PHASE I RCRA FACILITY INVESTIGATION REPORT
FOR SWMU 58
ON-POST SOURCES AND GROUNDWATER CONTAMINATION

TOOELE ARMY DEPOT
TOOELE, UTAH

Tooele Army Depot

Prepared for: US Army Corps of Engineers

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Kleinfelder Job No. 23-9000-46.A08

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ACRONYMS

°C ..... Degrees Centigrade
°F ..... Degrees Fahrenheit
µg ..... Microgram
µg/L ..... Micrograms per Liter
1,1,1-TCA 1,1,1-Trichloroethane
1,1-DCA 1,1-Dichloroethane
1,1-DCE 1,1-Dichloroethene
1,2-DCE 1,2-Dichloroethene
95UCL ..... 95th Percentile Upper Confidence Limit
ABC ..... Adrian Brown Consultants
ACL ..... Alternate Clean-Up Level
ASG ..... Active Soil Gas
ASTM ..... American Society for Testing and Materials
ATL ..... Air Toxics Limits
bgs ..... Below Ground Surface
BRAC ..... Base Realignment and Closure
BTEX ..... Benzene, Toluene, Ethylbenzene, and Xylenes
C&T ..... Curtis & Thompkins, Ltd.
CCl_4 ..... Carbon Tetrachloride
CDAP ..... Chemical Data Acquisition Plan
CDQMP ..... Chemical Data Quality Management Plan
CERCLA ..... Comprehensive Environmental Response, Compensation and Liability Act
CMS ..... Corrective Measures Study
DCD ..... Deseret Chemical Depot
DOT ..... Department of Transportation
DQO ..... Data Quality Objective
DRMO ..... Defense Reutilization and Marketing Office
DSHW ..... Division of Solid and Hazardous Waste
EDD ..... Electronic Data Deliverable
EM ..... Electromagnetic
EMI ..... Electromagnetic Induction
EPA ..... U.S. Environmental Protection Agency
EPIC ..... Environmental Photographic Interpretation Center
ePTFE ..... Expanded Polytetrafluoroethylene
EST ..... Engineering, Science, and Technology
GC/MS ..... Gas Chromatograph/Mass Spectrometer
gpd ..... Gallons Per Day
GPS ..... Global Positioning System
GWQA ..... Groundwater Quality Assessment
GWTP ..... Groundwater Treatment Plant
HDPE ..... High Density Polyethylene
HEC ..... Hydrologic Engineering Center
ID ..... Identification
IDW ..... Investigation-Derived Waste

ACRONYMS
(continued)

IWL ..... Industrial Wastewater Lagoon
JMM ..... James M. Montgomery
KA ..... Kleinfelder, Inc.
l/min ..... Liters per Minute
LCS ..... Laboratory Control Sample
LIMS ..... Laboratory Information Management System
MCL ..... Maximum Contaminant Level
MDL ..... Method Detection Limit
MEK ..... Methyl Ethyl Ketones
mg ..... Milligram
mm ..... Millimeter
MS/MSD ..... Matrix Spike/Matrix Spike Duplicate
MSL ..... Mean Sea Level
MW ..... Montgomery Watson
NEPA ..... National Environmental Policy Act
NTU ..... Nephelometric Turbidity Unit
OIWL ..... Old Industrial Waste Lagoon
OVM ..... Organic Vapor Meter
PAH ..... Polynuclear Aromatic Hydrocarbon
PARCC ..... Precision, Accuracy, Representativeness, Completeness, and Comparability
PCE ..... Perchloroethene
PID ..... Photoionization Detector
ppbv ..... Parts Per Billion by Volume
PPE ..... Personal Protective Equipment
PQL ..... Practical Quantitation Limit
PSG ..... Passive Soil Gas
PVC ..... Polyvinyl Chloride
QA/QC ..... Quality Assurance/Quality Control
QAPP ..... Quality Assurance Project Plan
QCSR ..... Quality Control Summary Report
RCRA ..... Resource Conservation and Recovery Act
RDL ..... Required Detection Limit
RFI ..... RCRA Facility Investigation
RME ..... Reasonable Maximum Exposure
RUST E&I ..... RUST Environmental and Infrastructure
SAIC ..... Science Applications International Corporation
SOP ..... Standard Operating Procedure
SVE ..... Soil Vapor Extraction
SVOC ..... Semi-Volatile Organic Compound
SWMU ..... Solid Waste Management Unit
TCE ..... Trichloroethene
TDS ..... Total Dissolved Solids
TEAD ..... Tooele Army Depot

ACRONYMS
(continued)

TM..... Technical Memorandum
TOC..... Total Organic Carbon
UDEQ ..... Utah Department of Environmental Quality
USACE ..... U.S. Army Corps of Engineers
USCS ..... Unified Soil Classification System
USGS ..... United States Geological Survey
VC..... Vinyl Chloride
VLF..... Very Low Frequency
VOC..... Volatile Organic Compound
VSG..... Vertical Soil Gas
WPA..... Work Plan Addenda

EXECUTIVE SUMMARY

E.S.0.1. This Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) report has been prepared for the U. S. Army to fulfill the requirements of the State of Utah Rule R315-101-4 regarding site characterization at hazardous waste sites. This document describes the investigation methodology and results used to characterize the likely and potential sources and upgradient extent of two groundwater plumes impacted with chlorinated hydrocarbon compounds beneath the Tooele Army Depot (TEAD). The Northeast Boundary Plume, sources of the Northeast Boundary Plume, and newly identified sources of the main plume comprise TEAD's recently designated Solid Waste Management Unit (SWMU) 58.

E.S.0.2. The area under investigation included the former Industrial Area and DRMO Yard on the eastern side of the Depot. The investigation began in the summer of 1998 with an extensive passive soil gas survey. Based on the results of the passive survey, active soil gas sampling points were installed in areas with the highest passive soil gas detections. Results from the active soil gas sampling indicated shallow soil gas VOC concentrations up to 54,000 ppbv. Based on these data and historical information, five vertical soil gas monitoring stations were located, installed, and sampled during the period from October to November 1999. At four of the five locations where vertical soil gas sampling was conducted, chlorinated hydrocarbon compounds were detected through the vadose zone to within about 20 feet of the groundwater table at the deepest depth sampled.

E.S.0.3. Based on the passive, active and vertical soil gas data collected, three regions were identified as likely source areas contributing to the groundwater contamination plumes: Building 679 oil/water separator; former outfall ditches along Avenues A, B, and C and the west side of Building 600; and in the manufacturing building complex area located in the southeast portion of the Industrial Area. Additionally, three other areas were identified as source areas that possibly contribute to groundwater contamination: the open storage west of Buildings 637 and 638; Avenue E west of Detroit Diesel; and the DRMO Yard in a former drum storage area. Potential sources of the carbon tetrachloride in groundwater in the main plume were not clearly identified

as a result of this investigation. Although carbon tetrachloride was detected at relatively high concentrations in the soil gas at shallow depths, a relationship to deeper contamination has not yet been established.

E.S.0.4. Groundwater monitoring wells were installed in a number of locations within the study area and data from these wells, along with sampling results from existing groundwater wells, were used to confirm soil gas data and further evaluate the vertical and upgradient horizontal extent of the contaminants in the groundwater. Trichlorethene (TCE) concentrations in the groundwater beneath the Building 679 oil/water separator confirmed soil gas data indicating this structure is the main source of the Northeast Boundary groundwater plume. TCE and perchloroethene (PCE) concentrations in the groundwater beneath the former Avenue C outfall ditch suggest the PCE and TCE identified in the vadose zone soil vapor have reached the groundwater beneath this source area. TCE concentration in groundwater northeast of Building 615 suggest that this area also contributed to the main groundwater plume. Non-detect sampling results along the eastern TEAD boundary delineate the upgradient extent of impacted groundwater in both the main and northeast boundary plumes. Additionally, as a result of information gained from borehole and groundwater elevation data within the study area, there is evidence that groundwater flow is strongly influenced by the underlying bedrock structure that tends to maintain the division of the two plumes, with some commingling apparent at the margins of the plumes.

E.S.0.5. Recommendations resulting from this Phase I RFI for on-Depot activities include a follow-on Phase II investigation to quantify risks associated with the chemicals detected in the soil and groundwater during this investigation. Specifically, evaluation of the vertical extent of the VOCs in areas where data are insufficient, quantification of VOC masses in the capillary fringe and first few feet of the saturated zone beneath suspected source areas, and evaluation of migration and degradation pathways of the chemicals of concern in both the saturated and unsaturated zones. Characterization of the relationship between the alluvial aquifer and underlying bedrock is also deemed critical in determining whether the bedrock aquifer is acting to inhibit VOC migration. Additionally, completion of the on-going soil vapor extraction pilot test is recommended to evaluate mass removal rates, radii of influence, and impacts of mass

removal on underlying groundwater. These activities are considered necessary to determine the extent of VOC contamination and to evaluate potential human and environmental health risks posed by contaminates in the SWMU 58 study area.

1. INTRODUCTION

1.1 SCOPE AND OBJECTIVES

1.1.0.1. This Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) report has been prepared by Kleinfelder, Inc. (KA) to fulfill the requirements of the State of Utah Rule R315-101-4 regarding site characterization at hazardous waste sites. Specific tasks designed to fulfill this requirement are specified in Delivery Orders #53 and #56 of the U.S. Army Corps of Engineers (USACE) contract DACW05-95-D-0022. This RFI Report has been prepared to describe environmental investigation activities completed at two separate areas of the Tooele Army Depot (TEAD) – the Defense Reutilization Management Office (DRMO) Area and the Industrial Area. Residual volatile organic compounds (VOCs) in the vadose zone that underlie these two areas together comprise Solid Waste Management Unit (SWMU) 58, which includes identified and potential sources of groundwater contamination. Much of the area investigated lies within the Base Realignment and Closure (BRAC) parcel of TEAD. Several subsequent tasks will follow and build upon this RFI. These include: a Phase II RFI that is focused on the TEAD property; an off-Depot investigation to evaluate the extent of impacted groundwater beyond TEAD's boundaries; and if deemed appropriate, an interim removal action program that is designed to remove residual VOCs that continue to impact the groundwater beneath TEAD.

1.1.0.2. The SWMU 58 investigation was intended to evaluate chlorinated solvents in the vadose zone contributing to the groundwater contamination beneath the site. It was not intended to reinvestigate industrial operations that may have caused the initial releases. Operations that have been investigated as separate SWMUs are not discussed in detail in this report, but salient findings from previous investigations are summarized in Section 1.5.

1.1.0.3. At the onset of this project, the Industrial Area had already been identified as part of SWMU 58, but further investigation was necessary to access impacts (if any) from the DRMO Area. In summer 1998, a Phase I RFI was initiated at SWMU 58 to assess the extent of

groundwater contamination and to define the source or sources of the groundwater impact. This RFI Report describes the methodology used to assess the nature and extent of vadose zone sources and their impact on groundwater, the extent of groundwater contamination, and recommendations for providing source reduction and subsequent groundwater remediation. More details regarding the scope of work and objectives of the SWMU 58 RFI are provided below.

1.1.1 Scope of Work

1.1.1.1. The scope of work for the Phase I RFI conducted at SWMU 58, and associated USACE Delivery Orders, were as follows:

- Assess the nature, extent, and potential sources of VOCs in groundwater at the TEAD Industrial Area (Delivery Order No. 53);

- Assess the nature and extent of VOCs in the vadose zone in the Industrial Area and evaluate if residual soil contamination is an on-going source of groundwater contamination. On the basis of the investigation results, a preliminary design for remediation of the soil using soil-venting technology may be prepared and a pilot test performed (Delivery Order No. 55);

- Assess the nature, extent, and potential sources of VOCs in groundwater at the TEAD DRMO Area (Delivery Order No. 56); and

- Assess the nature and extent of VOCs in the vadose zone in the DRMO Area and evaluate if residual soil contamination is an on-going source of groundwater contamination (Delivery Order No. 57).

1.1.1.2. Several field and analytical techniques were used to conduct the Phase I RFI at SWMU 58. The investigative methodology involved employing more broadbased screening-level technologies to define areas of potential contamination that were then investigated with

more focused techniques. The following investigation methods were used for the SWMU 58 soil and groundwater investigation:

- Passive Soil Gas Survey
- Limited Geophysical Survey in the DRMO Area
- Active Soil Gas Survey
- Drilling and Installation of Vertical Soil Gas (VSG) Monitoring Stations
- Drilling and Installation of Groundwater Monitoring Wells
- Subsequent Sampling of Groundwater Wells

1.1.1.3. Figure 1-1 shows the scope and general sequence of the Phase I RFI activities at SWMU-58. Data collected from this RFI, conclusions and recommendations from the resulting data, and other project reports prepared as part of this RFI have been incorporated into this document.

1.1.2 Objectives

1.1.2.1. The objectives of the Phase I RFI were to:

- assess potential groundwater contamination source(s) in the TEAD DRMO Area;
- assess whether the DRMO Area is a source of the groundwater impacts designated as the "Northeast Boundary Plume";
- assess the on-Depot extent of the Northeast Boundary Plume;
- assess potential groundwater contamination source(s) in the Industrial Area;
- assess the upgradient extent of groundwater impacts in the area designated as the "main plume"; and

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- assess the nature and extent of the VOC contamination in the vadose zone and groundwater at each potential source location.

1.2 FACILITY LOCATION AND HISTORY

1.2.1 TEAD Location and Description

1.2.1.1. The Tooele Army Depot encompasses 24,732 acres of the Tooele Valley in Tooele County, Utah, and is located about 35 miles southwest of Salt Lake City, Utah. The Tooele Valley is bounded to the south by the Stockton Bar and South Mountain, to the west by the Stansbury Mountains, to the east by the Oquirrh Mountains, and to the north by the Great Salt Lake. With the exception of several towns, the Tooele Valley is sparsely populated. The principal population centers include the town of Grantsville (approximately 2 miles north of TEAD) and the City of Tooele, located immediately to the east. Figure 1-2, Site Location Map, shows the location of TEAD with respect to surrounding geographic and cultural features.

1.2.1.2. The developed features of TEAD may be grouped into four main areas: (1) the ammunition storage igloos and magazines, (2) the administrative buildings, (3) the industrial (former vehicle maintenance) area, and (4) the open revetments. Major portions of the administrative and industrial areas were transferred by the Army to the Tooele City Redevelopment Agency, who in turn sold the property to private owners for redevelopment. The facility occupies a large portion of the southern part of the Tooele Valley, and is approximately 8.5 miles from east to west and about 5 miles from the northern boundary to the southern boundary. The installation slopes generally from south to north. Elevations at the southwestern corner of the installation are about 5,200 feet above sea level, with elevations at the northern boundary at about 4,400 to 4,500 feet above sea level.

1.2.1.3. The Industrial Area of TEAD is located in the northeastern part of the installation. Figure 1-3 shows the location of the Industrial and DRMO Areas at TEAD, which together comprise suspected source areas contributing to the Northeast Boundary Plume and the main plume.

1.2.2 History and Background

1.2.2.1. TEAD was established as the Tooele Ordnance Depot on April 7, 1942, by the U.S. Army Ordnance Department. During World War II, the Tooele Ordnance Depot was a backup Depot for the Stockton Ordnance Depot and Benicia Arsenal, both in California (JMM, 1988). Vehicles, small arms, and other equipment for export overseas were stored at TEAD. The Tooele Ordnance Depot was redesignated as TEAD in August 1962.

1.2.2.2. At that time, TEAD was one of the major ammunition storage and equipment maintenance installations in the U.S. and supported other Army installations throughout the western United States. The mission of TEAD was to:

- Supply, distribute, and store general supplies and ammunition;
- Store strategic and critical materials;
- Maintain ammunition and general supplies;
- Demilitarize ammunition;
- Supervise training of assigned units and provide logistical support and training assistant to U.S. Army Reserves;
- Design, manufacture, procure, store, and test ammunition equipment;
- Maintain, repair, and store military vehicles; and
- Operate other facilities, as required.

1.2.2.3. In 1993, Congress included a portion of TEAD in the BRAC Program. Under the BRAC Program, most of the industrial (former vehicle maintenance area) portion of TEAD has been transferred to private concerns that are currently developing the BRAC parcel as an industrial Depot. The portion of the Industrial Area included in the BRAC parcel is shown on Figure 1-3. The current mission of TEAD is to receive, store, issue, maintain, and dispose of munitions, to provide installation support to attached organizations, and to operate other facilities as assigned.

1.3 REGULATORY BACKGROUND

1.3.3.1. After groundwater contamination resulting from disposal of industrial wastes at TEAD was discovered, a consent decree was issued in 1986 to TEAD by the United States District Court for the District of Utah. The terms required TEAD to conduct an assessment of the groundwater quality, close an industrial wastewater lagoon (IWL) and associated wastewater ditches, develop groundwater cleanup levels, and prepare a Corrective Action Plan addressing groundwater remediation. The terms of the Corrective Action Plan are specified in a Corrective Action Permit (The Permit) signed by the Utah Department of Environmental Quality (UDEQ) (formerly the Department of Health) and TEAD on January 7, 1991.

1.3.3.2. In addition to requiring a clean up of the groundwater, Module VII of The Permit requires that TEAD conduct corrective action investigations at a number of SWMUs at TEAD. When, during the course of on-going corrective action efforts, a new SWMU is identified by TEAD, Module VII also states that, "The Permittee [TEAD] shall notify the [State of Utah] Executive Secretary in writing of any newly identified SWMUs." As a result of the National Environmental Policy Act (NEPA) and the Environmental Baseline Survey associated with the BRAC process, eight SWMUs were added in 1994 and two in 1996. SWMU 58 was added in 1998.

1.4 PREVIOUS GROUNDWATER INVESTIGATIONS AT TEAD

1.4.0.1. Various environmental investigations have been conducted at TEAD from 1979 to the present. These investigations, which have been conducted by both government agencies and private contractors, have ranged from general surveys to remedial investigations. Many of the investigations discussed in this section were conducted prior to the designation of various sites as SWMUs. To provide a historical perspective regarding investigations relevant to this project, a summary of several of these previous investigations is presented below.

1.4.1 Groundwater Quality Assessment (JMM, 1988)

1.4.1.1. The objective of the Groundwater Quality Assessment (GWQA), conducted by James M. Montgomery in 1988, was to estimate the extent, magnitude and rate of movement of hazardous constituents in groundwater in the vicinity of the Industrial Wastewater Lagoon. Although several constituents were found, trichloroethene (TCE) was defined as the principle contaminant of concern because of its low regulatory threshold and large plume area. Smaller plumes of 1,1,1-trichloroethane (TCA) and carbon tetrachloride (CCl_4) were also identified.

1.4.1.2. TCE concentrations in groundwater ranged from less than 0.1 micrograms per liter (µg/L) to 250 µg/L in samples collected during this investigation. The highest concentrations were detected in samples from monitoring wells completed adjacent to the wastewater ditches south of the IWL. The concentrations decreased with distance from the wastewater ditches and were the lowest near the northern boundary. The distribution of TCE concentrations defined a plume centered beneath the wastewater ditches and extending radially in all directions, especially toward the northwest. The downgradient end of the plume (referred to as the main VOC plume) was interpreted to be about 1,500 feet north of the northern TEAD boundary. The plume was estimated to be at least 400 feet thick and contain an estimated 36 billion gallons of groundwater with TCE concentrations greater than 5 µg/L, the established Maximum Contaminant Level (MCL) for this compound. Movement of the contaminant plume was estimated to be 700 to 1200 ft/yr. Based on these results, a pump-and-treat groundwater restoration system was installed in 1992-93 to intercept the contaminated plume.

1.4.2 Northeast Boundary Groundwater Investigation (KA, 1996)

1.4.2.1. During the routine semiannual groundwater monitoring program that tracks groundwater restoration, increasing concentrations of TCE were observed in one of the groundwater monitoring wells near the Northeast boundary of TEAD. This discovery, coupled with reports of TCE and carbon tetrachloride in a production well on a nearby off-Depot commercial property, led the Army to construct several new monitoring wells in 1996-97. These wells were installed in response to a technical evaluation of the off-Depot well contamination indicating that the source(s) of the VOCs were the IWL and associated ditches on TEAD (ABC, 1994). Sampling results from the new wells found concentrations of TCE above 100 µg/L along a narrow plume (later designated the "Northeast Boundary Plume"), that was traced upgradient to near the northern end of TEAD's DRMO yard. The plume, as defined, extends northward approximately 9,000 feet from the east side of Building 679 to the northeastern TEAD boundary, where it appears to extend off-Depot beneath State Highway 112. The off-site extent of the TCE-impacted groundwater has not been completely assessed and is the subject of a separate project by the Army. Figure 1-4 shows the most recent interpretation of the combined isoconcentration contours for TCE, carbon tetrachloride, and 1,2-dichloroethane in the Northeast Boundary Plume and the main VOC plume discovered during the GWQA of 1989. Figure 1-4 also delineates the area covered by an aerial photo base which is used in subsequent figures in this report. The north end of the DRMO yard, where VOC disposal was suspected to have occurred, was proposed as a potential source area for the Northeast Boundary Plume.

1.4.2.2. As part of the Northeast Boundary Groundwater investigation, a passive soil gas survey was conducted in two phases (late 1996 and late 1997). Phase I consisted of the installation of 40 soil gas modules: 20 in potential source areas including the former World War II interment camp and missile component repair facility and 20 along a transect between monitoring wells C-10 and C-11. Two of the 20 samples in the potential source area (WW II internment camp and missile component rebuild facility) detected measurable amounts of PCE. However, these detections were suspected to have been a result of small, undocumented spills where the chemicals remain adsorbed to soils in the vadose zone and have little potential to impact the

groundwater beneath the site. Results from the transect area indicated no direct correlation between the passive soil gas results and the groundwater concentrations in the area.

1.4.2.3. Phase II of the soil gas survey focused on known or suspected source areas in the Industrial and DRMO Areas. During the survey, 10 soil gas modules were installed in the DRMO Area and the results qualitatively indicated the presence of VOCs around Buildings 2002, 2003, and 2025. Additionally, 20 samples were installed in a sludge burial trench east of Building 609 in the south end of the Industrial Area. Low concentrations of TCE, PCE, and TCA were detected in this area. Lastly, 20 modules were installed near the former IWL and industrial wastewater ditches. Modules in these areas indicated elevated levels of TCE, PCE, and TCA. Surveys results are described in the Northeast Boundary Groundwater Investigation Report (KA, 1996).

1.4.3 Eastern Boundary Groundwater Investigation (KA, 1998c)

1.4.3.1. The main VOC plume, as discussed above in Section 1.4.1, appears to originate in the southeastern portion of the TEAD Industrial Area. The upgradient extent of the plume, as defined by the 5 μg/L isoconcentration contour for TCE, extends to the northwest approximately 3.3 miles as shown in Figure 1-4.

1.4.3.2. Several potential and likely sources for this main plume were proposed. These sources include the following:

- Buildings 600, 604, 607, 611, 614, 615, 619, 620, and 637 where TCE was reportedly detected in soils during previous investigations;

- A suspected burial trench near Building 609, where TCE was detected in soil gas samples;

- The IWL and associated unlined ditches, the old IWL, and the stormwater/industrial wastewater piping, which received wastewater that potentially contained TCE, carbon tetrachloride and other solvents; and

- The Sanitary Landfill, where TCE and other solvents were detected in soil and soil gas samples.

The history of solvent usage at TEAD is presented in more detail in Section 1.5.

1.4.4 Northeast Boundary Investigation Source Determination Document (KA, 2000a)

1.4.4.1. The objective of the Northeast Boundary Source Determination Document was to evaluate if there is environmental evidence linking chemical releases at TEAD to the northeast boundary groundwater plume. To meet this objective, this investigation included evaluations of environmental data generated through a series of iterative environmental investigations at TEAD, salient points of which are discussed below.

1.4.4.2. Investigations of potential source areas that could have created or contributed to this groundwater plume have considered sources at many locations, both on and off the Depot property. Groundwater samples from upgradient monitoring wells along the eastern TEAD property boundary and from the DRMO yard were free of TCE contamination. Since these upgradient wells were clean, it appears there is no contribution above MCLs to the northeast boundary plume from sources upgradient of the Depot or from the DRMO yard on the Depot property. However, as other potential off-Depot sources such as the old Tooele City Landfill have not been investigated, there remains a possibility that the off-Depot portion of the northeast boundary TCE plume may contain groundwater contaminants from these sources.

1.4.4.3. Based on groundwater sampling in monitoring wells along the northeast TEAD boundary, an area of TCE-impacted groundwater appears to extend from the east side of Building 679 in the TEAD Industrial Area to the north at least 9,000 feet to the installation boundary. No other chemicals have been reported in the groundwater sampling results from the

Northeast Boundary Plume. Although off-Depot groundwater data further downgradient are limited to impacts reported in a production water well, this information, in conjunction with the apparent distribution of TCE in on-Depot groundwater, confirm that TCE has migrated beyond the Depot boundary to the northeast.

1.4.5. Groundwater Treatment System Optimization Study for the Main Plume (KA, 1998d)

1.4.5.1. Evidence gathered in a Groundwater Treatment System Optimization Study (KA, 1998d), conducted to establish optimal operating parameters and time estimates for the ongoing groundwater treatment of the main TCE plume, suggested that residual solvents remaining in the unsaturated zone are likely continuing to contribute to groundwater contamination. Based on the data generated during vadose zone and saturated zone modeling, any significant contaminants remaining in the vadose zone would likely continue to impact the local groundwater and severely lengthen the duration required to achieve groundwater clean up to proposed levels.

1.4.6 Conclusions of Investigations Prior to the RFI

1.4.6.1. In summary, the northern, eastern, and western (downgradient and crossgradient) boundaries of the main VOC contaminant plume had been assessed. The upgradient edge of the plume was believed to be in the vicinity of several potential and likely Industrial Area source locations, including the IWL, associated unlined ditches, and several buildings where solvents were historically used in vehicle maintenance activities (these locations are discussed further in Section 1.5).

1.4.6.2. The northern (downgradient) boundary of the Northeast Boundary Plume was tracked to the TEAD northeast boundary. Similarly, the on-Depot eastern and western plume margins had been defined. The eastern extent has been approximated by several monitoring wells in which VOCs have not been detected to date. Low concentrations of TCE in wells along the western margin of the plume suggest that there is some commingling with the main VOC plume to the northwest. The upgradient extent had not been evaluated and TEAD's DRMO yard was suspected to be the likely source for the Northeast Boundary Plume.

1.4.7 Chronology of Events

1.4.7.1. A chronology of events preceding the Phase I RFI at SWMU 58 is presented in Table 1-1. These events range from the initial assessment of groundwater quality in 1983 through the investigations of the Northeast Boundary and main VOC plumes.

TABLE 1-1
Chronology of Events – TEAD Groundwater Investigations
1983 to Present

Date	Event	Source of Information
June 1983	US Army begins an assessment of the groundwater quality beneath the active industrial wastewater lagoon (IWL) and wastewater outfall ditches at TEAD.	Woodward Clyde Consultants, Inc. (WCC), 1986
1984	Off-site landowner drills a production well on their property east of TEAD.	Adrian Brown Consultants (ABC), 1994
January 1986	U.S. Army continues the Groundwater Quality Assessment of the groundwater beneath and downgradient of the IWL and wastewater ditches.	James M. Montgomery Consulting Engineers, Inc. (JMM), 1988
April 1986	TCE and carbon tetrachloride identified in off-site landowner production well.	ABC, 1994
December 1988	US Army prepares the final Ground Water Quality Assessment Report identifying TCE as the primary groundwater contaminant beneath the eastern portion of TEAD.	JMM, 1988
December 1989	Discharges to the IWL are stopped and the lagoon closed.	JMM, 1988
September 1993	Remediation of the main VOC groundwater plume through an extensive pumping and treatment system is begun.	TEAD, 1995
November 1994	Off-site landowner prepares a technical evaluation which concludes that the IWL and associated ditches are the source of contamination in their well.	ABC, 1994

Date	Event	Source of Information
January 1995	US Army prepares an analysis of off-site landowner's technical evaluation that concludes it is unlikely that the source of groundwater contamination in the off-site well is from the IWL and related ditches. The report also concludes that more investigation regarding the source is warranted.	USACE, 1995
January 1996	US Army initiates a Northeast Boundary groundwater investigation to identify potential sources of the Northeast Boundary groundwater plume. Three groundwater monitoring wells, C-12, C-13, and C-14, are installed and sampled, along with other wells, between January 1996 and December 1997.	Kleinfelder, 1996c
Fall 1996	US Army begins a passive soil gas survey to help evaluate the aerial extent of the Northeast Boundary Plume and determine if source lies on TEAD property.	Kleinfelder, 1996a and b
February 1997	Additional subsurface characterization begun at Building 637-N, 637-SW, 637-SE and 691 LUST sites. Groundwater monitoring wells (C-15, C-16, C-17, and C-18) associated with the LUST sites provide supplemental information regarding the distribution of TCE beneath the industrial areas at TEAD.	Kleinfelder, 1997a
Mid-1997	Upgradient investigation of the main VOC plume (Eastern Boundary Investigation) initiated. US Army installs several new monitoring wells for the purpose of assessing the upgradient extent of the main plume (wells C-19, C-20, C-21, and C-23).	Kleinfelder, 1998a
Mid-1997	At the same time as the main VOC plume upgradient assessment, the Army installs several new monitoring wells (wells C-22, C-24, C-26, C-27, and C-28) to evaluate the upgradient extent of the northeast boundary groundwater plume.	
March 1998	Northeastern Boundary Groundwater Investigation Report of Findings (Vol. 1) complete.	Kleinfelder, 1998b
June 1998	Eastern Boundary Groundwater Investigation Report of Findings (Vol. 1) complete.	Kleinfelder, 1998c

Date	Event	Source of Information
June 1998	SWMU-58 RFI begun. Program included 11 groundwater monitoring wells (C-29 through C-39), 937 passive and 24 active sampling points, and 5 vertical soil gas monitoring stations.	Kleinfelder, 1998e and 1999
February 2000	Northeast Boundary Investigation Source Determination Document complete.	Kleinfelder, 2000

1.5 HISTORY OF SOLVENT USAGE AT TEAD

1.5.0.1 For the 1998 Eastern Boundary Groundwater Investigation, Kleinfelder reviewed a number of previous consultants' reports, including Engineering, Science, and Technology (EST) (1988); Weston (1990); Montgomery Watson (1993 and 1996); James M. Montgomery (1988); RUST Environmental and Infrastructure (RUST E&I) (1996); and Science Applications International Corporation (SAIC) (1997); interviews with former TEAD employees, documented by State of Utah Department of Environmental Quality, Division of Solid and Hazardous Waste (UDEQ/DSHW); and Kleinfelder's 1997 soil gas survey results (KA, 1997b). On the basis of these reviews, Kleinfelder developed the following list of locations at TEAD at which chlorinated solvents are known or suspected to have been used, handled, or stored, and are thought to have contributed to the main groundwater plume contamination. Buildings and general locations are highlighted on Figure 1-5. For detailed information and figures, refer to specific reports.

1.5.1 Locations Where Chlorinated Solvents are Known or Suspected to Have Been Used, Handled, or Stored

1.5.1.1. Building 600 (SWMU #39). Building 600 was formerly used for solvent recovery, and is considered likely to be one of the more significant sources of TCE in groundwater. Degreasing operations were historically performed in the southern part of the building and floor drain connections to the wastewater pipeline reportedly existed. Chemical cleaning lines along the west side of the building have also been reported. Built in 1988, the facility initially received as much as 10,500 gallons of waste solvent for processing. A percentage of the waste solvents was rejected, approximately 7,100 gallons were recovered, and 2,100 to 2,250 gallons of waste

were generated. As a result of work reduction and waste minimization efforts, approximately 1,570 gallons of waste solvent were processed, 1,250 gallons were recovered, and 280 gallons of waste were generated in 1992. The records reviewed did not describe the fate of waste generated from this operation. TCE was reportedly detected in soil samples collected from the ground surface near Building 600.

1.5.1.2. Building 609 – Suspected Trench. Former activities at Building 609 included a vehicle steam-cleaning operation that was equipped with an oil-water separator. Sludge from the steam-cleaning operation was reportedly buried in a nearby trench. The location of the trench is not known. A 1997 soil gas survey detected TCE, tetrachloroethene (PCE), and TCA in the area where the trench was suspected to have been located (KA, 1997b).

1.5.1.3. Compressor Condensate Drains at Buildings 613 and 619 (SWMU #50). Air compressors associated with vehicle maintenance activities were located at Buildings 613 and 619. Standard procedures for compressor condensate disposal typically consisted of piping the liquid into partially buried, gravel-filled, perforated drums. The liquid filtered through the gravel and into underlying soils. Chemicals that could potentially have been disposed in this manner included lubricating oils, inorganics from metal wear, and unknown waste materials. Building 619 also formerly housed operations including welding, metal parts washing, vapor degreasing (in the southern part of the building), and metal parts processing. A 1992 investigation reportedly detected TCE in surface soil collected from the ground surface near Building 619. Some semi-volatile organic compounds (SVOCs) and TCA were also detected (SAIC, 1997).

1.5.1.4. Building 620 (SWMU #44). Building 620, located in the southern portion of the Industrial Area, is also potentially a significant source of TCE in the groundwater. A 500-gallon aboveground TCE storage tank was located at the southern end of Building 620. From 1971 to 1984, the TCE was used for degreasing. During its heaviest usage, in the 1970s, the tank was emptied weekly. The contents drained into sewers, which emptied into the Industrial Waste Lagoon (IWL). Use of the tank was discontinued in 1984, and it was removed for salvage in 1991. TCE was reportedly detected in soil samples collected from the ground surface near Building 620.

1.5.1.5. Buildings 604, 607, 611, 614, 615, 637, and 691. During a 1992 investigation, TCE was reportedly detected in soil samples collected from these locations. However, records of former activities involving the nature of use, handling, or storage of TCE at most of these buildings were not available. Those that are known are discussed below.

1.5.1.6. Benzene and 1,1-dichloroethane (DCA) were reportedly detected in soil near Building 637, which was reportedly used for vehicle engine and transmission repair. Building 615 formerly housed operations including metal processing, metal parts painting, vapor degreasing, and chemical cleaning. Floor drain connections to the former wastewater pipeline reportedly existed. Additionally, another drainage pipe of unknown function daylighted out of the embankment between Buildings 614 and 615.

1.5.1.7. Sand blasting activities were performed at Buildings 604, 611, 615, and 637. Soil borings were drilled in the sandblasting areas and soil samples were analyzed for VOCs, SVOCs, and metals. Several SVOCs (phthalates and polynuclear aromatic hydrocarbons [PAHs]) and metals were detected. One VOC, trichlorofluoromethane, was detected in a surface soil sample. Other VOCs were not detected.

1.5.1.8. Industrial Waste Lagoon and Unlined Wastewater Ditches (SWMU #2). Wastewater from the various activities in the building complex of the Industrial Area discharged into pipelines beneath the streets and flowed northwestward into open storage areas just northwest of the buildings from 1965 to 1988. In these open areas, the pipelines ended and the wastewater continued northwestward in unlined outfall ditches located between Avenues A and B, and adjacent to Avenues C, D, and E. These ditches fed into a collector ditch that eventually discharged to the industrial wastewater lagoon (IWL) or onto the ground surface in earlier times. Operations that discharged wastewater into the pipelines included degreasing in Buildings 600, 615, 619, 620, and 637, vehicle steam cleaning in Building 609, metal parts processing and cleaning in Buildings 615 and 619.

1.5.1.9. As a result of investigations performed in 1986, JMM (1988) concluded that TCE was the predominant contaminant in groundwater beneath the IWL, and that greatest TCE concentrations were beneath the IWL unlined ditches. Contaminated material removed from portions of the Old Industrial Waste Lagoon (OIWL) ditches was reportedly placed in the IWL before it was capped. RUST (1996) reported soil and groundwater contamination at the IWL that included TCE, TCA, CCl_4, benzene, DCA, 1,1-dichloroethene (1,1-DCE), chloroform, chromium, and lead. In 1997, TCE, PCE, and TCA were detected in soil gas samples from the IWL and from several of the unlined wastewater ditches.

1.5.1.10. Stormwater/Industrial Wastewater Piping (SWMU #49). Before 1988, the existing stormwater sewer system was used for stormwater and industrial wastewater. The wastewater was released to unlined ditches (SWMU #2) and the IWL. Chemicals in wastewater conveyed to the IWL could potentially have been released through damaged portions of the piping and at piping joints. Several worn and cracked areas were identified during a video survey conducted in 1995 (SAIC, 1997). Chemicals and potentially hazardous materials that were used, stored, or handled in buildings that were connected to the system included 1,1,1-TCA, Stoddard solvent, polyurethane paint sludge, paint thinner, oils, metals, sodium hydroxide, paint, phosphoric acid, ink, nitric acid, and methylene chloride. SAIC drilled soil borings along the piping and collected soil samples. SVOCs detected in the soil samples included PAHs and phthalates. Soil samples were not analyzed for VOCs.

1.5.1.11. DRMO Area. The DRMO Area, located to the east of the Industrial Area, had several potential historical release sites. These included suspected VOC discharges in a supposed fill area in the northwest corner of the yard and a former drum storage area to the southeast. Previous passive soil gas sampling also indicated the presence of VOCs around Buildings 2002, 2003, and 2025 (KA, 1997b).

1.5.1.12. Old Lumber Yard (SWMU 29). SWMU 29 consists of two former drum storage areas (northern and southern) located near the southern end of the Industrial Area (MW, 1993). The southern area, or “old lumber yard,” is a fenced 25-acre expanse of gravel and broken asphalt surface with a warehouse (Building 576), which was reportedly used to store hazardous

materials. The northern region is a triangular-shaped, sparsely vegetated, open area of approximately 5 acres. Environmental Photographic Interpretation Center (EPIC) aerial photos show drums stored in both the northern and southern regions of the SWMU. Soil samples collected in 1992 indicated low levels of toluene (MW, 1993).

1.6 REPORT ORGANIZATION

1.6.0.1 This Phase I RFI Report is divided into 3 separate volumes in order to accommodate the amount of documentation and data accumulated during the project.

- Volume 1 includes the main text of the report and accompanying tables and figures.

- Volume 2 is comprised of Appendices A through D, which includes field documentation, monitoring well installation records and documentation, and data summary tables.

- Volume 3 has limited distribution and includes Appendices E and F. Appendix E is the Quality Control Summary Report, which contains analytical laboratory reports. Appendix F is the Data Validation Report provided by the USACE.

1.6.0.2. The following summarizes the organization of the remainder of the main body of the text:

Section 2. TEAD Environmental Setting—This section provides an overview of the physical setting, climate, geology, hydrogeology, and ecology of the area under investigation. In addition, characteristics of the soil and groundwater underlying Tooele Valley are discussed.

Section 3. Phase I RFI Contaminant Assessment Methodology**—**This section describes the field and laboratory procedures and methods used in evaluating the lithologic, hydrogeologic, and chemical nature of SWMU 58. The laboratory chemical analysis program and an assessment of the laboratory and field data quality also are included.

Section 4. SWMU 58 Results of Contamination Characterization**—**This section includes discussions of the nature and extent of contamination at SWMU 58 in both the vadose zone and in the underlying groundwater.

Section 5. Conclusions and Recommendations**—**This section summarizes the specific conclusions and recommendation for further activities at SWMU 58. It also includes a summary of the preliminary risk assessment, which has been produced as a separate document.

Section 6. References**—**This section lists the references that were used in preparing this report.

2. TEAD ENVIRONMENTAL SETTING

2.1 LOCATION

2.1.0.1. The Tooele Army Depot is located approximately 35 miles southwest of Salt Lake City, 17 miles north of the Deseret Chemical Depot (DCD), and 2 miles south of the town of Grantsville, Utah. TEAD encompasses 23,015 acres in the southern portion of the Tooele Valley and is at an average elevation of approximately 4,700 feet above mean sea level (MSL).

2.1.0.2. The Tooele Valley is bounded to the north by the Great Salt Lake, at an elevation of approximately 4,200 feet above MSL, and to the east by the Oquirrh Mountains, which rise from the valley floor at approximately 5,200 feet to a maximum elevation of 10,350 feet above MSL. The southern boundary of the valley is formed by the Stockton Bar, a Lake Bonneville Pleistocene depositional feature, and South Mountain, a relatively low-lying uplift separating Tooele Valley from Rush Valley to the south. As shown on Figure 1-2, Site Location Map, the Stansbury Mountains form the western border of Tooele Valley and range in elevation from 6,600 to 11,031 feet above MSL.

2.2 CLIMATE

2.2.0.1. The climate of the Tooele Valley region is characterized as semi-arid and temperate with limited precipitation. Summers are typically hot and dry, spring and fall are cool, and winter is moderately cold. The mean annual air temperature averaged over a 30-year period (1961 to 1990) was 50.8°F (Utah Climate Center, Utah State University, Logan, Utah). The lowest annual temperatures usually occur in January and the highest temperatures in July. The average growing season (frost-free days) extends from April 1 through October 25 (MW, 1993).

2.2.0.2. The average annual precipitation at TEAD is 16.95 inches. The wettest month is usually May and the period from June through July is typically dry. Most of the precipitation in the Tooele Valley is in the form of snow from October to May. Rainfall is much greater in the adjacent mountain ranges to the east and west of TEAD where it averages 40 inches per year.

2.2.0.3. The presence of the Great Salt Lake is a controlling factor in wind direction at TEAD. Classical "sea breeze" circulation exists as a result of diurnal temperature changes. The surface temperature of the land rises more rapidly during the day than the surface of the lake, causing the air to rise until it reaches a stable layer of atmosphere, where it spreads outward and ultimately moves over the water and sinks. The rising motion over the land results in the formation of a weak thermal low pressure area. In contrast, the sinking motion of the air over the water results in the formation of a weak high pressure area. This pressure differential forces air masses from the lake to move up-slope toward TEAD. At night, the land surface cools faster than the lake surface and the air circulation reverses direction, moving toward the north and down slope from TEAD toward the lake.

2.3 DEMOGRAPHICS AND LAND USE

2.3.0.1. The 1999 population of Tooele County was 35,847 (Utah, 2000). The residential area nearest TEAD is the City of Tooele, which is adjacent to and east of the facility. In 1999, Tooele was reported as having a population of 16,748. Grantsville is located approximately 2 miles north of TEAD and had a 1999 population of 5,528. Other than these two towns and scattered recent residential developments, Tooele Valley is primarily used for farming and livestock grazing.

2.3.0.2. The land immediately north of TEAD is used for livestock grazing and cultivation. In the last several years, a city-owned multiple use facility (fairground, rodeo ground, etc.) has been constructed about one-half mile north of the TEAD northern boundary. Range land, used for grazing, is also located to the west and south of the facility. The Tooele Municipal Airport and residential areas of Tooele are located along the eastern boundary of TEAD. Several gravel pits

also are located to the northeast, beyond the city. The Union Pacific Railroad right-of-way forms most of the eastern boundary of TEAD.

2.4 GEOLOGY

2.4.1 Regional Geology

2.4.1.1. Tooele Valley has been subjected to many geologic forces throughout the past. Basin and Range faulting during the Miocene and Pliocene and eastward tilting of the Oquirrh Mountains during the Pliocene and Pleistocene have created multiple fault blocks of highly deformed Paleozoic rock. In addition to the structural deformation, bedrock has been extensively weathered through repeated inundations by Lake Bonneville, and silicified and altered by hydrothermal fluids (Tooker and Roberts, 1970).

2.4.1.2. The Tooele Valley is bounded by Basin-and-Range block-faulted mountains on three sides. The Oquirrh Mountains to the east and South Mountain to the south are composed primarily of extensively folded and faulted alternating beds of quartzite and limestone of late Mississippian, Pennsylvanian, and early Permian Age. The Stansbury Mountains (on the west side of the Tooele Valley) also consist of Mississippian-age quartzite and limestone with extensive sequences of Cambrian quartzite. Gravity surveys and the many faults observed in the surrounding mountains indicate that the Tooele Valley is probably not a single down-faulted structural depression, but is more likely a complex collection of troughs and ridges caused by several down-faulted blocks (ERTEC, 1982). The geology of the Tooele Valley and surrounding mountains is presented in Figure 2-1.

2.4.1.3. The topography along the margins of the Tooele Valley's laterally extensive benches results from a sequence of coalescing alluvial fans that extend outward from the base of the surrounding mountain ranges. The fan deposits are formed by the fluvial outwash and deposition of detritus. The fans merge at the base of the mountains, forming a bajada along the margins of the valley floor. In the central parts of the Tooele Valley, lacustrine sediments deposited and reworked by Lake Bonneville form a broad basin bottom. This portion of the Tooele Valley has

relatively gentle topographical relief, gradually decreasing in elevation northward toward the Great Salt Lake.

2.4.1.4. Tooele Valley is filled with a thick sequence of semi-consolidated and unconsolidated sediments of Tertiary and Quaternary Age. The older Tertiary sediments comprise the Salt Lake Group and consist of moderately consolidated sand, gravel, silt, and clay with an abundance of volcanic ash (Everitt and Kaliser, 1980). The younger Quaternary sediments consist of interlayered and unconsolidated sand, gravel, silt, and clay including sediments deposited before, during and after the existence of Lake Bonneville. The thickness of the valley sediments ranges from a few feet at the margins of the valley to over 8,000 feet in the north central part of the valley (Everitt and Kaliser, 1980).

