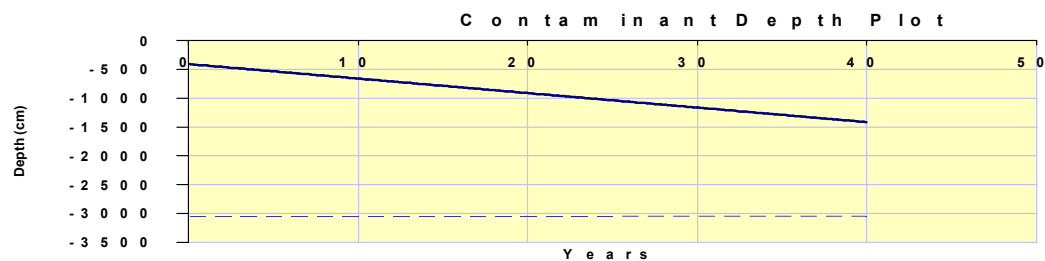
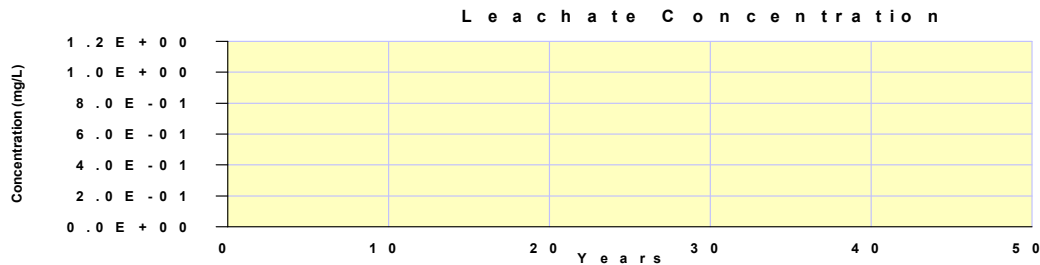
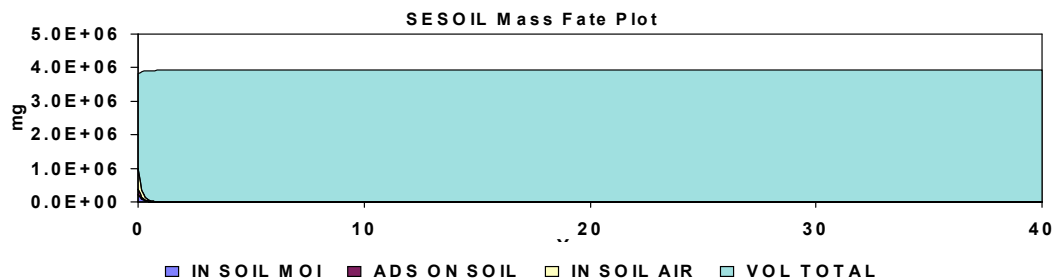
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 104.82 years

Starting Depth: 407.90 cm

Ending Depth: 1415.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	5.058E+06	100.00
In Soil Air	2.923E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	8.654E-03	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	6.393E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	5.058E+06	100.00
Total Input	5.058E+06	
Input - Output	-8.876E+01	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: PCE (Tetrachloroethene) OEPA 2003

c:\sev7 win7\PCE (TETRACHLOROETHENE) OEPA 2003.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

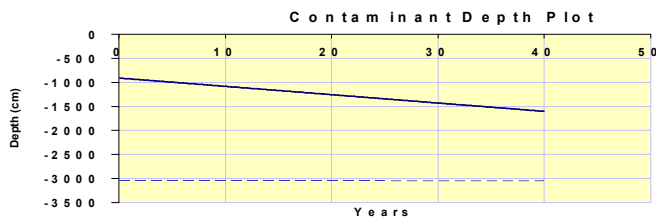
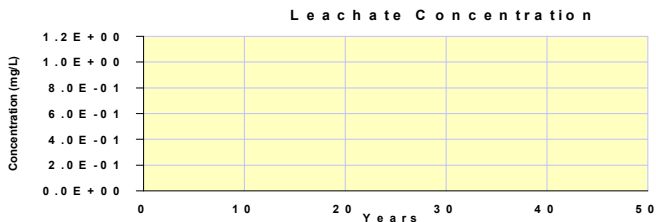
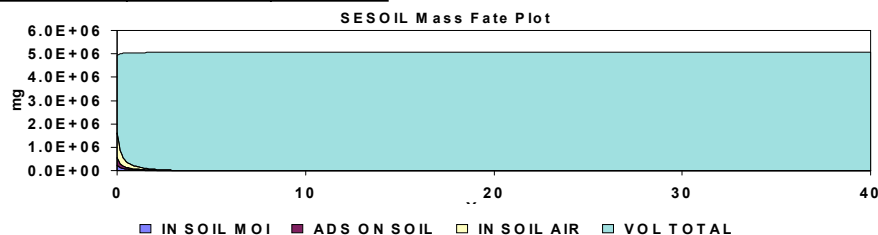
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 123.42 years

Starting Depth: 909.10 cm

Ending Depth: 1602.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	5.058E+06	100.00
In Soil Air	1.900E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	5.023E-03	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	9.917E-04	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	5.058E+06	100.00
Total Input	5.058E+06	
Input - Output	-1.511E+02	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: PCE (Tetrachloroethene) OEPA 2003

c:\sev7 win7\PCE (TETRACHLOROETHENE) OEPA 2003.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

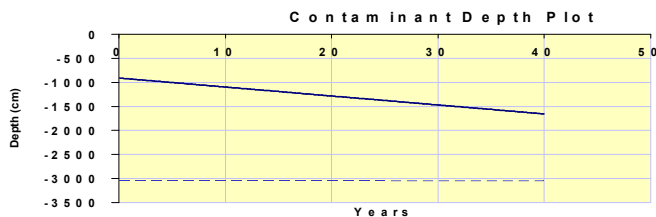
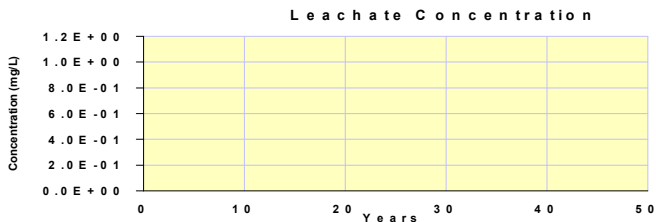
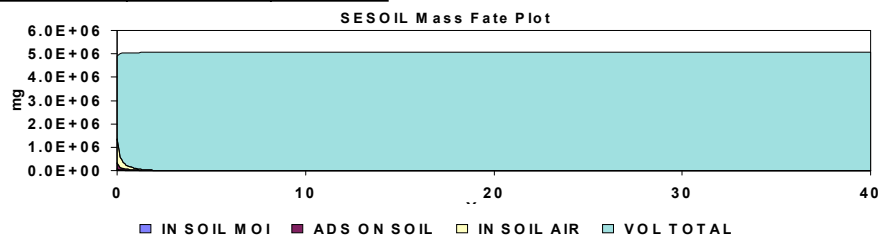
C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 114.65 years

Starting Depth: 909.10 cm

Ending Depth: 1655.00 cm

Total Depth: 3047.00 cm



SESOIL Pollutant Cycle Report

Scenario Description: 777NFront

SESOIL Output File: c:\SEV7 WIN7\S01.OUT

SESOIL Process	Pollutant Mass (µg)	Percent of Total
Volatilized	5.058E+06	100.00
In Soil Air	1.866E-02	0.00
Sur. Runoff	0.000E+00	0.00
In Washld	0.000E+00	0.00
Ads On Soil	5.120E-03	0.00
Hydrol Soil	0.000E+00	0.00
Degrad Soil	0.000E+00	0.00
Pure Phase	0.000E+00	0.00
Complexed	0.000E+00	0.00
Immobile CEC	0.000E+00	0.00
Hydrol CEC	0.000E+00	0.00
In Soil Moi	1.969E-03	0.00
Hydrol Mois	0.000E+00	0.00
Degrad Mois	0.000E+00	0.00
Other Trans	0.000E+00	0.00
Other Sinks	0.000E+00	0.00
Gwr. Runoff	0.000E+00	0.00
Total Output	5.058E+06	100.00
Total Input	5.058E+06	
Input - Output	-2.346E+02	

Maximum leachate concentration: 0.000E+00 mg/l

Climate File: LOS ANGELES, CIVIC CENTER

C:\SEV7 WIN7\SET_ET_05PRECIP.CLM

Chemical File: PCE (Tetrachloroethene) OEPA 2003

c:\sev7 win7\PCE (TETRACHLOROETHENE) OEPA 2003.CHM

Soil File: Depth weighted soil

C:\SEV7 WIN7\DEPTH_AVG_SOIL_SA.SOI

Application File: 777 N Front Street

C:\SEV7 WIN7\777NFRONT_FINALSETUP_SA.APL

Time to Groundwater: 118.62 years

Starting Depth: 909.10 cm

Ending Depth: 1630.00 cm

Total Depth: 3047.00 cm