2.4.1.5. The surface of the alluvium has been shaped by multiple inundations of Lake Bonneville. Valley topography shows evidence of wave-cut benches and shoreline erosion. The major lake levels and their dates are as follows (Currey, et al., 1984):

Lake Level	**Elevation (above MSL)**	**Time Period (years ago)**
Gilbert	5,100 feet	23,000 to 20,000
Bonneville	5,200 feet	16,000 to 14,500
Provo	4,470 feet	14,500 to 13,500
Stansbury	4,500 feet	11,000 to 10,000

2.4.1.6. With the exception of the Provo level, each of the Lake Bonneville stands has had an impact on the unconsolidated alluvial deposits at TEAD. Bedrock beneath the valley-fill sediments of the Tooele Valley consists of alternating quartzite and limestone beds similar to the late Paleozoic rocks found in the Oquirrh and Stansbury Mountains.

2.4.2 Installation Geology

2.4.2.1. Alluvial Fill. The valley fill underlying TEAD consists of poorly sorted material ranging from silt to gravel and cobbles. This material is composed of quartzite, sandstone, and limestone eroded from the nearby Oquirrh and Stansbury Mountain ranges. Previous investigations have indicated that the lithology beneath TEAD is similar to that found elsewhere in the Tooele Valley. The unconsolidated alluvial deposits overlay Paleozoic-age limestone, quartzite, and sandstone formations, and vary laterally in coarseness. Sediments in the northern and central areas (near the center of the valley) at TEAD are generally silts, fine sands, and gravels. However, sediments in the east and west areas of TEAD (near the valley margins) consist of coarser, silty gravels with some cobbles and boulders.

2.4.2.2. Erosion and deposition of the local alluvium have been influenced by climate, precipitation rates, and periods of inundation by Lake Bonneville. As a result, the alluvial deposits at TEAD have been reworked, making correlation between different units difficult. Although the alluvium has been influenced by the activities mentioned above, continuous fine-grained layers of silty clays and clayey silts have been logged in soil borings throughout the Depot (JMM, 1988). Six fine-grained units have been identified at TEAD that are relatively continuous across the eastern portion of the Depot. They are estimated to range in thickness from less than 10 feet to more than 70 feet. The permeability of these units is relatively low; therefore, vertical groundwater movement is impeded.

2.4.2.3. Previous seismic refraction surveys at TEAD have indicated the existence of horizontal bedding. Specifically, three distinct velocity layers were identified. These layers were determined to be, in order of increasing depth, colluvium, uncemented conglomerate, and cemented conglomerate. Other studies at TEAD detected cemented gravel deeper than 350 feet below ground surface (bgs) in the northern portion of the installation. Data collected during drilling operations indicate that the cementing material does not completely fill the voids between the clasts of the cemented gravel. Further, the cement commonly exists as a calcareous coating on the surface of the gravel clasts.

2.4.2.4. Bedrock. Few bedrock outcrops are present at the Depot, although a series of limestone and quartzite outcrops are located in the northeastern part of the installation. Bedrock descriptions are based on data collected from geophysical surveys conducted at the site and investigations conducted at the Industrial Waste Lagoon (SWMU 2). The bedrock beneath the installation consists of brown and gray quartzite and blue-gray and black limestone. The depth to bedrock varies greatly across TEAD, from surface or near-surface depths in the northeast corner of the installation to more than 2,000 feet in the south-central portion of the facility.

2.4.2.5. The bedrock at TEAD has been structurally deformed throughout geologic time, resulting in abundant folds, extensive fracturing, and fault blocks (JMM, 1988). The periodic inundation by Lake Bonneville has further weathered the bedrock. The bedrock also has experienced some hydrothermal silicification. Previously collected data indicate that fractures in the bedrock are generally vertical or near vertical, with strikes of approximately 30° to 50° west of north. Dissolution cavities are present in calcareous units within the bedrock and are located generally along fracture planes. The presence of the open fractures and dissolution cavities, as well as the uniform groundwater elevations observed in the bedrock, indicate that where saturated, these features greatly affect groundwater conditions. Additional discussion of the bedrock beneath eastern TEAD is included in Section 4.0.

2.5 SOILS

2.5.0.1. The primary surface soil series in the TEAD area include Abela, Hiko Peak, Medburn, Birdow, and Berent (USSCS, 1991) as shown in Figure 2-2, which presents a map of the soil types found at TEAD. These soils consist primarily of gravelly loam, loam, or fine sand and reflect the topographic position and parent material from which they were developed. Typical of soils in semi-arid climates, the soils at TEAD have not developed easily distinguishable diagnostic horizons. The soils are generally thick (1.5 to 5 feet), moderately permeable, and usually have a pH greater than 7.0. The soils' potential for wind erosion is slight, and their potential for erosion by water is moderate.

2.5.0.2. The following briefly describe the soils mapped soils at TEAD in general, and specifically at SWMU 58:

***Abela Soils*—**Abela soils are gravelly loams to very gravelly loams and extremely gravelly sandy loams. The soils are developed in alluvium derived primarily from limestone and quartzite and typically are found on alluvial fans with slopes of 1 to 8 percent and at elevations of 4,600 to 6,000 feet above MSL.

***Hiko Peak Soils*—**Hiko Peak soils consist of gravelly and very gravelly loams developed in alluvium derived from mixed rock types. Hiko Peak soils are found on alluvial fan terraces, with slopes of 2 to 15 percent and at elevations of 4,400 to 6,000 feet above MSL.

***Medburn Soils*—**Medburn soils are fine sandy loams found on lake terraces and alluvial fan terraces with slopes of 2 to 8 percent. The soils are developed in alluvium and lacustrine sediments derived primarily from sedimentary rocks.

***Birdow Soils*—**Birdow soils are loams developed in alluvium that are derived predominantly from limestone and quartzite parent rocks. Birdow soils are typically found along flood plains, stream terraces, and alluvial fans on long or slightly concave slopes of 1 to 4 percent and at elevations from 4,200 top 6,200 feet above MSL.

***Berent Soils*—**Berent soils are fine and loamy fine eolian (wind-derived) sands from mixed rock types; they are found in vegetated sand dunes and fan terraces with up to 30 percent slope. The Berent soils are typically found at elevations of 4,500 to 5,800 feet above MSL.

2.5.0.3. Although five main soil series were identified throughout TEAD, each mapped series may include several different series that are considered too small to map. These small inclusions differ from the predominant mapped units primarily in grain size (texture). The variations of the

chemical properties between the smaller soil units have not been shown to be sufficiently different as to affect the mobility of organic or inorganic compounds.

2.5.0.4. In addition to the localized variations of the mapped soils, many of the native soils throughout the Depot have been influenced by facility construction activities. Because construction activity has been prevalent in the Industrial Area where SWMU 58 is located, the physical properties of the surface soils were evaluated and described during the sampling activities. It is possible that the soil types identified in the Industrial Area on the soil map may not reflect the actual soil conditions. The handling and movement of the soils as a result of construction and development may have changed the physical structure, but the chemical properties should be only minimally impacted.

2.6 HYDROGEOLOGY

2.6.0.1. This section summarizes the regional and Depot-specific hydrogeological conditions present at TEAD.

2.6.1 Regional Hydrogeology

2.6.1.1. Groundwater conditions in the alluvium vary throughout the Tooele Valley - unconfined, confined, and artesian conditions have all been encountered. The depth to groundwater ranges from less than 10 feet bgs in the northern Tooele Valley (near the Great Salt Lake) to more than 700 feet bgs along the southwestern margin of TEAD. Major groundwater recharge areas are along the valley margins where surface water (from rainfall and snow melt), flowing down the mountains, meets the valley floor. Groundwater generally flows inward from the basin margins toward the center of the valley and northward toward the Great Salt Lake. Figure 2-3 shows the regional groundwater elevation contours in the Tooele and Rush Valleys.

2.6.1.2. The main groundwater supply in the Tooele Valley is located in valley fill deposits (alluvial aquifer) with a smaller supply in the underlying bedrock. The alluvial aquifer is generally coarse-grained, and therefore a highly productive aquifer when saturated. Gravels of

the alluvial aquifer vary in composition but are predominantly composed of quartzite fragments with minor limestone, sandstone, and igneous fragments.

2.6.1.3. The bedrock aquifer is composed of limestone and quartzite that have relatively low permeabilities. Greater volumes of groundwater are found in bedrock where solution cavities and fractures are present. Although bedrock aquifers do not contain a large usable supply of groundwater, they are known to be in hydraulic communication with the overlying alluvial aquifer(s). Although there is limited information about the water-bearing characteristics of the bedrock aquifer on a regional basis, it is important to the Tooele Valley hydrologic system because it serves as a source of recharge to the alluvial valley fill along the margins of the Tooele Valley (JMM, 1988). Significant groundwater flow from the bedrock aquifer in the Oquirrh Mountains is documented by pumping tests in production wells installed for the City of Tooele. Pumping rates from the bedrock east of Tooele in excess of 2000 gallons per minute were reached during these pumping tests (Weston, 1997).

2.6.1.4. Recharge zones along the valley margins and upper reaches of the valley are characterized by downward vertical gradients. However, piezometers and monitoring wells installed near the northern TEAD boundary in the central portion of the Tooele Valley have revealed upward vertical gradients in that area (JMM, 1988). Major groundwater discharge areas exist north of TEAD in the Tooele Valley (e.g., Six Mile Spring and Fishing Creek Spring).

2.6.2 Installation Hydrogeology

2.6.2.1. As discussed above in Section 2.6.1, two aquifers are present at TEAD: an alluvial aquifer and a bedrock aquifer. These two aquifers have unique hydraulic characteristics, but are in hydraulic communication and therefore considered to be one aquifer system. The bedrock aquifer consists primarily of low permeability quartzite and limestone that occur beneath the eastern portion of TEAD and lie at depths ranging from about 100 to 400 feet bgs.

2.6.2.2. Permeability, hydraulic conductivity, and flow rate vary in the local bedrock according to the abundance of bedrock fracturing. Data collected during previous investigations (JMM, 1988) indicate a range of hydraulic conductivity between 2 and 2,000 gallons per day per square foot (gpd/ft^2) in areas with quartzite bedrock. Groundwater flow rates in the bedrock range from 10 to 5,500 feet per year (ft/yr). Calculated groundwater flow rates are based on an estimated average effective porosity of 3 percent (JMM, 1988).

2.6.2.3. The alluvial aquifer at TEAD, similar to the rest of the Tooele Valley, is composed primarily of gravel, with varying amounts of sand, silt, and clay. This aquifer contains alternating and discontinuous layers of fine- and coarse-grained sediments. Because none of the layers acts as an impermeable zone, the aquifer is considered to be one hydrologic unit. The contrast between the fine- and coarse-grained layers results in different hydraulic heads at the north end of TEAD. The alluvial aquifer varies in thickness from 0 feet at the bedrock outcrops to more than 750 feet near the northern boundary of TEAD. Consistent with the regional system, the predominant aquifer and main water supply for TEAD is the alluvial aquifer.

2.6.2.4. Previous investigations have indicated that the general groundwater flow direction beneath the Depot is from south to north. In the southern portion of TEAD, groundwater movement is greatly affected by downward hydraulic gradients. Conversely, groundwater in the northern portion is influenced by upward gradients and appears to be flowing from deep to shallow.

2.6.2.5. Previously acquired data indicate that the average hydraulic gradient across the facility is approximately 0.007 feet per foot (ft/ft) and the average horizontal hydraulic conductivity is 1,500 gpd/ft^2. The average Depot-wide vertical hydraulic conductivity is estimated at approximately 225 gpd/ft^2. Previous investigations suggest that because the alluvial aquifer is not of homogeneous composition; horizontal groundwater flow rates vary from approximately 4 ft/yr to greater than 9,800 ft/yr. Pump tests conducted as part of the SWMU 58 RFI activities have allowed an estimate of the hydraulic conductivity in the alluvial aquifer in the vicinity of the Industrial Area and DRMO Yard. The data from these pump tests and estimated horizontal hydraulic conductivities and velocities for the SWMU 58 area are presented in Table 2-1,

Summary of Pumping Test Results and Groundwater Velocity Estimates. Note that these estimates are representative of conditions in the immediate vicinity of each of the monitoring wells tested. The wide range in hydraulic conductivities indicted in Table 2-1 are consistent with those found in previous investigations. As noted by James M. Montgomery (1988), this wide range of hydraulic conductivity is typical of alluvial fan deposits.

2.6.2.6. Vertical groundwater flow rates have been calculated to range from less than 1 ft/yr to 200 ft/yr. Groundwater values were calculated using an average estimated porosity of the alluvial aquifer of 25 percent, which is typical of silty groundwater aquifers (Driscoll, 1986). Table 2-2 presents data from several wells and piezometers across TEAD showing vertical gradients and groundwater elevation differences.

2.6.2.7. Horizontal groundwater gradients at TEAD are relatively flat except in the northeastern area near the bedrock outcrops where gradients steepen considerably. Groundwater depth varies greatly and is more a function of changing surface elevation than changing groundwater elevation. Groundwater depths range from greater than 600 feet bgs in the southwestern area to approximately 150 feet bgs in the northern portion of the Depot.

2.6.2.8. Figure 2-4 shows groundwater elevation contours in the eastern part of the Depot and the locations of the wells used to generate the elevation contours. This contour map was created using water level measurements collected in June 2000 as part of the semi-annual groundwater monitoring program at TEAD. Figure 2-5 presents a larger-scale interpretation of groundwater elevation beneath the Industrial Area. Groundwater flow direction arrows have been added to both figures to illustrate the apparent flow directions based on the elevation contours.

2.6.2.9. As indicated in both Figures 2-4 and 2-5, an apparent groundwater high is present on the north side of the Detroit Diesel facility as measured in well C-36. The groundwater elevation measured in this well is 30 to 35 feet higher than in surrounding monitoring wells. Although the reason for this anomaly is unknown, there may be a local artesian condition caused by up-welling groundwater in this area. Conversely, the apparent elevation anomaly may have resulted

from leaks in the existing potable and fire water distribution system. Effects that this anomaly may have on the distribution of environmental contaminants are discussed in Section 4.2.

2.7 REGIONAL SURFACE WATER

2.7.0.1. Five perennial streams exist in the Tooele Valley and have a total discharge of approximately 17,000 acre-feet per year (Razem and Steiger, 1981). The streams originate in the mountains surrounding the Tooele Valley and are a result of rainfall and snowmelt. Three of the streams originate to the west of TEAD in the central Stansbury Mountains and two streams originate in the Oquirrh Mountains to the east of the installation.

2.7.0.2. The western Depot boundary is traversed by South Willow Creek and Box Elder Wash. South Willow Creek, near the northwest boundary of TEAD, is the largest stream in the Tooele Valley and has a reported annual flow of approximately 4,830 acre-feet. Box Elder Wash, a much smaller and mostly dry watercourse, crosses TEAD from south/southwest to north and has an annual discharge rate of about 900 acre-feet. Flow occurs in these drainages on TEAD only during rare periods of heavy rain or rapid snow melt. The surface water from these drainages is usually diverted for irrigation or infiltrates into the alluvial aquifer along the mountain front before it reaches the Depot.

2.7.0.3. A large portion of surface water in the Tooele Valley is evaporated and transpired. Normal annual precipitation (1960–1989) in Tooele City is 18.34 inches (USGS, 1994). Evapotranspiration losses are estimated to allow from 1 to 10 percent of the precipitation falling on the valley floor to contribute to recharge of the regional aquifer.

2.7.0.4. To control storm runoff, an artificial drainage system has been constructed throughout the developed areas of TEAD. This storm water runoff system discharges to spreading areas or into natural drainage channels near the Depot boundaries.

2.8 VEGETATION

2.8.0.1. The climate across TEAD is relatively constant, and the diversity and distribution of plant species vary with the soil types. Therefore, plant species are categorized with respect to the soil types in which they grow. The following sections discuss the flora present in the dominant soil series on TEAD.

2.8.1 Regional Vegetation

2.8.1.1. Tooele is located in the "Intermountain Sagebrush Province," an area dominated by sagebrush (*Artemisia* spp.) at lower elevations. The vegetation type has been characterized as Bonneville-Saltbush-Greasewood, which is characteristic of most of western Utah. Other important plants in this region are shadscale (*Atriplex confertifolia*), fourwing saltbush (*Atriplex canescens*), rabbitbrush (*Chrysothamnus nauseosus*), spineless hop-sage (*Grayia brandegei*), and horsebrush (*Tetradymia canescens*). All of these shrubs tolerate alkali, but in varying degrees; this tolerance is essential to their survival on the poorly drained soils that are widespread in the region. In areas where salt concentration is very high, even these shrubs are unable to grow; instead, communities dominated by greasewood or saltgrass dominate

2.8.1.2. Although sagebrush is the dominant plant, its presence is affected by past and present land use. In areas protected from fire, prairie or mixed-prairie type grasses gradually become dominant.

2.8.2 Flora Composition and Habitats

2.8.2.1. Seven habitat types are evident at TEAD: sagebrush-juniper, grassland-juniper, greasewood, sagebrush, disturbed grassland, disturbed sagebrush, and developed Maintenance and Administration Areas. A site-wide ecological survey conducted by RUST E&I in 1996 found grasses and rabbitbrush to be the dominant vegetation, with scattered sagebrush in undisturbed areas. Junipers appeared at elevations between 4,500 and 5,000 feet above MSL around TEAD.

2.8.2.2. Eight range site types were identified within the TEAD facility area by RUST E&I (1996a). The range site types, with dominant vegetation in parentheses, are as follows:

- Semidesert Sand (Utah Juniper) - Semidesert Gravely Loam (Wyoming Big Sagebrush)
- Semidesert Gravelly Loam (Wyoming Big Sagebrush) – Semidesert Loam (Wyoming Big Sagebrush)
- Semidesert Loam (Wyoming Big Sagebrush)
- Semidesert Gravelly Loam (Wyoming Big Sagebrush)
- Semidesert Alkali Loam (Black Greasewood)
- Upland Stony Loam (Pinyon-Utah Juniper)
- Loamy Bottom (Basin Wildrye)
- Upland Loam (Mountain Big Sagebrush).

2.8.2.3. A list of species associated with these range and habitat types is provided in RUST E&I (1996a).

2.8.3 Threatened and Endangered Species

2.8.3.1. No *endangered* plant species have been identified at TEAD; however, eight plant species that could occur at TEAD have been federally listed as *threatened*, either within the last five years, or currently (RUST, 1996a). These plant species are as follows:

- Clay Phacelia (*Phacelia argillacea*)
- Cryptantha (*Cryptantha compacta*)
- Desert milkvetch (*Astragalus deserticus*)
- Pohl milkvetch (*Astragalus lentiginous pohlii*)
- Grouse Creek milkvetch (*Astrag olus anserinus*)
- Deep Creek stickweed (*Hackelia ibapnsis*)
- Basin fishhook cactus (*Sclerocactus pubispinus*)
- Ute Ladies'-Tresses (*Spiranthes diluvialis*).

2.9 WILDLIFE

2.9.1 Local and Regional Wildlife

2.9.1.1. Only a few large mammals are found in the TEAD area and on the Depot, including mule deer (*Odocoileus hemionus*), mountain lion (*Felis concolor*), bobcat (*Felis rufus*), and badger (*Taxidea taxus*). The most common species are small mammals such as deer mice (*Peromylcus maniculatus*), ground squirrels (*Spermophilus* spp.), jackrabbits (*Lepus californicus*), kangaroo mice (*Microdipodops* spp.), pocket gophers (*Thomomys* spp.), pocket mice (*Perognathus* spp.), wood rats (*Neotoma* spp.), and kit fox (*Vulpes macrotis*). Some ground squirrels that inhabit the lower elevation biomes, especially the Townsend ground squirrel (*Spermophilus townsendii*), become dormant during the summer months.

2.9.1.2. A 1996 ecological survey (RUST, 1996a) found that many species of birds and small mammals are relatively common at TEAD and that lagoons on the site attracted numerous waterfowl. A complete list of the animal species found on TEAD is presented in the installation environmental assessment conducted by ERTEC (1982).

2.9.2 Threatened and Endangered Species

2.9.2.1. One threatened wildlife species is known to occur in the vicinity of TEAD: the bald eagle. The bald eagle habitat in the area is considered critical, and it encompasses an extensive area in Utah which includes TEAD. The area needed by the bald eagle to roost, hunt, live without disruption, and find shelter is relatively large and encompasses many smaller habitat types. Bald eagles are known to winter in the Rush Valley, south of TEAD, and hunt along water bodies throughout Utah.

2.9.2.2. The peregrine falcon, previously considered *endangered*, has been removed as a federally listed species. Peregrine falcon habitat, however, has been shrinking as housing and agricultural land use patterns change, and its prey is being depleted by the use of pesticides and rodenticides. Peregrine falcons have been reintroduced near the Timpie Springs Wildlife Management Area in the Northern Stansbury Mountains to the west of TEAD.

3. PHASE I RFI CONTAMINANT ASSESSMENT METHODOLOGY

3.1 EVALUATION OF DATA QUALITY OBJECTIVES

3.1.1 Data Quality Objectives (DQOs)

3.1.1.1. Data quality objectives (DQOs) are qualitative and quantitative statements that translate non-technical project goals into technical project-specific decision parameters. As stated in the Master Work Plan, the project-specific DQOs for the SWMU 58 Phase I RFI were to provide data of known quality so as to:

- Characterize the nature and extent of chlorinated solvents in vadose zone soils;
- Estimate the mass of the chlorinated solvents in the soil;
- Evaluate if the chlorinated solvents in vadose zone soils are continuing sources of the groundwater contamination; and
- Support a preliminary design for a soil remediation pilot test using soil-venting technology.

The following sections discuss the success of the Phase I investigation in meeting these objectives.

3.1.2 Characterization of the Nature and Extent of Solvents in Vadose Zone Soils

3.1.2.1. As presented in Section 4, data collected during the passive and active soil gas surveys were deemed adequate to characterize the nature and extent of chlorinated solvents in the vadose zone soil, particularly where VSG monitoring stations were installed. As discussed in Section 4.4 and the conclusion section of the report, additional vertical soil gas data are necessary to

determine the vertical extent of the contamination in some of the suspected source areas. Characterization of the lateral extent of the soil contamination was deemed adequate.

3.1.3. Estimation of the Mass of Chlorinated Solvents in the Soil

3.1.3.1. The comparatively sparse number of data points relative to the horizontal and vertical extent of the potential source areas made preliminary mass estimate calculations difficult. With the data available, mass estimates would have a high degree of uncertainly and results could be in error by several orders of magnitude. For this reason, mass estimate calculations are not included in this report and further evaluation of residual solvent mass in the vadose zone is recommended for the Phase II investigation.

3.1.4 Evaluation of Vadose Zone Chlorinated Solvents as Continuing Sources of Groundwater Contamination

3.1.4.1. As presented in Section 4, data collected during the active soil gas survey were deemed adequate to evaluate the impact to groundwater in source areas where VSG monitoring stations were installed. As discussed in Section 4.4, due to the areal extent of the SWMU 58 investigation area, additional vertical soil gas data are necessary to determine the vertical extent of the contamination in some of the suspected source areas.

3.1.5 Support of a Preliminary Design for a Soil Remediation Pilot Test Using Soil-Venting Technology

3.1.5.1. The data collected during the Phase I investigation are deemed sufficient and adequate to support the site selection and design of the soil vapor extraction pilot test planned for the SWMU 58 investigation area.

3.2 GENERAL FIELD INVESTIGATION PROCEDURES

3.2.0.1. Investigation procedures for the Phase I RFI at SWMU 58 were described in detail in the *Master Work Plan for Vadose Zone and Groundwater Investigations at the Industrial Area, DRMO Area, and SWMU 12/15* (KA, 1998e), and associated *Work Plan Addenda* (KA, 1999). These documents were reviewed and approved by USACE personnel, the TEAD Environmental Office, and regulatory personnel from the UDEQ. The following sections describe the various field procedures and protocols used during the Phase I RFI to gather data of the necessary quality to meet the project-specific DQOs, as described above.

3.2.1 Record Keeping

3.2.1.1 Field Logbooks. Because Kleinfelder staff were working at several sites simultaneously, multiple permanently bound field logbooks were dedicated to the project. These logbooks were identified numerically, and the numbers recorded in indelible ink on the first page. The logbooks provided a daily record of notable events, observations, and measurements taken during field investigations. Information recorded in the logbooks included:

- Weather conditions
- Sampling locations
- Instrument calibrations
- Field measurements
- Deviations from the original Field Sampling Plan
- Sample identification numbers
- Chain-of-custody numbers
- Project name and number
- Site location and event
- Telephone number and address of business office.

3.2.1.2. All entries were made in ink, signed, and dated. Corrections to erroneous entries were made by crossing a line through the entry (accompanied by the corrector's initials and the date) and entering the information correctly. The field logbooks were used to record events during sampling activities in sufficient detail to allow field personnel to reconstruct events that transpired during the project. If task-specific field sheets (e.g., boring logs) were used, they were referenced but not reiterated in the logbook.

3.2.1.3. The field notebook was maintained by the Field Team Leader, who signed and dated the notebook prior to fieldwork initiation. Unused portions of logbook pages were crossed out, signed, and dated at the end of each workday. Field logbooks have been included as part of the permanent project record in Appendix A.

3.2.1.4. Variance Forms. Any significant variation from the project Work Plan (KA, 1998e) was recorded in the field logbook *and* on a separate Variance Form. Approval for a variance had to be obtained from both the Kleinfelder Project Manager and USACE Project Manager. A record of all variances was retained in the project files. Copies of the Variance Forms completed during the Phase I RFI are included in Appendix A.

3.2.1.5. Photographs. Color photographs were taken during all field activities. When photographs were developed, the date, subject, and name of the photographer were transcribed onto the photographs themselves.

3.2.1.6. Calibration Logs. The calibration of all field instruments (i.e., turbidity meter, OVM, pH meter, conductivity meter, etc.) was checked at least once per day during the period of use according to the manufacturers' instructions. A log was kept for each instrument and all pertinent calibration information documented for each calibration or calibration check event. Information noted on the form included:

- Date and time of calibration
- Instrument serial number
- Manufacturer/lot number of standard used (if appropriate)

- Instrument readings during calibration
- Initials of operator performing calibration.

3.2.1.7. Copies of the Calibration Log Forms used to record the above information during the Phase I RFI are included in Appendix A.

3.2.1.8. Health and Safety Meeting Forms. As stipulated in the Health and Safety Plan for the project (KA, 1998e), a daily tailgate safety meeting was held during all field activities to review various health and safety topics. The meeting was conducted by the Project Geologist or senior field technician on site, and included topics such as personal protective equipment, site hazards, safe work practices, and weather concerns. All involved contractors and subcontractors working on site were required to attend. A record of each meeting was kept on a Daily Health and Safety Meeting Form by the person conducting the meeting. Copies of the completed Health and Safety Forms for the project are included in Appendix A.

3.2.1.9. Other Activity-Specific Forms. In addition to the general record keeping described in the preceding paragraphs, a series of activity-specific forms were used to document specific field activities. These forms are discussed in subsequent sections of this report as part of the respective field activity, and are summarized here. They include:

- Soil Boring Log
- Monitoring Well Installation Record
- Well Development Record Form
- Groundwater Sampling Form
- Chain of Custody Forms
- Drill Rig Inspection Forms

3.2.2 Sample Identification

3.2.2.1. When a sample was collected, the sample number and collection date were recorded in both the chain-of-custody form and the field logbook. All QC samples, field blanks, etc., were also recorded in the logbook. In addition, maps were prepared that clearly identified each sample location (see Section 4.0.)

3.2.2.2. Labels bearing job designation, time, sample depth interval, sample number, date sampled, and the initials of the sampler were affixed to the bags, canisters, brass liners, jars and bottles containing the collected samples. The soil and water samples were then placed into a plastic bag and stored in a cooler maintained at 4°C ± 2°C. Soil gas samples were stored in a sturdy container (i.e., cardboard box) and maintained at room temperature. The Project Geologist or senior technician was responsible for care and custody of the samples until they were transported to the laboratory for analysis.

3.2.3 Sample Handling, Storage, and Shipping

3.2.3.1 Sample Custody. Custody of samples was maintained and documented from the time of sample collection to completion of the analyses at the laboratory. Each sample was considered to be in the sampler's custody, and the sampler personally responsible for the care and custody of the samples, until delivered to the courier service for delivery to the laboratory. A sample was considered to be under a person's custody if:

- The sample was in the person's physical possession;
- The sample was in view of the person after that person has taken possession;
- The sample was secured by that person such that no one could tamper with the sample; or
- The sample was secured in an area restricted to authorized personnel only.

3.2.3.2. The chain-of-custody form was used as the primary means to document the persons responsible for handling samples from collection through laboratory analysis. Samples were collected, transported, and received under strict chain-of-custody protocols equivalent to those established by the USEPA for litigation-related materials. Upon placement in the sample cooler (if necessary), each sample was immediately recorded on a chain-of-custody form. Once recorded, the sample was considered "in custody." Once the sample was "in custody," it stayed in sight of the person collecting the sample (the sampler) until it was: (1) packaged and stored in a secure location; (2) turned over to a common carrier; (3) relinquished to another Kleinfelder employee for handling/transporting; or (4) delivered directly to the analytical laboratory.

3.2.3.3. Each person who assumed responsibility for the samples was required to sign and date the chain-of-custody form both upon accepting and upon relinquishing the samples. Common commercial carriers were not required to accept or relinquish the samples; therefore, the Kleinfelder person shipping the samples via common carrier signed to relinquish the samples and enclosed the chain-of-custody form in the sample cooler for shipping. The laboratory, upon receiving the samples, then signed the chain-of-custody form to show acceptance.

3.2.3.4. Every sample included in a sample cooler was listed on the chain-of-custody form, including QC samples (i.e., trip blanks, rinse blanks, and temperature blanks). Unused portions of the form were crossed out and initialed by the sampler. Information on the form included the time, date, and location of sample collection, the identification numbers, requested analyses for each sample listed, sampler's name, time and date of sample transfer between different persons, and the name of the person receiving the samples at the laboratory.

3.2.3.5. Each chain-of-custody form was completed in triplicate. After samples were received by the laboratory, one copy of the form was left with the laboratory, one copy was placed in the project file, and the third copy was kept by the Kleinfelder Project Manager for inclusion with the laboratory data package in subsequent reports.

3.2.3.6. Packing of Samples. Samples were transported as soon as possible after sample collection to the laboratory for analysis. Field personnel used the following procedures when packing and transporting samples to the laboratory:

- Waterproof metal or equivalent strength plastic ice chests were used for soil and water samples and sturdy cardboard boxes, or equivalent strength containers, for soil gas samples;

- Soil and water samples were packaged in individual plastic bags prior to placement in the ice chest;

- Wet ice, or a combination of wet ice and "blue ice," was placed in plastic bags which were placed around, among, and on top of the soil and water samples;

- Paperwork (chain-of-custody record, etc.) was placed in a waterproof plastic bag and taped to the inside lid of the sample shipment container;

- The container was securely closed with fiber-reinforced tape;

- A label was affixed to the top of the container identifying the name of the project and Kleinfelder as the responsible party for the samples.

3.2.3.7. Shipping of Samples. Sample shipment containers were transported via courier or by priority "next day" delivery (i.e., Federal Express Next Day ™) to the laboratory. The laboratory was notified in advance of all shipments.

3.2.3.8. Project Laboratories. The laboratories to which the various samples were sent, and the sample media analyzed at each laboratory, were as follows:

Groundwater and/or Soil Samples

Applied Physics and Chemistry Laboratory
13760 Magnolia Avenue
Chino, CA 91710
Telephone: (909) 590-1828
FAX: (909) 590-1498
Point of Contact: Charles Wu

Curtis & Thompkins, Ltd. (C&T)
2323 Fifth Street
Berkeley, CA 94710
Telephone: (510) 486-0900
FAX: (801) 486-0532
Point of Contact: Carol Whortham

Mountain States Analytical Laboratory
1645 West 2200 South
Salt Lake City, Utah 84119
Telephone: (801) 973-0050
FAX: (801) 972-6278
Point of Contact: Mark Bostrom

American West Analytical Laboratory
463 West 3600 South
Salt Lake City, Utah 84115
Telephone: (801) 263-8686
FAX: (801) 263-8687
Point of Contact: Elona Hayward

Soil Gas Samples

Air Toxics Limited (ATL)
180-B Blue Ravine Rd
Folsom, CA 95630
Telephone: (916) 985-1000
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Point of Contact: Debbie Pearce

GORE-Sorber® *Screening Modules*

Screening Modules Laboratory
W.L. Gore & Associates, Inc.
101 Lewisville Road
Elkton, MD 21921
Telephone: (410) 392-3300
FAX: (410) 506-4780
Point of Contact: Jay Hodney

Additional quality assurance (QA) samples were collected by Kleinfelder personnel and shipped to the QA laboratory specified by the USACE:

Severn Trent Laboratories, Inc. (formerly Quanterra)
880 Riverside Parkway
West Sacramento, CA 95605
Telephone: (916) 973-5600
FAX: (916) 973-7768
Point of Contact: Karen Dahl

3.2.4 Decontamination Procedures

3.2.4.1. A temporary decontamination pad was constructed from flexible 40-mil thick high-density polyethylene (HDPE) on a sloping soil base that drained to a sump at one end. The pad was bermed and large enough to accommodate the largest on-site vehicle that could require decontamination, plus 4 feet on each side. Exterior grade plywood sheeting was laid over the

HDPE to prevent damage to the pad from vehicle traffic. Prior to use on the Phase I RFI, drilling and construction equipment was cleaned at the decontamination pad. Water and sediments accumulated at the decontamination pad were pumped into drums and transferred at the end of each day to the TEAD 90-day storage yard as discussed below.

3.2.4.2. On-site decontamination of sampling equipment was performed using five-gallon buckets and non-phosphate detergent inside a temporary decontamination station located away from, and at a cross-gradient or downgradient location from, the location being drilled or sampled. Decontamination of appropriately sized drilling tools and equipment was conducted in a galvanized steel wash tub using high-pressure steam/hot water from an approved source water. Decontamination water collected at the temporary decontamination stations was pumped into 55-gallon drums, or other suitable container(s) and transferred at the end of each day to a holding tank (with labels provided by the TEAD Environmental Office) at the TEAD 90-day storage facility. Solids generated as a result of on-site decontamination procedures (i.e., sediments in rinsate water) were containerized with the soil cuttings from suspected source areas.

3.2.4.3. All drilling rigs, drill rods, drill bits, temporary casing (if used), well development equipment, tremie pipes, grout pump lines, sampling equipment, and all other associated equipment was steam cleaned with high-pressure hot water/steam from an approved water source prior to mobilizing to each well location. Casing and well screen were kept packaged until installation. Liquids generated by this process were containerized and stored on-site or at the TEAD 90-day yard until characterized by analysis, at which time it was disposed of as described in Section 3.2.5.

3.2.4.4. Solids generated at the decontamination pad were collected and, if laboratory results from the borehole soil samples showed that no contaminated soil was penetrated during the drilling process, were transported to the drill site where they were spread on the ground with the respective drill cuttings. Conversely, if the laboratory results from borehole soil samples indicated that the borings did penetrate impacted soils, decontamination pad sludges were containerized and disposed of with the impacted soil as described in Section 3.2.5.

3.2.4.5. During sampling activities, field personnel performed appropriate decontamination measures to minimize cross-contamination between samples. Decontamination procedures were consistent with those outlined in "Test Methods for Evaluating Solid Waste-Physical/Chemical Methods" (U.S. EPA SW-846, 3rd ed.).

3.2.4.6. Field personnel decontaminated all non-disposable sampling equipment immediately prior to use, whenever possible. When this was not possible or practical, appropriate measures were taken so that contamination of clean equipment did not occur. Field personnel wore clean, disposable gloves that did not degrade when exposed to the selected decontamination solvent while decontaminating sampling equipment and tools. Clean sampling equipment was not placed on the ground or other contaminated surfaces prior to use. The waste decontamination fluids were collected and disposed of appropriately.

3.2.5 Control, Sampling, and Disposal of Wastes

3.2.5.1. Investigation-derived wastes (IDW) generated during the course of this project included drill cuttings (dry and saturated), water from monitoring wells and equipment decontamination activities, discarded personal protective equipment (PPE), and miscellaneous debris. The procedures used to handle and dispose of IDW were in accordance with the TEAD Solid and Hazardous Waste Management Plan and are summarized below for each type of generated IDW. Documentation recording the disposal of IDW is included in Appendix A.

3.2.5.2. Soil. Drill cuttings generated from the surface to the projected historical high groundwater table were screened with an organic vapor meter (OVM). For borings drilled in areas not thought to be potential source areas, the drill cuttings showing no visible signs of contamination or above-background OVM measurements were considered non-hazardous and spread evenly on the ground at the drill site following drilling. Drill cuttings generated in potential source areas and/or below the historic high water table to the bottom of the borehole were placed in DOT approved 55-gallon drums (or other appropriate containers) with labels provided by the TEAD Environmental Office.

3.2.5.3. A hazardous waste label was affixed to each container before any waste was placed inside. The accumulation "start date," generator ID number, well number, and depth of waste information was entered on the label. When the container was full, it was transferred off-site or to the TEAD 90-day storage facility within three days. Filled containers temporarily left on-site were secured with a locking bolt. A representative sample was collected from the cyclone and submitted to the USACE-certified laboratory. The sample was analyzed and the IDW characterized for disposal within 30 days of being sampled. Once characterized, a profile was established (when needed for wastes with listed hazardous constituents) and a transportation manifest prepared. Then, following approval by TEAD, the waste was disposed of accordingly within 30 days of completion of the characterization.

3.2.5.4. Drill cuttings collected in potential source areas and all saturated cuttings were considered hazardous until sample results indicated they were non-hazardous, at which time the container was emptied at the well site and the cuttings evenly spread on the ground. If sample results indicated that the cuttings contained hazardous constituents, the container was transported off-site to a permitted treatment, storage, and disposal facility for disposal as described above.

3.2.5.5. Water. All purge, development, and decontamination water generated during well development and sampling activities was collected on-site and transferred each day to a holding tank at a TEAD 90-day storage facility. Decontamination rinse water was captured both at the decontamination pad and at the temporary decontamination stations. Development and purge water was collected directly at each wellhead.

3.2.5.6. Results of the groundwater samples collected from each well were used to characterize the wastewater generated during well drilling, development, and sampling activities. Generally, the analysis of the groundwater showed that it contained hazardous constituents. When the concentrations permitted treatment at the TEAD Groundwater Treatment Plant (GWTP), the groundwater was transported from the holding tank by "vactruck" or a large portable polyethylene tank to the GWTP for treatment and disposal. When constituents other than those permitted for treatment at the TEAD GWTP were detected, the groundwater was transported by a licensed waste hauler to a permitted treatment, storage, and disposal facility for disposal.

3.2.5.7. Miscellaneous Debris and PPE. Before being discarded, all miscellaneous debris generated as a result of this project, including items used as PPE during field work activities, were collected and held pending analysis of associated soil and water. If the associated analytical results were non-detect, the items were discarded as a non-hazardous waste. If analytical results showed hazardous constituents, the PPE or miscellaneous items were treated as a hazardous waste and properly disposed of with other hazardous IDW.

3.3 VADOSE ZONE INVESTIGATION METHODS

3.3.0.1. This section describes general procedures for field activities that are specified in the Scopes of Work for Delivery Orders No. 55 and 57 (Vadose Zone Investigation at the Industrial Area and DRMO Area, respectively). A project-specific Work Plan and Work Plan Addenda (KA, 1998e and 1999, respectively) were prepared to address site-specific activities and procedures during the investigation.

3.3.0.2. Sampling methodology and locations for the vadose zone investigation conducted at SWMU 58 are described below and results are discussed in detail in Section 4.0. The investigation techniques used to conduct the vadose zone investigation were as follows:

- Geophysical Survey in the DRMO Area
- Passive Soil Gas Survey
- Active Soil Gas Survey
- Vertical Soil Gas Monitoring Station

3.3.1 Geophysical Survey

3.3.1.1. Objective of Geophysical Survey. The objective of the geophysical survey conducted in a portion of the DRMO Area was to test for the presence of previously undetected burial areas that may be acting as a continuous source of groundwater contamination. Such anomalies might include refuse trenches, buried wastes, and drums. The electromagnetic (EM) techniques

utilized for the project operate on the principle of electromagnetic induction (EMI). The geophysical survey was completed by Kleinfelder personnel in April 1999 using a commercial ground conductivity meter as described below.

3.3.1.2. The EM method provides a means of measuring the electrical conductivity of subsurface soil, rock, and groundwater. Electrical conductivity is a function of the type of soil and rock, its porosity, its permeability, and the fluid composition and saturation. In most cases the conductivity of the pore fluids will be largely responsible for the measurement. Accordingly, the EM method applies both to assessment of natural geohydrologic conditions and to mapping of many types of contaminant plumes. In addition, trench boundaries, buried wastes, drums and utility lines can be located with EM techniques.

3.3.1.3. Geophysical Survey Equipment and Procedures. The Geonics EM31-MK2 Ground Conductivity Meter and Data Logger were used for the EM survey at SWMU 58. This instrument is a frequency-domain EM device equipped with a very low frequency (VLF) radio transmitter and a receiver coil. The EM31 uses the VLF transmitter to induce electrical currents in the subsurface, which in turn create secondary fields that are sensed by the EM measuring device. The amplitude and phase of these secondary fields are related to the electrical properties of the subsurface. The EM31 records the quadrature and in-phase components of the EM fields generated by the VLF transmitter on portable data logging equipment. The quadrature component data are measurements of the apparent terrain conductivity. The in-phase component is sensitive to the presence of highly conductive material and is generally considered the metal-detection mode.

3.3.1.4. The geophysical survey covered approximately the north 50% to 70% of the DRMO Area and was performed in accordance with the operating manuals for the Geonics EM31-MK2 Ground Conductivity Meter and Data Logger. The traverse (grid) lines for the EM survey were staked in an approximately east-west direction and located 10 feet apart. The apparent soil conductivity and in-phase data were collected continuously in the vertical dipole along each grid line. Data were down loaded from the data logger and processed using software furnished with the instrumentation.

3.3.1.5. A terrain conductivity map of the site, which outlines areas of conductive fill material, or naturally conductive soil or rock (clays and shales) was produced. Contours of instrument response were evaluated for anomalies and used to select the locations for some active soil gas survey points and a monitoring well in an area considered a likely source of VOCs. Additionally, the data points were linked to a global positioning system grid. Results of the geophysical survey at SWMU 58, as well as the surveyed areas, are presented in Section 4.0.

3.3.2 Passive Shallow Soil Gas Survey

3.3.2.1. This section discusses the sampling equipment, decontamination procedures, sample containers and shipping for laboratory analyses for the GORE-Sorber® Screening Modules used to conduct the passive soil gas survey. This screening-level technology was used to perform passive shallow soil gas surveys throughout the Industrial and DRMO areas of TEAD. All sampling activities involved in this investigation were conducted in compliance with the appropriate USACE, EPA, and UDEQ protocols. Appropriate decontamination measures were taken to minimize contamination from other samples, sampling equipment, sample containers, etc.

3.3.2.2. A total of 937 locations were sampled during the passive soil gas investigation at SWMU 58, which included sampling points in both the Industrial and the DRMO Areas. The survey was conducted in multiple phases, with sample locations for one phase sited based on the results from the previous phase. The phases and rationale for sample locations are discussed in detail in Section 4. The same sampling methods were used in all phases of the survey. The passive soil gas survey was initiated on April 20, 1999, and was completed in October 1999. Figures 3-1 and 3-2 show the passive soil gas sampling locations in the Industrial and DRMO Areas, respectively.

3.3.2.3. Specifically, the passive soil gas sample locations were selected so as to investigate the following suspected source areas:

- Former industrial wastewater discharge ditches in the former Industrial Area;
- Stormwater/industrial wastewater piping in the former Industrial Area;
- Areas around 15 buildings in the former Industrial Area;
- Two former drum storage areas (SWMU29) near the southern end of the former Industrial Area;
- East of Building 619 in the Vehicle Test Track area;
- Central and southern portions of the DRMO Area;
- Suspected former burial area in the northern corner of the DRMO Yard; and
- A former drum storage area in the northeastern DRMO Yard.

3.3.2.4. Description of GORE-Sorber® Screening Modules. A typical GORE-Sorber® Screening Module contains four separate GORE-Sorber® passive sorbent collection devices (sorbers). The sorbers are about 40 millimeters (mm) long, by 3 mm in diameter. Each contains 40 milligrams (mg) of a granular adsorbent material selected for the specific compounds to be detected. Typically, Tenax-TA® resin is used for its affinity for a broad range of VOCs. The four sorbers are sheathed in the bottom of a 4-foot length of vapor-permeable insertion and retrieval cord. This configuration is termed a "GORE-Sorber® Screening Module." Both the retrieval cord and sorbent container are constructed solely of inert, hydrophobic, microporous GORE-TEX® which is expanded polytetrafluoroethylene (ePTFE), a compound similar to Teflon®. The configuration of a GORE-Sorber® Screening Module was presented in detail in the Project Work Plan (KA,

1998e). Since the results of the sorber analyses are reported only in mass of VOCs retained on the sorber(s), this method provides only general field screening data as to presence or absence of VOCs in the surrounding soils.

3.3.2.5. The ePTFE membranes are hydrophobic and exclude liquid water, yet they do not retard vapor transfer, thus allowing VOC vapors to freely penetrate the module and collect on the adsorbent material. This ability to protect the sorbent media from contact with ground and soil pore water, without retarding soil vapor diffusion, allows the application of GORE's soil vapor screening methods in saturated and very low permeability, poorly drained soils (GORE, 1996).

3.3.2.6. Screening Survey Installation and Retrieval Procedures. The GORE-Sorber® Screening Modules were installed to a depth of 3 to 10 feet below grade (3-foot minimum) using a hydraulic push tool fitted with a percussion hammer. Prior to beginning a new borehole, the push tool was washed with a non-phosphate detergent to remove residual soil and rinsed with distilled water.

3.3.2.7. After the pilot hole was completed, modules were inserted using the stainless steel insertion rod supplied by GORE. The top of each retrieval cord was typically fastened to a cork, which was tamped flush with the ground surface. The cork was necessary for retrieval of the module and to seal the annulus of the boring. A detailed description of the installation methodology is included in the project work plan documents.

3.3.2.8. Following the suggested module exposure period of 14 days, the module were retrieved as described below. To retrieve the module from each location, the cork was removed, and the retrieval cord and module manually extracted from the pilot hole. The cork was then separated from the module and discarded. The exposed modules were resealed in their respective designated shipping vials and placed immediately into ice-chilled coolers for return shipment to GORE. Trip blanks and water temperature control blanks (provided by GORE) were also returned. Coolers were sealed using filament tape and cooler seals, signed by the field supervisor, and shipped under chain-of-custody control to GORE's laboratory in Elkton,

Maryland, via overnight carrier. A detailed description of the module retrieval methodology is also included in the project work plan documents.

3.3.2.9. Quality Assurance Measures. Before shipping to Kleinfelder from GORE, all modules were individually numbered for tracking throughout the entire shipping, field deployment, and analytical process. Modules were subjected to a 16-hour "bake-out" at 150°C to remove any VOCs absorbed by the module during manufacturing and storage. To maintain a clean environment during shipment, each module was sealed into a clean glass vial with a Teflon liner. All modules were transported to and from the site in sealed glass vials packed inside coolers. Five to ten percent additional trip blanks accompanied the modules to and from the site. The trip blanks were tested as controls to document any cross-contamination.

3.3.3 Active Shallow Soil Gas Survey

3.3.3.1. Following receipt of data from the passive soil gas survey, an active soil gas (ASG) survey was conducted at a selected number of the passive soil gas sites. This active soil gas survey served to partially quantify and verify the passive soil gas survey results, and provided a means of evaluating the relative significance of VOC detections noted during the passive soil gas survey. ASG sampling locations were placed in the vicinity of the highest passive soil gas detections. A total of 24 active soil gas sampling locations were installed: 19 in the Industrial Area and 5 in the DRMO Area. The sample locations and results of the active soil gas survey are presented in Section 4.0.

3.3.3.2. Soil Gas Probe Installation Procedures. The active shallow soil gas survey was conducted by installing sampling probes made of plastic tubing which were perforated over a 1-foot interval at the bottom end of the probe. The probes were installed in the vadose zone using a pneumatically-powered push tool. After waiting at least 24 hours after installation, soil gas samples were collected. Prior to sample collection, a vacuum pump was used to purge from 3 to 5 volumes of air from each probe at a rate of 0.5 liters per minute (a rotometer was used to regulate the flow rate). The purge volumes were calculated prior to sampling based on the diameter and length of the probe casing. After purging, an evacuated SUMMA® canister was

used to collect a representative sample of the soil gas from the probe at 0.5 liters per minute (l/min), which was analyzed at the laboratory using method TO-14 for chlorinated solvents (USEPA, 1997a). Sample collection was performed in accordance with *EPA Method 25C—Determination of Non-Methane Organic Compounds in MSW Landfill Gases* (USEPA, 1997b).

3.3.3.3. Each active soil gas survey sampling location was constructed according to the following method:

- A push tool was used to create a borehole (approximately 1.25-inch diameter) to a depth of 8-10 feet below ground surface.

- Plastic tubing (½- to 1-inch diameter and perforated at the lower 1-foot interval) was secured to a sacrificial drive point, which was discarded at the bottom of the hole when the drive rod was withdrawn

- Two feet of sand pack material was installed around the probe at the base of the borehole.

- Bentonite crumbles were placed above the sand pack in 1-foot lifts to the level of the ground surface. One gallon of distilled water was used to hydrate each lift of bentonite. The bentonite was allowed to hydrate at least 24 hours prior to sampling.

- A polyvinyl chloride (PVC) sleeve was added to the top of the plastic tubing above the ground surface.

- A field survey was performed to obtain x-and y coordinates for each active survey location to an accuracy of ± 1 foot.

- During sampling, the ground around each probe was saturated with approved source water to mitigate short-circuiting from the surface.

3.3.3.4. Each sampling probe location was positioned sufficiently distant from known utility lines to reduce the possibility of contacting underground utilities.

3.3.4 Vertical Soil Gas Monitoring Stations

3.3.4.1. Once the locations with the highest concentrations of VOCs in shallow soil gas were identified using the above methods, a vertical concentration profile was developed using vertical soil gas (VSG) monitoring stations. These monitoring stations, capable of profiling soil gas concentrations as well as monitoring subsurface pressures and flowrates, were designed and installed using the "everted liner technology" described below. A total of five VSG wells were installed during the period from October 5 to November 22, 1999. The locations and sampling results from the VSG wells are discussed in Section 4.0.

3.3.4.2. Description of Everting Borehole Liner Systems. The main component of the vertical soil gas monitoring stations is an everting borehole liner that is placed, using air pressure, into a previously drilled borehole. The liner consists of a urethane-coated nylon fabric and is used to carry a variety of measuring devices into position while providing isolation of multiple sampling devices from each other. For this application, ten vapor sampling ports were custom installed in each liner prior to deployment to sample soil gases at predetermined elevations. Individual sampling lines were grouped in sleeves on the inner surface of the liner, with each sampling line able to draw vapors from a discrete elevation, thus making vertical vapor profiling possible. Flexible Liner Underground Technologies, Ltd. Co. (FLUTe™) was the primary subcontractor supplying the liner systems for the project.

3.3.4.3. The individual sampling ports in each liner system were designed to sample soil gas from ten depths spaced evenly through the vadose zone. The shallowest port was generally positioned from 37 to 46 feet below ground surface, while the deepest was about 20 feet above the surface of the groundwater. The remaining eight soil gas sampling ports were approximately equally spaced between the top and bottom ports. The custom-designed liners were ordered in advance from the factory once the installation locations and corresponding depths to water were

known. The VSG depths ranged from 370 feet bgs in the southern portion of the investigation area to 285 ft bgs in the north.

3.3.4.4. Locations for the vertical soil gas monitoring stations were selected based upon results of the passive and active soil gas survey data. Rationale for location selection was outlined in the *Industrial Area Soil Investigation Technical Memorandum (Phase II) and Work Plan Addendum for the Groundwater Investigation* (dated December 9, 1999) included in the project Work Plan Addenda (KA, 1999). Generally, VSG wells were installed in areas where soil gas survey results were highest, and at locations considered strategic for on-going soil gas monitoring.

3.3.4.5. Installation of Everting Borehole Liner Systems. Components of the FLUTe™ everting liner system and its installation were described in detail in the project Master Work Plan (KA, 1998e). Each vertical soil gas monitoring station was installed according to the following method:

- An 8-inch diameter borehole was drilled using percussion drilling methods to approximately 20 feet above the anticipated water table based on the quarterly water level measurements from nearby monitoring wells.

- When the boreholes were stable, the drill pipe was completely withdrawn and the flexible liner "everted" into place using low pressure air.

- Conversely, when caving of the borehole was probable, the liner was extended to the bottom of the inside of the drill pipe, and held in place by a PVC tremie pipe.

- When installed in open boreholes, the air was used to hold the liner open until it could be filled with clean, dry sand to within 2 feet of the ground surface. When installed through the drill pipe, sand was added through the tremie pipe as the drill pipe was slowly withdrawn.

- Once installed, the monitoring locations were then completed at the surface similar to a groundwater monitoring well.

- Monitoring station locations were completed with protective traffic bollards and enclosed in PVC sheds.

3.3.4.6. During monitoring station installation, three representative soil samples were selected from three of the five borings for Total Organic Carbon (TOC) analysis. These results are discussed in Section 4.1.3.

3.3.4.7 Vertical Soil Gas Monitoring Station Sampling and Analysis. Following installation, each of the VSG sampling ports was evacuated of ambient air using a vacuum pump. Approximately 3 to 5 volumes of air was purged from each port at 0.5 l/min using a rotometer to regulate the flowrate. The purge volumes were calculated prior to purging based on the diameter and lengths of the tubing. After purging, the soil gas was sampled from each of the ten monitoring ports using evacuated SUMMA® canisters in accordance with *Method 25C—Determination of Non-Methane Organic Compounds in MSW Landfill Gases* (USEPA, 1997b). Soil gas was analyzed using EPA Method TO-14 for chlorinated solvents (USEPA, 1997a).

3.3.4.8. Data were inspected and verified according to procedures outlined in the Quality Assurance Project Plan (QAPP) included as part of the project Work Plan. Data validation has been provided for 10% of soil gas sample delivery groups as discussed in the included QCSR.

3.3.4.9. The soil gas data were entered into an electronic database for checking and archiving. One copy was provided to the USACE Technical Manager in flat file format. Electronic deliverables were provided on 3.5” double-sided, double-density diskettes.

3.4 GROUNDWATER INVESTIGATION METHODS

3.4.0.1. During the period of August 1998 to September 2000, a total of 11 monitoring wells (designated wells C-29 to C-39) were installed in and around the Industrial and DRMO Areas of TEAD as part of the Phase I RFI. These wells were located based on the results of the known distribution of VOC contaminants in groundwater from other wells and the previously mentioned investigation activities (i.e., passive and active soil gas surveys and a geophysical survey). Data collected from these wells, combined with that from other monitoring wells installed previously at TEAD, provide the basis for interpretations of the SWMU 58 geologic and hydrogeologic conditions.

3.4.0.2. Well Screen Placement. Previous evaluations of the hydrogeologic conditions beneath the eastern portions of TEAD (JMM, 1988 and Hydrologic Engineering Center [HEC], 1998) have suggested that the alluvial aquifer may be divided into two general layers. The upper-most layer, which is believed to be about 50 feet in thickness, is where the majority of the VOC-impacted groundwater is found. To provide representative groundwater samples from this interval, monitoring wells with 20-foot long well screens, targeted to be continued from about 10 to 30 feet below the top of the water table, were designed.

3.4.0.3. The following sections describe the methodology used to drill, construct, develop, and sample the monitoring wells installed as part of the Phase I RFI at SWMU 58. The actual well locations and results of the groundwater sampling are presented in Section 4.0. Well completion reports for each well have been produced as separate documents.

3.4.1 Monitoring Well Drilling and Construction

3.4.1.1. This section describes field procedures that were performed as outlined in the Scopes of Work for Delivery Orders No. 53 (Groundwater Investigation, Industrial Area) and 56 (Groundwater Investigation, DRMO Area). Addenda to these scopes of work were prepared as necessary to address project-specific concerns. The appropriate Work Plan Addenda (KA, 1999)

specified locations for new monitoring wells and described site-specific rationale for selected locations and other investigation activities.

3.4.1.2. Preparatory Activities. Before beginning field work, several preparatory activities were completed to help maintain the efficient operation of the field investigation program and meet project requirements. The following paragraphs describe these preparatory activities.

3.4.1.3. State Permits. The State of Utah requires permits for any well whose depth exceeds 30 feet. Properly executed permits for the new monitoring wells were obtained from the Utah Division of Water Rights before drilling began. Copies of the well permits from the Division of Water Rights are included in Appendix A.

3.4.1.4. Site Clearance and TEAD Excavation Permitting. Once the well locations were determined, an Excavation Permit for each new well location was obtained by Kleinfelder through the TEAD Environmental Office and TEAD Facilities Engineer. This permit is required for any subsurface activity at TEAD. Copies of the Excavation Permits for Phase I RFI subsurface activities are included with this report in Appendix A.

3.4.1.5. Clean Water Source. The source of water for drilling, grouting, sealing, filter placement, well installation, or equipment washing/decontamination was approved by the Army prior to arrival of the drilling equipment on-site. Because TEAD water supply well WW-3 is monitored for contaminants as a drinking water source and has been analyzed previously as part of several other environmental projects at TEAD, it was used as the clean water source since it has been found to be free of contaminants.

3.4.1.6. Hot Work Permit. Whenever work at TEAD requires the use of a cutting torch or welding device, a Hot Work Permit must be obtained. This permit requires specific safety protocols to be followed for preventing fire, explosion, or electrocution. A separate permit was completed for each specific use of equipment requiring such a procedure. A copy of the permits obtained during Phase I RFI activities at SWMU 58 are included with the rest of the project

permits in Appendix A. These permit forms were maintained at the work site while hot work was in progress and then retained in the project files.

3.4.1.7. Equipment Decontamination. Prior to use at TEAD, drilling and construction equipment were cleaned at the decontamination pad to the satisfaction of the Kleinfelder on-site Project Geologist or Senior Technician. Design and construction of the decontamination pad are discussed previously in Section 3.2.4

3.4.1.8. Well Drilling. The following paragraphs describe the equipment and techniques used to drill and log the monitoring wells installed at SWMU 58 as part of this RFI.

3.4.1.9. Locations. The locations of the monitoring wells for groundwater investigations at SWMU 58 were selected based upon results of the previously mentioned investigation activities (i.e., passive and active soil gas surveys and a geophysical survey), as well as data from previously installed wells. Specific locations and rationale for selection were subject to approval by TEAD, the USACE, and the State of Utah. These locations and rationales for the 11 monitoring wells included as part of this project, and other TEAD wells used for groundwater characterization in the area, are presented on Table 3-1, Summary of Monitoring Well Purposes.

3.4.1.10. Drilling Equipment and Personnel. Because difficult drilling conditions (i.e., subsurface soils with large percentages of gravel, cobbles, and boulders) are present in most areas of TEAD, the monitoring well borings were drilled using dual-wall reverse-circulation drilling techniques utilizing a percussion (Becker) hammer and/or down-hole hammer (ODEX) methods.

3.4.1.11. The percussion hammer method uses heavy-walled drilling pipe advanced with an above ground diesel-fired pile hammer. Air used as a circulating fluid is injected through the hammer and forced down the outer annulus of the dual-wall pipe to the drill bit, where it is directed to the center of the pipe. The air returns with soil cuttings via the inner drill pipe.

3.4.1.12. The down-hole hammer (ODEX) method uses a rotating threaded drive casing advanced by an eccentric under-reaming casing advancement system. Circulating air is injected through the dual-wall pipe to the hammer at the bottom of the hole. After passing through the hammer to activate it, the air returns with cuttings via the inner drill pipe.

3.4.1.13. For both drilling methods, the cuttings are discharged through a material-handling hose into a cyclone separator. In the cyclone, the air escapes through the top and both dry and wet drill cuttings drop through the bottom of the cyclone. To minimize the potential for introducing compressor oil into the borehole, after-filters were placed in the compressed air stream below the compressor, or an oil-less type of compressor was used.

3.4.1.14. No fluids other than approved source water and filtered air were used as drilling aids. All fluids and drilling tools introduced into the borehole were free of petroleum-based materials including fuels, oils, grease, or solvents. Only non-petroleum based lubricants such as Teflon® tape or vegetable oil were used for drill pipe and casing connections. The drilling rig was kept free of leaking fluids including fuels, hydraulic fluids, or lubricants. Precipitation run-off was prevented from entering the borehole during drilling and well construction.

3.4.1.15. A certified registered geologist or professional geologist representing Kleinfelder was present during all drilling and critical monitoring well installation activities. This field representative maintained drilling logs, collected appropriate samples, and provided on-site guidance pertaining to technical matters. The on-site Project Geologist had at least three years experience in hazardous waste projects; soil and rock logging; and monitoring well installation, developing, and sampling. The Project Geologist collected soil samples for geologic classification and for geotechnical analyses as described below. The soil samples were collected from the cuttings discharged from the cyclone hopper. Where possible, split-spoon drive samples were collected at the discretion of the on-site geologist.

3.4.1.16. Drilling was conducted by a qualified drilling subcontractor licensed in the State of Utah, who could supply the equipment capable of performing dual-wall reverse circulation drilling, soil sampling, and monitoring well construction in accordance with the project

requirements. On a continuing basis, the driller reported to the Project Geologist as to the depth of the drill bit, the rate of drilling, and any perceived changes in lithology or drilling conditions.

3.4.1.17. Soil Description Methodology and Boring Logs. A detailed boring log for each well was prepared by the on-site Kleinfelder Project Geologist. The USACE drilling log (Eng. Form 1836; March, 1971) was used to log each of the borings. The American Society for Testing and Materials (ASTM) Method 2488, or standard rock description nomenclature, was used in logging cuttings from the drilling return stream and "intact" soils from the split-spoon drive sampler, if used. Colors of geologic materials were compared to a Munsell soil color chart. Additional properties typically noted included mineralogy, grain size, roundness, moisture content, cementation, organic content, stiffness or density, bedding, lamination, and other soil or lithologic structures. The penetration rate, drilling air pressure, and compressor size (capacity) were also recorded and the soils were screened on-site for evidence of VOCs using an organic vapor meter (OVM) on a regular basis.

3.4.1.18. Information on the drilling log form also included:

- Name of project and site
- Boring/well identification number
- Location of boring
- Make and manufacturer's model designation of drilling equipment and name of drilling firm
- Date of drilling
- Reference datum for all depth measurements
- Name and signature of geologist logging the boring

- Hole diameter and depth

- Method of drilling, including any samples taken, method used to sample, and sample depth

- Depth of each change in stratum

- Description of the material of which each stratum is composed, according to Unified Soil Classification System (USCS), or standard rock nomenclature

- Depth of observed fractures or weathered zones

- The results of any organic vapor sample screening conducted, if applicable

- Depth to water and date measured at first encounter, at the end of the drilling shift, and prior to well installation.

3.4.1.19. Copies of the boring logs completed by the Kleinfelder on-site geologist for the monitoring well borings for wells C-29 through C-39 are included in Appendix B.

3.4.1.20. Drill Cutting Sampling and Management. Soil samples to be screened for VOCs for IDW disposal purposes were collected from the cyclone hopper at a minimum of every 20 feet. Where the formation was saturated, one or two samples of aquifer material were collected, and at least one sample of each material encountered in each boring was collected. Samples were placed into commercially available "zip-lock" type plastic storage bags and screened for VOCs using an OVM. The bags were labeled as to project name and number, boring number, depth of sample, date and time collected, and name or initials of geologist.

3.4.1.21. All soil cuttings were collected at the cyclone discharge and transferred to DOT approved 55-gallon drums pre-labeled with TEAD hazardous waste labels. As per the scope of work, all saturated cuttings generated below the water table were assumed to be F-listed waste (one confirmation sample of the saturated cuttings from each well was analyzed for VOCs by EPA Method 8260). Additionally, groundwater samples from the subsequent monitoring well sampling at each well site was assumed to be representative of the saturated cuttings from that boring (i.e., VOCs detected in the groundwater were assumed to be present in saturated soil). Drums containing these cuttings were transported and disposed of by a permitted receiving facility upon TEAD's approval of the hazardous waste manifest and supporting documentation.

3.4.1.22. Unsaturated cuttings generated above the water table were drummed and stored in the TEAD 90-day yard until laboratory analysis determined whether they contained hazardous constituents. One sample of the unsaturated cuttings from each well was analyzed for VOCs. When the analytical results indicated no detections of any of the contaminants of concern, written authorization from the TEAD environmental office was obtained permitting the cuttings to be spread on the ground at their place of origin. If results indicated any detections of contaminants of concern, the drums were shipped along with the saturated cuttings to a permitted facility for proper disposal.

3.4.1.23. Well Installation. Once each well boring reached total depth, the Kleinfelder Project Geologist measured and recorded both the depth to groundwater and the depth to the bottom of the borehole on the drilling log. The Kleinfelder geologist was also present during all subsequent well construction to record details of the well installation.. A "Monitoring Well Installation Data Record Form" was also completed by the Kleinfelder geologist during the course of monitoring well construction, copies of which are included in Appendix B for the monitoring wells installed as part of this Phase I RFI.

3.4.1.24. Well Construction Procedures. Well installation began within 12 hours of boring completion and, once started, continued uninterrupted (to the extent possible) until completion of the well. All down-hole well construction activities (i.e., screen, casing, sandpack, bentonite seal, and grout placement) were conducted inside the dual-wall drill pipe. To confirm acceptable

plumbness, a stainless steel bailer (the diameter of which exceeds that of the pump to be used for purging and sampling) was run the full depth of the well.

3.4.1.25. The 4-inch diameter well screen and casing were kept packaged in their original packaging material until installation in the borehole, and were inspected for defects and/or gross contamination prior to well construction. Well screens were equipped with gaskets and a threaded bottom cap or plug. Solid riser pipe (blank PVC casing) was extended from the screen to approximately 2.5 feet above ground surface. The well screen and casing were placed into the borehole using the sand line on the drill rig to hang the well while each 10-foot section of PVC casing was attached.

3.4.1.26. Sand filter pack material was installed from at least ½ foot below the well screen and in the annulus around the well screen up to approximately 5 feet above the top of the well screen. The filter pack material was added at a uniform and sufficiently slow rate as to prevent bridging or other irregularities in the filter pack placement. As the filter pack filled the annular space, the drive casing was withdrawn slowly so as to not be pulled above the filter pack and allow native soil material to slough into the annular space. The filter pack material was installed continuously and without interruption until it has been placed up to about 5 feet above the top of the screened interval.

3.4.1.27. Directly above the sand filter pack, a minimum 5-foot-thick seal of bentonite pellets (e.g., 3/8" delayed "Pel-Plug" TR-30) was installed to isolate the sand filter pack interval. If placed above the water table, the bentonite pellets were hydrated with water from the approved water source. A bentonite slurry seal was placed in the annular space above the bentonite pellet seal up to 5 to 10 feet bgs. The bentonite slurry was composed (by volume) of 18 to 20 percent solids (bentonite) and 82 to 80 percent approved water and was mixed thoroughly prior to installation. The upper 3 to 5 feet of the annulus was filled with cement grout to anchor the protective surface casing.

3.4.1.28. The drilling contractor was required to calculate the volumes of annular construction materials (i.e., sand pack, bentonite, grout) before placing them into the borehole. Also, the drilling contractor was required to measure and confirm the intervals of all well screens, casings, and annular construction materials. A Kleinfelder representative (registered or professional geologist) was on-site at all times to document each measurement and verify that each well was constructed according to its design.

3.4.1.29. Monitoring Well Construction Materials. All well casing and screens installed as part of this RFI were 4-inch inside-diameter schedule 40 PVC with flush-threaded connections and ring gaskets. Well screens were 20 feet long and positioned in the first water-bearing zone encountered. Deep wells were screened from roughly 150 to 170 feet below the top of the water table, which is generally thought to be below the zone of highest groundwater contamination. No sump or sediment trap was placed below the well screen.

3.4.1.30. The filter pack and screen slot size for the new monitoring wells were selected based on previous field experience at TEAD and have proven to be sufficient for numerous monitoring wells installed in the area. Sand filter pack consisted of a pure silica product manufactured for the purpose. Prior to use, one pint-sized sample of the sand filter pack material was submitted to USACE for approval. If the Project Geologist observed unusual soil conditions during drilling, or if the soils in the screened area were unusually fine-grained, the well design was reevaluated to include a smaller slot size and finer filter pack.

3.4.1.31. Since the soils in the screened intervals were anticipated to consist of interbedded silts and clays or a formation with greater than 15 percent fines, a 0.020-inch slot well screen was used. The filter pack was a No. 12-40 sand, with a size gradation as follows:

No. 12	100% passing
No. 16	99.6% passing
No. 20	53.2% passing
No. 30	6.4% passing
No. 40	1.1% passing

3.4.1.32. If the bentonite pellet seal was placed in unsaturated conditions (above the water table), bentonite chips, granules, or pellets were used for a faster hydration period. The bentonite was hydrated after placement using the approved source water. The bentonite was allowed to hydrate as per the manufacturer's recommendations.

3.4.1.33. Surface Completion. Each new well was protected with a 10-inch diameter protective steel casing with a locking lid. The lock for the protective casing was keyed identically to the other monitoring wells present at TEAD. The casing was steam cleaned prior to installation and was set plumb into the well's annular seal concentric to the 4-inch casing. It extended a minimum of 3 feet above the ground surface and a minimum of 2 inches above the top of the well cap. It was placed a minimum of 2.5 feet below the ground surface for stability. A vented cap was installed on top of the well casing to prevent the accumulation and entrapment of potentially explosive gases. The protective casing was painted red with the well number painted (or stenciled) in black on the casing in letters a minimum of 3 inches high.

3.4.1.34. A concrete pad (3 feet by 3 feet by 12 inches minimum thickness) was placed around the protective casing. The constructed pads extend from 6 inches below grade to 6 inches above grade and was finished so as to slope away from the protective casing. A survey marker was embedded into the surface of the concrete pad.

3.4.1.35. An internal mortar collar was placed within the protective casing annulus from the ground surface to 6 inches (150 mm) above the ground surface (USACE, 1995; Section 3.3.11). A .25-inch diameter drain hole was drilled into the base of the protective casing just above the mortar collar to allow moisture inside the protective casing to drain out.

3.4.1.36. The well was further protected from traffic by four vertical steel protective posts. The four posts consisted of 4-inch (100 mm) minimum diameter, schedule 40 steel pipe filled with concrete. They were set into concrete 2 feet below grade and extend 4 feet above grade. The posts were spaced equidistant from one another and 2 to 4 feet from the corners of the concrete pad. The posts were positioned such as to allow a truck-mounted development or sampling rig access to the well.

3.4.1.37. Well Surveying. Each new monitoring well was surveyed to establish horizontal coordinates and elevations. Horizontal coordinates were determined to the nearest 0.1 foot. Water level measurement reference points, survey monuments, and ground elevations were measured to the nearest 0.01 foot at each well. The water level reference point at each well is a mark or notch on the well casing. A survey monument was embedded in the north side of each concrete pad and stamped with the well identification number and the elevation of the monument. The survey references used the National Geodetic Horizontal Datum of 1983 and Vertical Datum of 1929 and were based on the Utah State Plane Coordinate System.

3.4.1.38. The surveyors used USACE publication DM 4-805-10. The location, identification, coordinates, and elevations of the new wells were plotted on maps with a scale large enough to show their location with respect to other wells in the area. Copies of the field notes and survey computation sheets were submitted as a stand-alone document to the USACE Technical Manager. A summary of the well survey data for the SWMU 58 wells is presented on Table 3-2, Summary of Survey Data.

3.4.2 Well Development and Sampling

3.4.2.1. Well Development. Within seven days of completion of the well, but not sooner than 48 hours after well construction is completed, each well was developed using a combination of pumping and surging. Initial well development techniques utilized surging and bailing methods to pull sediment into the well and establish hydraulic communication with the aquifer. Water was removed from the well using bottom-opening bailers. Once bailing reduced the fine sand content to a level acceptable to the well development contractor and on-site Kleinfelder geologist, a decontaminated electric submersible pump was used as directed by the field geologist.

3.4.2.2. The well was surged by pumping and back-flushing through the submersible pump. Temperature, pH, and conductivity were monitored throughout development. Pumping continued until the water was clear (less than 5 NTUs turbidity) and free of fines, and field

parameters had stabilized. Stabilization criteria included three consecutive measurements (taken at intervals of ½ casing volume) for which the pH was within ±0.1 units, temperature was within ±1 degree Centigrade, and conductivity was within 10%.

3.4.2.3. Groundwater removed during well development and testing was collected on site and transferred at the end of each day to a holding tank at the TEAD 90-day yard. The submersible pump was decontaminated after each use by first spraying with a hot water sprayer. If very turbid water had been pumped, the pump was back-flushed several times into a suitably-sized container. Upon completion of development and sampling, clear water was disposed of as described previously in Section 3.2.

3.4.2.4. The use and calibration of field instrumentation and criteria for water clarity followed the procedures outlined in the TEAD Chemical Data Quality Management Plan (CDQMP), formerly the Chemical Data Acquisition Plan or CDAP (Metcalf and Eddy, 1994). (Note that when this project was initiated, the CDAP was the reference document for analytical methods, sample handling, and data management. When the CDQMP was approved in 1999, it became the reference document.) A Well Development Form was completed for each monitoring well by a Kleinfelder geologist, copies of which are included in Appendix B. Information included on the Well Development Form included:

- Total depth of well and the static water level from top of the well casing, before and immediately after pumping/development

- Method used for well development including description (size, type, make, etc.) of swabbing tool, bailer and/or pump, or other equipment used during development

- Time spent developing the wells by each method and typical pumping rate(s)

- Volume and physical character of water removed including written observations of changes during development in water clarity, color, particulates, and odor

- Readings of turbidity, pH, conductivity, and temperature taken before, during, and after well development

- Names and job titles of individuals developing the well.

3.4.2.5. Groundwater Sampling. Within one week, but no sooner than 72 hours after completion of well development, one groundwater sample was collected from each of the new monitoring wells installed as part of this project. All groundwater sampling equipment was decontaminated prior to use and after each use in accordance with the procedures outlined in Section 3.2.4. Sampling equipment calibration followed the procedures outlined in the TEAD CDQMP (formerly CDAP). All information was recorded directly into a bound notebook as well as on a Groundwater Sampling Form, completed copies of which are included in Appendix B for each sampled well. The following sections describe groundwater sampling techniques in terms of pre-purging activities, purging activities, and groundwater sample collection. A summary of the analytical sampling plan for each monitoring well and specific construction information is presented in Table 3-3, Summary of Monitoring Well Construction Data and Analytical Plan.

3.4.2.6. Pre-purging Activities. The following activities were performed to prepare for monitoring well purging and sampling:

- The monitoring well was checked for proper identification and any signs of tampering.

- After unlocking the protective cover and removing the well cap, the ambient air inside the well head was measured for organic vapor levels using an OVM.

- Using the electronic water level meter, the static water level and total well depth from the top of the well casing were measured, and the information recorded on the Groundwater Sampling Form.

- The volume of water to be purged from the monitoring well was calculated using the annular and/or borehole volumes as follows:

Casing Volume: $$V_C = pr_1^{\ 2} h_1$$

where:
V_c = Casing volume (ft^3)
r_1 = Inside radius of monitoring well casing (ft)
h_1 = Height of water column (i.e., bottom depth - depth of static water) (ft)

Annular Volume: $$V_a = (pr_2^{\ 2} - pr_1^{\ 2})h_2$$

where:
V_a = Annular volume (ft^3)
r_2 = Estimated radius of borehole (ft)
r_1 = Outside radius of well casing (ft)
h_2 = Total length of saturated thickness of sandpack (ft)

Total Purge Volume (borehole volume): $$V_t = X\,(V_c + V_a n)$$

Total Purge Volume (casing volume): $X\ V_c$

where:
V_t = Total Purge Volume (ft^3)
V_c = Volume of water in well casing (ft^3)
V_a = Volume of water in well annulus (ft^3)
n = Estimated effective porosity of sandpack = 0.30
X = No. of borehole purge volumes to be removed prior to sampling
= 3

To convert to gallons: $$V_t(gal) = \left(V_t(ft^3)\right)\left(\frac{7.48gal}{ft^3}\right)$$

3.4.2.7. Purging Activities. Prior to sample collection, five casing volumes or three borehole volumes of groundwater were purged from the well to ensure that the collected groundwater samples were representative of the aquifer. The following activities were conducted during well purging prior to sampling:

- A decontaminated stainless steel submersible pump equipped with Teflon fittings was used to purge each well. The pump was placed just below the top of the water column. All materials used to suspend the pump consisted of inert material (e.g., Teflon or stainless steel).

- Specific conductance, pH, temperature, and turbidity were measured once for every casing volume removed and the measurements recorded on the Groundwater Sampling Form (Appendix B).

- Purging was considered complete when five well volumes or three borehole volumes, as calculated above, had been removed from the well; when the turbidity readings were less than 5 NTUs; and when measurements of pH, electrical conductivity and temperature had stabilized (i.e., varied by less than ±0.1 units, 10% and ±1 degree, respectively).

3.4.2.8. Sample Collection Procedures. After well purging was completed, groundwater samples were collected using the technique described below:

- All sample labels were completed in waterproof ink and included sample ID, sample time and date, initials of sampler, analyses required, and preservatives used, if any.

- Samples for metals analyses (both unfiltered and filtered) were collected through the purge pump using a decontaminated wellhead sampling and discharge apparatus. The pumping rate was decreased, and the unfiltered metals sample container was filled from a sample discharge port on the sampling apparatus.

- After the unfiltered sample was collected, a 0.45-micron filter was attached to the sampling port and a filtered sample was collected. Samples for metals analyses were pumped directly into pre-fixed sample containers.

- After sample fractions for metals were collected, the pump was removed from the well.

- All groundwater samples for organic analyses were collected using disposable Teflon or decontaminated stainless steel bailers, which were lowered to the middle of the screened interval and retrieved.

- Sample containers for VOCs were filled first, followed by those for SVOCs. Samples were discharged directly from the bottom of the bailer into the appropriate pre-labeled containers. VOC sample containers were filled using a bottom discharge tube with as little agitation as possible, and checked after sealing for the presence of air bubbles.

- All sampling data were recorded in both the bound field log book and on the respective Groundwater Sampler's Log and Chain-of-Custody forms.

- After all sample fractions were collected and field documentation was completed, the monitoring well cap was replaced and the protective steel casing closed and locked.

3.4.2.9. Sample collection procedures followed those specified in the CDQMP (formerly CDAP), unless noted otherwise above.

3.4.2.10. Sample Numbering System. A unique identification number was assigned to each groundwater sample. This number was an alphanumeric sequence that served as an acronym to identify the sample. The project identification for this sampling event was "TEAD." Site codes were given for each new monitoring well (e.g., C-12). The next field in the sequence identified the sample matrix (e.g., "GW" for groundwater). The sample number was determined sequentially as the samples were collected during the RFI. QA samples were numbered with the primary sample number plus three. Specific sample identification procedures followed a strategy as illustrated in the example below for primary and QA samples:

Primary Samples:	Project ID - Site code - matrix - Sample #
TEAD - C12 - GW - 01	(Well C-12 groundwater sample, first collected)

Quality Assurance Samples:	Project ID-Site Code-matrix-Corresponding Sample # + 3
TEAD - C12 - GW - 4	(Groundwater sample)

3.4.2.11. All information pertaining to a particular sample was referenced by its identification number. This number was entered on to the sample container label, in the field log book, and on the sample chain-of-custody form.

3.4.2.12. Sample Containers and Analytical Laboratory Submittal. Sample containers were supplied by the contract laboratory, and were certified clean. Required preservatives were added to the sample containers by the laboratory in advance of the sampling event. The sample containers were filled completely to assure a sufficient volume of sample material and also to eliminate any head space for volatiles analysis.

3.4.2.13. Sample container requirements, maximum acceptable sample holding times, and analytical methods for the groundwater samples are discussed in more detail in Section 3.5 of this report

3.4.2.14. In addition to the primary groundwater samples, trip and rinsate blanks were submitted for analysis. These QC samples are discussed in more detail in Section 3.5. All submitted samples were placed into an ice-chilled cooler to maintain the samples at 4 degrees ± 2 degrees Centigrade during transport to the laboratory.

3.4.2.15. A chain-of-custody form was completed in advance for each sample cooler shipped. The chain-of-custody forms included the laboratory identification number, sample location, sample fraction (abbreviation for sample container type and preservative), parameter list (abbreviation for the list of analyses to be performed), sample type, site type, and installation ID. In addition, custody seals were used on each ice chest scheduled for commercial shipment to provide tampering detection. Custody seals used during the course of the project consisted of

security tape with the date and initials of the sampler written in indelible ink. At least two custody seals were placed on each sample cooler so as to secure the lid of the cooler. Sample coolers that were hand-delivered to the laboratory did not require custody seals as long as the cooler(s) remained in the custody of the sampler until arrival at the laboratory.

3.4.2.16. Sample coolers that were shipped to the laboratory via a commercial shipping firm used the "priority overnight" service option. No samples were shipped to either the primary or QA laboratory on a Friday, since laboratory personnel were not generally available to receive samples on weekend days. Samples collected on Fridays were stored in Kleinfelder's locked refrigerator under chain-of-custody protocol until the following Monday.

3.5 LABORATORY CHEMICAL ANALYSIS PROGRAM

3.5.0.1 This sections discusses the procedures and methods used by the laboratory to ensure data quality is within specified limits. It also describes data validation and reporting procedures. A more detailed discussion of laboratory data verification and analytical procedures is provided in the Quality Control Summary Report (QCSR), Appendix E.

3.5.1 Laboratory Sample Handling Procedures

3.5.1.1 All samples received at the individual laboratory were checked for label identification, and complete, accurate chain-of-custody documentation. The condition of the samples was checked, and the outcome recorded on a Sample Receipt Form. At the time of sample receipt, the temperature of the sample coolers was measured using a temperature blank that was included with all sample shipments and recorded on the Sample Receipt Form.

3.5.1.2 Additionally, the laboratory assigned a unique laboratory identification number through the use of a computerized Laboratory Information Management System (LIMS) that also stored all identification and essential information. Groundwater and soil samples were logged into the sample holding coolers. The internal vacuum of soil gas sample SUMMA® canisters was measured and compared to the internal vacuum that was originally present in the canister when

shipped to the field, and the measurement recorded. GORE-Sorber® Modules were transferred to a laboratory freezer maintained at minus (-) 15°C until analysis. After the sample log in procedure was completed, the Kleinfelder Project Chemist was faxed an acknowledgment of sample receipt.

3.5.2 Laboratory Analytical Methods

3.5.2.1 Passive soil gas samples were analyzed by GORE for the VOCs specified in Section 4.1.1. using a gas chromatography/mass spectrometry (GC/MS). Active soil gas samples were analyzed for VOCs by Air Toxics, Limited (ATL) using EPA Method TO-14. Soil and water samples were analyzed by Applied Physics and Chemistry Laboratory (APCL) and Mountain States Analytical Laboratory, Inc. (MSAI) for VOCs using EPA Method 8260B; SVOCs using EPA Method 8270C; metals using EPA Method 6010B; and total organic carbon (TOC) using EPA Method 9060.

3.5.2.2. The laboratory methods identified in this document were published by the United States Environmental Protection Agency (U.S. EPA) in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846*, Third Edition (Update III, December 1996) and *Compendium of Methods for Determination of Toxic Organic Compounds in Ambient Air*, Second Edition (January 1997).

3.5.3 Data Validation and Reporting

3.5.3.1 Data Review Process. All analytical data generated by the laboratories was reviewed prior to report generation to confirm validity. The data validation process consisted of data generation, reduction, and three levels of documented review. A detailed discussion of the data validation process and subsequent results are provided in the QCSR, Appendix E of this report. A summary of the QCSR is also included as Section 4.5.

3.5.3.2 Data Reporting. At the conclusion of analytical work, each laboratory submitted a certificate of analysis, or laboratory report, for completed analyses. Additionally, the laboratories were required to submit raw data packages for raw data verification and validation. The raw data packages consisted of a case narrative, chain-of-custody documentation, cooler receipt form, summary of results for environmental samples, summary of QA/QC results, and the raw data. A description of the items included in the raw data packages can be found in the QAPP of the Master Work Plan for this project (KA, 1998e).

3.5.3.3 The laboratories also provided Kleinfelder with an Electronic Data Deliverable (EDD) with the final report. The EDD format allowed for the data to be directly down-loaded into Kleinfelder's database from the diskette or file sent by the respective laboratory. Approximately 10 percent of the data received in EDD format were compared with the associated hard copy to evaluate accuracy and precision of the electronic data transfer and/or entry.

3.5.3.4. Data Storage. Each of the laboratories used for this project has stored all analytical data in hard copy and electronic form. All records will be maintained for five years after the final analytical report is issued from that laboratory.

3.5.4 Sample Data Quality Assurance/Quality Control

3.5.4.1. Field Quality Assurance/Quality Control. The following samples were collected and analyzed to ensure the measurement systems were maintained within prescribed limits and that results were of acceptable quality:

- Rinseate Blanks

Two rinseate blanks were collected from all non-disposable or non-dedicated sampling equipment after decontamination has been performed.

- Trip Blanks

Ten trip blanks, prepared by the laboratories, were transported with all primary samples and analyzed for VOCs.

- Field Duplicates

Duplicate samples were collected in the field and submitted, with their identity held blind to laboratory personnel, with the primary samples. The purpose of the field duplicate samples was to provide precision information for the entire measurement system, including sample acquisition, homogeneity, handling, shipping, storage, preparation, and analysis. One duplicate sample for monitoring well C-31was collected and submitted to APCL for analyses.

3.5.4.2. Laboratory Quality Assurance/Quality Control. The project laboratories were required to have a QA/QC program to monitor data quality of the following internal QC checks:

- Analytical Batch (Preparation Batch)
- Method Blanks
- Laboratory Control Samples
- Laboratory Duplicates
- Surrogate Recoveries
- Standard Additions
- Calibration Standard
- Reference Standard

A detailed description of these QC checks is found in the Kleinfelder Master Workplan for this project (KA, 1998e).

3.6 DATA QUALITY ASSESSMENT PARAMETERS

3.6.0.1 The effectiveness of a QA/QC program is measured by the quality of data generated during the project. Data quality is judged in terms of the following parameters:

- Precision
- Accuracy
- Representativeness
- Completeness
- Comparability

3.6.0.2 These parameters are collectively defined as the "PARCC" parameters, and are affected not only by laboratory procedures but also by procedures used to physically collect the sampled media and transport it to the analytical laboratory. A general discussion of these parameters is included here for informational purposes. The Quality Control Summary Report, included with this report as Appendix E, uses the PARCC parameters as defined below to provide a data quality assessment of the data generated during this Phase I RFI. A more detailed description of the PARCC parameters can be found in the Master Work Plan (KA, 1998e).

3.6.1 Precision

3.6.1.1 Precision is a measure of the reproducibility of analyses under a given set of conditions. The following QC data were collected to determine sampling and analytical precision:

- Laboratory duplicates were performed for every inorganic analytical batch. The maximum size of each batch did not exceed 20 samples.

- Field duplicate samples were collected and analyzed on approximately 10% of the total investigative samples for each matrix. Duplicate samples were analyzed for the parameters of the primary sample (i.e., the sample being duplicated).

- Matrix spike/matrix spike duplicate (MS/MSD) samples were performed for every analytical batch. The maximum size of each batch did not exceed 20 samples.

3.6.2 Accuracy

3.6.2.1 Accuracy is a determination of how close the measurement is to the true value. Accuracy can be assessed using laboratory control samples, standard reference materials, or spiked environmental samples. The accuracy of the data submitted for this project was assessed in the following manner:

- The percent recovery of spike duplicates, and/or laboratory control samples (LCS) was calculated.

- The level of target compounds that were found (if any) in laboratory method blanks were checked. If a target compound was found above the practical quantitation limit in the method blank corresponding to a batch of samples and the same target compound is found in a sample, the data were not background subtracted but were flagged to indicate the result in the blank.

3.6.3 Representativeness

3.6.3.1 Representativeness is a qualitative parameter that reflects the extent to which a given sample is characteristic of a given population at a specific location or under a given environmental condition. Representativeness of field sampling was controlled by utilization of properly trained sampling crew, field duplicates, and trip blanks. Duplicate samples collected in the field provided precision information for the entire measurement system, including sample acquisition, homogeneity, handling, shipping, storage, preparation, and sample analysis. Field duplicate samples were collected with the primary active soil gas and groundwater samples. Trip blanks were used to detect contamination introduced to the samples during the handling and shipping and were submitted with the primary passive soil gas, active soil gas, and groundwater samples.

3.6.4 Completeness

3.6.4.1 Completeness is a measure of the amount of valid data obtained from a measurement system compared with the amount that was expected to be obtained under normal conditions. To be considered complete, the data set must contain all analytical results and data specified for the project. The requirement for completeness for all QC parameters except holding times for the Phase I RFI at SWMU 58 was 80 percent. The requirement for holding times was 100 percent.

3.6.5 Comparability

3.6.5.1 Comparability expresses the confidence with which one data set can be compared to another data set measuring the same property. Comparability was provided through the use of equivalent sampling procedures, analytical methods, and certified calibration standards. It also included the use of comparable equipment for analysis. The goal of comparability was achieved by using standard techniques to collect and analyze samples and by reporting analytical results in appropriate units. Passive soil gas samples were analyzed by GORE conforming to specifications as described in the Project Work Plan (KA, 1998e). Soil gas sample collection was performed in accordance with EPA Method 25C and soil gas samples were analyzed in accordance with EPA Method TO-14. All groundwater samples were analyzed using the method specifications listed in EPA Method SW-846 (USEPA, 1996).

4. SWMU 58 CONTAMINATION CHARACTERIZATION

4.0.0.1. This section presents the results of the vadose zone and groundwater investigations at SWMU 58 to assess potential source areas for VOC impacts detected in the local groundwater at TEAD. The field investigations for the Phase I RFI, as discussed in this section, were conducted during the period of April 1999 to October 2000.

4.0.0.2. Results of the vadose zone and groundwater investigations are discussed separately below. Due to the quantity of data collected during the Phase I RFI, whenever possible, results are presented graphically in this section by means of figures. Figures show the sampled locations (e.g., VSG well locations, active soil gas locations, etc.) together with call out boxes indicating the corresponding analytical results for those locations. Complete data summary tables showing all of the analytical results are also included in Appendix C.

4.0.0.3. Following discussions of the results of the investigation, primary suspected source areas are identified and correlations are made to previously identified solvent usage, storage, or handling operations.

4.1 VADOSE ZONE INVESTIGATION RESULTS

4.1.1 Passive Soil Gas Surveys

4.1.1.1. The passive soil gas (PSG) surveys in the Industrial and DRMO Areas were conducted from April to October 1999. During this time, a total of 937 GORE-Sorber® Screening Modules were installed, retrieved, and analyzed. As discussed previously, the passive soil gas survey was conducted in order to provide information regarding the lateral extent of vadose zone VOC contamination in the Industrial and DRMO Areas. The locations of the passive soil gas sampling points are indicated on Figure 3-1. Figure 3-2 is a detailed map of the DRMO Area. Each of the phases of the PSG survey are discussed below.

4.1.1.2. The field sampling program, equipment, procedures, and analytical program are described in detail in Section 3.0 of this report. All screening modules were installed to depths ranging from 3 to 10 feet below surface grade using direct-push equipment that consisted of a hydraulic push tool fitted with a pneumatic hammer. All module locations were recorded with a hand held global positioning system (GPS) logger.

4.1.1.3. Following the module exposure period of 14 days, the sorbers were retrieved, placed in tightly secured sample containers, and transported along with trip blanks to the W. L. Gore laboratory for analysis. The laboratory reports, chain-of-custody documentation, and a complete analytical summary data table for all GORE-Sorber® analyses are included in W.L. Gore's Screening Survey Reports, which are included as part of the Quality Control Summary Report (Appendix E).

4.1.1.4. The analytical program for the PSG surveys at TEAD was selected to focus on chlorinated solvents and principal degradation products previously detected in the groundwater beneath TEAD (e.g., trichloroethene, trichloroethane, and carbon tetrachloride). Specifically, the analyte list included:

Trichloroethene (TCE)	Trans-1,2-Dichloroethene	Chloroform
1,1,1-Trichloroethane (1,1,1-TCA)	Cis-1,2-Dichloroethene	Methylene Chloride
Carbon Tetrachloride (CCl_4)	1,1-Dichloroethane	Perchloroethene (PCE)
1,1-Dichlorethene (1,1-DCE)	1,2-Dichloroethane(1,2-DCA)	BTEX

In the initial survey in the DRMO Area, vinyl chloride was included in the analyte list for a portion of the samples, but was subsequently deemed unnecessary and dropped from the analyte list since none was detected or suspected to be present in the vadose zone.

4.1.1.5. The passive soil gas sampling at SWMU 58 was conducted in multiple phases, with the sample locations for one phase sited based on the sample results from the previous phase. Each phase of passive soil gas sampling at TEAD is discussed separately below. A summary of the analytical data results for the passive soil gas sampling in the Industrial Area is presented in Table C-1, and the results from the DRMO Area are summarized in Table C-2 of Appendix C.

Analytical results for TCE, CCl_4, PCE, 1,2-DCA, 1,1,1-TCA, and BTEX are presented graphically on color contour maps (Figures 4-1 through 4-6).

4.1.1.6. It should be noted that the analytical results for PSG sampling discussed below present the mass of the various analytes in micrograms (µg) that accumulated on the sorbent material. By nature, these results are qualitative. They should only be used for predicting the presence or absence of these chemicals in the soil vapor where the sample was collected. The soil gas detections are described in relative terms (e.g., low, medium and high detections) and DO NOT translate directly to the chemical concentrations in soil or groundwater beneath the sample location. Approximate ranges of mass values for low, medium, and high detections for each contaminant discussed are provided below. The minimum level of each analyte is the MDL and the maximum level is the maximum detection observed.

	Low	**Medium**	**High**
TCE	0.03 µg ~ 2 µg	2 µg ~ 50 µg	50 µg ~ 243 µg
CCl_4	0.04 µg ~ 1.5 µg	1.5 µg ~ 20 µg	20 µg ~ 75.7 µg
PCE	0.06 µg ~ 4 µg	4 µg ~ 100 µg	100 µg ~ 413 µg
1,2-DCA	0.04 µg ~ 0.4 µg	0.4 µg ~ 2 µg	2 µg ~ 4.8 µg
1,1,1-TCA	0.04 µg ~ 2 µg	2 µg ~ 30 µg	30 µg ~ 139.6 µg
BTEX	0.526 µg ~ 10 µg	10 µg ~ 100 µg	100 µg ~ 462.4 µg

4.1.1.7. Initial (Phase I) Passive Soil Gas Survey at the DRMO Yard. A total of 108 GORE-Sorber® modules were installed in the DRMO Area (Figure 3-2) in locations suspected of being potential sources of VOCs to groundwater. The locations were discussed in detail in the Work Plan Addendum dated November 25, 1998 (KA,1999) and included:

- A suspected fill area in the northwest corner of the DRMO Yard;
- A former drum storage area northeast of Building 2001; and
- Four separate transects between the above two areas and aligned with the predicted upgradient axis of the Northeast Boundary Plume.

4.1.1.8. This soil gas survey was conducted based on results of a previous soil gas survey conducted two years earlier at the DRMO Area (not a part of this Phase I RFI) that qualitatively indicated the presence of VOCs in soil gas in the DRMO Area; specifically around Buildings 2002, 2003, and 2025. Visual inspections of the above-referenced areas were also used to locate the soil gas sampling points. Topographic evidence and evidence of paint, debris, and waste at the northwest corner of the DRMO Yard, and visual and historical evidence of drum storage southeast of the rail road tracks provided additional rationale for locating a PSG survey at these locations. Module spacing for this initial survey at the DRMO yard was 50 feet along the transects and in the drum storage area, and 75 feet in the suspected fill area. Additionally, two survey points spaced at 75 feet were located near well C-26, located across 1st Street to the northwest.

4.1.1.9. Results of this initial soil gas investigation are presented in the Technical Memorandum (TM) dated July 13, 1999 (KA, 1999), and are summarized below:

- The highest levels of TCE were detected mostly in the western part of the former drum storage area with the highest detections reported directly east of the railroad tracks (this region also correlated with an area of subsurface anomalies identified by the geophysical survey—see Section 4.1.4);

- The highest detections of 1,1,1-TCA occurred at the fenceline in the extreme northeast corner of the drum storage target area;

- Detectable soil gas levels of CCl_4 occurred primarily northwest of the railroad tracks and could extend to the south and west of the gridded area; and

- No detections were observed in the suspected fill area.

4.1.1.10. Phase I Industrial Area Soil Gas Investigation. The Phase I passive soil gas survey conducted in the Industrial Area included 714 sampling locations utilizing GORE-Sorber® screening modules. The survey focused on potential VOC source areas identified based on

Kleinfelder's review of available background information and discussions with TEAD and USACE personnel. Additionally, other locations within the Industrial Area were surveyed in a broad-coverage sampling program. The locations were discussed in detail in the Work Plan Addendum dated April 14, 1999 (KA, 1999). Potential VOC source areas were the target of a high-density, focused investigation and included:

- Former industrial wastewater discharge ditches,
- Disposal areas near buildings where chlorinated solvents were reportedly used, and
- Storm water and industrial wastewater pipelines emanating from buildings where industrial operations are suspected to have used and discharged VOCs.

4.1.1.11. Screening module spacing was either 50 or 100 ft in these areas, depending on the location. Along the wastewater ditches adjacent to Avenues A and C, modules were spaced at 100 ft until approximately 300 ft beyond the point of outfall, where the spacing was increased to 200 ft. Module spacing of 200 ft was used for ditches along Avenues D and E. Locations for the modules placed as part of this investigation are shown on Figure 3-1. Broad coverage was included for open storage areas and around warehouses where VOC discharges were not suspected to have occurred. Passive soil gas module spacing was typically 100 feet in these areas.

4.1.1.12. All 714 screening modules were installed between May 10 and June 18, 1999, to a depth ranging from 3 to 10 ft (average depth 5.3 ft) using a hydraulic push tool fitted with a pneumatic hammer. Approximately 151 of the module locations required concrete or asphalt coring. Five of the screening module locations (4-238, 6-390, 8-469, 10-542, and 18-619) could not be cleared for underground utilities or were inaccessible. Therefore, no modules were installed at these points.

4.1.1.13. Following the module exposure period of 14 days, the sorbers were retrieved, placed in tightly secured sample containers and transported along with two additional trip blanks to the W. L. Gore laboratory for analysis (see Section 4.1.1.4., above, for requested analytes). At the time of retrieval, three of the modules (3-161, 7-396, and 18-628) could not be recovered. The laboratory report, chain of custody documentation, and a complete analytical data table is included in W.L. Gore's Screening Survey Report (included with the QCSR in Appendix E).

4.1.1.14. Results of the Phase I soil gas investigation in the Industrial Area are presented in the TM dated August 18, 1999 (KA, 1999), and are summarized below:

- Relatively high levels of TCE and TCA were observed in the soil gas screening modules along the ditches adjacent to Avenues A and C, and the highest detections of PCE were observed along Avenue C extending westward from Building 620. Moderate detections of TCE, TCA, and PCE were observed along the wastewater ditches adjacent to Avenues D and E. Carbon tetrachloride was detected along Avenue E, just west of the current Detroit Diesel facility. Based on the soil gas results and known historical uses of the wastewater ditches, it was concluded that the wastewater ditches are likely sources for VOC contamination that may continue to impact groundwater.

- Relatively high levels of TCE and TCA were observed in the soil gas screening modules along the west side of Building 600 and emanating away from the building along the wastewater ditch adjacent to Avenue A. Based on the soil gas results and historical use of the building, it can be concluded that the building and storm and industrial wastewater pipeline emanating from the building to the wastewater ditch are likely source areas contributing to VOC contamination.

- Relatively high levels of PCE, TCA, and CCl_4 and moderate levels of TCE were observed in the soil gas screening modules along the west side of Building 620 and emanating away from the building along the wastewater ditch adjacent to Avenue C. Based on the soil gas results and historical use of the building, it was concluded that

the building and storm and industrial wastewater pipeline emanating from the building to the wastewater ditch are likely sources of VOC contamination that may continue to impact groundwater.

- Relatively high levels of TCE and TCA were observed in the soil gas screening modules along the west side and between the wings of Building 619. Moderate levels of PCE were observed in modules near the southeast corner of the building. Based on the soil gas results and the historical use of the building, it can be concluded that the building and storm and industrial wastewater pipelines emanating from the building are likely source areas contributing to VOC contamination.

- Relatively high levels of TCE and moderate levels of TCA were observed in the soil gas screening modules surrounding Building 615, particularly along the north side extending from Building 619 to 614, and at the toe of the embankment to the west, between Buildings 615 and 614. Based on the soil gas results and the historical use of Building 615, it can be concluded that the building and stormwater and industrial wastewater pipelines emanating from the building are likely potential source areas contributing to VOC contamination.

- Relatively high levels of TCA and moderate levels of TCE and CCl_4 were observed in the soil gas screening modules to the east of Building 667. Relatively high levels of TCE and moderate levels of CCl_4 were observed in the soil gas screening modules to the east and west of Building 677. Only low levels of CCl_4 were detected to the north and west of Building 659. An isolated region of high TCE detections was also reported between Buildings 677 and 679.

4.1.1.15. Based on the data obtained during Phase I of the passive soil gas survey in the Industrial Area, the following conclusions were made:

- A number of distinct regions were identified as having elevated soil gas of one or more of the major constituents detected. These areas included:

  - The wastewater ditches adjacent to Avenues A, C, D, and E (west of the Detroit Diesel facility);

  - The Main Building Complex Area (Buildings 600, 604, 607, 609, 611, 613, 614, 615, 619, and 620);

  - The open storage west of Buildings 638 and 639;

  - The Building 667/679 and 677/679 Complex;

  - Building 691 and the pipeline/ditch to the west; and

  - The DRMO Area.

  These areas became the focus of an active soil gas survey as discussed later in Section 4.1.2.

- Some data gaps were noted where elevated soil gas was reported in modules located at the perimeters of sampled regions, specifically, between the wastewater ditches, to the east of Building 619 (vehicle test track), and along the piping outfall originating in Building 691 and running westward parallel to Avenue L.

- It was determined that the area located near the southern end of the Industrial Area (Old Lumber Yard or SWMU 29) should be viewed as a potential release site and considered as a location for additional passive soil gas screening.

4.1.1.16. Based on the data obtained during Phase I of the passive soil gas survey, Kleinfelder recommended the following:

- Install active soil gas monitoring points in the regions of highest soil gas detections for each of the major four constituents observed (TCE, PCE, TCA, and CCl_4) to identify potential source areas and quantify the concentrations of the highest soil gas detections.

- Install additional GORE-Sorber® screening modules at the perimeter of the sampled areas in some locations to further characterize the periphery of low levels of soil gas detections. Additionally, a small number of modules were recommended along the toe of the embankment west of Building 615 to provide supplementary soil gas information in this area.

- Install additional GORE-Sorber® screening modules in the central and southern portion of the DRMO Area in order to provide a correlation between elevated soil gas detections in the DRMO Area and the eastern portions of the Industrial Area. Additionally, install up to 11 modules in the two former drum storage areas (SWMU 29) located near the southern end of the Industrial Area.

- Based on the amount and quality of data received from the first phase of the passive soil gas survey in the Industrial Area, Kleinfelder recommended the first vertical soil gas (VSG) monitoring station, or VSG well, be installed in the area of highest soil gas detections for TCE (north of Building 615).

4.1.1.17. Phase II Passive Soil Gas Survey at the DRMO Yard. A limited follow-on passive soil gas survey was conducted at the DRMO Area during which 30 additional locations were sampled at the periphery of the initial survey area as shown on Figure 3-2. The purpose of the additional passive soil gas survey was to further characterize the periphery of low levels of soil gas detections at the boundary of the initial (Phase I) survey in regions where further information regarding the lateral extent of the elevated soil gas was desired. Since the purpose of this survey

was to further delineate the periphery of low levels of soil gas detections (rather than to define source areas), the modules were spaced approximately 125 feet apart. Specifics of the DRMO Phase II PSG survey were presented in a Kleinfelder letter to the Corps dated August 26, 1999, and are discussed below.

4.1.1.18. A total of 30 screening modules were installed on July 22-23, 1999, to a depth ranging from 3 to 7 ft (average depth 4.08 ft) using a hydraulic push tool fitted with a pneumatic hammer. Following the module exposure period of 14 days, the sorbers were retrieved, placed in tightly secured sample containers and transported along with three trip blanks to the W. L. Gore Laboratory for analysis (see the Gore Laboratory Report, Appendix E).

4.1.1.19. In order to correlate the results from the follow-on passive soil gas survey to the initial survey conducted in April-May 1999, two duplicate screening modules were installed in the locations of the highest TCE soil gas detections from the previous survey. According to experts at Gore, duplicate modules having detections of the same order of magnitude indicate successful correlation between sampling events. The results of the duplicate sampling indicated a successful correlation between the two sampling events and, therefore, the data from both sampling events were combined. The combined results for each of the primary constituents detected in the soil gas (TCE, TCA, DCE, and CCl_4) are discussed below.

4.1.1.20. Trichloroethene. One of the major purposes of the follow-on survey was to better characterize the extent of TCE soil gas detections to the west of the highest TCE detections recorded during the initial survey and to the east of module K-4 (also relatively high TCE soil gas detections during the initial survey). The combined data for TCE indicate that the mass of TCE detected in modules 20-B, 24-B, and 25-B (30.49 ug, 25.55 ug, and 43.95 ug, respectively) was an order of magnitude higher than the highest detections from the initial survey (2.32 ug and 2.41 ug in modules O-1 and O-2, respectively). These new data caused a westward shift in the contoured region of the highest TCE soil gas detections to the area between the railroad tracks and the Property Disposal Road (Figure 3-2). This region also correlated with an area of subsurface anomalies identified by the geophysical survey (see Section 4.1.4). Similarly, relatively high TCE detections were recorded in module 13-B (12.92 ug), located to the north of

the initial survey area. No TCE was detected in any modules located along the northern boundary of the initial survey area. Relatively low TCE detections were recorded in modules placed to the east of module K-4. Therefore, the follow-on survey appears to have adequately delineated the extent of TCE in soil gas to the east of the survey area.

4.1.1.21. 1,1,1-Trichloroethane and 1,1-Dichloroethene: The combined results for TCA and DCE show a similar spatial distribution to the initial survey results, with no modules reporting higher detections than the highest detection found during the initial survey. Additionally, the results from the follow-on survey appeared to have adequately delineated the extent of elevated TCA in soil gas along the western, eastern, and northern boundaries of the survey region.

4.1.1.22. Carbon Tetrachloride: The combined results for CCl_4 also indicated a similar spatial distribution to the initial survey results, with no modules reporting higher detections than the highest detection found during the initial survey. The results from the follow-on survey adequately delineated the extent of elevated CCl_4 in soil gas along the northern boundary of the survey region.

4.1.1.23. Based on the results of the supplemental passive soil gas survey, it appeared that the highest concentration of TCE detected in the shallow vadose zone soils in the DRMO Yard lies west of the location identified previously by the initial survey. To confirm this finding, Kleinfelder recommended that several additional passive soil gas modules and additional active soil gas sampling points be installed in the area west of the original passive soil gas survey.

4.1.1.24. Phase II Industrial Area and Phase IIa DRMO Area Soil Gas Investigation. Based on results of the prior PSG investigations at SWMU 58, additional passive soil gas locations were sampled in order to provide further information regarding the lateral extent of soil gas contamination in both the Industrial and DRMO Areas. For this supplemental survey, 88 additional screening modules were installed in a number of locations in and around the perimeter of the existing survey areas as shown on Figures 3-1 and 3-2 (identified as yellow circles on 3-1 and open circles on 3-2). These locations included:

- 35 modules in a loosely gridded pattern between the former wastewater ditches;
- 3 modules along the toe of the embankment west of Building 615;
- 4 modules to the east of Building 619 in the “test track area”;
- 8 modules along the outfall of the pipeline originating in Building 691 and running westward parallel to Avenue L;
- 11 modules in the two former drum storage areas (SWMU 29) located near the southern end of the Industrial Area;
- 14 modules in the central and southern portion of the DRMO area;
- 8 modules around the existing survey area in the DRMO yard; and
- 5 duplicates to analyze data comparability between the two phases.

4.1.1.25. Since the primary purpose of this supplemental survey was to further delineate the periphery of low levels of soil gas detections (rather than to define source areas), Phase II module spacing was from 200 to 400 feet. Exceptions included the modules near Building 615, which were spaced at approximately 50 feet, and the modules in the northern SWMU 29 drum storage area and around the existing DRMO Area survey grid, which were spaced at approximately 125 to 200 feet. Duplicate modules were installed in the same location as previous modules whenever possible. This was done in order to correlate the data from this survey to previous surveys.

4.1.1.26. All 88 soil gas modules were installed during the period of September 22 to 29, 1999, to depths ranging from 3 to 10 feet, with an average depth of 5.8 feet below surface grade. As with previous surveys, each module was installed using a hydraulic push tool fitted with a pneumatic hammer, and module locations were surveyed with a hand-held GPS logger.

Following the module exposure period of 14 days, the sorbers were retrieved and transported to the W.L. Gore Laboratories for analysis. All modules (88) were recovered from this supplemental investigation. The results of this supplemental investigation were presented in the combined TM/Work Plan Addenda dated December 9, 1999, and are discussed below for each analyte of concern.

4.1.1.27. Trichloroethene. As indicated by the initial survey, TCE appears to be the most widespread constituent in terms of spatial distribution in soil gas. The initial survey indicated the highest soil gas levels of TCE were located primarily in the building complex area west of Building 619, north of Building 615, and between Buildings 615, 614, and 613. There were also relatively high detections of TCE reported in modules located along the east side of Building 611, along the west side of Building 600, and along the wastewater ditches between Avenues A and B and adjacent to Avenue C.

4.1.1.28. Results from the Phase II survey paralleled the initial survey, with the highest TCE detection reported along the north side of Building 615 in duplicate module 58-C (199.78 μg). Other relatively high detections were reported in modules 31-C and 33-C (86.32 μg and 91.11 μg, respectively), located west of Building 600 immediately across Sixth Street. Module 59-C, located at the toe of the embankment west of Building 615, also reported elevated TCE (95.51 μg).

4.1.1.29. Carbon Tetrachloride. There were no significant detections of $CC1_4$ reported in the Phase II survey.

4.1.1.30. Perchloroethene. The spatial distribution of PCE soil gas detections from both the initial and Phase II surveys is not as extensive as that for TCE, but the maximum levels detected are higher. In both phases of the survey, the highest soil gas levels of PCE were primarily located along the eastern end of the wastewater ditch adjacent to Avenue C. The highest PCE detections in the Phase II survey were reported in module 34-C (412.79 μg), located west of Building 620 immediately across Sixth Street, and duplicate module 23-C (336.17 μg), located along Avenue C adjacent to the highest Phase I PCE detection of 337.28 μg in module 18-624.

4.1.1.31. 1,1,1-Trichloroethane. Soil gas detections for TCA were similar in spatial distribution to PCE, but with maximum levels lower than those observed for PCE. The highest Phase II survey soil gas detection for TCA was in duplicate module 38-C (54.09 μg compared to the initial survey detection of 103.22 μg) located near the southwest corner of Building 600.

4.1.1.32. DRMO Area. Eight Phase IIa modules were installed in the DRMO Area (31-B through 38-B) around the perimeter of the gridded areas in some locations to further characterize the low levels of peripheral soil gas detections. The results indicated no elevated detections of any of the constituents of concern.

4.1.1.33. According to personnel at the Gore Laboratories, results of the Phase II/Phase IIa survey showed excellent correlation to the previous passive soil gas survey(s) as indicated by the results of the duplicate modules. Since the analyses of duplicate modules indicate good correlation of results between the initial and subsequent surveys, analytical data from the passive soil gas investigations were combined. Color concentration contour maps were generated for the combined Industrial/DRMO Area (SWMU 58) to illustrate the aggregate results from Phases I and II/IIa for the analytes of concern in the Industrial and DRMO Areas. A concentration contour map of SWMU 58 was also generated showing concentrations of the aromatic fuel hydrocarbon compounds benzene, toluene, ethylbenzene, xylenes (BTEX), which were detected in a small number of screening modules. Figures 4-1 through 4-6 show the detected concentrations of TCE, CCl_4, PCE, 1,2-DCA, TCA, and BTEX, respectively.

4.1.1.34. Discussion of SWMU 58 Passive Soil Gas Results. As was concluded from the initial phases of sampling in the Industrial and DRMO Areas, a number of potential VOC source locations were evident based on areas of relatively high soil gas detections. Data from the Phase II survey further supported these conclusions, as well as provided additional information in locations where data gaps initially existed (i.e., between the wastewater ditches and immediately west of Sixth Street). The remainder of the data from the Phase II passive soil gas survey appears to have adequately defined the periphery of the elevated soil gas in the survey area.

4.1.1.35. The most significant new data from the Phase II survey in the Industrial Area showed relatively high levels of TCE and TCA on the west side of Sixth Street between Avenues A and C. These results are further evidence of possible releases from chemical cleaning lines reported to have been located on the west side of Building 600. These results, along with active soil gas (ASG) data and historical information for this location, were taken into account when selecting the site for one of the Industrial Area VSG wells (discussed in following sections).

4.1.1.36. Another objective of the Phase II survey was to determine whether a correlation existed between elevated soil gas detections in the DRMO Area and the Industrial Area to the west. As shown on Figure 4-2, only CCl_4 appears to extend between the two regions, and at relatively low levels. Concentration contours for the other analytes indicate an apparent discontinuity between the Industrial and DRMO Areas.

4.1.2 Active Soil Gas (ASG) Survey

4.1.2.1. As stated previously, an active soil gas survey was conducted to quantify the soil gas concentrations of VOCs in the regions of the highest constituent concentrations (i.e., TCE, PCE, TCA, and CCl_4) that could pose a threat to groundwater beneath the Depot. Results from the ASG survey were used in conjunction with passive soil gas data and historical information to locate five vertical soil gas (VSG) monitoring stations, or "Seamist" wells, as discussed subsequently in Section 4.1.3.

4.1.2.2. The field procedures for installing and sampling the ASG sampling points were described previously in Section 3.3.3. Upon the request of the USACE, local barometric pressure data were recorded during sampling events, and attempts were made to collect samples during periods of low or decreasing barometric pressure. Project scheduling did not always allow for ideal barometric conditions; however, Kleinfelder feels that the quantity and quality of the ASG data is adequate for identifying and quantifying areas of high soil gas concentration(s). The barometric pressure at the time of sampling for each ASG location is shown with the analytical results on Table C-3, Summary of Active Soil Gas Survey Results, in Appendix C.

4.1.2.3. The rationales for placement of the 19 ASG points installed in the Industrial Area (ASG#I-1 through –19) and 5 ASG points installed in the DRMO Area (ASG#D-1 through –5) are discussed below and are summarized on Table 4-1. Locations of all sampled ASG points at SWMU 58 are shown on Figure 4-7, SWMU 58 Active Soil Gas Survey Locations and Results.

4.1.2.4. ASG Locations – Industrial Area. Locations for the 19 ASG points in the Industrial Area were selected based on the highest passive soil gas detections for TCE, PCE, TCA, and CCl_4. Specifically, the Gore Sorber locations with the highest mass of a particular contaminant (other analytes detected at those locations were also noted, as shown on Table 4-1). Locations for 18 of the ASG points are discussed in detail in the *Industrial Area Phase I Technical Memorandum and Phase II Work Plan Addendum*, included in the *Volume II - Work Plan Addenda* (Kleinfelder, 1999). ASG#I-19 was added at a later date. The 19 ASG points in the Industrial Area were installed and sampled during the period from September 27 to October 8, 1999. Sampling depths were from 8 to 10 feet.

4.1.2.5. ASG Locations – DRMO Area. Locations for three of the ASG points in the DRMO Area (ASG#D-1 through -3) were selected to quantify the soil gas concentrations in the areas of highest concentrations of TCE, CCl_4, and TCA, respectively, as determined during the initial (Phase I) passive soil gas survey. The three ASG locations were sampled on July 28, 1999. Sampling depths ranged from approximately 8 feet to 10 feet below grade for these three ASG locations.

4.1.2.6. Locations for two additional ASG points (ASG#D-4 and D-5) were selected based on results of the second phase of passive soil gas sampling in the DRMO Area. Locations of these two ASG points, which were sampled on September 3, 1999, are indicated on Figure 4-7. This second phase of passive soil gas sampling (August 1999) indicated that the highest detected concentrations of TCE in the soil were west of the location originally identified during the initial phase of passive soil gas sampling in April 1999.

4.1.2.7. Active Soil Gas Survey Results – Industrial Area. A summary of the active soil gas results for the Industrial Area is presented in Table C-3, included with this report in Appendix C. Figure 4-7 presents the ASG survey locations and results superimposed on the passive soil gas color contour map for TCE. In general, the results indicate a direct correlation between the regions of the highest passive soil gas detections (in micrograms of mass adsorbed) to the highest soil gas concentrations in part per billion by volume (ppbv). The only exception to this observation was for ASG#I-12 and –13, both of which indicated elevated levels of PCE where none was detected in the sorber modules installed in the vicinity (west of Building 637).

4.1.2.8. As shown on Figure 4-7, the highest VOC concentrations were detected in ASG#I-9 and #I–10 (54,290 ppbv and 53,750 ppbv, respectively), the majority being PCE. As indicated on Figure 4-3, GORE-Sorber® modules in this region (along Avenue C) recorded the most PCE detected during the passive soil gas survey. The highest TCE concentration was detected in ASG#I-16 (6200 ppbv), located between Buildings 677 and 679. This area also recorded relatively high TCE soil gas detections during the passive soil gas survey as shown on Figure 4-1. High TCE concentrations were also detected in ASG points #I-1, #I-2, and #I-3 (1200, 3700, and 4400 ppbv, respectively). These points are located in the building complex area, which indicated the highest detections of TCE during the passive soil gas survey. A high total VOC concentration (8108 ppbv) was detected in ASG #I-5 located west of Building 600. This area also reported high TCE and TCA during the passive soil gas survey.

4.1.2.9. Active Soil Gas Survey Results – DRMO Area. A summary of the active soil gas results for the DRMO Area ASG survey is also presented in Table C-3 of Appendix C. The highest TCE soil gas concentration was detected in ASG#D-4 (1500 ppbv), which corresponded to a relatively high passive soil gas detection in the adjacent GORE-Sorber® module 20-B (30.49 ug). This concentration was more than 15 times higher than the TCE concentration detected in ASG#D-1 (93 ppbv) which was originally considered to have the highest TCE soil gas detections.

4.1.2.10. In order to correlate the results from the two later ASG points (ASG#D-4 and D-5) to the initial three ASG points in August, a duplicate soil gas sample was collected from ASG#D-1. As shown on Table C-3, data from this duplicate sample [ASG#1(02)] indicated an excellent correlation to results from the initial sampling event.

4.1.2.11. As discussed previously, the ASG survey results were used, in addition to the passive soil gas data and historical information, to select locations for five vertical soil gas monitoring wells in the Industrial and DRMO Areas. Based on discussions with USACE and TEAD personnel, Kleinfelder recommended that total VOC concentrations in the soil gas be used as a primary selection criterion for subsequent vertical soil gas well locations. The VSG well locations, which are discussed further in the next section, included sites near ASG points #D-4, I-2, I-16, I-9, and I-5.

4.1.3 Vertical Soil Gas (VSG) Monitoring Stations

4.1.3.1. VSG Well Locations. During the period from October to November 1999, a total of five VSG (or "Seamist") wells were installed at SWMU 58. As discussed previously, VSG well locations were selected based on historical information as well as data from both the passive and active soil gas surveys. The VSG wells were installed at the following locations:

VSG#3	DRMO Area (near ASG #D-4)
VSG#4	Industrial Area north of Building 615 (near ASG #I-2)
VSG#5	Industrial Area west of Building 679 (near ASG #I-16)
VSG#6	Industrial Area along Avenue C (near ASG #I-9)
VSG#7	Industrial Area west of Building 600 (near ASG #I-5)

4.1.3.2. Two other VSG wells, designated VSG#1 and VSG#2, were installed at SWMU 12/15 (Sanitary Landfill) prior to the installation of the monitoring stations at SWMU 58, and are not discussed in this report. The locations of the VSG wells installed at SWMU 58 are shown on Figure 4-8, Vertical Soil Gas Well Locations and Results.

4.1.3.3. Well VSG#5 was moved from the originally proposed location west of Building 637 to west of Building 679. This change was proposed based on ASG data from ASG#I-16, passive soil gas TCE results near Buildings 677/679, and the recent discovery of an oily-waste-filled oil/water separator sump near the west side of Building 679. Screening level analyses from the water in this sump indicated the presence of TCE in excess of 25 milligrams per liter (ppm).

4.1.3.4. Total VOCs minus the concentrations of TCA and DCA (when detected) were also considered when siting the VSG wells. Based on the empirical data obtained from groundwater sampling results, the single-bonded ethane molecules are not detected in the groundwater whereas the double-bounded ethenes are. It was therefore helpful to consider both sets of data when determining the most beneficial locations for the VSG wells. It should be noted that although over 80% of the total VOCs detected in ASG#I-5 were reported to be TCA, a VSG well in this location was considered necessary to provide information on the vertical extent of TCE and TCA in the soil gas. The site was also selected due to its proximity to an industrial waste line discharge point from Building 600.

4.1.3.5. The site near ASG#I-2 was selected based on its centrality in the region of the highest passive soil gas detections of TCE and the historical uses of the buildings in the area. The VSG well installed in the DRMO Area was located near ASG#D-4, which had the highest total VOC concentration in the DRMO Area.

4.1.3.6. Results of Vertical Soil Gas Sampling. Vertical soil gas sampling results for each of the VSG wells are summarized in Table C-4 in Appendix C. Figure 4-8 shows the location of each VSG well and illustrates the VOC soil gas concentration profiles with depth for the contaminants with the highest concentrations in each VSG well. Well schematics, subsurface soil horizons, PID readings, and concentration profiles for each VSG well are also provided in Appendix C as Figures C-1 through C-5. In order to describe a complete vertical soil gas profile at any given location, sampling results from the ASG point adjacent to each VSG well are included in the discussion below.

4.1.3.7. VSG #3. As indicated on Figure 4-8, TCE soil gas concentrations in the vadose zone beneath the DRMO yard target area were generally higher at the top of the well and decreased markedly with depth. The highest TCE concentration was 4,000 ppbv, detected at 46 ft bgs in Port #1. Concentrations detected in Ports #2 and 3 (82 and 118 ft bgs, respectively) were 3,000 and 2,000 ppbv, respectively. Below this depth, the TCE concentration decreased significantly, with Port #4 (154 ft bgs) detecting 590 ppbv and Port #10 (370 ft bgs) detecting only 7.1 ppbv TCE.

4.1.3.8. Detected concentrations of CCl_4 were the most significant of the other analyzed VOCs, with a maximum concentration of 660 ppbv at 154 ft bgs at Port #4. A relatively high concentration of methyl ethyl ketone (MEK) was detected in Port #10 (780 ppbv).

4.1.3.9. VSG#4. As indicated on Figure 4-8, TCE vertical soil gas concentrations in the target area on the west side of Building 615 were fairly consistent with depth, ranging from 3,700 ppbv in ASG#I-2 (10 ft bgs) to 7,700 ppbv at 320 ft bgs in Port #10. The highest TCE concentration detected was 9,200 ppbv at 289 ft bgs in Port #9. DCE was the most significant of the other constituents detected, with the maximum concentration of 300 ppbv at 227 ft bgs (Port #7).

4.1.3.10. VSG#5. As indicated on Figure 4-8, TCE soil gas concentrations measured in the target area on the west side of Building 679 were two orders of magnitude higher than those detected in either VSG#3 or #4. The TCE soil gas concentration reached a maximum of 410,000 ppbv at 74 ft bgs (Port #2), and decreased to 83,000 ppbv at 170 ft bgs (Port #5). Below 170 ft bgs, the TCE concentrations remained fairly constant with depth to the bottom of the well at 330 ft bgs. No other analytes were detected in VSG#5, although this may be due to the high detections of TCE in comparison to the detection limits of the other analytes.

4.1.3.11. VSG#6. As indicated on Figure 4-8, PCE was detected in the highest concentrations beneath the former waste water ditch location along Avenue C. Concentrations of PCE ranging from 53,000 ppbv at 10 ft bgs (detected in active soil gas point ASG#I-9) to 1,000 ppbv in Port #10 at 285 ft bgs were found. PCE concentrations exceeded 28,000 ppbv to a depth of approximately 175 ft bgs, where they decreased significantly and remained less than 2,600 ppbv

to the bottom of the well. These results confirm the previous passive soil gas survey, which reported the highest PCE soil gas detections in modules located in this area along Avenue C.

4.1.3.12. Detected concentrations of DCE were the next most significant, with the maximum concentration of 2300 ppbv recorded at 147 ft bgs in Port #5.

4.1.3.13. VSG#7. As indicated on Figure 4-8, TCA was detected in the greatest concentrations in the vadose zone on the west side of Building 600. The TCA was detected at concentrations, ranging from 6,700 ppbv at 10 ft bgs (detected in ASG#I-5) to 85 ppbv in Port #10 at 310 ft bgs. TCA concentrations decreased markedly from the active soil gas sampling point to Port #1 in the VSG well (1,200 ppbv at 40 ft bgs), and increased slightly to around 3,600 ppbv in Ports #2 and 3. The concentrations then decreased with depth to the bottom of the well. These results agreed well with the prior passive soil gas survey, which report the highest TCA soil gas detections in modules located in this area.

4.1.3.14. Of the other analytes, detected concentrations of DCE were the most significant with a maximum concentration of 1,900 ppbv recorded between 70 and 100 ft bgs (Ports #2 and #3).

4.1.3.15. Discussion of Vertical Soil Gas Results. As discussed above, each of the VSG wells provided evidence of residual VOC concentrations in the vadose zone beneath TEAD. The VSG wells confirm the results of the prior passive and active soil gas sampling at SWMU 58. At several locations, the resulting vertical soil gas profiles created from the VSG data provide strong evidence of continuing VOC migration to the groundwater beneath TEAD.

4.1.3.16. Data from the VSG wells were used, in part, to determine locations for six groundwater monitoring wells in the Industrial Area. The installation, sampling, and results from the monitoring wells drilled as part of the groundwater part of the SWMU 58 Phase I RFI are described in Section 4.2.

4.1.3.17. As stated in Section 3, soil samples at three different depths from three of the VSG boreholes were collected and analyzed for TOC. The results are presented in the following table:

Sample Location	Average TOC (mg/kg)	Fraction Organic Carbon (%)
VSG3-01 (14 ft bgs)	7060	0.71
VSG3-02 (20 ft bgs)	<100	<0.01
VSG3-03 (330 ft bgs)	7940	0.79
VSG6-01 (64 ft bgs)	<110	<0.01
VSG6-02 (136 ft bgs)	<100	<0.01
VSG6-03 (302 ft bgs)	<110	<0.01
VSG7-01 (28 ft bgs)	2,000	0.20
VSG7-02 (88 ft bgs)	<100	<0.01
VSG7-03 (305 ft bgs)	<100	<0.01

The fraction of organic carbon is important when determining sorption capabilities of the subsurface materials, i.e., the measure of the tendency of a chemical to be adsorbed by a soil or sediment. The greater the organic content of the material, the greater the sorption potential. According to LaGrega, et al. (1994), for aquifers similar to those at TEAD, the fraction of organic carbon ranges from 0.1 to about 0.6 percent. As can be seen from the table above, organic carbon results from the VSGs ranged from 0.01 to almost 0.80 percent. The data will be used during follow-on investigations to estimate the fate and transport of the chemicals in the subsurface.

4.1.4 Geophysical Survey at the DRMO Area

4.1.4.1. Purpose and Scope. The absence of detectable concentrations of VOCs in three monitoring wells upgradient of the DRMO Area suggested that a contaminant source for the Northeast Boundary Plume might be located downgradient of the TEAD eastern boundary, possibly within the DRMO Area. The purpose of the geophysical survey conducted as part of the Phase I RFI at SWMU 58 was to locate previously undetected subsurface irregularities that might be indicative of buried debris beneath the DRMO Area at TEAD. Such anomalies might include refuse trenches, buried wastes, and drums. If present, these items could be acting as a continuous source of groundwater contamination.

4.1.4.2. The geophysical survey covered approximately the north 50% to 70% of the DRMO Area and was performed in accordance with the operating manuals for the Geonics EM31-MK2 Ground Conductivity Meter and Data Logger used for the survey. The traverse (grid) lines for

the electromagnetic survey were staked in an approximately east-west direction and located 10 feet apart. The apparent soil conductivity and in-phase data were collected continuously in the vertical dipole along each grid line. Data were down loaded from the data logger and processed using software furnished with the instrumentation. Additionally, the data points were linked to a global positioning system grid.

4.1.4.3. Geophysical Survey Location. The geophysical survey was completed by Kleinfelder personnel in April 1999, prior to beginning the passive soil gas survey. As shown in Figure 4-9, three areas (designated Areas A, B, and C) were covered during the survey. Descriptions of the geophysical survey equipment and survey procedures is included with this report in Section 3.3.1.

4.1.4.4. Data Reduction. After all data were collected, the geophysical conductivity measurements from the survey lines were assembled into a package for each area and evaluated using several data contouring methods. The objective of contouring the data is to identify changes in subsurface soil properties that may be indicative of the presence of buried debris and thus a possible source area for TCE known to be impacting groundwater downgradient of the DRMO. Several contouring methods were applied to the data in order to see which approach provided the best resolution of any geophysical anomalies. In Areas B and C, kriging provided the best resolution, whereas triangulation with linear interpolation worked best in Area A. Both the quadrature-phase and in-phase components of the instrument response data for each area were recorded and analyzed. The quadrature-phase component gives the ground conductivity measurement which is sensitive to the spatial changes in the subsurface soil properties that is useful for locating burial areas that do not contain magnetic items. The in-phase component is significantly more sensitive to large metallic objects such as buried drums.

4.1.4.5. All three survey areas are bounded by metallic objects (either wire fences or railroad tracks) on the west, north, and east sides. When these metallic boundaries were not parallel to the orientation of the instrument, both instrument responses were strongly affected, resulting in the ‘noise’ on the corresponding borders of the contour plots. The contouring process results in the apparent presence of data outside the survey boundaries. In this case, the contouring also amplified the noise caused by the metallic objects.

4.1.4.6. Results of Geophysical Survey. Terrain conductivity maps of the site, which outline areas of conductive fill material, or naturally conductive soil or rock (clays and shales) were produced for each of the three surveyed areas. These terrain maps for Areas A, B, and C are shown on Figures 4-10, 4-11, and 4-12, respectively. Two separate maps were produced for each area – a map showing the quadrature in-phase response ("Q") and one showing the in-phase instrument response ("I").

4.1.4.7. Area A. Area A is located in the northwest portion of the DRMO, as shown on Figure 4-9. The survey detected only one significant anomaly suggesting the presence of buried metallic objects. The anomaly coincided with the location of metal debris at the surface in a portion of the DRMO that has clearly been filled with earthen material to bring the area up to grade and create a level ground surface. The areal extent of the local anomaly is larger than the small area in which metal debris is visible at the surface, suggesting that there are additional metallic objects buried in the area.

4.1.4.8. The detection of a buried pipeline in Area A suggests that the instrument was functioning properly during this portion of the survey. The instrument also responded properly to the presence of several large metal plates located at the surface. These features are identified on Figure 4-10.

4.1.4.9. Area B. Area B is located in the northwest portion of the DRMO, as shown on Figure 4-9. The survey detected several significant anomalies suggesting the presence of buried metallic objects, as shown on Figure 4-11. The detection of a known buried pipeline in Area B demonstrates again that the instrument functioned properly during this portion of the survey.

4.1.4.10. Area C. Area C is located in the northeast portion of the DRMO. The survey detected several significant anomalies suggesting the presence of buried metallic objects as identified on Figure 4-12. The quadrature-phase response (Q) also indicated the existence of three non-metallic subsurface changes that may be related to previous excavations. Although disturbed soils may be present, these areas do not appear to contain any metallic objects.

4.1.4.11. Summary of Geophysical Survey Results. The geophysical survey of the north end of the DRMO Yard identified several areas where subsurface anomalies suggested the presence of

buried objects. There is some agreement with the results of the passive soil gas survey conducted in this area (Section 4.1.1). As shown on Figure 4-1, the location of one significant subsurface anomaly, as noted by the geophysical survey, correlates with the locations of moderate to high TCE detections noted by the passive soil gas survey.

4.1.5 Evidence of Biodegradation in the Vadose Zone at SWMU 58

4.1.5.1. This section provides a general discussion of natural attenuation and the potential for biodegradation of the chlorinated solvents in the vadose zone at SWMU 58. Natural attenuation is defined as any one of a variety of physical, chemical, or biological processes that, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil or groundwater (Wiedemeier, 1999). There are several physical, chemical, and/or biological mechanisms, which cause natural attenuation in the subsurface; these mechanisms can be broken down into non-destructive and destructive attenuation mechanisms.

4.1.5.2. Non-destructive attenuation mechanisms result in decreasing concentrations but not in removal of the contaminant mass. These include sorption, dispersion, dilution (from recharge), and volatilization. Destructive attenuation results in the removal of contaminant mass and includes mechanisms that involve microorganisms (biological) and those that occur chemically (abiotic). “Biodegradation” is the term used to describe destructive attenuation involving microorganisms and is discussed below.

4.1.5.3. Chlorinated solvents undergo biodegradation through three different pathways: (1) use as an electron acceptor (reductive dechlorination); (2) use as an electron donor or primary substrate (oxidation); and (3) co-metabolism where degradation of the chlorinated solvent provides no benefit to the microorganism but is simply fortuitous. In general, biodegradation of chlorinated solvents is an electron-donor-limited process.

4.1.5.4. The generalized process of biodegradation of chlorinated solvents begins in the subsurface where native/anthropogenic carbon is utilized as an electron donor, and dissolved oxygen is utilized first for the prime electron acceptor. Once the dissolved oxygen is depleted,

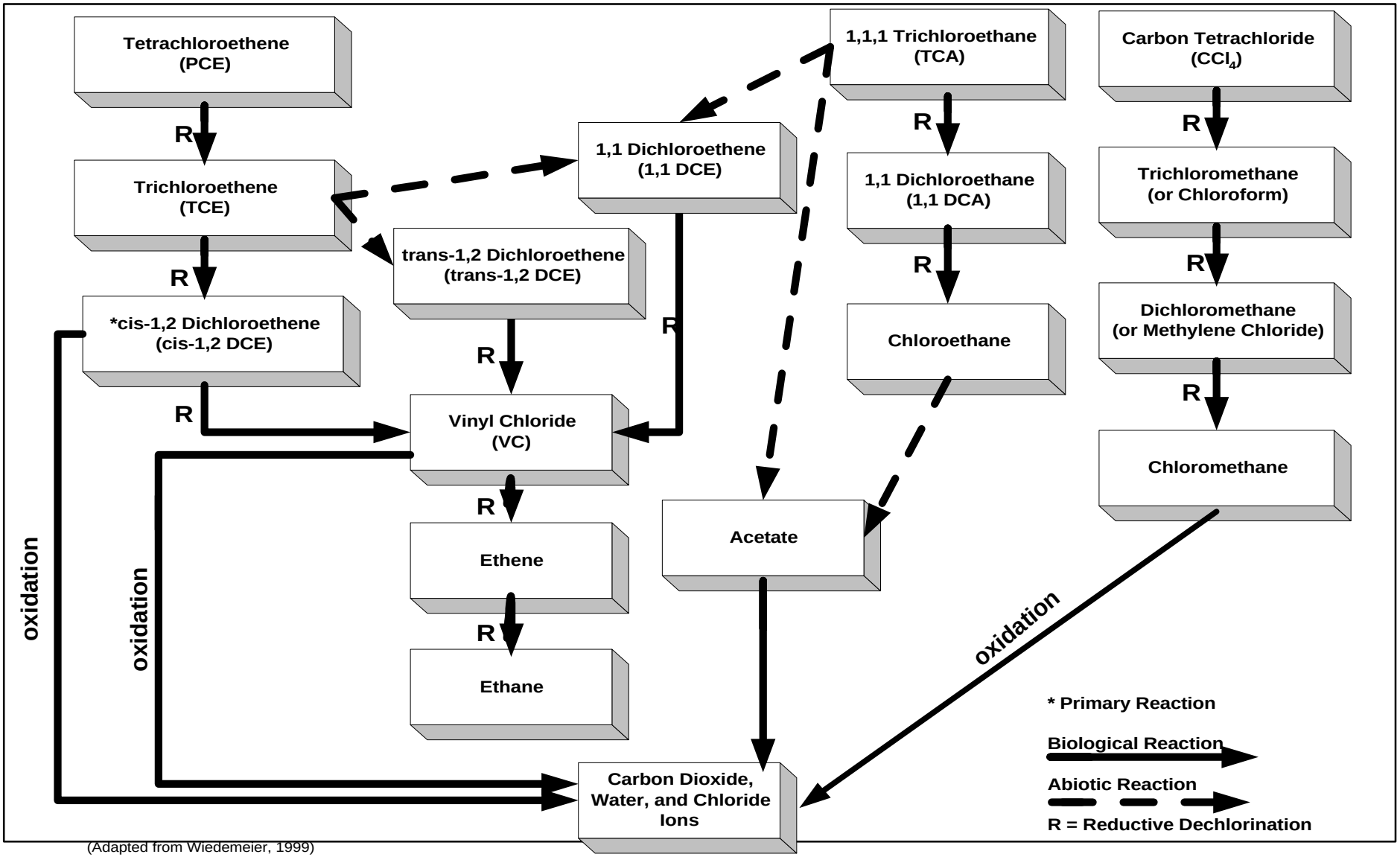
anaerobic microorganisms typically utilize additional available electron acceptors in the following order: nitrate, ferric iron hydroxide, sulfate, and carbon dioxide. In the absence of nitrate and dissolved oxygen, chlorinated solvents compete with the other electron acceptors and donors, especially sulfate and carbon dioxide.

4.1.5.5. The most important process for the natural biodegradation of chlorinated solvents is reductive dechlorination. The chlorinated solvent is utilized as an electron acceptor, and a chlorine atom is removed and replace with a hydrogen atom. Because chlorinated solvents are utilized as electron acceptors during reductive dechlorination, an appropriate carbon source is required for microbial growth to occur. Reductive dechlorination has been demonstrated to be most efficient under very strongly reducing (or anaerobic) conditions.

4.1.5.6. A less consequential natural biodegradation process for chlorinated solvents is as a primary substrate or electron donor (an oxidation reaction). Typically under aerobic conditions, less-oxidized chlorinated solvents (1,2 DCA, vinyl chloride, and cis-1,2 DCE) can be utilized as a primary substrate and undergo direct oxidation. The facilitating microorganisms obtain energy and carbon from the degraded chlorinated solvent in the process.

4.1.5.7. Co-metabolism is another natural degradation process for chlorinated solvents (except those that are highly chlorinated such as PCE and CCl_4) in the subsurface. This process has been shown to occur in anaerobic conditions, but is more likely in aerobic conditions in the presence of fuel hydrocarbons. During this process, bacteria indirectly transform chlorinated solvents as they use the fuel hydrocarbon to meet their energy requirements.

4.1.5.8. The following figure illustrates the transformation processes for the primary chlorinated solvents impacting the SWMU 58 study area (PCE, TCE, CCl_4, and TCA). As shown, the primary reductive dechlorination pathway of PCE can ultimately lead to breakdown products including TCE, cis-1,2 DCE, vinyl chloride (VC), ethene, and ethane. The detection of cis-1,2 DCE is a good indicator of biological activity since biological DCE is almost 100% cis-1,2 DCE (manufactured DCE is mostly 1,1 DCE). Reductive dechlorination of CCl_4 can lead to the production of chloroform, methylene chloride, and chloromethane. Reductive dechlorination of TCA can produce byproducts including 1,1 dichloroethane (1,1 DCA) and chloroethane.



(Adapted from Wiedemeier, 1999)

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SWMU 58
Investigation
Phase I RFI Report
Tooele Army Depot

Biodegradation of Common Chlorinated Solvents

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4.1.5.9. Passive and active soil gas data at SWMU 58 suggest there is some degree of solvent degradation in the vadose zone. Five of the 19 ASG samples collected indicate some breakdown of TCE to cis-1,2 DCE, although no further breakdown to vinyl chloride is evident. The absence of VC may be explained by the bypass of VC production due to the direct oxidation of cis-1,2 DCE to carbon dioxide and water. Alternatively, VC produced may undergo rapid oxidation in the aerobic environment and therefore not be present at detectable quantities in the environment.

4.1.5.10. Three ASG samples detecting TCE and cis-1,2 DCE (I-2, -3, and -19) are located in the main building complex area near Building 615 and two (ASG #s I-6 and –7) are located along the wastewater ditch adjacent to Avenue A. Additionally, ASG #I-17 had trace concentrations of chloroform, methylene chloride, and chloromethane, indicating the possibility of a complete degradation pathway of CCl_4 to chloromethane. Five of the ASGs (I-1, I-5, I-6, I-7, and I-19) indicated possible reductive dechlorination of TCA to 1,1 DCA, but the breakdown does not appear to continue to chloroethane.

4.1.5.11. Data gathered from vertical soil gas sampling indicate potential breakdown of TCE to cis-1,2 DCE in three of the VSGs (4, 6 and 7). VSG#6 also had low detections of VC in the samples from the deepest ports. These VC detections are most likely an indicator of some biological activity since VC doesn't travel far into the subsurface and breaks down quickly under aerobic conditions (like those found at TEAD). Trace concentrations of the breakdown products of CCl_4 were also detected n VSG #s 3, 6 and 7.

4.1.5.12. Although the findings discussed above indicate some evidence of the biodegradation of chlorinated solvents in the SWMU 58 vadose zone, the present data are insufficient to determine degradation rates, presence of competing electron acceptors, or the availability of suitable oxidizable organic carbon. In order to fully assess the possibility and extent of chlorinated solvent biodegradation occurring at SWMU 58, collection and evaluation of these data should be included in follow-on investigations.

4.2 GROUNDWATER INVESTIGATION RESULTS

4.2.0.1. Purpose and Scope. During the period of August 1998 to October 2000, a total of 11 groundwater monitoring wells were installed in the Industrial Area and the DRMO Area at TEAD under Delivery Orders No. 53 and 56 of USACE contract DACW05-95-D-0022. The purpose of this groundwater investigation was to assess the nature, extent, and potential sources of VOCs detected in the groundwater beneath the Industrial and DRMO Areas during previous environmental investigations.

4.2.0.2. Well Locations. Locations of the monitoring wells installed as part of this project are shown on Figure 1-4, and the rationale for selecting each respective well location is presented on Table 3-1, Summary of Monitoring Well Purposes. The wells installed as part of the SWMU 58 Phase I RFI were designated C-29 through C-39. Wells C-29 to C-32 were installed in and around the DRMO Area to evaluate whether residual soil contamination was impacting groundwater in that area. Wells C-33 to C-39 were drilled at various locations throughout the Industrial Area to assess areas previously defined as potential VOC source locations for groundwater contamination.

4.2.0.3. Detailed descriptions of the procedures used to drill, construct, survey, develop, and sample the monitoring wells were presented in Section 3.4.1 of this report, including the analytical program. The following sections discuss the results of the Phase I RFI groundwater investigation at the Industrial and DRMO Areas.

4.2.1 SWMU 58 Groundwater Quality Assessment

4.2.1.1. Major Ion Analysis. As groundwater moves from upgradient to downgradient areas through an aquifer system, it tends to dissolve soluble minerals along the way. Although this process varies between aquifer systems, analyzing major ion concentrations is one way to evaluate relative maturity of the groundwater in a particular location in the aquifer system. To help evaluate the natural groundwater chemistry beneath the SWMU 58 study area, groundwater samples were collected from ten monitoring wells for analysis of major ions, and the pH,

conductivity, and total dissolved solids (TDS) were measured. A summary of the results of the major ion analyses is presented on Table C-5 in Appendix C. The results of the major cation and anion analyses were used to construct Stiff diagrams for each of the wells to illustrate the various water types noted at TEAD. Figure 4-13, Groundwater Types as Stiff Diagrams, presents various water types as represented by Stiff diagrams as determined during previous investigations (JMM, 1988). This type of presentation allows a graphical depiction of what constitute major water types. As indicated in Figure 4-13, three groundwater types have been identified beneath TEAD. Figure 4-14, Stiff Diagrams By Monitoring Well, presents the results of the major ion analyses using Stiff diagrams for each sampled well.

4.2.1.2. As can be seen on Figure 4-14, the groundwater beneath the Industrial Area at TEAD is consistent with Type 1 groundwater. This type of groundwater is generally characterized as a bicarbonate anion-dominated water with sodium or calcium representing the principal cations. These types of dominant ions are typical of groundwater, in recharge areas where the water has not gained the higher concentrations of chloride and sulfate ions found further downgradient. The overall size of the stiff diagram is proportional to the TDS in the groundwater. As shown in Figure 4-13, Type 1 groundwater at TEAD has the lowest TDS concentrations when compared to the other two groundwater types.

4.2.1.3. Organic Compound Analyses. All of the newly constructed monitoring wells were sampled for VOC analysis by EPA Method 8260, which includes the commonly used industrial chlorinated solvents that were a focus of the SWMU 58 Phase I RFI. While most of the wells in SWMU 58 were tested more than once for volatile organic compounds, several of the more recent wells were only sampled once following construction. In addition to VOCs, selected wells were also sampled for semi-volatile organic compounds (SVOCs). Results of the initial VOC and SVOC analyses are presented in Tables C-6 and C-7 in Appendix C. Additional data from well sampling events conducted after the initial sampling are summarized in Table C-8.

4.2.1.4. Concentrations of VOCs detected during the initial well sampling at SWMU 58 ranged from below the laboratory method detection limit to greater than 1000 µg/L for a concentration of TCE in well C-33 in March 2000. The highest VOC constituent concentrations were

generally for TCE that was detected commonly in both the northeastern and southern parts of the Industrial Area.

4.2.1.5. Other than TCE, carbon tetrachloride was the most commonly detected organic compound. This compound was detected throughout much of the Industrial Area, especially in the central and western portions. Concentrations of other VOC constituents, such as perchloroethene, 1,2-dichloroethane, and BTEX, were noted to be relatively limited in extent. Discussions of the lateral and vertical extents of VOC groundwater contamination in the Industrial and DRMO Areas are presented in more detail in the following sections.

4.2.1.6. Metal Analysis Results. Initial sampling of the SWMU 58 wells included analyses for total metals as well as organic compounds and major ions. In general, the metals concentrations were below MCLs. Where metals concentrations were detected above the MCL, the detected concentration was below the established background level for that metal. Results of the metals analyses from the initial sampling event are presented in Table C-9 in Appendix C.

4.2.2 Lateral Extent of Contamination

4.2.2.1. Based on results of the water quality assessment, the lateral and vertical extents of contamination were assessed. The horizontal extents of the major contaminants of concern (i.e., TCE, CCl_4, PCE, and 1,2-DCA) are shown on Figures 4-15 through 4-18. These figures are a graphical presentation of the isoconcentration contours overlaid on the aerial photograph of the Industrial and DRMO Study Areas. These figures give an indication of how the groundwater contamination correlates to suspected source areas previously discussed. Additionally, the distribution of TCE and CCl_4 depicted in Figures 4-15 and 4-16 are consistent with the apparent groundwater high and the resulting groundwater gradients north of the Detroit Diesel facility (see Section 2.6). To help illustrate affects that the groundwater high appear to have on the distribution of VOC contaminants, groundwater flow direction arrows from the groundwater elevation contour map (Figure 2-5) have been added to Figures 4-15 and 4-16.

4.2.2.2. In addition to the four major contaminants of concern, Figure 4-19 presents the concentrations of other VOCs detected during various groundwater sampling events at SWMU 58. The analytical data used to generate the concentration contours on these figures are from the semiannual sampling event conducted in the fall of 1999 unless indicated otherwise. In addition, since the extent of TCE contamination is much greater than that of the other contaminants, its vertical extent is illustrated by means of several cross-sections. The cross-sections and discussions of the vertical extent of TCE in groundwater at TEAD are discussed later in this section.

4.2.2.3. Detections of VOCs in the groundwater at SWMU 58 were limited to the Industrial Area. No VOC concentrations above the respective method detection limits were noted in groundwater underlying or adjacent to the DRMO Area. The following sections discuss the horizontal extent of each of the major contaminants of concern.

4.2.2.4. TCE. Concentrations of TCE above the current MCL of 5 µg/L underlie large portions of the southern and northern Industrial Areas (Figure 4-15). Based on the results of the fall 1999 groundwater sampling, two separate groundwater plumes appear to be present. One plume underlies the northeastern part of the Industrial Area (the Northeast Boundary Plume), while another plume (the main plume) appears to originate in the southern/southwestern part of the Industrial Area and extends to the north/northwest. Local groundwater gradients that result from the groundwater high north of the Detroit Diesel facility appear to maintain the separation between the upgradient ends of these two TCE plumes. The main plume that was originally detected in the mid-1980s currently occupies approximately 1,800 acres. The source of the main plume was attributed to contamination from the former Industrial Waste Lagoon and associated ditches. Based on the results of the Phase I RFI soil gas and groundwater sampling, it appears that additional upgradient sources for the main TCE groundwater plume are also located in the manufacturing building complex area, which occupies the southeast portion of the Industrial Area, and the open storage to the northeast of the manufacturing area. The Northeast Boundary Plume is smaller in lateral extent than the main TCE plume and extends northward to the TEAD boundary and beneath Highway 112. Although the off-Depot extent of the Northeast Boundary Plume is not yet determined, the on-Depot extent occupies approximately 500 acres. The main

source of the Northeast Boundary groundwater TCE plume has been identified as an oil/water separator located on the west side of Building 679 in the northern part of the former industrial area.

4.2.2.5. Carbon Tetrachloride. Similar to TCE, groundwater impacts from carbon tetrachloride (CCl_4) appear to underlie a significant portion of the Industrial Area as defined by the 5 μg/L concentration contour (Figure 4-16). Also similar to the distribution of TCE in the groundwater, two plumes appear to be present, although less well-defined than for TCE. The apparent separation into two plumes may have resulted from the groundwater high identified near the north end of the Detroit Diesel facility. It appears that the groundwater high may act to split the CCl_4-impacted groundwater plume (see Figure 4-16). The CCl_4-impacted groundwater, as assessed by groundwater sampling at several wells throughout the eastern part of TEAD in the fall of 1999, is approximately 1.8 square miles, or about 1200 acres in areal extent. Unlike the assessed lateral distribution of TCE, CCl_4 does not appear to be migrating as rapidly to the north towards the northeastern TEAD boundary. Sources for the CCl_4 groundwater impacts have not been clearly identified during the Phase I RFI. Although CCl_4 was detected at relatively high concentrations in the soil gas at shallow depths, a relationship to deeper contamination has not yet been established.

4.2.2.6. Perchloroethene. Concentrations of PCE above the MCL were noted in only two wells at SWMU 58 during recent sampling: Well B-27 during the fall 1999 sampling event and well C-35 during initial sampling in April 2000. Each of the wells are located directly adjacent to a former wastewater ditch. As shown on Figure 4-17, groundwater impacts from PCE in the Industrial Area appear to be limited in areal extent, with the greatest PCE concentration detected in well C-35 at 231 μg/L. As shown on Figure 1-4, a limited PCE plume appears to extend downgradient (northwest) from well C-35 a distance of about 4,000 feet and seems to be limited to 1,000 feet or less in a cross-gradient direction. The total area impacted by PCE, as assessed by results from these impacted wells, is estimated to be about 90 acres in areal extent. Soil gas sampling in the vicinity of the former wastewater outfall ditch along Avenue C found high concentrations of PCE in the vadose zone. These results corroborate the detection of PCE in monitoring well C-35 and strongly indicate that wastewater discharged to the Avenue C outfall ditch is the source of the PCE found in groundwater.

4.2.2.7. 1,2-Dichloroethane. Concentrations of 1,2-DCA above the method detection limit were noted in only two wells at SWMU 58 during recent sampling. Concentrations of 120 µg/L and 1.5 µg/L were detected in wells C-17 and C-34, respectively. As defined by these concentrations, and as shown on Figure 4-18, 1,2-DCA impacts are limited to about 10 acres or less in lateral extent. Both the monitoring wells that contain this chemical are located downgradient of the Building 637 leaking underground storage tank (LUST) site. Because 1,2-DCA has historically been used as a fuel additive to clean carburetors and due to the limited extent of impacted groundwater, the presence of this chemical in the groundwater at TEAD is believed to be due to gasoline releases from the 637 LUST site.

4.2.2.8. Other VOCs. Concentrations of non-chlorinated organic compounds, specifically the common fuel constituents for gasoline and diesel fuels, were detected in a limited area during groundwater sampling as shown on Figure 4-19. Detections of one or more of the aromatic hydrocarbons benzene, toluene, ethylbenzene, and total xylenes (BTEX) were noted in well C-17 and C-35. While C-17 is located adjacent to the Building 637 LUST site as defined by previous site investigations in 1995-96, well C-35 is downgradient of another LUST site northeast of Building 619 at Building 629. The underground tanks at both of these sites have been removed. The sources of the BTEX compounds detected in these wells are most likely the releases from those former underground fuel tanks. These sites are currently closed or are undergoing soil remediation to reduce or remove the potential sources for these hydrocarbons.

4.2.3 Vertical Extent of Contamination

4.2.3.1. The vertical extent of contamination at SWMU 58 have been estimated for the major contaminant of concern (TCE). To facilitate this assessment of vertical contaminant extent, several paired monitoring wells were installed as part of the Phase I RFI. The pair wells are located in close proximity to one another and are screened at different depths to allow an evaluation of vertical changes in the groundwater constituents. The estimated vertical extent of TCE impacts underlying the Industrial Area at TEAD is shown by means of four separate cross-sections. The locations of these cross-sections are shown on Figure 4-20.

4.2.3.2. The four cross-sections, labeled A, B, C, and D, show longitudinal levels of TCE concentration as well as the water table elevation and TDS concentrations. Cross-section A runs from well C-18 to C-19, cross-section B runs from well C-31 to C-23, cross-section C runs from well C-14 to C-29, and cross-section D runs from well C-23 to C-37. These cross-sections are presented on Figures 4-21 through 4-24, respectively.

4.2.3.3. Geologic information contained in the cross-sections illustrate the general relationships between the alluvial aquifer and underlying bedrock. The TCE isoconcentration contour lines also included in the cross-sections suggest that the vertical distribution of TCE may be controlled by the bedrock. Contrasts in hydraulic conductivity between the more conductive alluvium and less conductive bedrock (see Section 4.3.2.) allow the TCE-impacted groundwater to move through the alluvium, while to some extent, exhibits vertical migration into the bedrock.

4.3 SWMU 58 HYDROGEOLOGY

4.3.0.1. Previous investigations at TEAD have provided extensive information regarding the hydrogeologic conditions present beneath portions of the Depot. This information was the basis for constructing the groundwater treatment system currently treating the groundwater in the main groundwater plume (SWMU 2). The findings of this Phase I RFI add to the understanding of the relationship between the alluvial aquifer and the underlying bedrock and how this relationship influences groundwater flow beneath the sources of impacted groundwater in both the main groundwater plume and the Northeast Boundary Plume.

4.3.1 Bedrock Configuration Beneath SWMU 58

4.3.1.1. Although evaluating the nature of groundwater in the bedrock beneath the alluvial aquifer was beyond the scope of this investigation, two monitoring wells drilled as part of this study (C-30 and C-39) did encounter bedrock beneath the study area. The bedrock elevation information from these two wells combined with data from previously existing monitoring well B-26 and production well WW-2, and data from wells that did not encounter bedrock, provide sufficient information to allow an interpretation of the configuration of bedrock beneath the

SWMU 58 study area. Figure 4-20 combines the bedrock elevation information from monitoring wells, piezometers and TEAD production wells in SWMU 58 and SWMU 2. The elevation information has been contoured to provide an illustration of the bedrock configuration.

4.3.1.2. Bedrock is present beneath the alluvial valley fill deposits at depths ranging from 0 feet near the northeastern TEAD boundary (where it crops out) to greater than 700 feet near the south eastern Depot boundary. As shown in Figure 4-20, the bedrock appears to form a north-northwest trending block that reaches its maximum elevation of about 4,600 feet toward the northern end, where it extends above the water table and the alluvial aquifer is absent. Elevations at the southern end, although not well defined, are below 4,140 feet. Based on this interpretation, the block appears to range from about 5,000 to 6,000 feet in width and extends over 10,000 feet along its long axis. Toward the southern part of the study area, the bedrock surface elevation decreases and the ground surface elevation increases. TEAD water supply well WW-3, drilled in the southern most part of the study area, reached a depth of 700 feet without encountering bedrock.

4.3.1.3. As depicted in Figure 4-20, boreholes drilled along the west, north, and east sides that did not encounter bedrock are often located close to boreholes that did. The differences in elevations where bedrock was and was not encountered suggested by these proximal data points, indicate that rapid elevation changes (steep sides) are found along these margins. Based on this information, the bedrock block appears to be uplifted compared to basement rock along the east and west margins. This structure may have resulted from downward (normal) faulting along the block's sides that is consistent with the Basin-and-Range faulting described in Section 2.0.

4.3.2 Groundwater Flow Patterns

4.3.2.1. Aquifer testing in both the alluvial and bedrock aquifers has shown a pronounced difference in the ability of each to transmit groundwater. Groundwater modeling associated with the SWMU 2 remediation project (HEC, 1998) utilizes hydraulic conductivity values for the bedrock aquifer that are from three to four times less than those for the alluvial aquifer. Additionally, a weathered clayey surface on the bedrock found in many boreholes is thought to

impede flow into this aquifer. HEC modeling has used hydraulic conductivity values that are 35 to 50 times less than those for the alluvial aquifer for this zone to facilitate model calibration. These contrasts show that the bedrock block transmits groundwater less easily than the alluvial aquifer and thus acts as a barrier to groundwater flow beneath the eastern portion of TEAD.

4.3.2.2. As groundwater beneath the eastern portion of TEAD flows towards the north-northwest from the upgradient areas to the downgradient areas, the bedrock block tends to impede the flow and, to some extent, divert the flow around it. This divided flow has acted to enhance the separation between the two TCE plumes (see Figure 1-4). This affect is also apparent in the groundwater contour map (Figure 2-4) where contour lines representing groundwater elevations at 4,375, 4,400 and 4,450 feet extend across the upgradient side of the higher portion of the bedrock block. In this area, the bedrock block appears to act as a dam that backs up the groundwater behind it.

4.3.2.3. Further south, beneath the eastern side of the former industrial area, the bedrock block diverts the general north-westerly groundwater flow to a more northerly flow direction. In this area, the groundwater contour line representing the 4,475-foot groundwater elevation (see Figure 2-4) trends east-west between monitoring wells B-3 and C-15. Assuming that the groundwater flow direction is perpendicular to the contour line, the groundwater moving through the alluvial aquifer above the bedrock block in this area flows north-eastward. Based on the location of the Building 679 oil/water separator, the north-eastward groundwater flow through the alluvial aquifer above the bedrock and northerly along the east side of the bedrock block has carried TCE downgradient and created the Northeast Boundary TCE plume.

4.3.2.4. In a similar manner, groundwater flow through the alluvial aquifer above and along the west side of the bedrock block has picked up TCE and CCl_4 from the former industrial waste water system (ditches, industrial buildings, and the IWL) and created the main groundwater plume associated with SWMU 2.

4.4 SOURCE AREA IDENTIFICATION AND CORRELATION TO HISTORICAL SOLVENT USAGE

4.4.0.1. The intent of this section is to identify primary suspected source areas based on the SWMU 58 investigation results and present correlations to previously identified locations where solvents are know or suspected to have been used, handled, or stored. Areas of elevated soil gas detections of TCE, PCE and CCl_4 (the chlorinated solvents known to be impacting groundwater beneath the SWMU 58 study area) were combined to establish the locations where a potential for continuing impact to groundwater exists. As shown on Figure 4-25, the colored circles indicate the location of elevated soil gas detections for each of the constituents (shown in the legend) and the collective results are overlaid on the TCE passive soil gas contour. Documented impact to groundwater beneath the site was also considered when identifying these potential source areas.

4.4.0.2. The discussion focuses on the distinct regions of contamination and their relationship to the historical operations as identified in Section 1.5. Specifically, potential source areas identified during this investigation include:

- The wastewater ditches adjacent to Avenues A, C, D, and E (west of the Detroit Diesel facility);
- The Main Building Complex Area (Buildings 600, 604, 607, 609, 611, 613, 614, 615, 619, and 620);
- The open storage west of Buildings 638 and 639;
- The Building 657/659, 667/679, and 677/679 Complex; and
- The DRMO Area.

Each of these areas is discussed below.

4.4.1 Wastewater Ditches Along Avenues A, C, D and E

4.4.1.1. Wastewater from the various activities in the Main Building Complex of the Industrial Area discharged into pipelines beneath the streets and flowed northwestward into open storage areas just northwest of the buildings. In these open areas, the pipelines ended and the wastewater continued northwestward in unlined outfall ditches located between Avenues A and B (hereafter referred to as "Avenue A"), and adjacent to Avenues C, D, and E. These ditches fed into a collector ditch that eventually discharged to the industrial wastewater lagoon (IWL) or onto the ground surface in earlier times. Specific operations that discharged wastewater into the pipeline are discussed in the appropriate sections below.

4.4.1.2. During the SWMU 58 investigation, relatively high levels of TCE and TCA were observed in the soil gas screening modules along the ditches adjacent to Avenues A and C, and the highest detections of PCE were observed along Avenue C extending westward from Building 620. Moderate detections of TCE, TCA and PCE were observed along the wastewater ditches adjacent to Avenues D and E. Carbon tetrachloride was detected along Avenue E, just west of the Detroit Diesel facility.

4.4.1.3. Based on the PSG survey results, seven ASG sampling points were installed along the wastewater ditches. ASG #s I-6 and I-7, located along the ditch adjacent to Avenue A, detected PCE ranging from 450 to 210 ppbv, TCE ranging from 530 to 410 ppbv, and TCA ranging from 3000 to 170 ppbv. ASG #s I-8, I-9, and I-10, located along the ditch adjacent to Avenue C, detected PCE ranging from 53,000 to 3100 ppbv, TCE ranging from 940 to 150 ppbv, and TCA from 810 to 390 ppbv. ASG #I-14, located along the ditch adjacent to Avenue E west of Detroit Diesel, detected PCE (4200 ppbv), TCE (180 ppbv), and TCA (17 ppbv). VSG #6 and groundwater wells C-35 and C-37, installed along the wastewater ditch adjacent to Avenue C, indicate that VOCs are impacting groundwater beneath Avenue C. There are no vertical soil gas or groundwater data for the ditches adjacent to Avenues A or E (VSG #7 is located on the far eastern end of Avenue A and is discussed in Section 4.4.2).

4.4.1.4. Correlations: Based on the soil gas results, groundwater data, and known historical uses of the wastewater ditches, the following conclusions can be made:

- The wastewater ditch adjacent to Avenue C is a likely source of groundwater contamination based on vertical soil gas and groundwater data in the area.

- Although the ditches adjacent to Avenues A and E *may* be contributing to the groundwater contamination beneath the site, there are no vertical soil gas or groundwater data to confirm this (except at the far eastern end of Avenue A). Vertical soil gas sampling during the Phase II investigation may provide more vertical soil gas data linking near-surface soil contamination to continuing impacts to groundwater.

4.4.2 Main Building Complex Area

4.4.2.1. For purposes of this report, the Main Building Complex is defined as the area directly to the southeast of the wastewater ditches. It housed many of the operations that discharged wastewater into buried pipelines that drained to the ditches and eventually to the IWL, including degreasing in Buildings 600, 615, 619, and 620, vehicle steam cleaning in Building 609, and metal parts processing and cleaning in Buildings 615 and 619. Records of former activities involving the nature of use, handling, or storage of TCE at some of the other buildings were not available, although TCE was reportedly detected in soil samples collected near some of the buildings in 1992. For ease of discussion, the sections below are divided into groups of buildings in close proximity to one another or those with similar historical operations.

4.4.2.2. Buildings 604, 607 and 609 (and Suspected Trench). All of these buildings are in the same general vicinity in the southern portion of the Main Building Complex Area. Former operations at Building 609 included a steam-cleaning process with an oil-water separator. Sludge from this operation was purportedly buried in a nearby trench, where an earlier soil gas survey detected low concentrations of TCE, PCE, and TCA (KA, 1997b).

4.4.2.3. During the SWMU 58 investigation, moderate to low detections of TCE, PCE, and TCA were observed in modules installed on the east and north sides of Building 609. No significant detections were reported in the modules installed across the street to the south where the trench was suspected to have been located. Moderate levels of TCE and moderate to low levels of TCA and PCE were detected in modules installed to the east of Building 604 and to the north of Building 607. No ASG sampling points or VSG wells were installed near these buildings, so there is not conclusive evidence that VOCs have migrated to the water table in this area. TCE has historically been detected in the closest groundwater monitoring well (C-21), across the street to the north.

4.4.2.4. Buildings 611, 614, and 615. Building 615 formerly housed operations including metal processing, metal parts painting, vapor degreasing, and chemical cleaning with reported floor drain connections to the former wastewater pipeline. Additionally, a drainage pipe discharged to the ground surface out of the embankment between Buildings 615 and 614.

4.4.2.5. Results from the SWMU 58 investigation indicate high levels of TCE and moderate levels of TCA near Building 615, particularly along the north side extending from Buildings 619 to 614, and at the toe of the embankment to the west near the drainage pipe discharge. High levels of TCE and moderate levels of TCA were also noted on the east side of Building 611.

4.4.2.6. ASG #s I-2, I-3, and I-4 were installed in the vicinity of Building 615, 614, and 611, respectively. TCE was detected in all ASG points, ranging from 1800 ppbv in ASG #I-4 to 4400 ppbv in ASG #I-3. PCE was detected at 1300 ppbv in ASG #I-3. TCA detections ranged from 35 ppbv in ASG #I-3 to 320 ppbv in ASG #I-4. VSG #4, installed near ASG #I-2 on the north side of Building 615, indicated that VOCs are most likely impacting groundwater in this area. This is confirmed by the results of groundwater monitoring well C-19, located on the northeast side of Building 614, which indicates elevated TCE in the groundwater.

4.4.2.7. Buildings 613 and 619. Air compressors associated with vehicle maintenance activities were located at Buildings 613 and 619. The condensate was purportedly disposed of by piping it into partially buried, gravel-filled, perforated drums where the liquid filtered through the gravel

and into underlying soils. Possible chemicals released included lubricating oils, inorganics from metal wear, and unknown waste materials. SVOCs and TCA were detected in soil samples collected in the area in 1996 (SAIC, 1997). Building 619 also formerly housed operations including welding, metal parts washing, vapor degreasing (in the southern part of the building), and metal parts processing. A 1992 investigation reportedly detected TCE in surface soil collected from the ground surface near Building 619.

4.4.2.8. During the SWMU 58 investigation, moderate to high levels of TCE and TCA and low levels of CCl_4 were observed in the soil gas screening modules along the west side and between the wings of Building 619. Moderate levels of PCE were observed near the southeast corner of the building, possibly a result of the degreasing operation. High levels of TCA and moderate levels of TCA were detected along the east side of Building 613.

4.4.2.9. ASG #I-1 was installed near the southwest corner of Building 619 and elevated concentrations of TCE (1200 ppbv) and TCA (250 ppbv) were observed. ASG #I-19, installed between the southern and middle wings of Building 619, also showed elevated concentrations of TCE (1500 ppbv), TCA (590 ppbv) and 1,1-DCE (250 ppbv). No VSG wells were installed in the near vicinity of either building, but results from VSG #4 (located between the two buildings on the northeast side of Building 615) indicated that VOCs have migrated through the vadose zone and may be impacting groundwater in this area. This is confirmed by the results of groundwater monitoring well C-19, located on the northeast side of Building 614.

4.4.2.10. Building 600. Degreasing operations were historically performed in the southern part of Building 600 and floor drain connections to the wastewater pipeline reportedly existed. Chemical cleaning lines along the west side of the building have also been reported. During the SWMU 58 investigation, high levels of TCE and TCA were observed in the soil gas screening modules along the west side of Building 600 and emanating away from the building along the wastewater ditch adjacent to Avenue A. ASG #I-5, installed on the west side of the building, also detected high concentrations of PCE (680 ppbv), TCE (370 ppbv), 1,1-DCE (310 ppbv), and TCA (6700 ppbv). VSG #7, located in the same area, indicated that VOC have likely migrated

to the groundwater beneath the site. There is no groundwater data in the immediate vicinity of Building 600 to confirm this.

4.4.2.11. Building 620. Degreasing operations were historically performed in the southern part of the Building 620 and floor drain connections to the wastewater pipeline reportedly existed. During the SWMU 58 investigation, high levels of PCE, TCA, and CCl_4 and moderate levels of TCE were observed in the soil gas screening modules along the west side of Building 620 and emanating away from the building along the wastewater ditch adjacent to Avenue C. High PCE and TCA detections were also reported in modules installed near the southwest corner of the building, possible a result of the degreasing operation. ASG #I-11, located in the same vicinity, indicated elevated concentrations of PCE (5900 ppbv), TCE (450 ppbv), 1,1-DCE (810 ppbv), and TCA (840 ppbv). No VSG wells were installed near Building 620, so there is no conclusive evidence that VOCs have migrated to the water table in this area. However, VSG #6 (installed roughly 500 ft to the west along the wastewater ditch) and groundwater wells in the area indicate VOCs are impacting groundwater immediately downgradient of the building.

4.4.2.12. Correlations: Based on the investigation and the historical uses of the buildings in the Main Building Complex Area, the following conclusions can be made:

- There is no clear evidence that Buildings 604, 607, and 609 are contributing sources of groundwater contamination based on passive soil gas data.

- Buildings 600, 611, 613, 614, 615, 619, and 620 are likely sources of VOC contamination impacting groundwater beneath the site based on limited vertical soil gas and groundwater data.

- Since the areal extent of the Main Building Complex Area is fairly large and the potential release sites numerous, installation of additional vertical soil gas sampling during the Phase II investigation may provide more vertical soil gas data linking near-surface soil contamination to continuing impacts to groundwater.

4.4.3 Open Storage West of Buildings 638 and 639.

4.4.3.1. Building 637, which was historically used for vehicle engine and transmission repair, was reported to have detections of benzene and DCA in soil samples collected near the building. Additionally, operations from this building reportedly discharged liquid waste into pipelines that flowed to the unlined wastewater ditches to the northwest. During the SWMU 58 investigation, high levels of CCl_4 and moderate levels of TCE and TCA were detected to the west of both buildings. (A high level of BTEX was also detected in module roughly 300 ft to the west of Building 637.)

4.4.3.2. ASG #s I-12 and I-13 were installed in the vicinity of the high CCl_4 detections and reported PCE ranging from 1200 to 780 ppbv, TCE from 140 to 48 ppbv, and CCl_4 from 460 to 40 ppbv. No VSG wells were installed in this area, providing no conclusive evidence that VOCs have migrated to the water table beneath the site. The most recent monitoring results from the nearest groundwater wells (C-16 and C-17) show no detections of PCE, TCE, or CCl_4 above the MCL. However, detections of elevated 1,2-DCA and BTEX in the groundwater beneath the site have been reported in well C-17.

4.4.3.3. Correlations: Based on these data and the historical uses of the Building 637, the following conclusions can be made

- The open storage area west of Buildings 637 and 638 *may* be likely sources of VOCs contributing to groundwater contamination beneath the site. Vertical soil gas sampling during the Phase II investigation may provide data to verify this assessment.

4.4.4. Building 657/659, 667/669, and 677/679 Complex

4.4.4.1. These buildings have historically been used as general-purpose warehouses, with some vehicle storage documented in Buildings 657, 667 and 669 (1986 to 1999). Although Building 659 is the only facility in this complex with documented hazardous waste storage (1984 to 1999), only low levels of CCl_4 were detected to the north and west of the building during the SWMU 58

soil gas investigation. High levels of TCA and moderate levels of TCE and CCl_4 were observed in the soil gas screening modules to the east of Building 667. High levels of TCE and moderate levels of CCl_4 were observed in the soil gas screening modules between Buildings 677 and 679.

4.4.4.2. ASG #s I-15, I-16, and I-17 were installed to confirm PSG results in these areas. TCE was detected in all three sampling points, ranging in concentration from 6200 to 300 ppbv and PCE ranged from 280 to 160 ppbv. Elevated concentrations of 1,1-DCE (1400 ppbv) and TCA (1600 ppbv) were also detected in ASG #I-15, located between Buildings 667 and 669. VSG #5 was installed near ASG #I-16 (on the west side of Building 679) following the discovery of an oily-waste filled oil/water separator sump in the area. Soil gas samples indicated that VOCs had likely impacted groundwater beneath the site. This was further confirmed by the results of groundwater well C-33 installed nearby.

4.4.4.3. Correlations: Based on these data, the following conclusions can be made

- The area of the oil/water separator sump on the west side of Building 679 is a likely source of VOCs contributing to groundwater contamination beneath the site.

4.4.5 DRMO Area

4.4.5.1. The DRMO Area was identified as having suspected VOC discharges in a suspected fill area in the northwest corner of the yard and a former drum storage area to the northeast. During the SWMU 58 investigation, PSG data indicated no significant detections in the suspected fill area and moderate to high detections of TCE in the area between the railroad tracks and Property Disposal Road. This location also recorded moderate TCA and low detections of CCl_4. Low to moderate TCA was also recorded in modules to the east of the railroad tracks in the area identified as the former drum storage area. No significant PCE detections were recorded in the DRMO area.

4.4.5.2. Five ASG points (ASG #s D-1 through D-5) were installed in the DRMO Area in locations corresponding to the elevated PSG detections. Elevated TCE was detected in ASG #s D-4 and D-5, located in the area with the highest TCE detections during the PSG survey. Elevated TCA was detected in ASG #s D-1 and D-3, located to the east of the railroad tracks. VSG #3 was installed near the highest TCE detections and indicated no clear evidence of continuing VOC migration to the groundwater beneath the site. A groundwater monitoring well (C-32) was installed in the same vicinity and indicated no VOCs above the MCL in the groundwater beneath the site.

4.4.5.3. Correlations: Based on the data presented above, the following conclusions can be made:

- Although fairly extensive soil gas data exists indicating contamination at the surface and near surface, there is no clear evidence that the DRMO area is a contributing source of groundwater contamination.

4.4.6 Other Detections of Note

4.4.6.1. Building 691. During the SWMU 58 investigation, low levels of TCE and TCA were observed in the soil gas screening modules to the north of the Building 691 and along the pipeline, which runs northwest along Avenue L until it outfalls to the ground surface west of 7th Street. One screening module detected moderate levels of TCA near the northwest corner of the building 691, indicating a small localized area of contamination with likely little residual mass in the vadose zone. ASG #I-18, installed in this vicinity, indicated elevated detections of PCE (540 ppbv), TCE (130 ppbv), and TCA (75 ppbv). No VSG wells were installed in this area and the most recent monitoring results from the closest groundwater well (C-15) indicate a TCE concentration above the MCL. However, it is likely that VOCs in the groundwater have migrated downgradient from the oil/water separator sump near Building 679. Based on these data, there is no clear evidence that Buildings 691 is a contributing source of groundwater contamination. However, this area may warrant further vertical soil gas sampling in the Phase II investigation.

4.4.6.2. Old Lumber Yard (SWMU 29). This area, located near the southern end of the Main Building Complex Area, formerly consisted of two drum storage areas and a warehouse (Building 576), reportedly used to store hazardous materials. Results from the SWMU 58 PSG survey in this area indicated moderate TCE and TCA and low PCE and CCl_4 detections in the north corner of the yard. No active soil gas samples were collected and there are no groundwater data in the vicinity to suggest contaminants have migrated through the vadose zone. This area may warrant further consideration during the Phase II investigation.

4.5 DATA VERIFICATION SUMMARY

4.5.0.1. This section is a summary of the process employed by Kleinfelder to verify usability of the data generated during this project for their intended purpose(s). The data verification process and results are presented in detail in the Quality Control Summary Report, Appendix E.

4.5.1 Laboratory Data Verification

4.5.1.1. One hundred percent of data generated for this project was evaluated through a systematic procedure in which method performance is compared to defined criteria. These criteria reflect the levels of precision, accuracy, reproducibility, completeness, comparability and sensitivity required for the purposes of this project. The level of detail to which data was examined is consistent with USEPA *National Functional Guidelines for Organic Data Review* and USEPA *National Functional Guidelines for Inorganic Data Review* to the extent possible. In addition to the technical review, data was screened for contract compliance.

4.5.1.2. Samples were analyzed by W.L. Gore & Associates, Inc. (GORE), Air Toxics, Limited (ATL), Agriculture & Priority Pollutant Laboratories, Inc. (APPL), Applied Physics & Chemistry Labs (APCL), Curtis & Thompkins, Limited (C&T), and Mountain States Analytical, Inc. (MSAI). Kleinfelder has verified 100 percent of the soil and water analytical data and reviewed 100 percent of the soil-gas data. Additionally, approximately fifty percent of the raw data was validated by an independent third party, Environmental Synectics.

4.5.1.3. Soil and water investigative derived waste samples were collected and analyzed from the construction of the vertical soil gas monitoring stations. From previous investigations, soil and water samples associated with construction and installation of monitoring wells C-12 through C-28, were collected and analyzed. In the recent groundwater investigations at the DRMO and Industrial Area, soil and water samples were collected and analyzed as part of the construction and installation of monitoring wells C-29 through C-39.

4.5.1.4. The following section summarizes the conclusions of the assessment of the analytical data. A more thorough discussion, including descriptions of field and laboratory QA/QC procedures and tabulated QA/QC sample analytical results, is presented in the Quality Control Summary Report, which is included as Appendix E to this report.

4.5.2 Quality Assessment Summary

4.5.2.1 Based on Kleinfelder's review of the field and laboratory QA/QC procedures, the following conclusions were made:

- There were no problems with passive soil gas, active soil gas, vertical soil gas monitoring station, and IDW (from the vertical soil gas monitoring stations) analytical data; these data are deemed useable for their intended purpose(s).

- The soil and water analytical data generated from monitoring wells C-12 through C-28 are useable for decision-making purposes. The analytical data from these wells were verified in previous investigations as discussed in the QCSR in Appendix E.

- Kleinfelder concludes the following from the data generated from monitoring wells C-29 through C-39:

  - The majority of the data meets CDQMP (formerly CDAP) requirements.

  - All the samples were analyzed within holding time, resulting in the holding time completeness of 100 percent.

  - None of the data was qualified as rejected. Therefore analytical completeness is 100 percent for the data generated.

  - Required detection limits were met according to CDQMP (formerly CDAP) requirements, with a few exceptions due to high analyte concentration.

  - The levels of precision and accuracy measured on the basis of the LCS and MS/MSD recoveries are satisfactory.

  - Although overall sample analyses quality is good, Kleinfelder has qualified the results for a number (13) of samples because of inconsistencies with QC protocol and procedures.

  - The analytical data are deemed acceptable and usable for decision-making purposes, with noted qualifications.

5. CONCLUSIONS AND RECOMMENDATIONS

5.0.0.1. This section summarizes the salient findings from the Phase I RFI for SWMU 58 at TEAD. In addition, based on these findings, recommendations for additional investigation and interim actions are included.

5.1 CONCLUSIONS

5.1.1 VOCs in the Vadose Zone

5.1.1.1. Based on the data obtained during the passive soil gas survey, the active soil gas survey, and the VSG well installation and sampling in SWMU 58 study area, the following conclusions can be made:

- The passive, active, and vertical soil gas survey results identify five distinct regions where chlorinated hydrocarbon compounds are present in the subsurface.

- At four of the five locations where vertical soil gas sampling was conducted, chlorinated hydrocarbon compounds were detected through the vadose zone to within about 20 feet of the groundwater table at the deepest depth sampled.

- Vertical soil gas profiles of VOC contamination created from the VSG well data provide strong evidence of continuing VOC migration to the groundwater beneath TEAD from the following locations:

    - Building 679 oil/water separator

    - Former outfall ditches along Avenue C and the far eastern end of Avenue A along the west side of Building 600

    - Building 615 along the northeast side

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- Based on the passive, active and vertical soil gas data collected, other locations that have been identified for additional (Phase II) investigation include:

  - Open storage west of Buildings 637 and 638
  - Avenue E west of Detroit Diesel
  - Building 691 west on Avenue L to 6th Street
  - Old Lumber Yard

5.1.2 Major Ions and VOCs in Groundwater

5.1.2.1. Based on the data obtained from monitoring well installation and sampling in the SWMU 58 study area, the following conclusions can be made:

- Analysis of stiff diagrams suggests that the shallow groundwater beneath the SWMU 58 study area is consistent with the Type 1 (upgradient) groundwater previously identified at TEAD. This is the same type of groundwater identified in monitoring wells installed in on-Depot areas impacted by the Northeast Boundary groundwater plume.

- TCE concentrations in the groundwater beneath the Building 679 oil/water separator (1360 μg/L) confirm soil gas data that indicate this structure is a major source contributing to the Northeast Boundary groundwater plume.

- TCE concentrations in the groundwater northeast of Building 615 (143 μg/L) confirm soil gas data that indicate this area is a contributing source to the main TCE plume. Other VOCs found in soil gas at this location were not detected in the groundwater.

- PCE and TCE concentrations in the groundwater beneath the former Avenue C outfall ditch suggest that the PCE and TCE identified in the vadose zone soil vapor have

reached the groundwater and this area is also a source contributing to the main TCE plume.

5.1.3 Hydrogeology and Groundwater Movement

5.1.3.1. Based on analysis of borehole and groundwater elevation data obtained from monitoring well installations in the study area, the following conclusions can be made:

- The saturated alluvial aquifer that underlies the former industrial area of SWMU 58 is limited in thickness and ranges from less than 100 (C-30) feet to greater than 300 feet (WW-2).

- The bedrock block identified by previous studies (JMM, 1988) appears to extend southward beneath the SWMU 58 study area and influences (tends to divide) groundwater flow in the overlying alluvial aquifer.

- Based on the groundwater contour maps:

  - Groundwater flow beneath the eastern side of the Industrial Area (and the east side of the bedrock block) is generally toward the north.
  - Groundwater flow beneath the western side of the Industrial Area (and west side of the bedrock block) is generally toward the north-northwest.

- Groundwater flow through the alluvial aquifer along the east side of the bedrock block has carried TCE from beneath the oil/water separator at Building 679 downgradient and created the Northeast Boundary TCE plume.

- Groundwater flow through the alluvial aquifer above and along the west side of the bedrock block has picked up TCE and CCl_4 from the former industrial waste water system (ditches, industrial drains, and IWL) and created the main groundwater plume associated with SWMU 2.

- Except where strong gradients from the alluvial aquifer into the bedrock aquifer are present (in the vicinity of the former IWL), contrasts in hydraulic conductivity between the alluvial aquifer and the bedrock aquifer have inhibited the migration of VOC-impacted groundwater into the bedrock aquifer.

5.2. RECOMMENDATIONS

5.2.0.1. Because the Phase I RFI investigation detected VOCs in the soil gas and groundwater in SWMU 58, a follow-on (Phase II) investigation to quantify risks from these chemicals is recommended. Specific recommendations to facilitate assessment of these risks are provided in the following paragraphs.

5.2.1. Vadose Zone Evaluations

5.2.1.1. To determine the extent of VOC contamination and evaluate potential human and environmental health risks posed by VOCs in the SWMU 58 Vadose Zone, the following activities are recommended:

- Further evaluate the vertical extent of VOCs in the following areas:

  - Along wastewater outfall ditches adjacent to Avenues A, C, D, and E,
  - Near the east end of Avenue A,
  - In the vicinity of Building 619,
  - Open storage west of Buildings 637 and 638,
  - Building 691 west on Avenue L to 6th Street, and
  - Old Lumber Yard.

- Quantify the mass of VOCs that may be present in the capillary fringe in areas beneath former source areas.

- Evaluate VOC migration pathways including partitioning and transport relationships between soil vapor, soil, soil moisture, and mass-loading rates to the underlying groundwater.

- Evaluate VOC degradation pathways, mechanisms, degradation rates, and fates in the vadose zone.

- Evaluate VOC concentrations inside buildings located in the vicinity of the potential source areas identified in the Phase I RFI.

- Complete the on-going soil vapor extraction pilot test to evaluate VOC mass removal rates, radii of influence, and the impacts of mass removal on underlying groundwater.

5.2.2 Groundwater Evaluations

5.2.2.1. To quantify potential human and environmental health risks posed by VOCs in the SWMU 58 groundwater, the following activities are recommended:

- Characterize the relationship between the alluvial aquifer and underlying bedrock aquifer. Determine if the bedrock aquifer acts to inhibit VOC migration or if it has sufficient transmissivity and groundwater velocity to act as a conduit for contaminant transport. Evaluate the configuration of the bedrock as it influences groundwater flow in the outlying alluvial aquifer.

- Quantify the mass of VOCs that may be present in the first few feet of groundwater in the saturated zone.

- Complete the on-going evaluation of the nature and extent of off-depot VOC contamination.

- Evaluate VOC degradation pathways, mechanisms, degradation rates, and fates in the saturated zone.

- Evaluate the ultimate furthest extent the VOC-impacted groundwater will travel prior to naturally attenuating to below detectable concentrations.

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Table 2-1
SUMMARY OF PUMPING TEST RESULTS AND GROUNDWATER VELOCITY ESTIMATES

								Theis (1963)		Cooper Jacob (1946)				
Well No.	Length of Screened Interval (feet)	Date of Pumping	Depth to SWL (feet)	Pumping Rate (gpm)	Duration of Pumping (minutes)	Drawdown at End of Test (feet)	Specific Capacity (gpm/ft)	Estimated Transmissivity[a] (ft^2/day)	Estimated Hydraulic Conductivity[b] (ft/day)	Change in Drawdown per Log Cycle -s' (feet)	Estimated Transmissivity[c] (ft^2/day)	Estimated Hydraulic Conductivity[b] (ft/day)	Estimated Horizontal Gradient[d] (ft/ft)	Estimated Horizontal Velocity[e] (ft/day)
C-15	20	03/29/1997	320.41	5.5	10	0.35	16	3,143	157				0.0057	3.58
C-16	20	04/29/1997	345.65	4.9	10	0.42	12	2,333	117	0.35	490	25	0.0036	1.68
C-17	20	NR	349.34	4.7	12	0.80	6	1,175	59	0.38	433	22	0.0035	0.82
C-19	20	07/17/1997	341.04	0.5	17	18.12	0.028	5.5	0.28	34	0.51	0.026	0.0045	0.00
C-20	20	07/18/1997	335.72	5.0	15	0.59	8	1,695	85				0.0037	1.25
C-21	20	08/29/1997	355.74	4.3	10	3.07	1.4	280	14				0.0035	0.20
C-22	20	09/08/1997	352.25	0.5	10	16.79	0.027			28	0.56	0.028	0.0037	0.01
C-22 rec	20	09/08/1997	352.25	0.0	10	NR				33	0.48	0.024	0.0037	0.01
C-23	20	10/31/1997	369.75	4.0	15	0.06	67	13,333	667				0.0035	9.33
C-24	20	10/08/1997	344.62	5.0	10	0.33	15	3,030	152				0.0043	2.61
C-26	20	11/17/1997	349.65	3.0	10	0.03	100	20,000	1,000				0.0038	15.20
C-27	20		398.00	4.0	10	1.57	2.5	510	25				0.0038	0.39
C-28	20	09/02/1998	395.98	6.0	10	0.37	16	3,243	162				0.0039	2.53
C-30	15	01/20/1999	276.20	6.0	10	0.40	15	3,000	200				0.0056	4.48
C-31	15	01/21/1999	337.40	1.5	30	7.07	0.21	42	2.8	3.1	17	1.1	0.0057	0.06
C-33	20	03/30/2000	343.35	4.0	60	0.10	40	8,000	400				0.0038	6.08
C-34	20	04/10/2000	319.80	5.0	54	2.95	1.7	339	17				0.0036	0.24
C-35	20	04/17/2000	303.75	3.0	54	4.10	0.73	146	7.3				0.006	0.18
C-36	15	05/11/2000	268.28	3.0	66	1.16	2.6	517	34				0.0036	0.50
C-37	20	06/05/2000	303.90	6.0	77	0.49	12	2,449	122				0.006	2.94
C-38	20	06/05/2000	271.71	7.1	120	4.02	2	355	18				0.0048	0.34
C-39	20	11/19/2001	348.40	5.0	67	0.16	31	6,250	313				0.0038	4.75

Notes: (1) No tests of Well Nos. C-18, C-25, or C-32; (2) a drawdown of 0 feet was reported for a pumping rate of 5 gpm and no T or K was estimated

NR = not reported; SWL = static water level; gpm = gallons per minute; Q = pumping rate (gpm); s = drawdown (feet); Q/s = specific capacity (gpm/ft); T = transmissivity (ft^2/day);
b = saturated thickness (feet); K = hydraulic conductivity (ft/day); s' change in drawdown (or residual drawdown) per log cycle
Blank spaces indicate value not calculated.
C-22 rec = indicates analysis conducted on the water level recovery data.

[a] Transmissivity was calculated using the method of Theis (1963), see Driscoll (1986), where $T = (Q/s)*200$ and T is in ft^2/day, Q is in gpm, s is in feet, and the aquifer is unconfined.

[b] Assumes that K = T/b and b (saturated thickness) is equal to screen length; [c] Transmissivity was calculated using the method of Cooper and Jacob (1946), where T = (Qx35)/(s')

[c] Transmissivity was calculated using the method of Cooper and Jacob (1946), where T = (Qx35)/(s')

[d] Horizontal gradient at each well is estimated from the groundwater elevation changes and distances between groundwater elevation contour lines as shown in Figure 2-4.

[e] Horizontal velocities are calculated as hydraulic conductivity x horizontal gradient/estimated porosity (0.25). For estimated porosity for sand and gravel aquifer of 25%, see Driscoll, 1986, Table 5.1.

Table 2-2
VERTICAL GRADIENTS AND GROUNDWATER ELEVATION DIFFERENCES

Piezometer	Difference in Screen Depth (ft)	1988 Average Water Elevation (feet above MSL)			October 1999 Water Elevation (feet above MSL)			Changes (in feet)		Completed in	
		Shallow	Deep	Vertical Gradient	Shallow	Deep	Vertical Gradient	Shallow	Deep	Shallow	Deep
B-37/B-38	289	4313.11	4322.78	0.0335	4308.24	4312.28	0.0140	-4.86	-10.49	A	A
B-42/B-43	295	4312.79	4322.50	0.0329	4310.44	4313.07	0.0089	-2.35	-9.43	A	A
B-44/B-45	325	4312.25	4322.71	0.0322	4307.99	4312.69	0.0145	-4.26	-10.02	A	A
B-47/B-48	274	4311.09	4322.05	0.0400	4307.55	4312.31	0.0174	-3.54	-9.73	A	A
B-41/B-52 (ds)	85	4319.99	4320.64	0.0076	4311.53	4311.43	-0.0012	-8.46	-9.21	A	A
T-3/B-55	400	4477.36	4427.35	-0.1250	4473.33	4413.33	-0.1500	-4.03	-14.02	A	B
P-1	286	4480.80	4480.16	-0.0022	4476.35	4475.72	-0.0022	-4.45	-4.44	A	A
P-2	195	4482.42	4481.63	-0.0040	4477.88	4477.06	-0.0042	-4.53	-4.57	A	A
P-3	254	4474.71	4457.43	-0.0680	4469.66	4452.46	-0.0677	-5.05	-4.97	A	A
P-4	136	4479.33	4479.67	0.0025	4474.20	4474.92	0.0053	-5.13	-4.75	A	A
P-5 (ds)	41	4478.26	4478.37	0.0027	4475.84	4475.85	0.0002	-2.42	-2.52	A	B
P-6 (ds)	84	4480.38	4480.63	0.0029	4477.81	4477.86	0.0006	-2.57	-2.77	A	A
P-7	124	4474.20	4470.13	-0.0328	4470.43	4466.09	-0.0350	-3.76	-4.04	A	A
P-8 (ds, sp)	286	4604.72	4397.59	-0.7242	4596.86	4340.62	-0.8959	-7.86	-56.97	A	B
P-9 (ds)	125	4393.06	4392.90	-0.0013	4375.30	4347.16	-0.2251	-17.76	-45.74	B	B
P-10 (ds)	100	4470.03	4393.46	-0.7657	4466.65	4351.26	-1.1539	-3.38	-42.19	A	B
P-11	124	4390.25	4390.30	0.0004	4356.15	4347.64	-0.0686	-34.10	-42.65	A	B
P-12 (ds)	55	4391.94	4391.69	-0.0046	4360.16	4344.82	-0.2789	-31.78	-46.86	B	B
P-13	300	4334.17	4333.93	-0.0008	4319.28	4319.06	-0.0007	-14.89	-14.87	A	A
P-14 (ds)	86	4392.96	4392.17	-0.0091	DU	4344.35	-	-	-	B	B
P-15	273	4327.36	4325.28	-0.0076	4312.61	4312.39	-0.0008	-14.75	-12.88	A	A
P-16	361	4329.16	4327.07	-0.0058	4313.99	4312.73	-0.0035	-15.17	-14.34	A	A

Note: Many of the wells and piezometers exhibiting groundwater elevation declines of greater than 10 feet are completed in bedrock where the effects of remedial extraction well pumping are pronounced.

ds: In 1999 these deep wells were designated as shallow wells
DU: Data unavailable in references or well not completed by sampling date
Paired monitoring wells are located within 30 feet of each other.

sp: The 1999 water elevations for this well was taken in the spring
"A" indicates alluvium; "B" indicates bedrock.
MSL: mean sea level

Table 2-2
VERTICAL GRADIENTS AND GROUNDWATER ELEVATION DIFFERENCES

Piezometer	Difference in Screen Depth (ft)	1988 Average Water Elevation (feet above MSL)			October 1999 Water Elevation (feet above MSL)			Changes (in feet)		Completed in	
		Shallow	Deep	Vertical Gradient	Shallow	Deep	Vertical Gradient	Shallow	Deep	Shallow	Deep
P-17	338	4328.22	4329.08	0.0025	4314.90	4315.26	0.0011	-13.32	-13.81	A	A
P-18 (ds)	76	4392.36	4392.43	0.0009	DU	4343.41	-	-	-	B	B
P-19	331	4320.34	4323.68	0.0101	4310.91	4313.35	0.0074	-9.43	-10.33	A	A
P-20	410	4323.00	4323.99	0.0024	4312.47	4312.89	0.0010	-10.53	-11.10	A	A
P-21	222	4330.23	4330.37	0.0006	4316.62	4316.54	-0.0004	-13.61	-13.83	A	A
P-22	90	4330.31	4330.35	0.0004	4316.47	4316.44	-0.0003	-13.84	-13.90	A	A
P-23	140	4329.62	4329.90	0.0020	4315.93	4316.03	0.0007	-13.69	-13.87	A	A
P-24	227	4329.69	4330.03	0.0015	4316.32	4316.23	-0.0004	-13.36	-13.80	A	A
P-25	246	DU	DU	DU	4469.67	4464.26	-0.0220	-	-	A	A
P-26	157	DU	DU	DU	4314.92	4344.34	0.1874	-	-	A	B
P-27	437.5	DU	DU	DU	DU	4344.09	-	-	-	B	B
P-28	310	DU	DU	DU	4307.37	4313.29	0.0191	-	-	A	A
C-35/C-37	116	DU	DU	DU	4480.89	4480.67	-0.0019	-	-	A	A
C-12/C-38	190	DU	DU	DU	4471.74	4469.9	-0.0097	-	-	A	A
C-33/C-39	187	DU	DU	DU	4479.28	4474.78	-0.0241	-	-	A	A

Note: Many of the wells and piezometers exhibiting groundwater elevation declines of greater than 10 feet are completed in bedrock where the effects of remedial extraction well pumping are pronounced.

ds: In 1999 these deep wells were designated as shallow wells
DU: Data unavailable in references or well not completed by sampling date
Paired monitoring wells are located within 30 feet of each other.

sp: The 1999 water elevations for this well was taken in the spring
"A" indicates alluvium; "B" indicates bedrock.
MSL: mean sea level

The data used for this table taken from to following sources:

Well completion reports by KA for the C-wells
Annual Groundwater Quality Report, Fall 1999, by PSG/KA
Groundwater Quality Assessment, December 1988, by JMM

Table 3-1
SUMMARY OF MONITORING WELL PURPOSES

Well No.	Screen Depth (ft bgs)	Purpose
C-12	300-320	To provide hydrogeologic and groundwater quality information beneath the northeastern portion of TEAD.
C-13	288-308	To provide hydrogeologic and groundwater quality information beneath the northeastern portion of TEAD.
C-14	268-288	To provide hydrogeologic and groundwater quality information beneath the northeastern portion of TEAD.
C-15	329-349	To assess whether groundwater quality down-gradient of four LUST sites has been impacted by petroleum hydrocarbons or other chemicals.
C-16	340-360	To assess whether groundwater quality has been impacted by petroleum hydrocarbons or other chemicals.
C-17	343.5-363.5	To determine the depth of soil contamination and to assess whether groundwater quality has been impacted by petroleum hydrocarbons or other compounds.
C-18	318-338	To determine the depth of soil contamination and to assess whether groundwater quality has been impacted by petroleum hydrocarbons or other compounds.
C-19	353-373	To define the southeastern boundary of the trichloroethene (TCE) groundwater plume at TEAD.
C-20	360-380	To define the southeastern (upgradient) boundary of the TCE groundwater plume at TEAD.
C-21	358.5-378.5	To investigate the eastern (upgradient) boundary of the TCE-impacted groundwater at TEAD.
C-22	366-386	To investigate the eastern (upgradient) extent of the TCE-impacted groundwater plume at TEAD.
C-23	384-404	To investigate the eastern (upgradient) extent of the TCE-impacted groundwater plume at TEAD.
C-24	362-382	To define the upgradient boundary of the TCE-impacted groundwater plume at TEAD.
*C-25	350-370	To determine the extent of chromium contamination beneath the Industrial Waste Lagoon.
C-26	358-378	To define the upgradient boundary of the TCE-impacted groundwater plume at TEAD.
C-27	409-429	To define the upgradient boundary of the TCE-impacted groundwater plume at TEAD.
C-28	423-443	To define the upgradient boundary of the TCE-impacted groundwater plume at TEAD.
C-29	414-434	To define the upgradient boundary of the TCE-impacted groundwater plume at TEAD.
C-30	281-296	To provide additional constraints on the width of the plume within the area of the highest TCE concentrations and to obtain additional information on the occurrence of carbon tetrachloride at the site.
C-31	355-370	To provide additional constraints on the width of the plume within the area of the highest TCE concentrations.
C-32	384-404	To explore the upgradient extent of the plume along the axis of highest TCE concentration and to explore the potential for source areas within the DRMO yard.
C-33	353-373	To evaluate the sump as a source of the Northeast Boundary Plume and to monitor effectiveness of an SVE system.
C-34	339-359	To evaluate the extent of TCE, CCl_4, and 1,2-DCA downgradient of detections in C-16 and C-17.
C-35	310-330	To evaluate whether TCE and PCE detected in soil gas have migrated to groundwater and to evaluate the vertical gradient beneath a potential source area.
C-36	270-285	To evaluate TCE and CCl_4 plumes in an area with no data.
C-37 (deep)	426-446	To evaluate water quality and the vertical groundwater gradient beneath a potential source area.
C-38 (deep)	490-510	To evaluate water quality and the vertical gradient in the middle part of the Northeast Boundary Plume.
C-39 (deep)	440-460 (to bedrock)	To evaluate water quality and the vertical groundwater gradient beneath a potential source area.

Note: All monitoring wells except for C-37, C-38, and C-39 were constructed to help evaluate the shallow ground water conditions

* Well C-25 was installed under a different contract and data was provided by USACE.
bgs below ground surface

Data used in this table can be found in the corresponding well completion reports.

Table 3-2
SUMMARY OF WELL SURVEY DATA

Well No.	Elevations (ft above MSL)			Coordinates for Measuring Point	
	Measuring Point	Brass Cap	Ground Surface		
C-12	4743.94	4742.02	4739.79	7367840.66	1406046.36
C-13	4718.19	4716.21	4714.14	7369366.15	1406278.80
C-14	4703.40	4701.00	Not surveyed	7368993.77	1403812.17
C-15	4792.90	4790.72	Not surveyed	7365882.23	1407007.99
C-16	4819.75	4817.81	Not surveyed	7362168.25	1405859.34
C-17	4822.14	4820.24	Not surveyed	7361595.20	1405623.50
C-18	4762.57	4760.14	Not surveyed	7367660.00	1407388.50
C-19	4819.08	4816.67	4816.48	7360791.86	1404812.43
C-20	4811.29	4809.49	4809.02	7363481.17	1406353.42
C-21	4828.98	4827.03	4826.80	7360226.95	1405264.27
C-22	4825.31	4823.22	4822.91	7362733.57	1406950.07
C-23	4849.23	4847.40	4846.93	7359666.06	1405721.79
C-24	4819.76	4817.81	4817.22	7364617.79	1407339.43
*C-25	4682.02	NA	NA	NA	NA
C-26	4824.80	4822.94	4822.21	7363872.65	1407589.67
C-27	4872.94	4870.59	4869.90	7362818.18	1408713.99
C-28	4876.85	4874.96	4874.48	7362131.88	1408540.18
C-29	4883.16	4881.42	4880.97	7361467.33	1408369.63
C-30	4751.87	4749.84	4749.47	7366612.72	1405051.79
C-31	4816.52	4814.41	4813.79	7365471.81	1407718.00
C-32	4857.73	4856.48	4855.63	7362985.81	1407848.98
C-33	4822.63	4820.80	4820.19	7363926.72	1407329.21
C-34	4802.49	4800.47	4799.91	7362706.76	1405324.56
C-35	4784.64	4782.46	4782.00	7361944.05	1403599.43
C-36	4779.36	4777.44	4777.00	7363714.11	1404519.93
C-37	4784.19	4782.10	4781.65	7361946.19	1403574.09
C-38	4741.61	4739.36	4738.78	7367897.79	1406031.78
C-39	4820.78	4818.73	4818.19	7363976.20	1407264.87

Wells C-37, C-38, and C-39 constructed to monitor deeper groundwater; well screens located approximately 150 feet below the surface of the water table, except for C-39, which is completed at bedrock.

* Well C-25 was installed under a different contract and data was provided by USACE
MSL Mean sea level
NA Data not available

Unless otherwise noted, survey locations based on revised elevation for well C-10 provided by the USACE in 1998.

Data may conflict with well completion reports dated prior to October 1998.
US State plane 1983, Utah Central 4302, NAD 1983 (CONUS), GEO1D96 (Continental US)

Table 3-3
SUMMARY OF MONITORING WELL CONSTRUCTION DATA AND ANALYTICAL PLAN

Well No.	Measuring Point Elevation	Screened Interval (ft bgs)	Static Water Level Depth (ft bgs)	Static Water Level Elevation (ft above MSL)	Unit (Material) Screened (Percentages)	Dates of Drilling and Construction	Dates of Purging and Development	Initial Sampling Date	Sampling Parameters (water)	Lab
C-12	4742.49	300-320	273.38	4469.11	Poorly Graded Gravel with Sand (68%) Clayey Gravel (20%) Silty Gravel (12%)	12/17/96 to 12/22/96	12/26/96 to 12/31/96	01/06/1997	VOCs SVOCs Metal Mercury Cyanide	MSA
C-13	4716.74	288-308	251.3	4465.44	Poorly Graded Gravel with Sand (40%) Silty Gravel with Sand (60%)	1/2/97 to 1/5/97	1/9/97 to 1/9/97	01/20/1997	VOCs SVOCs Metals Mercury Cyanide	MSA
C-14	4701.96	268-288	240.45	4461.51	Poorly Graded Gravel with Sand (40%) Silty Gravel with Sand (60%)	1/14/97 to 1/20/97	1/27/97 to 1/30/97	02/03/1997	VOCs SVOCs Metals Mercury Cyanide	MSA
C-15	4791.45	329-349	320.41	4471.04	Silty Gravel	3/10/97 to 3/14/97	03/22/1997	03/29/1997	VOCs TPH	CT
C-16	4818.3	340-360	345.65	4472.65	Silty Gravel	4/15/97 to 4/19/97	4/28/97 to 4/29/97	05/12/1997	VOCs SVOCs Major Ions TPH	CT
C-17	4820.69	343.5-363.5	349.34	4471.35	Poorly Graded Gravel with Sand (72%) Silty Sandy Gravel (28%)	4/21/1997 to 4/29/97	5/5/97 to 5/6/97	05/13/1997	VOCs TPH	CT
C-18	4761.12	318-338	290.32	4470.8	Well Graded Sand with Clay (20%) Poorly Graded Gravel (30%) Well Graded Gravel with Sand (50%)	5/1/97 to 5/9/97	5/14/97 to 5/16/97	05/20/1997	VOCs SVOCs Major Ions TPH	CT
C-19	4817.63	353-373	341.04	4476.59	Clay with Silt, Sand, and Gravel (50%) Poorly Graded Gravel with Sand (25%) Poorly Graded Gravel with Clay (25%)	6/10/97 to 6/30/97	7/9/97 to 7/11/97	07/17/1997	VOCs SVOCs Metals Mercury Major Ions	MSA
C-20	4809.84	360-380	335.72	4474.12	Poorly Graded Gravel with Sand	7/2/97 to 7/9/97	7/14/97 to 7/15/97	07/18/1997	VOCs SVOCs Metals Mercury Major Ions	MSA

Static water levels are measured prior to collecting the first water sample.
Note: All wells listed are constructed with schedule 40 PVC screen and casings 4" in diameter.
VOC: volatile organic compound
SVOC: semi-volatile organic compound
TPH: total purgeable hydrocarbons
bgs: below ground surface
MSL: mean sea level
MSA: Mountain States Analytical
CT: Curtis and Thompkins

Table 3-3
SUMMARY OF MONITORING WELL CONSTRUCTION DATA AND ANALYTICAL PLAN

Well No.	Measuring Point Elevation	Screened Interval (ft bgs)	Static Water Level Depth (ft bgs)	Static Water Level Elevation (ft above MSL)	Unit (Material) Screened (Percentages)	Dates of Drilling and Construction	Dates of Purging and Development	Initial Sampling Date	Sampling Parameters (water)	Lab
C-21	4827.53	358.5-378.5	355.74	4471.79	Limestone/Quartzite Cobbles, Gravel, Sand, and Some Cementation	7/29/97 to 8/1/97	8/12/97 to 8/14/97	08/29/1997	VOCs SVOCs Metals Mercury Major Ions	MSA
C-22	4825.3	366-386	352.42	4472.88	Poorly Graded Gravel with Sand and Silt	8/4/97 to 8/22/97	8/26/97 to 9/2/97	09/08/1997	VOCs SVOCs Metals Mercury Major Ions	MSA
C-23	4849.19	384-404	369.3	4479.89	Poorly Graded Gravel with Sand (80%) Poorly Graded Sand with Gravel (20%)	9/15/97 to 10/18/97	10/20/97 to 10/21/97	10/31/1997	VOCs SVOCs Metals Mercury Major Ions	MSA
C-24	4819.74	362-382	344.62	4475.12	Silty Gravel with Sand (52%) Poorly Graded Gravel (30%) Well Graded Gravel with Sand (18%)	9/18/97 to 9/24/97	9/30/97 to 10/1/97	10/08/1997	VOCs SVOCs Metals Mercury Major Ions	MSA
*C-25	4682.02	350-370	339.98	4342.04	Dolomite (70%) and Quartzite (30%)	9/26/97 to 10/3/97	10/10/97 to 10/11/97	11/07/1997	Metals Major Ions	MSA
C-26	4823.35	358-378	349.65	4473.7	Poorly Graded Gravel (80%) Course Sand & Fine Gravel (20%)	10/29/97 to 11/4/97	11/10/97 to 11/11/97	11/17/1997	VOCs SVOCs Metals Mercury Major Ions	MSA
C-27	4871.49	409-429	396.28	4475.21	Poorly Graded Gravel with Sand (97%) Lean Clay with Gravel (3%)	12/6/97 to 12/16/97	12/22/97 to 12/24/97	12/29/1997	VOCs SVOCs Metals Mercury Major Ions	MSA
C-28	4876.85	423-443	393.65	4483.2	Poorly Graded Gravel with Sand (82%) Clayey Gravel with Sand (18%)	8/5/98 to 8/24/98	8/26/98 to 8/27/98	09/02/1998	VOCs SVOCs Metals Mercury Major Ions	MSA

Static water levels are measured prior to collecting the first water sample.
*Well C-25 was installed under a different contract and data was provided by USACE.
Note: All wells listed are constructed with schedule 40 PVC screen and casings 4" in diameter.

bgs: below ground surface
MSL: mean sea level

MSA: Mountain States Analytical Laboratory
AWAL: American West Analytical Laboratory
APCL: Applied Physics amd Chemistry Laboratory

Table 3-3
SUMMARY OF MONITORING WELL CONSTRUCTION DATA AND ANALYTICAL PLAN

Well No.	Measuring Point Elevation	Screened Interval (ft bgs)	Static Water Level Depth (ft bgs)	Static Water Level Elevation (ft above MSL)	Unit (Material) Screened (Percentages)	Dates of Drilling and Construction	Dates of Purging and Development	Initial Sampling Date	Sampling Parameters (water)	Lab
C-29	4883.16	414-434	401.78	4481.38	Poorly Graded Gravel with Sand (66%) Clayey Gravel with Sand (34%)	8/25/98 to 9/4/98	9/9/98 to 9/10/98	09/16/1998	VOCs SVOCs Metals Mercury Major Ions	MSA
C-30	4751.87	281-296	276.2	4475.67	Poorly Graded Gravel (81%) Clayey Gravel (19%)	12/4/98 to 12/16/98	12/21/98 to 12/23/98	01/20/1999	VOCs Metals Mercury	APCL
C-31	4816.52	355-370	337.4	4479.12	Sandy Gravel with Clay (67%) Clay with Gravel (33%)	12/18/98 to 1/6/99	1/13/99 to 1/14/99	01/21/1999	VOCs Metals Mercury	AWAL
C-32	4857.73	384-404	380.05	4477.68	Poorly Graded Silty Gravel with Sand	11/29/99 to 12/7/99	12/15/99 to 12/16/99	12/20/1999	VOCs Metals Mercury	APCL
C-33	4822.63	353-373	343.35	4479.28	Poorly Graded Gravel with Sand (80%) Silty Gravel (20%)	3/8/00 to 3/15/00	3/22/00 to 3/23/00	03/30/2000	VOCs Metals Mercury	MSA
C-34	4802.49	339-359	319.6	4482.89	Poorly Graded Gravel	3/17/00 to 3/23/00	4/3/00 to 4/4/00	04/10/2000	VOCs Metals Mercury	MSA
C-35	4784.64	310-330	303.75	4480.89	Poorly Graded Gravel	3/24/00 to 3/31/00	4/11/00 to 4/12/00	04/17/2000	VOCs Metals Mercury	MSA
C-36	4779.36	270-285	268.28	4511.08	Poorly Graded Gravel with Sand (70%) Lean Clay (30%)	4/3/00 to 4/12/00	4/27/00 to 4/28/00	05/11/2000	VOCs Metals Mercury	MSA
C-37	4784.19	426-446	303.52	4480.67	Poorly Graded Gravel (85%) Silt (15%)	4/18/00 to 4/26/00	5/30/00 to 5/31/00	06/05/2000	VOCs Metals Mercury	MSA
C-38	4741.61	490-510	271.71	4469.9	Poorly Graded Gravel (90%) Clayey Gravel (10%)	5/11/00 to 5/23/00	6/6/00 to 6/8/00	06/12/2000	VOCs Metals Mercury	MSA
C-39	4820.78	440-460	346.00	4474.78	Poorly Graded Gravel (90%) Clayey Gravel (10%)	9/20/00 to 10/1/00	10/4/00 and 10/16/00	10/23/2000	VOCs Metals Mercury	MSA

Static water levels are measured prior to collecting the first water sample.
Note: All wells listed are constructed with schedule 40 PVC screen and casings 4" in diameter.
Data used in this table can be found in the corresponding well completion reports.

bgs: below ground surface
MSL: mean sea level

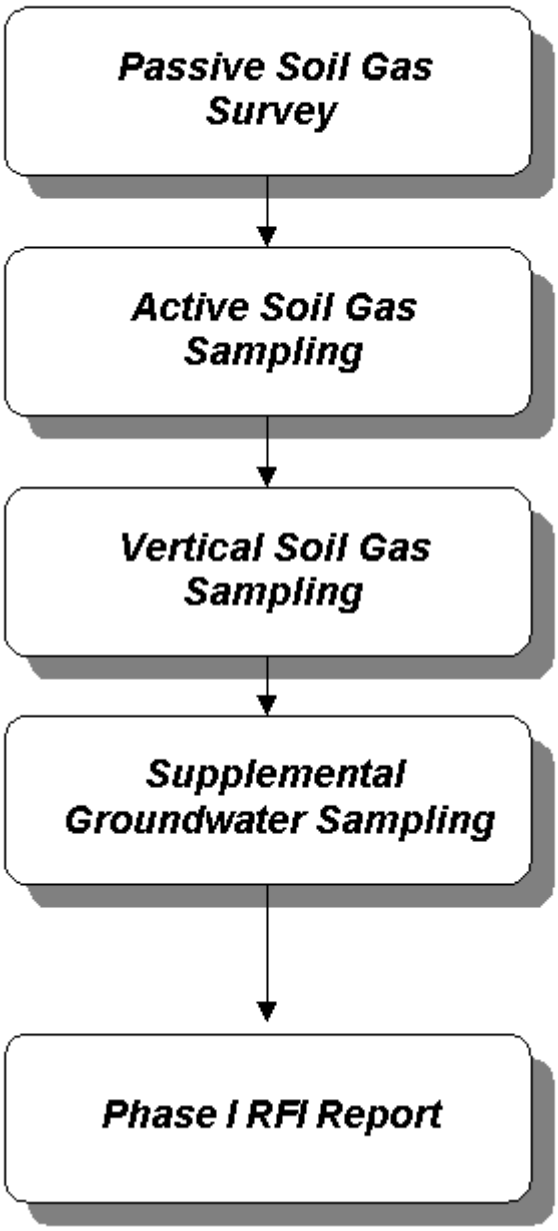
MSA: Mountain States Analytical Laboratory
AWAL: American West Analytical Laboratory
APCL: Applied Physics amd Chemistry Laboratory

Table 4-1
ASG SAMPLING LOCATION RATIONALE

Active Soil Gas (ASG) ID #	Gore Sorber Location ID #(s)	Location Description (i.e., building #, etc.)	Primary Analyte Detected in the Soil Gas (ug)		Notes
ASG- #D-1	O-1 O-2	DRMO—east of RR tracks	TCE	2.32 2.41	Also elevated TCA
ASG- #D-4	20-B	DRMO—immediately west of RR tracks		30.49	
ASG- #D-5	25-B	DRMO—between road and RR tracks		43.95	
ASG- #I-1	3-187	B-619 (west)		102.33	Also elevated TCA
ASG- #I-2	20-654 20-655	B-615 (north)		242.84 191.98	
ASG- #I-3	4-254 4-256	B-615 (west) (toe of slope)		162.58 129.02	
ASG- #I-4	6-382	B-611 (east)		118.41	
ASG- #I-7	22-699	Ave A (west end)		31.04	
ASG- #I-16	2-77 2-78	Between B-677 and B-679		145.4 93.63	
ASG- #I-18	10-529	B-691 (north)		40.12	
ASG- #1-19	20-643	B-619 (between southern wings)		120.67	Added 6/3/99 (Variance No. 6)
ASG- #I-11	9-527	B-620 (west)	PCE	170.09	
ASG- #I-9	18-624	Ave C		337.28	
ASG- #I-8	18-627	Ave C (west end)		125.93	Also elevated TCA
ASG- #D-3	P-3	DRMO—eastern corner of yard	TCA	8.83	
ASG- #I-5	8-474	B-600 (west)		103.22	Also elevated TCE
ASG- #I-6	22-695	Ave A (east end)		139.75	Also elevated TCE
ASG- #I-10	18-621	Ave C (east end)		44.45	Elevated PCE/TCE
ASG- #I-15	2-83	B-667 (east)		48.66	Also elevated CCl_4
ASG- #D-2	B-5 B-6	DRMO—between road and RR tracks	CCl_4	1.51 2.18	
ASG- #I-14	16-584	Ave E (west end)		0.83	Also elevated TCE
ASG- #I-12	4-249	Open storage area west of B-638		49.85	
ASG- #I-13	4-245	Open storage area west of B-637		75.66	
ASG- #I-17	3-137	B-677 (west)		4.86	

TCE = trichloroethene PCE = perchloroethene TCA = 1,1,1-trichloroethane
CCl_4 = carbon tetrachloride ug = micrograms ASG = Active Soil Gas

Implementation of SWMU 58 Phase I RFI Scope



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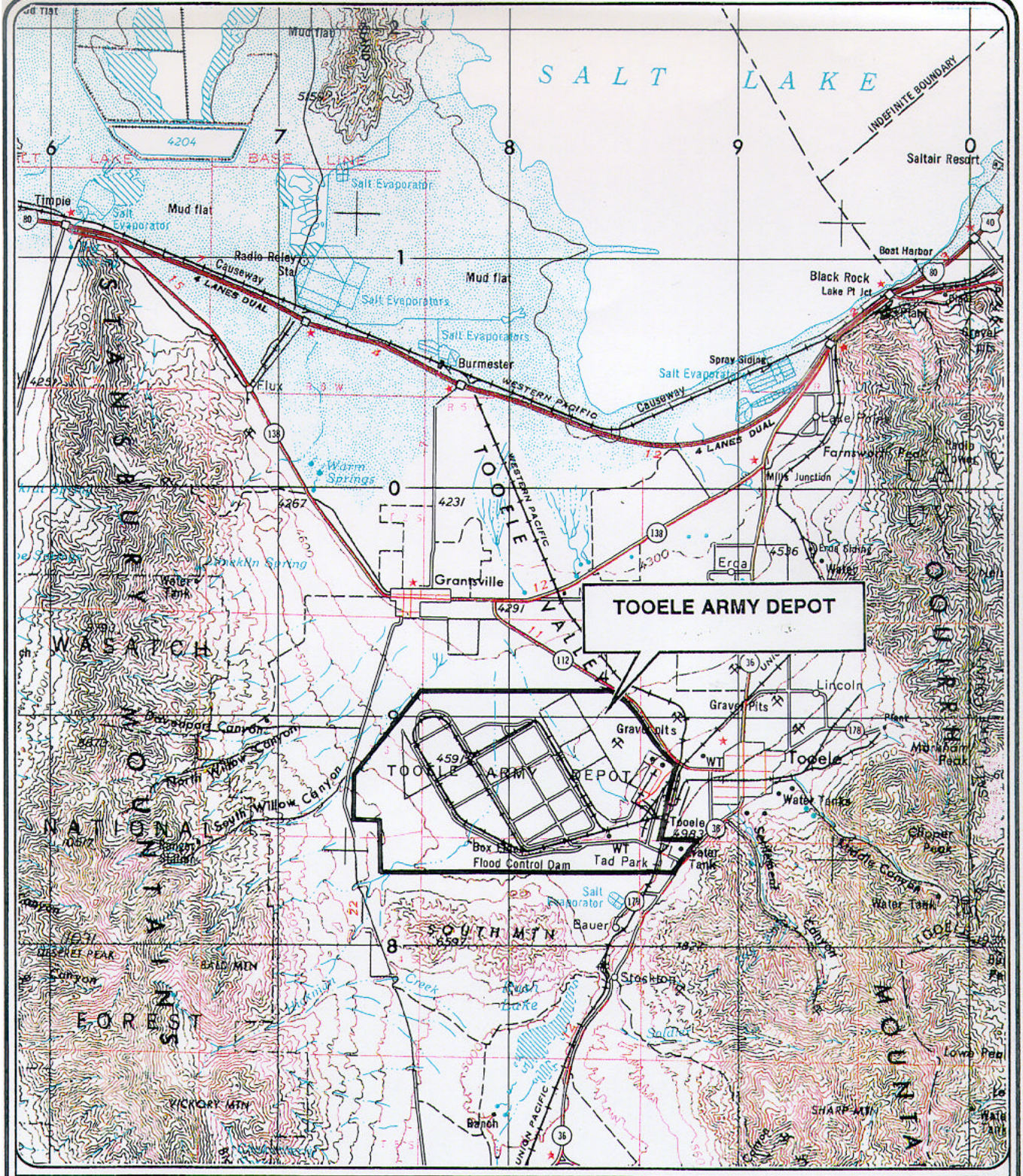
KLEINFELDER

SWMU 58 Source Area Investigation
Phase I RFI Report
Tooele Army Depot
Tooele, Utah

FIGURE

1-1



Source: USGS Tooele, Utah 1° x 2° Quadrangle, 1970

KLEINFELDER

ADAPTED FROM:

MONTGOMERY WATSON

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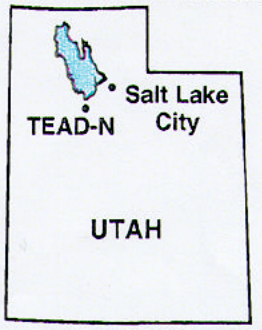
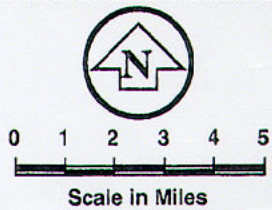
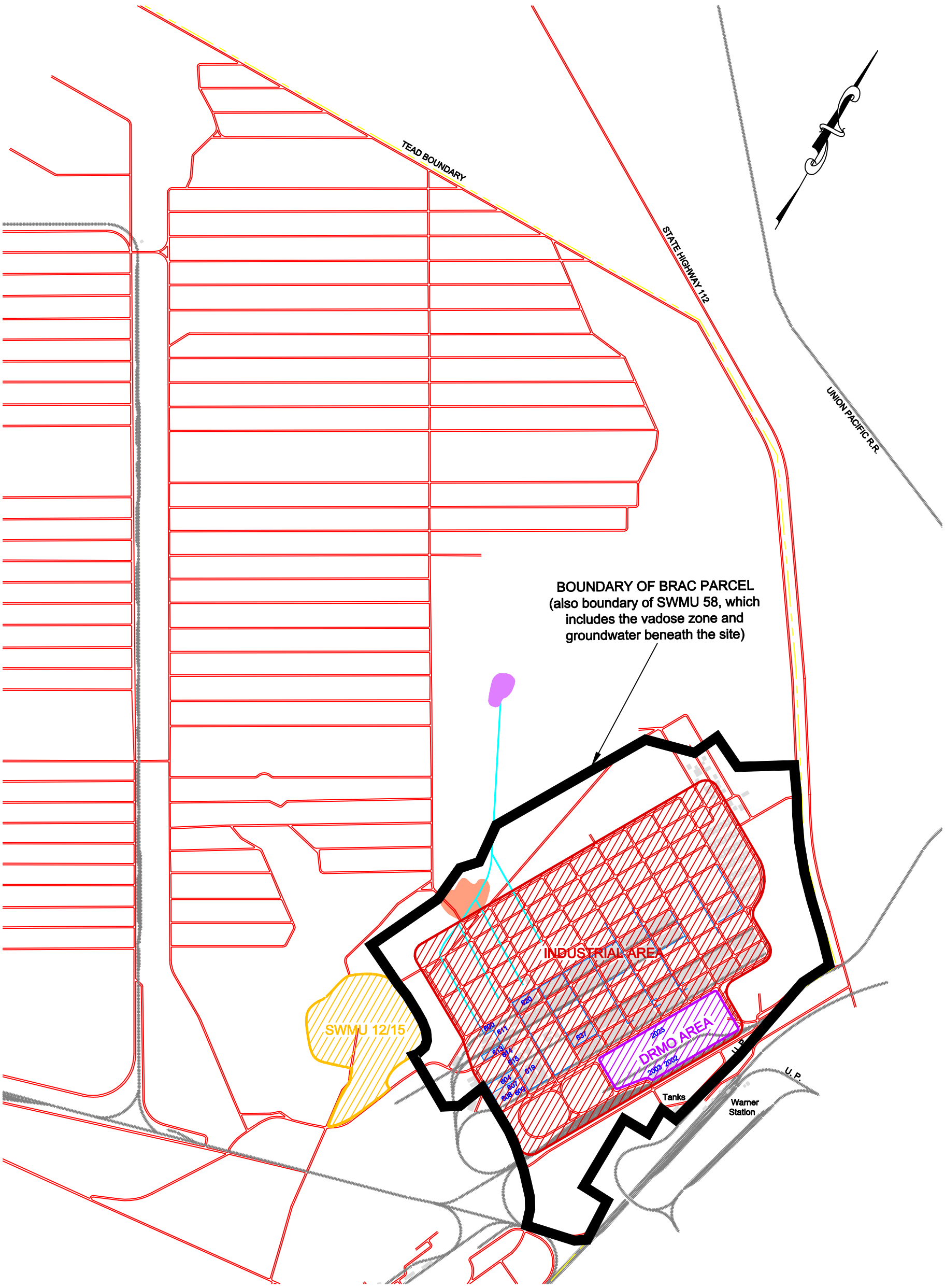




SITE LOCATION MAP
TOOELE ARMY DEPOT

Figure 1-2



LEGEND

- INDUSTRIAL WASTE LAGOON* (CLOSED)
- OLD INDUSTRIAL WASTE LAGOON*
- SANITARY LANDFILL* (SWMU 12/15)
- DRMO AREA
- STORMWATER / INDUSTRIAL WASTEWATER PIPING*
- UNLINED DITCHES (CLOSED)
- 620 BUILDING NUMBERS
- INDUSTRIAL AREA

3502d093.dwg

2000 0 1000 2000

SCALE: 1 inch = 2000 ft.

*LOCATIONS ARE APPROXIMATE, BASED ON RUST, 1996.

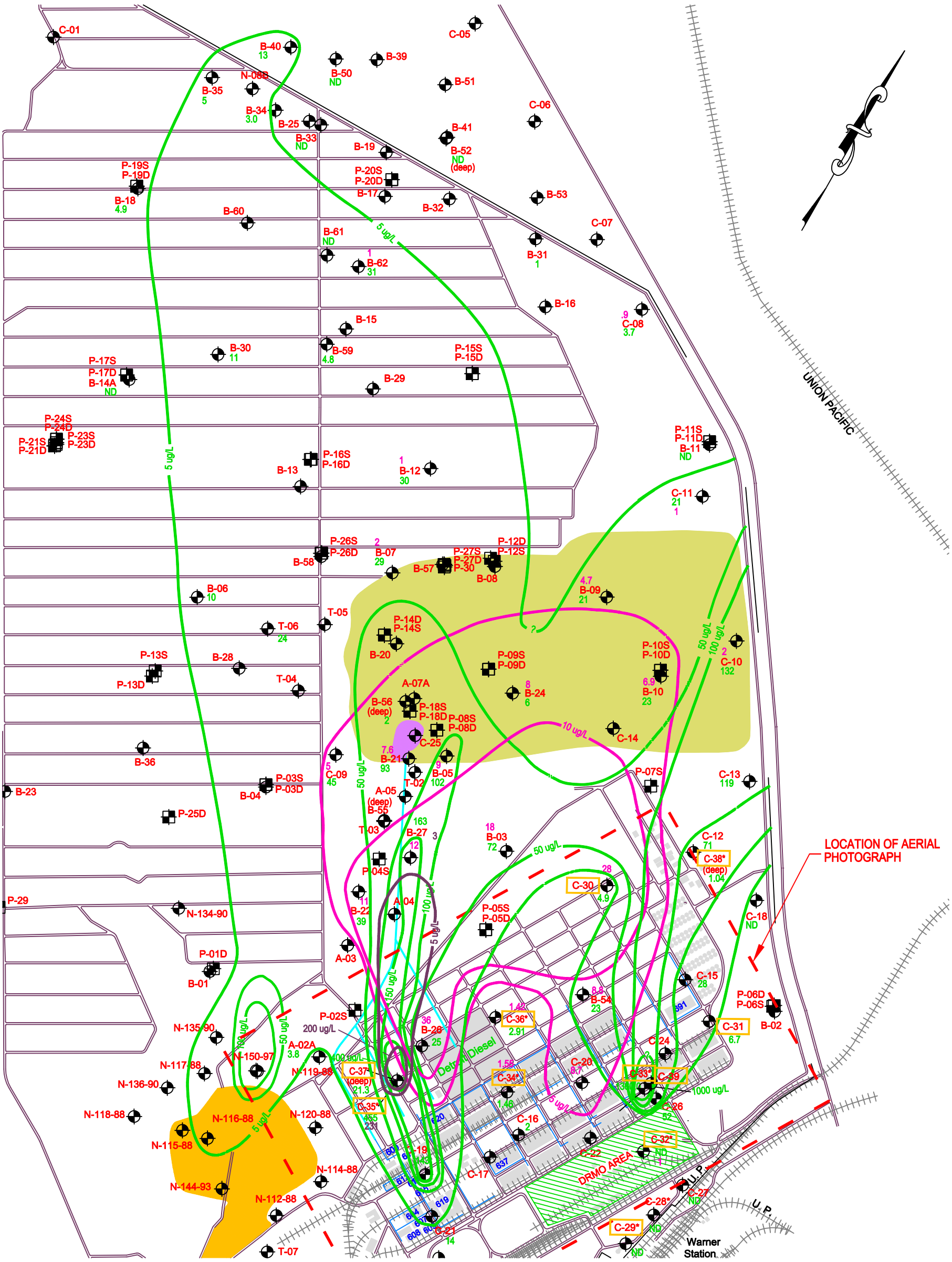
KLEINFELDER

Drawn by: Z. Kropf Date: 11/16/2001
Project Number 23-900046-A08

SWMU 58 AREAS OF INVESTIGATION
TOOELE ARMY DEPOT
TOOELE, UTAH

FIGURE

1-3



LEGEND

- APPROXIMATE AREA OF BEDROCK BLOCK
- INDUSTRIAL WASTE LAGOON
- SANITARY LANDFILL
- 620 BUILDING NUMBERS
- P-15S PIEZOMETER LOCATION
- C-39 WELLS INSTALLED AS PART OF SWMU58 INVESTIGATION
- 5 ug/L TCE ISOCONCENTRATION CONTOUR
- 5 ug/L CARBON TETRACHLORIDE ISOCONCENTRATION CONTOUR
- 5 ug/L 1,2 DCA ISOCONCENTRATION CONTOUR
- 5 ug/L PCE ISOCONCENTRATION CONTOUR
- STORMWATER / INDUSTRIAL WASTEWATER PIPING*
- UNLINED DITCHES
- 5.0 B-40 5.0 5.0 5.0 MONITORING WELL LOCATION WITH CHEMICAL CONCENTRATIONS IN ug/L

Results are Fall 1999 unless indicated by *, then initial sampling event for new well

3502d094.dwg

1600 0 800 1600

*LOCATIONS ARE APPROXIMATE, BASED ON RUST, 1996.

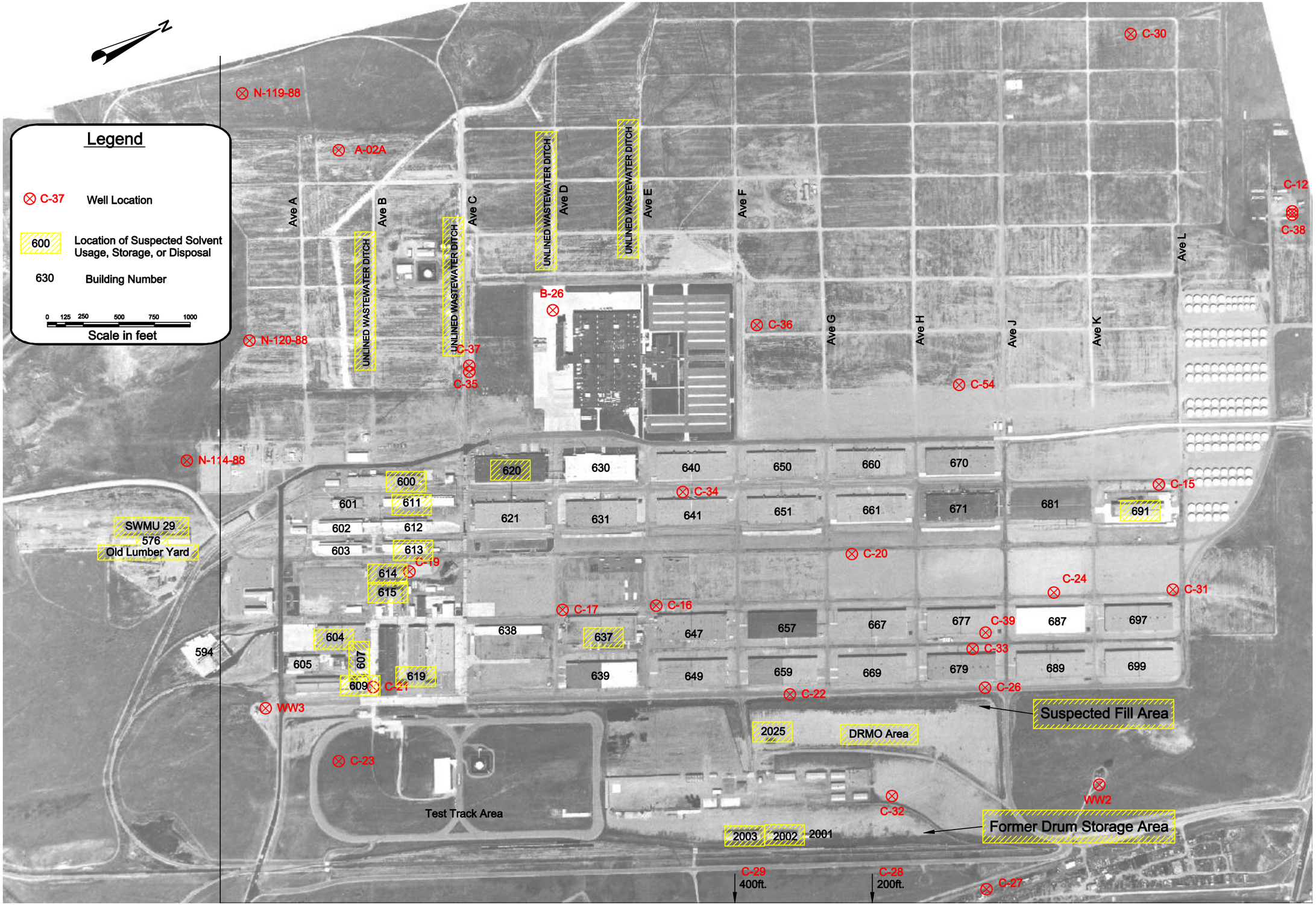
KLEINFELDER

Drawn by: Z. Kropf Date: 11/16/2001
Project Number 23-900046.A08

TOOELE ARMY DEPOT EAST SIDE COMBINED GROUNDWATER PLUMES TOOLE ARMY DEPOT TOOELE, UTAH

FIGURE

1-4



3502d088.dwg

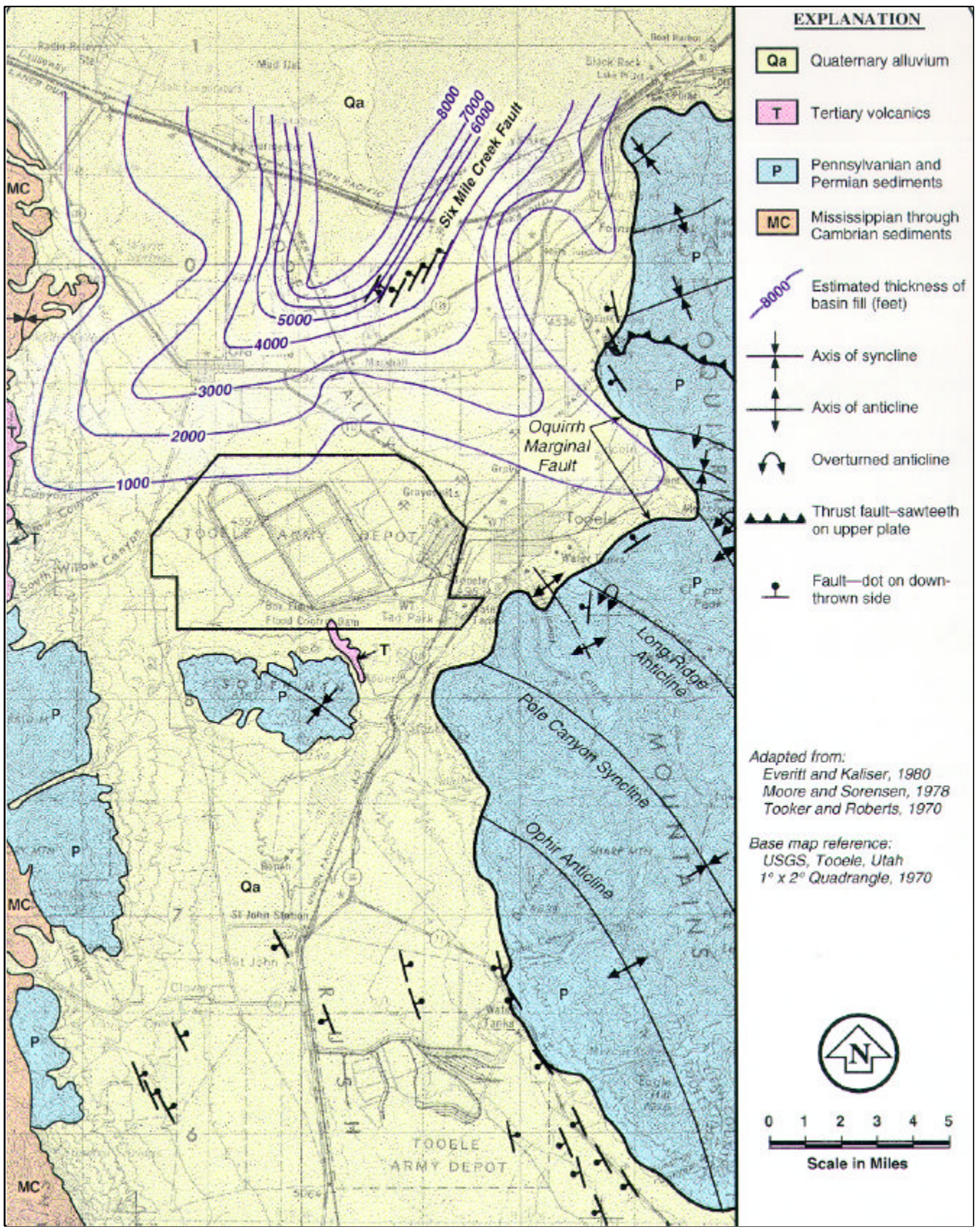
FIGURE
1-5

KNOWN OR SUSPECTED SOLVENT USE LOCATIONS

Tooele Army Depot
Tooele, Utah
Date: Nov. 16, 2001

KLEINFELDER

Project Number 23-9000-46.A08



Taken from Montgomery Watson, 1993

3510Q297.ppt

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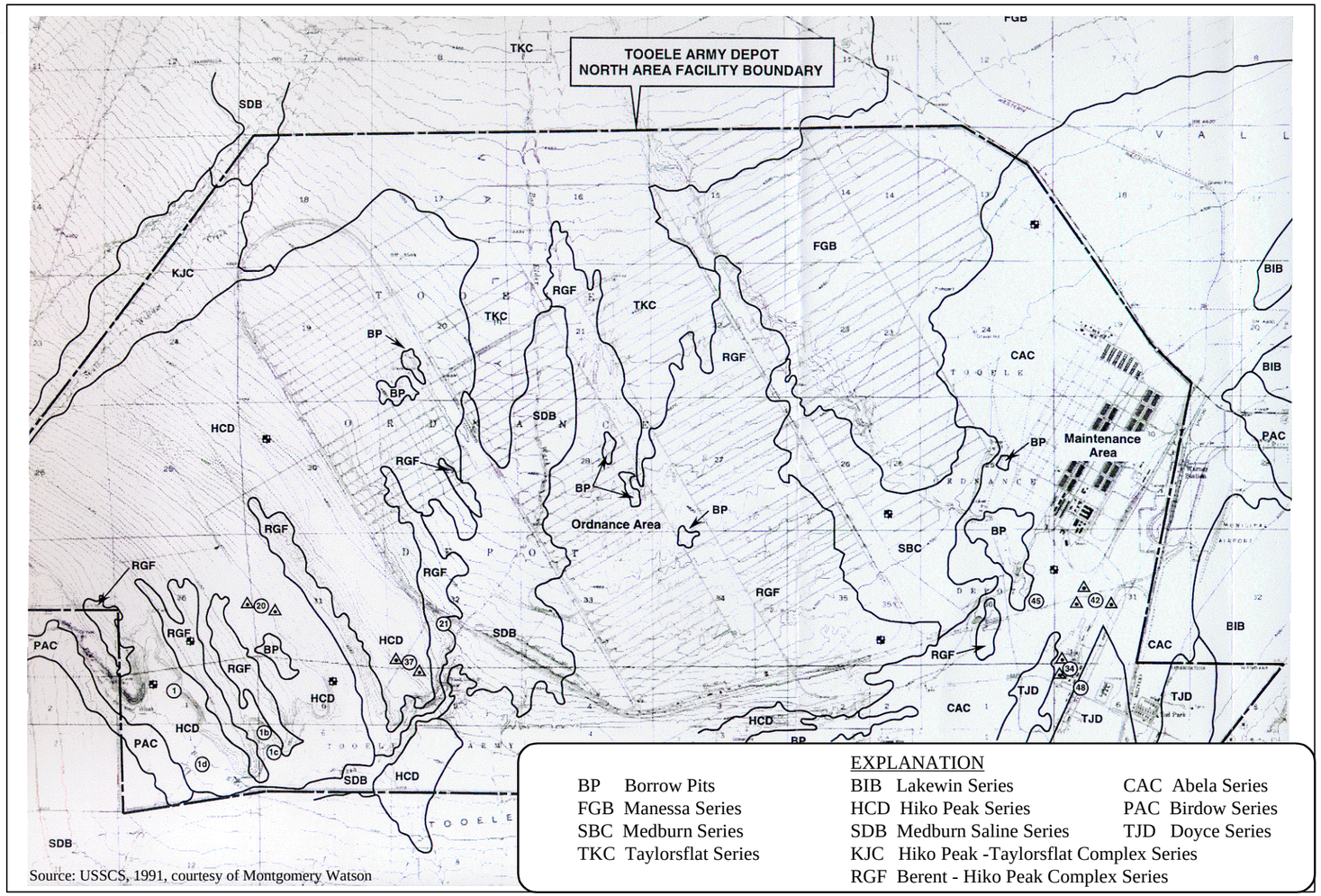
Project Number 23-9000-46.A08

SWMU 58 - Phase I RFI
Tooele Army Depot
Tooele, Utah

GEOLOGIC MAP OF TOOELE VALLEY

FIGURE

2-1



Source: USSCS, 1991, courtesy of Montgomery Watson

EXPLANATION

BP Borrow Pits	BIB Lakewin Series	CAC Abela Series
FGB Manessa Series	HCD Hiko Peak Series	PAC Birdow Series
SBC Medburn Series	SDB Medburn Saline Series	TJD Doyce Series
TKC Taylorsflat Series	KJC Hiko Peak -Taylorsflat Complex Series	
	RGF Berent - Hiko Peak Complex Series	

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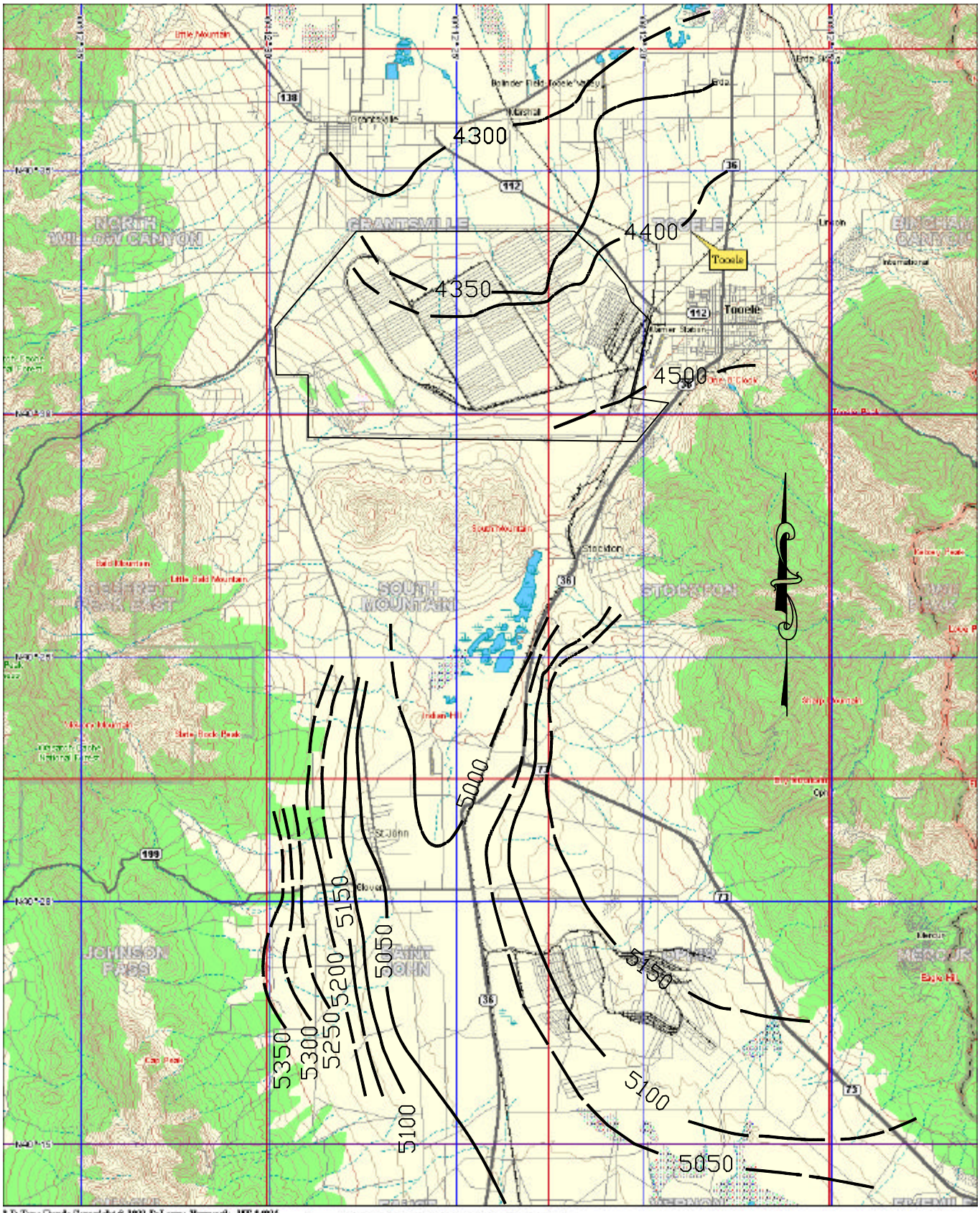
Project Number 23-9000-46.A08

SWMU 58 Source Area Investigation
Phase I RFI Report
Tooele Army Depot
Tooele, Utah

TEAD SOIL TYPES

FIGURE
2-2



3510D335

KLEINFELDER

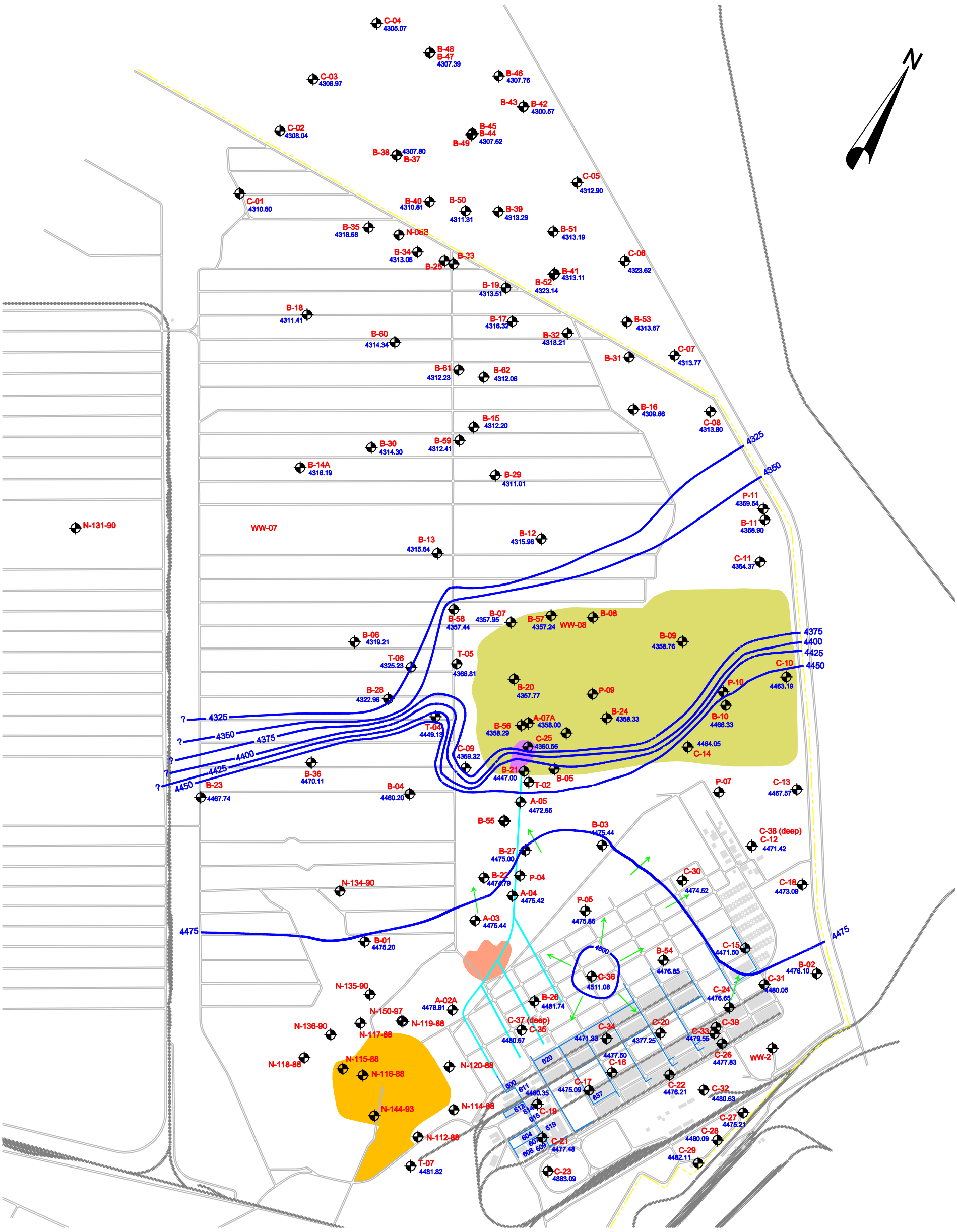
Project Number: 23-9000-46.A08
Date: 10-13-00

SWMU 58 - Phase I RFI
Tooele Army Depot
Tooele, Utah

REGIONAL GROUND WATER ELEVATION MAP

FIGURE

2-3



LEGEND

APPROXIMATE AREA OF UPLIFTED BEDROCK BLOCK

INDUSTRIAL WASTE LAGOON

SANITARY LANDFILL

620 BUILDING NUMBERS

C-17 MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION

4480 GROUNDWATER ELEVATION CONTOUR

NOTE: BASED UPON DATA FROM MAY 2000 MEASUREMENTS.

ARROWS DENOTE DIRECTION OF GROUNDWATER FLOW

2000 0 1000 2000

3502d089.dwg

KLEINFELDER

Project Number 23-9000-46.A08

Tooele Army Depot

Tooele, Utah

Date: 11-16-2001

WELL LOCATIONS AND SHALLOW GROUNDWATER ELEVATION CONTOURS AT TEAD EAST SIDE - SPRING 2000

FIGURE

2-4

3502d088.dwg

FIGURE 2-5

WELL LOCATIONS AND SHALLOW GROUNDWATER ELEVATION CONTOURS AT TEAD INDUSTRIAL AREA SPRING, 2000

Tooele Army Depot
Tooele, Utah
Date: Nov. 16, 2001

KLEINFELDER

Project Number 23-9000-46.A08

Figure 3-1
File included on CD in CorelDraw Format

Figure 3-2
File included on CD in CorelDraw Format

Figure 4-1
File included on CD in CorelDraw Format

Figure 4-2
File included on CD in CorelDraw Format

Figure 4-3
File included on CD in CorelDraw Format

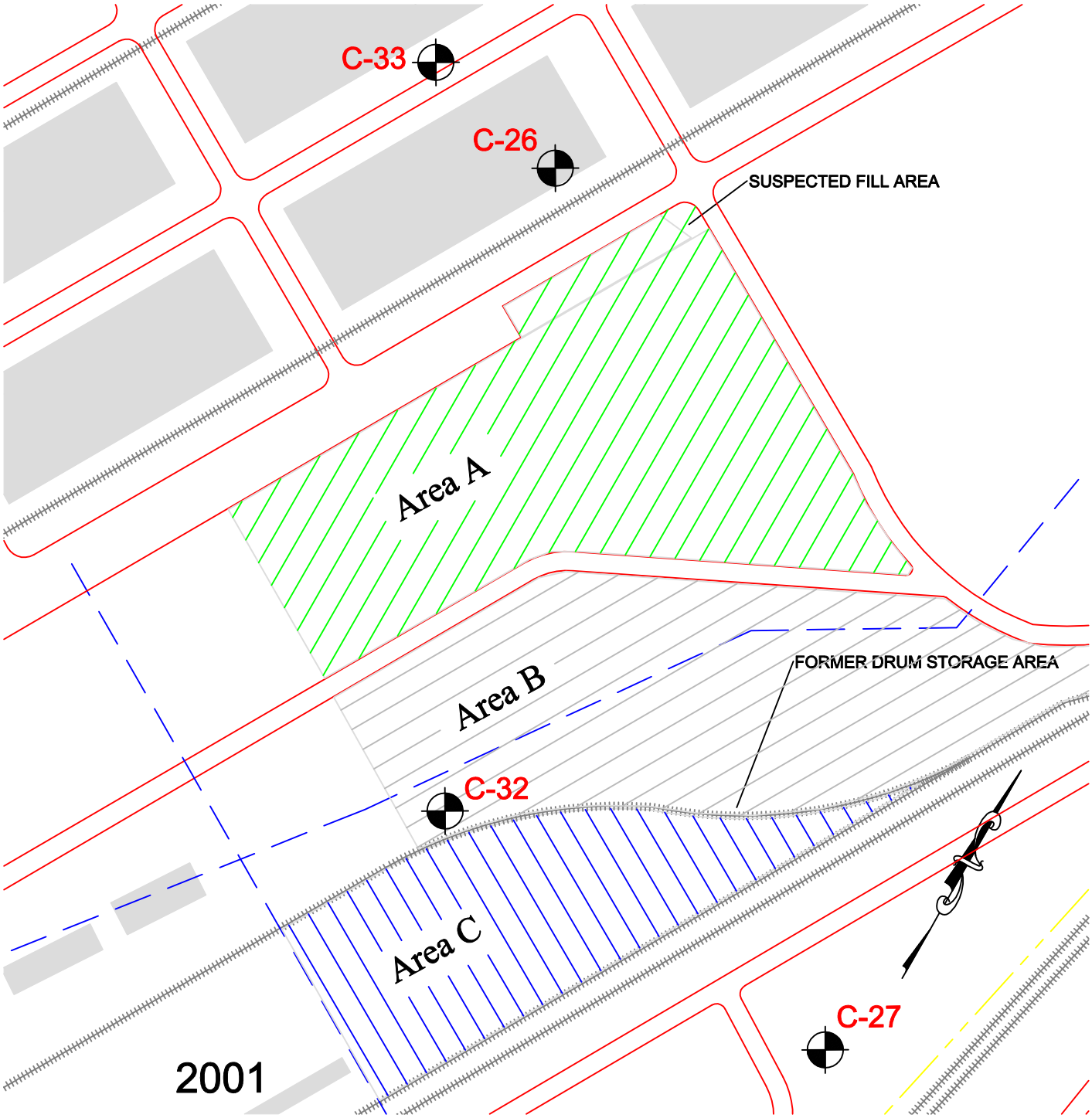
Figure 4-4
File included on CD in CorelDraw Format

Figure 4-5
File included on CD in CorelDraw Format

Figure 4-6
File included on CD in CorelDraw Format

Figure 4-7
File included on CD in CorelDraw Format

Figure 4-8
File included on CD in CorelDraw Format



LEGEND

C-29 GROUNDWATER MONITORING WELL LOCATIONS

BURIED WATER LINE

AREA - A

AREA - B

AREA - C

250 0 125 250

KLEINFELDER

Edited By: Z.KROPF
Project No.: 23-9000-46.A08

Date: 09-13-00
Filename: 3510D337

DRMO GEOPHYSICAL SURVEY
INVESTIGATION AREAS

TOOELE ARMY DEPOT
TOOELE, UTAH

FIGURE
4-9

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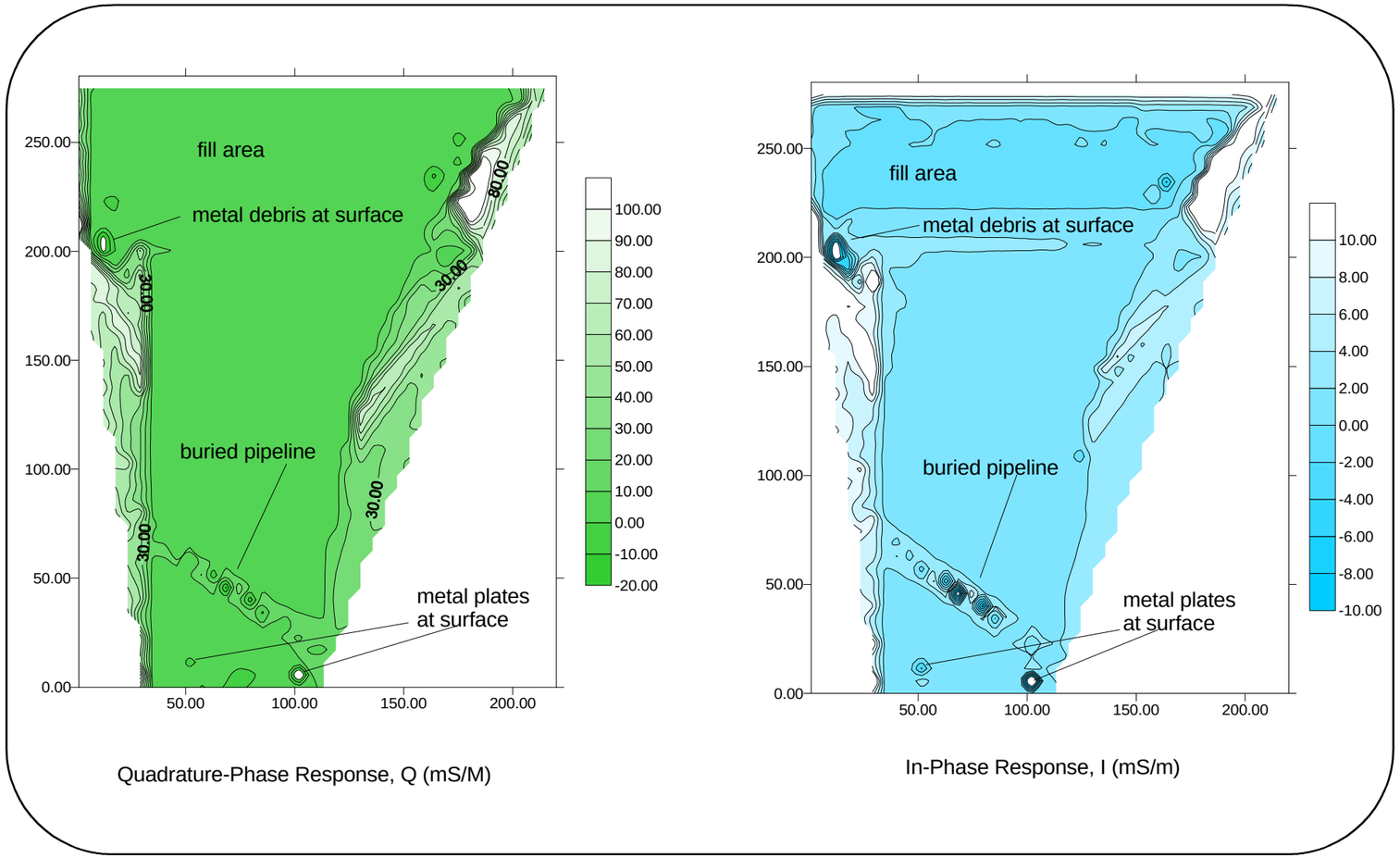


KLEINFELDER

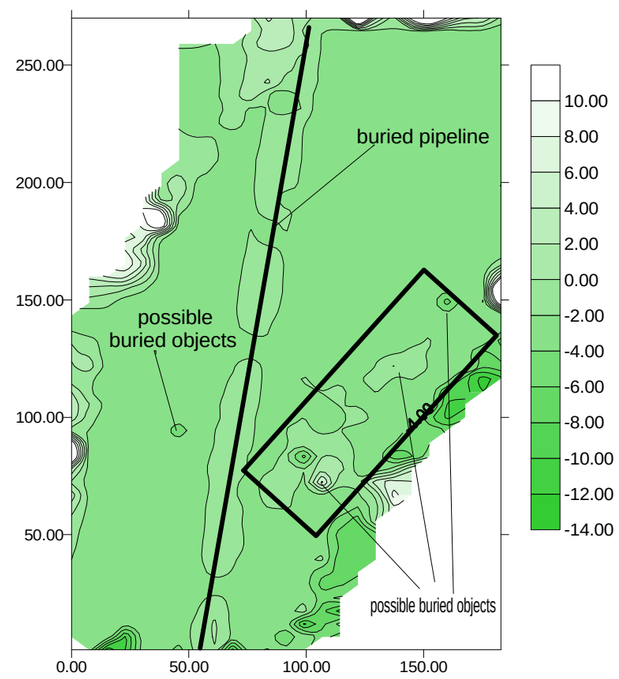
Project Number 23-9000-46.A08

SWMU 58 Source Area Investigation
Phase I RFI Report
Tooele Army Depot
Tooele, Utah

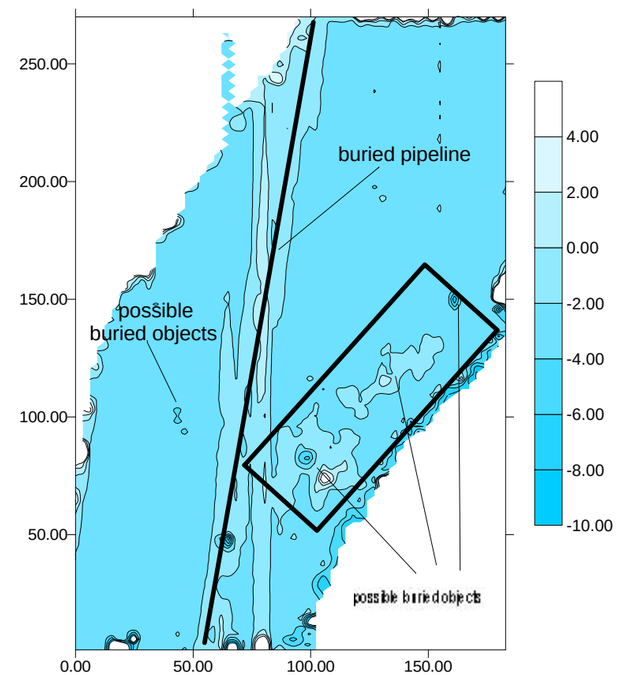
DRMO Geophysical Survey Results-Area A

3510Q256.ppt

FIGURE
4-10



Quadrature-Phase Response, Q (mS/m)



In-Phase Response, I (mS/m)

3510Q256.ppt

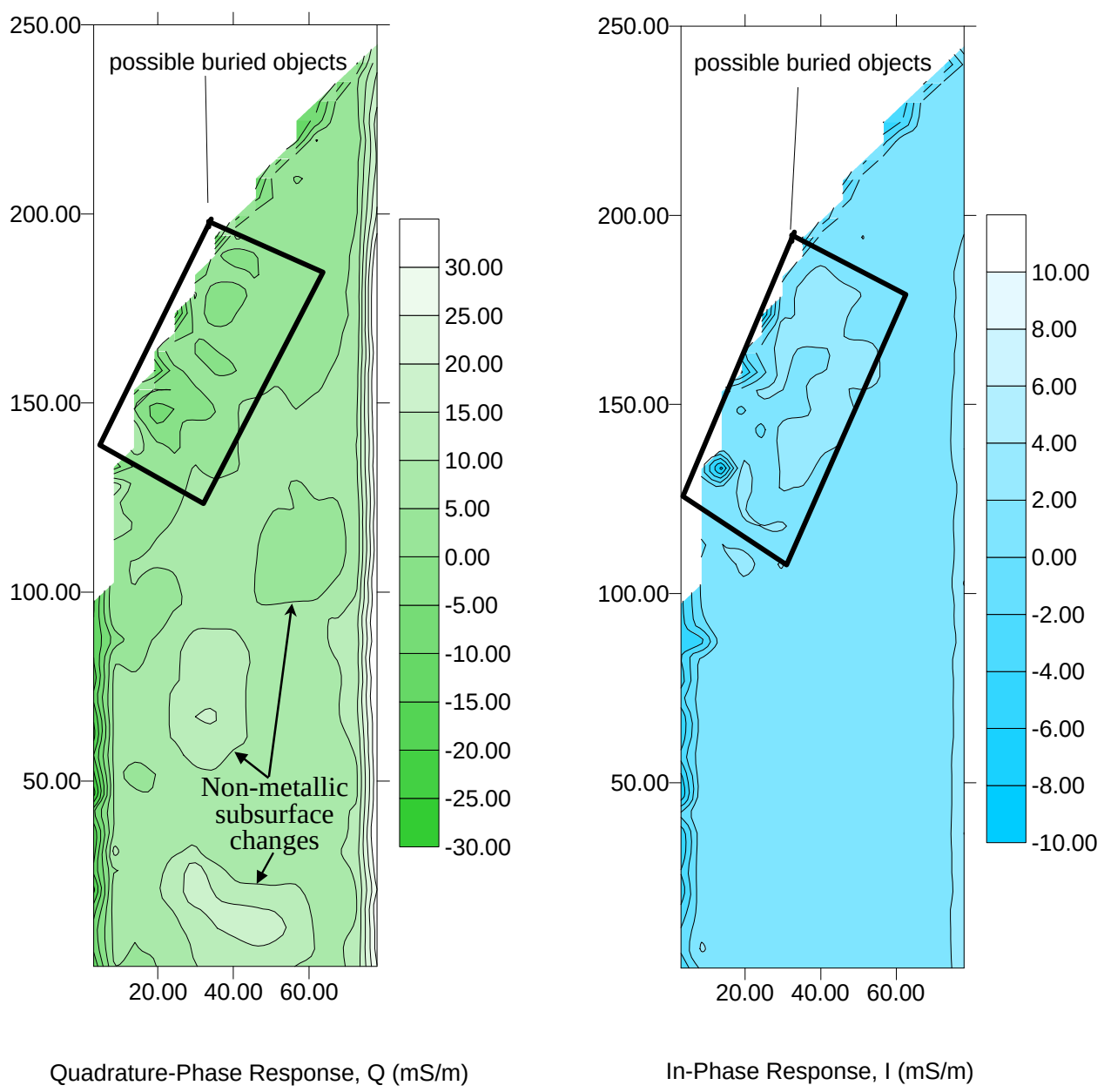
KLEINFELDER

Project Number 23-9000-46.A08

SWMU 58 Source Area Investigation
Phase I RFI Report
Tooele Army Depot
Tooele, Utah

DRMO Geophysical Survey Results-Area B

FIGURE
4-11



3502Q066.ppt

KLEINFELDER

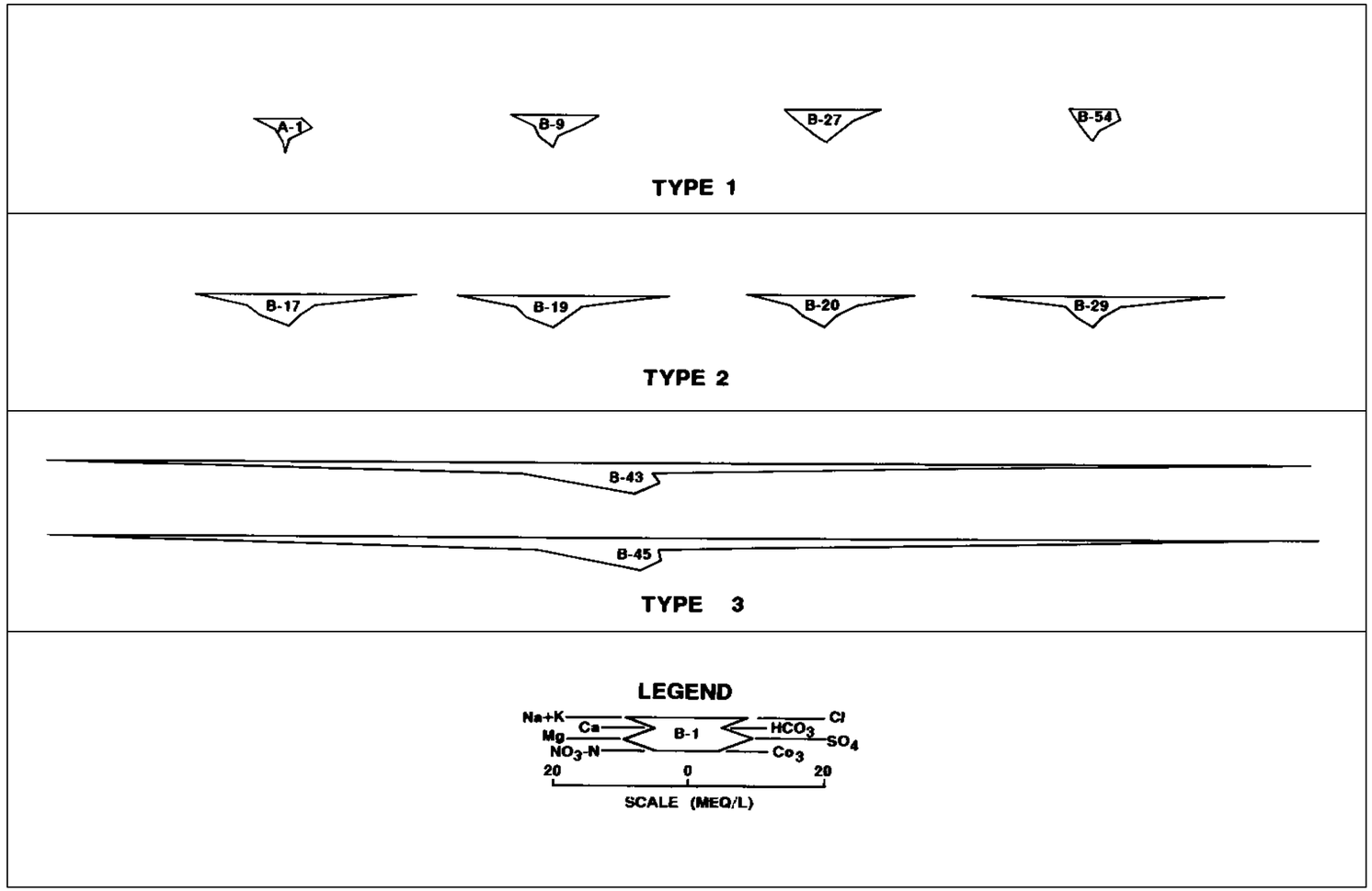
Project Number 23-9000-46.A08

SWMU 58 Source Area Investigation
Phase I RFI Report
Tooele Army Depot
Tooele, Utah

DRMO Geophysical Survey Results-Area C

FIGURE

4-12



3510Q258.ppt

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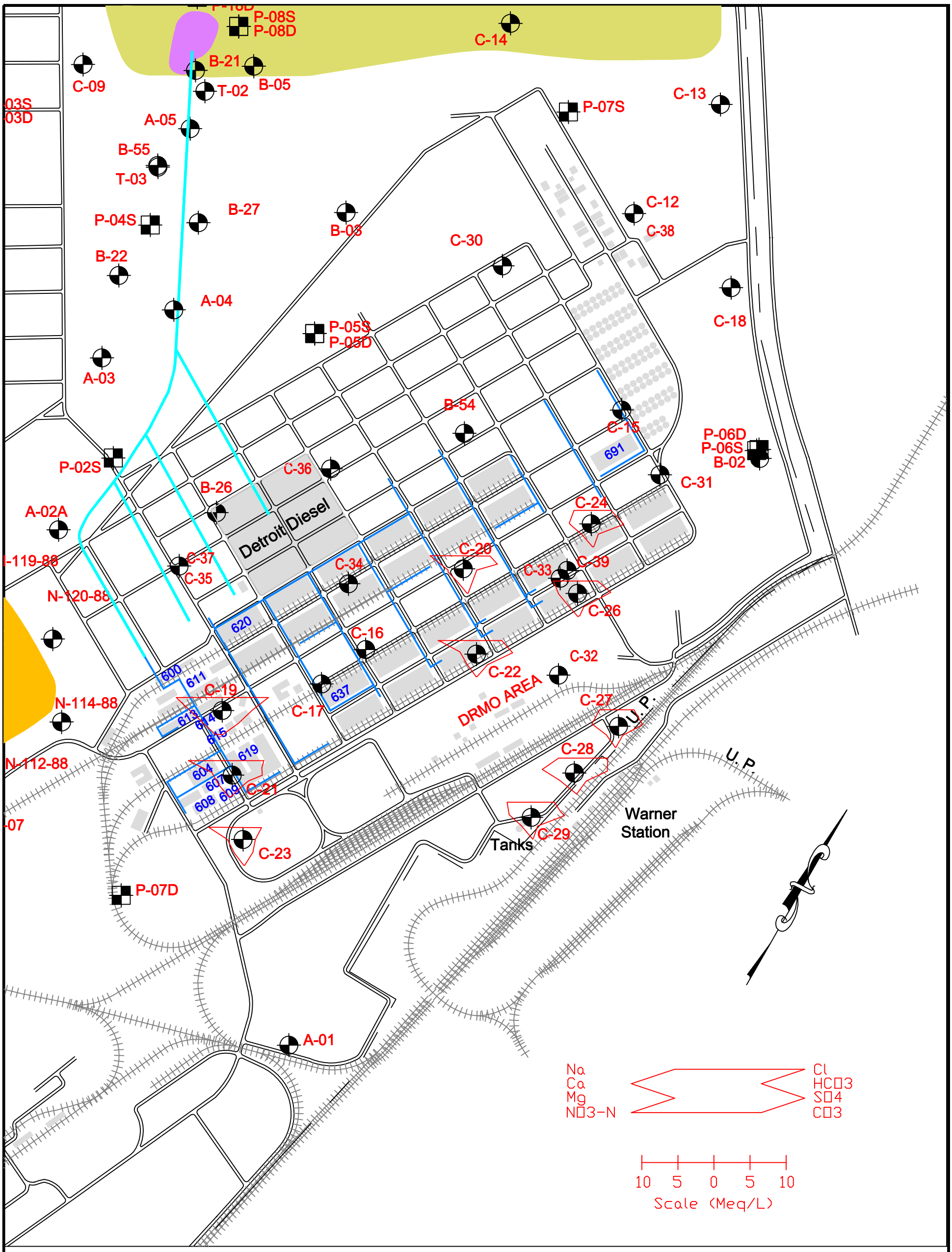
Project Number 23-9000-46.A08

SWMU 58 Source Area Investigation
Phase I RFI Report
Tooele Army Depot
Tooele, Utah

Groundwater Type Stiff Diagrams

FIGURE
4-13



LEGEND

- APPROXIMATE AREA OF BEDROCK BLOCK
- INDUSTRIAL WASTE LAGOON
- SANITARY LANDFILL
- 620 BUILDING NUMBERS
- STIFF DIAGRAM
- STORMWATER / INDUSTRIAL WASTEWATER PIPING*
- UNLINED DITCHES
- B-40 MONITORING WELL LOCATION
- P-15S PIEZOMETER LOCATION

0 500 1000

*LOCATIONS ARE APPROXIMATE, BASED ON RUST, 1996.

KLEINFELDER

Drawn By: Z.KROPF
Project No.: 23-900046.A08
Date: 09-13-00
Filename: 3510D338

STIFF DIAGRAMS
BY MONITORING WELL

TOOELE ARMY DEPOT
TOOELE, UTAH

FIGURE
4-14

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3502d088.dwg

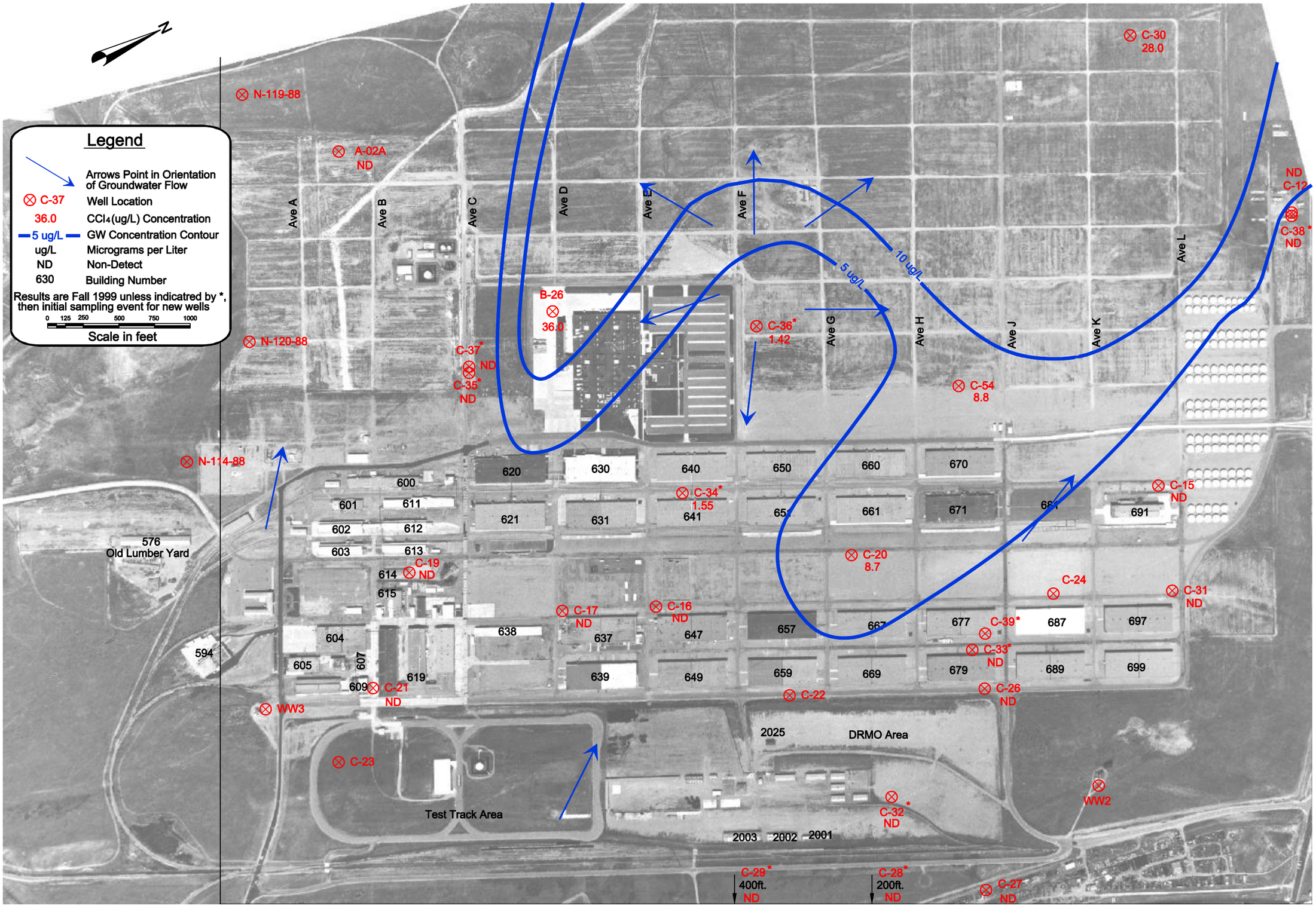
FIGURE 4-15

SWMU 58 GROUNDWATER CONCENTRATION CONTOURS - TRICHLOROETHENE (TCE)

Tooele Army Depot
Tooele, Utah
Date: Sept. 13, 2000

KLEINFELDER

Project Number 23-9000-46.A08



3502d088.dwg

FIGURE 4-16

SWMU 58 GROUNDWATER CONCENTRATION CONTOURS - CARBON TETRACHLORIDE (CCl_4)

Tooele Army Depot
Tooele, Utah
Date: Sept. 13, 2000

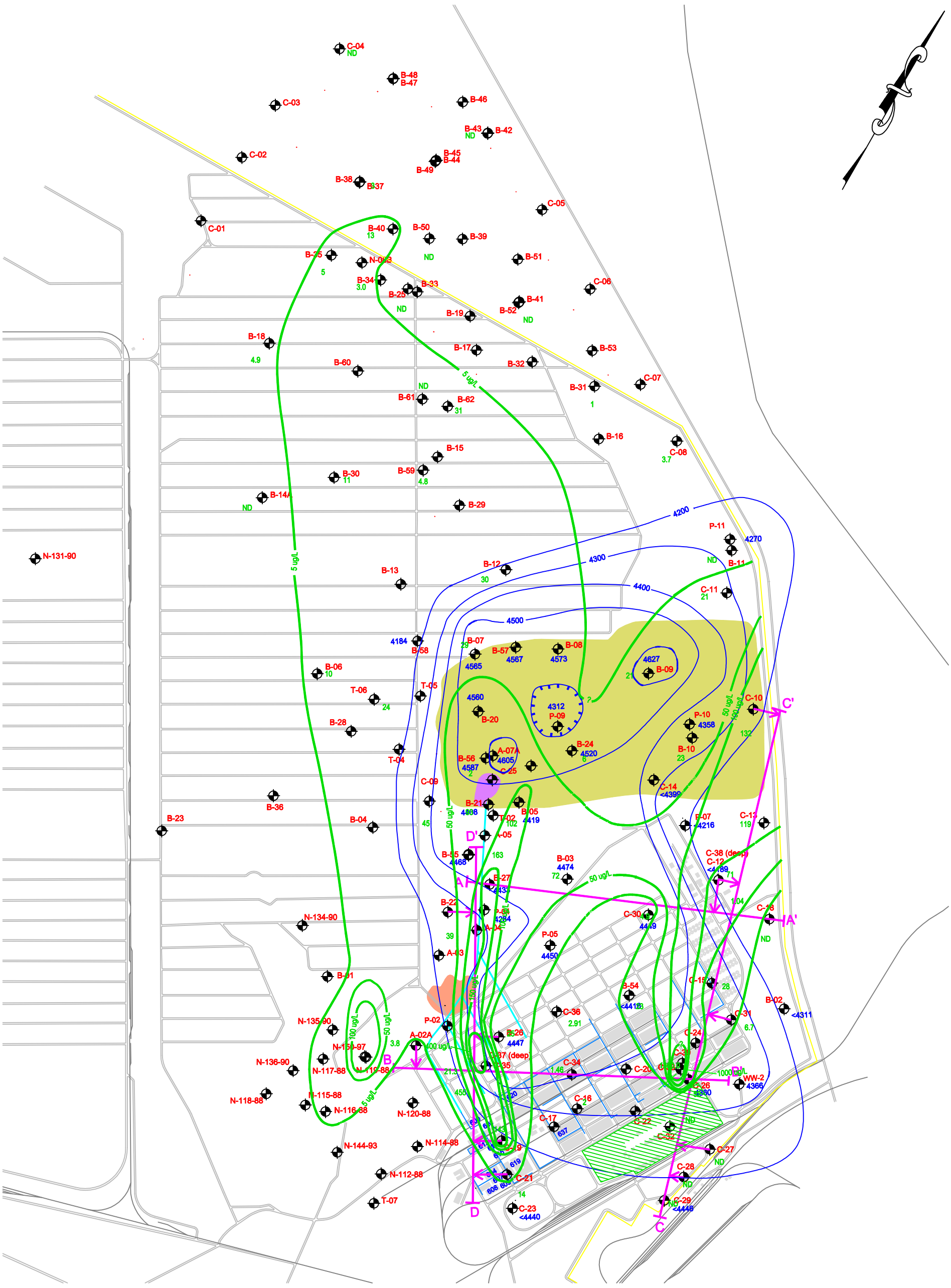
KLEINFELDER

Project Number 23-9000-46.A08

Figure 4-17
Included on CD in Corel Draw Format

Figure 4-18
Included on CD in Corel Draw Format

Figure 4-19
Included on CD in Corel Draw Format



LEGEND

- 4480 — BEDROCK ELEVATION CONTOUR
- FORMER UNLINED DITCHES
- WELL PROJECTED ONTO AXIS
- C-17 — MONITORING WELL LOCATION WITH BEDROCK ELEVATION
- APPROXIMATE AREA OF SHALLOW BEDROCK BLOCK
- FORMER INDUSTRIAL WASTE LAGOON

2000 0 1000 2000

SCALE: 1 inch = 2000ft.

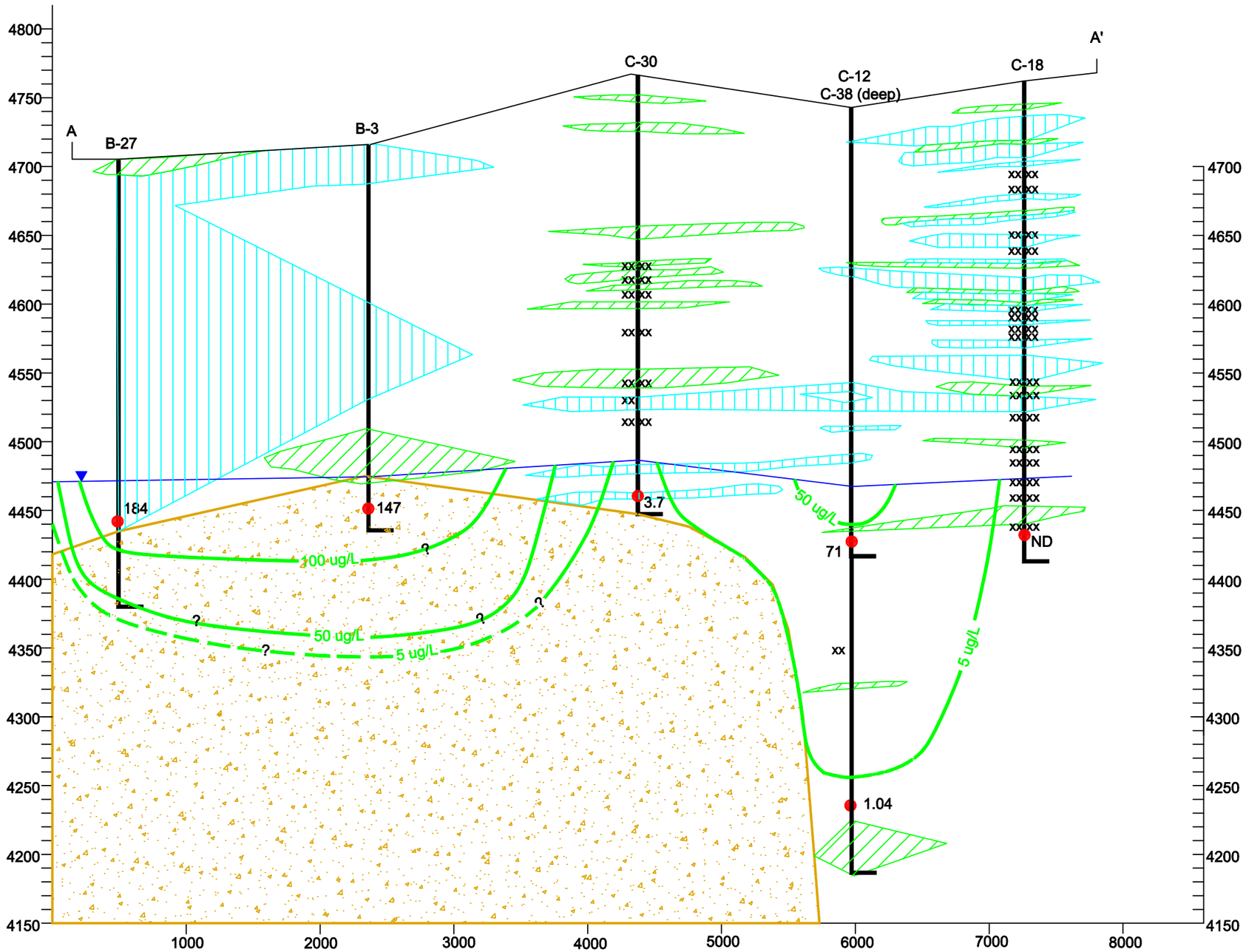
KLEINFELDER

Drawn By: Silvana Contreras
Project No.: 23-9000-46.A08
Date: 09-13-2000
Filename: 3510d441

CROSS SECTION LOCATIONS AND BEDROCK ELEVATION CONTOURS

TOOELE ARMY DEPOT
TOOELE, UTAH

PLATE
4-20



LEGEND

FINE GRAINED SOILS

- GC,SC,CL CLAYEY GRAVELS, CLAYEY SANDS, INORGANIC CLAYS,
- GM, SM, ML SILTY GRAVELS, SILTY SNDS, INORGANIC SILTS

COARSE GRAINED SOILS

- GP/GW/SP/SW - GRAVELS, AND/OR SANDS WITH < 15% FINES

5 ug/L — TCE ISOCONCENTRATION CONTOUR (FALL 1999 DATA)

ND — TCE CONCENTRATION AT MIDDLE OF THE SCREENED INTERVAL

xx xx — CEMENTATION

BEDROCK

WATER TABLE

HORIZONTAL SCALE 1" = 700'
VERTICAL SCALE 1" = 80'

3502d090.dwg

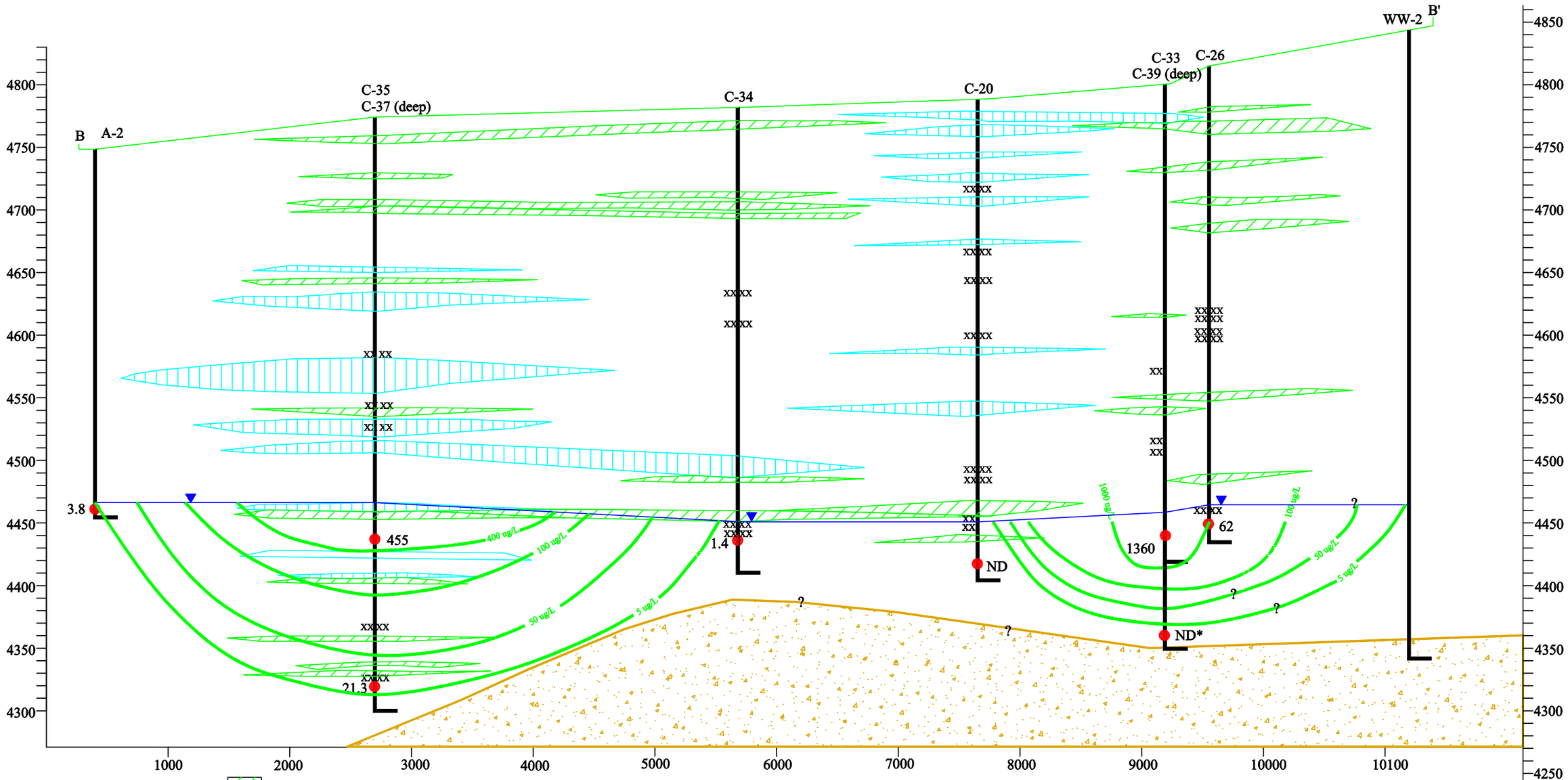
KLEINFELDER

Project Number 23-9000-46.A08

TOOELE ARMY DEPOT
TOOELE, UTAH

TCE Vertical Extent Profile
CROSS-SECTION A - A'
(Transverse to Plume)

FIGURE
4-21



LEGEND

FINE GRAINED SOILS — GC,SC,CL CLAYEY GRAVELS, CLAYEY SANDS, INORGANIC CLAYS,
GM, SM, ML SILTY GRAVELS, SILTY SNDS, INORGANIC SILTS

COARSE GRAINED SOILS — GP/GW/SP/SW - GRAVELS, AND/OR SANDS WITH < 15% FINES

5 ug/L — TCE ISOCONCENTRATION CONTOUR

ND — TCE CONCENTRATION AT MIDDLE OF THE SCREENED INTERVAL (FALL 1999 DATA)

* INITIAL SAMPLING DATA

xx xx CEMENTATION — WATER TABLE

BEDROCK (QUERIED WHERE INFERRED)

HORIZONTAL SCALE 1" = 500'
VERTICAL SCALE 1" = 82'

3502d095.dwg

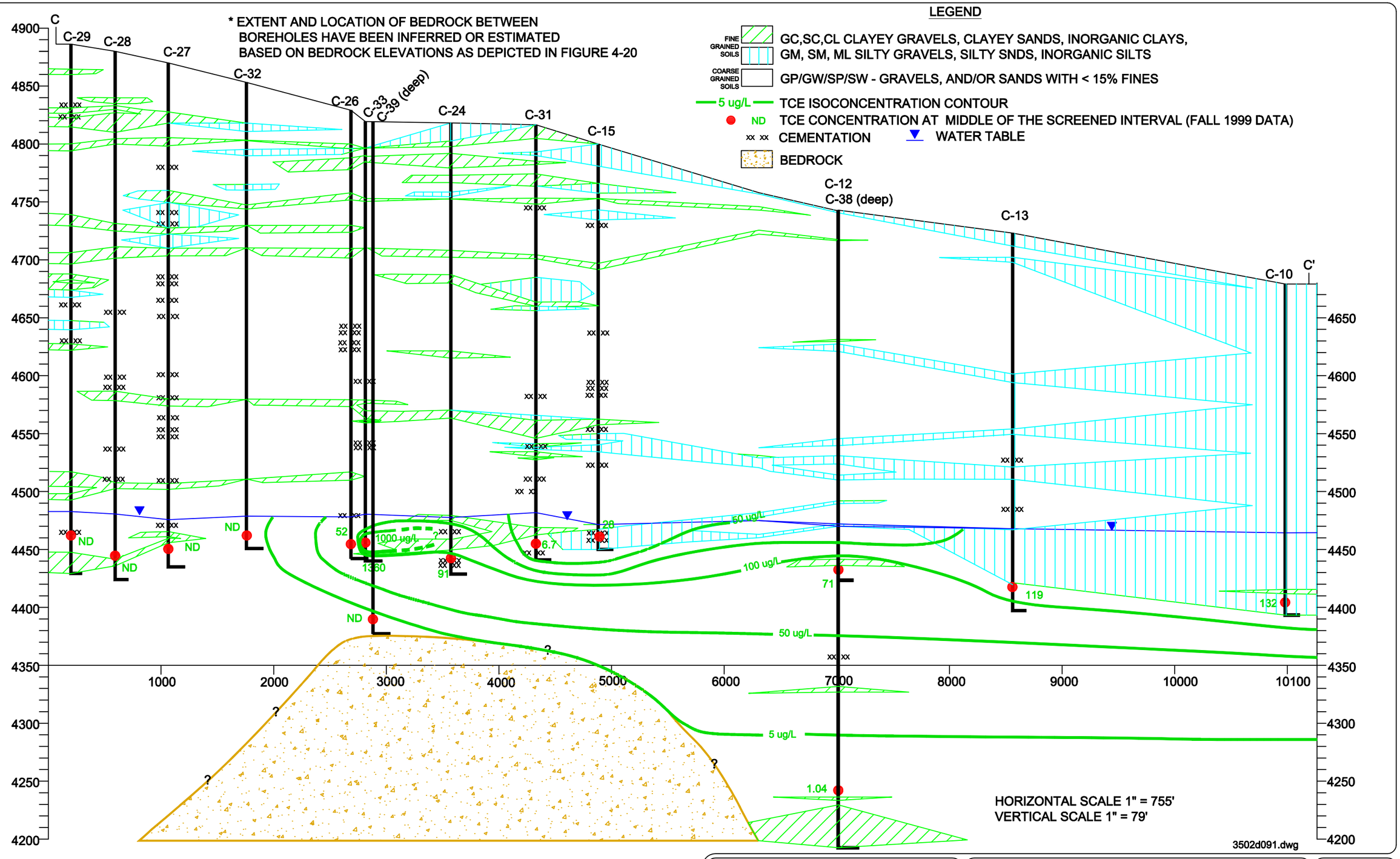
KLEINFELDER

Project Number 23-9000-46.A08

TOOELE-ARMY DEPOT
TOOELE, UTAH

TCE Vertical Extent Profile
Cross-Section B - B' (Transverse to Plume)

PLATE
4-22



KLEINFELDER

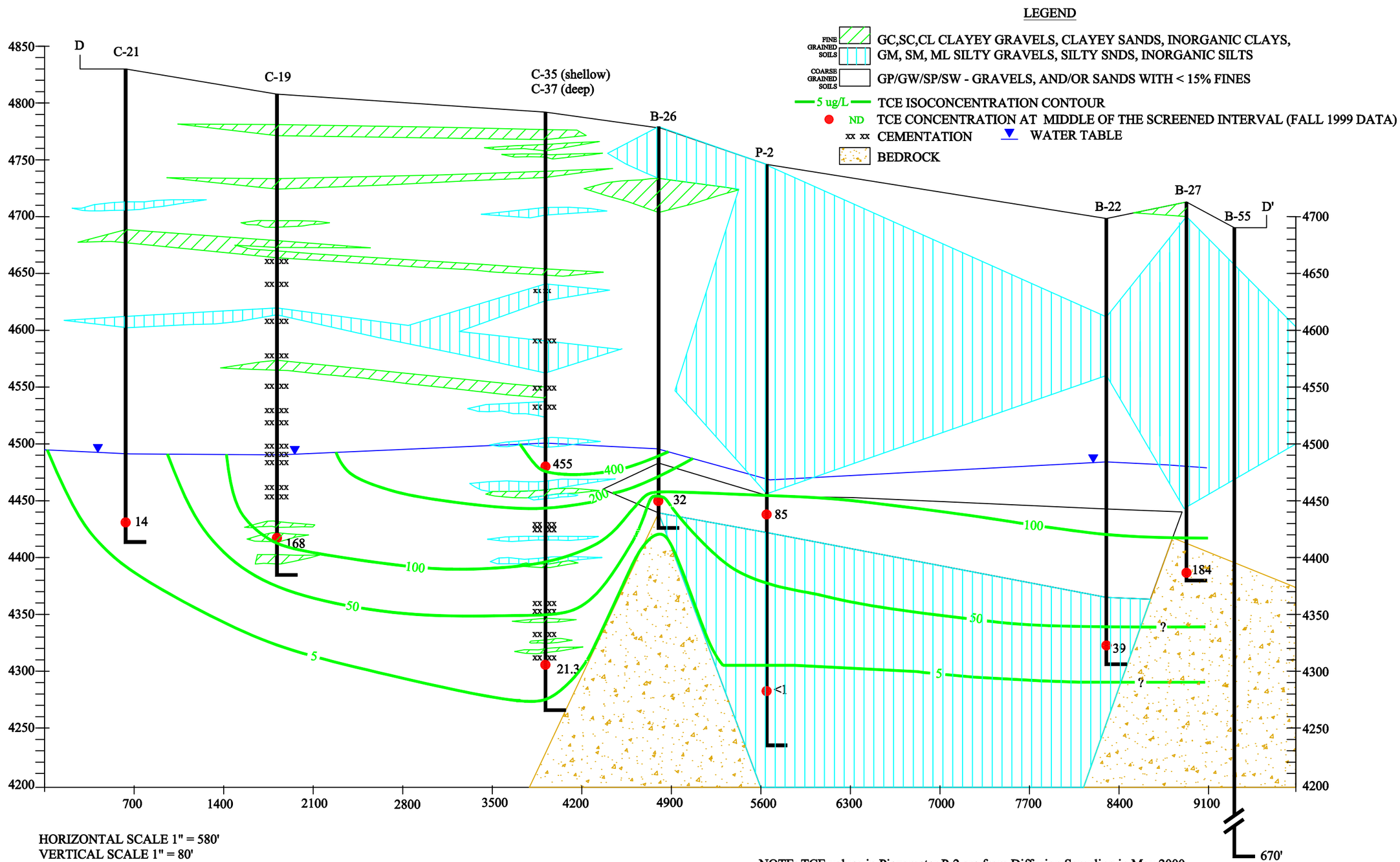
Project Number 23-9000-46.A08

Tooele Army Depot
Tooele, Utah

TCE Vertical Extent Profile
CROSS SECTION C - C'
(Longitudinal to Northeast Boundary Plume)

FIGURE

4-23



HORIZONTAL SCALE 1" = 580'
VERTICAL SCALE 1" = 80'

NOTE: TCE values in Piezometer P-2 are from Diffusion Sampling in May 2000

3502d096.dwg

KLEINFELDER

Project Number 23-900046.A08

TOOELE ARMY DEPOT
TOOELE, UTAH

TCE VERTICAL EXTENT PROFILE
CROSS-SECTION D - D'
(Longitudinal to Main Plume)

FIGURE

4-24

Figure 4-25
Included on CD in Corel Draw Format

VOLUME 2 OF 3
RCRA FACILITY INVESTIGATION REPORT
FOR SWMU 58
ON-POST SOURCES AND GROUNDWATER CONTAMINATION

TOOELE ARMY DEPOT
TOOELE, UTAH

APPENDIX A – FIELD ACTIVITY FORMS AND DOCUMENTATION

A.1 Project Variance Forms
A.2 Equipment Calibration Logs and Equipment Checklists
A.3 Health and Safety Documentation
A.4 Field Notes
A.5 Investigation-Derived Waste Documentation
A.6 Project Permits

APPENDIX B – MONITORING WELL DOCUMENTATION

B.1 Boring Logs
B.2 Well Installation Data Record Forms
B.3 Well Development Forms and Groundwater Sampling Forms

APPENDIX C – DATA SUMMARY TABLES and VSG SCHEMATIC DIAGRAMS

Table	*Title*
C-1	Summary of Passive Soil Gas survey Results – Industrial Area
C-2	Summary of Passive Soil Gas Survey Results – DRMO Area
C-3	Summary of Active Soil Gas Survey Results
C-4	Summary of Vertical Soil Gas Results
C-5	Summary of Major Ion Analyses
C-6	Initial Sampling: Summary of Volatile Organic Compound Analyses
C-7	Initial Sampling: Summary of Semi-Volatile Organic Compound Analyses
C-8	Summary of Recent Groundwater Monitoring Results
C-9	Initial Sampling: Summary of Metal Analyses

Figure	*Title*
C-1a & b	VSG #3 Schematic
C-2a & b	VSG #4 Schematic
C-3a	VSG #5 Schematic
C-4a & b	VSG #6 Schematic
C-5a & b	VSG #7 Schematic

APPENDIX D – *DELETED*

Kleinfelder, Inc. 2002

APPENDIX A—FIELD ACTIVITY FORMS AND DOCUMENTATION

A.0.0.1 This appendix is a compilation of documentation accrued during field activities performed as a part of the TEAD Phase I RFI. It includes copies of the following:

A.1 Project Variance Forms
A.2 Equipment Calibration Logs and Inspection Checklists
A.3 Health and Safety Documentation
A.4 Field Notes
A.5 Investigative-Derived Waste Documentation
A.6 Project Permits

Kleinfelder, Inc., 2000

APPENDIX B—MONITORING WELL DOCUMENTATION

B.0.0.1 This appendix contains documentation germane to groundwater monitoring well installation, development, and sampling for the wells installed as a part of the Phase I RFI (C-29 through C-39) and those wells deemed pertinent to this investigation (C-12 through C-28, excluding C-25). It includes copies of the following:

B.1 Monitoring Well Boring Logs
B.2 Well Installation Data Record Forms
B.3 Well Development and Groundwater Sampling Forms

APPENDIX C—DATA SUMMARY TABLES and VSG SCHEMATIC DIAGRAMS

C.0.0.1 This appendix consists of data summary tables comprised of the analytical data from all soil gas, soil, and groundwater samples collected as a part of the Phase I RFI. The tables are as follows:

Table C-1	Summary of Passive Soil Gas Survey Results- Industrial Area
Table C-2	Summary of Passive Soil Gas Survey Results- DRMO Area
Table C-3	Summary of Active Soil Gas Survey Results
Table C-4	Summary of Vertical Soil Gas Results
Table C-5	Summary of Major Ion Analyses
Table C-6	Initial Sampling: Summary of Volatile Organic Compound Analyses
Table C-7	Initial Sampling: Summary of Semi-Volatile Organic Compound Analyses
Table C-8	Summary of Recent Groundwater Monitoring Results
Table C-9	Initial Sampling: Summary of Metal Analyses

Complete laboratory reports for these analytical data can be found in Appendix E.

C.0.0.2 Also included are VSG well schematics, which show subsurface soil horizons, PID readings, and concentration profiles for each well. Subsurface soil horizons indicate primarily fine-grained layers, or those which may have an affect on contaminant movement through the subsurface. (Layers not shown are generally sands and gravels). The figures are as follows:

Figure	*Title*
C-1a & b	VSG #3 Schematic
C-2a & b	VSG #4 Schematic
C-3a	VSG #5 Schematic
C-4a & b	VSG #6 Schematic
C-5a & b	VSG #7 Schematic

Table C-1: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
Industrial Area

Location ID #	ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
1 - 1	307463	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1408286.468	7365127.596
1 - 2	307464	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1408236.453	7365041.007
1 - 3	307465	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1408185.823	7364954.087
1 - 4	307466	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1408136.692	7364866.949
1 - 5	307467	0.06	nd	nd	nd	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1408088.366	7364780.36
1 - 6	307468	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1408040.443	7364692.204
1 - 7	307469	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407988.209	7364596.597
1 - 8	307470	bdl	nd	nd	nd	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407940.625	7364517.695
1 - 9	308152	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407890.607	7364432.313
1 - 10	307472	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407842.169	7364344.053
1 - 11	307473	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407792.367	7364256.323
1 - 12	307474	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407746.018	7364169.374
1 - 13	307475	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.35	1407696.643	7364092.42
1 - 14	307476	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407649.112	7363997.468
1 - 15	307477	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.07	1407607.874	7363900.377
1 - 16	307478	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407552.408	7363821.66
1 - 17	307479	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.11	1407499.581	7363736.319
1 - 18	307480	7.9	nd	nd	0.2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.09	1407447.785	7363647.974
1 - 19	307481	0.53	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.07	1407399.888	7363560.182
1 - 20	307482	0.5	nd	nd	0.17	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.08	1407350.577	7363474.584
1 - 21	307483	nd	nd	nd	0.53	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.17	1407298.863	7363387.625
1 - 22	307484	0.66	nd	nd	0.87	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.14	1407241.738	7363311.334
1 - 23	307485	bdl	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407202.296	7363214.481
1 - 24	307486	bdl	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.03	nd	nd	nd	nd	nd	0.00	1407146.474	7363131.898
1 - 25	307487	nd	nd	nd	0.16	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1407102.026	7363042.196
1 - 26	307488	nd	nd	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407052.75	7362955.533
1 - 27	308153	nd	nd	nd	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407002.257	7362866.005
1 - 28	308154	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406955.082	7362782.081
1 - 29	308155	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406905.296	7362693.306
1 - 30	308156	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406855.225	7362606.333
1 - 31	308157	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406805.437	7362519.971
1 - 32	307792	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406757.332	7362431.016
1 - 33	307793	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406708.739	7362343.821
1 - 34	307794	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406659.859	7362256.874
1 - 35	308158	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406610.666	7362168.505
1 - 36	307796	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406562.334	7362082.191
1 - 37	307797	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406513.256	7361996.479
1 - 38	307798	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406464.063	7361910.324
1 - 39	307799	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406414.586	7361824.304
1 - 40	307800	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406364.788	7361736.758
1 - 41	307801	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406314.851	7361649.166
1 - 42	307802	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406265.35	7361562.095
1 - 43	308159	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406214.988	7361473.24
1 - 44	307804	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406167.355	7361387.301
1 - 45	308160	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406117.891	7361298.544
1 - 46	307806	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1406068.987	7361212.776
1 - 47	307807	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406020.71	7361126.002
1 - 48	308161	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405972.878	7361043.823
1 - 49	307809	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405920.543	7360954.438

Table C-1: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
Industrial Area

Location ID #	ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
1 - 50	307810	0.3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405871.475	7360866.84
1 - 51	307811	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.63	1405823.309	7360779.104
1 - 52	307812	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405780.473	7360689.814
1 - 53	307614	22.28	0.04	2.08	nd	nd	0.1	nd	nd	nd	nd	nd	0.09	nd	nd	nd	nd	nd	nd	nd	0.00	1405736.108	7360601.543
1 - 54	307615	12.96	nd	0.12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405688.139	7360513.89
1 - 55	307616	2.3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405639.437	7360427.243
1 - 56	307617	2.1	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405588.031	7360335.836
1 - 57	307618	0.13	bdl	0.22	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405540.752	7360253.886
1 - 58	307619	3.74	2.94	0.94	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405490.156	7360163.864
1 - 59	307620	2.2	1.13	0.04	nd	nd	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.16	1405442.807	7360082.211
1 - 60	308032	1.33	7.05	0.2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.20	1405369.367	7359999.958
1 - 61A	308031	0.06	0.23	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405399.071	7359850.452
1 - 61B	308030	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405409.956	7359790.439
2 - 62	307571	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	bdl	0.00	1408024.326	7365276.54
2 - 63	307572	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	bdl	bdl	nd	nd	nd	nd	nd	0.09	1407954.744	7365186.762
2 - 64	307573	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.42	1407925.273	7365099.79
2 - 65	307574	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407878.509	7365014.395
2 - 66	307575	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.11	1407827.79	7364930.227
2 - 67	307576	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.02	nd	nd	nd	nd	nd	0.00	1407779.162	7364839.772
2 - 68	307577	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.04	1407730.117	7364756.302
2 - 69	307578	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.17	1407682.053	7364667.258
2 - 70	307579	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.28	1407632.745	7364580.908
2 - 71	307580	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.02	nd	nd	nd	nd	bdl	bdl	0.20	1407583.709	7364496.054
2 - 72	307581	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	bdl	nd	nd	nd	bdl	bdl	1.36	1407530.824	7364398.312
2 - 73	307582	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	bdl	nd	nd	nd	nd	nd	0.63	1407484.008	7364318.212
2 - 74	307583	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	0.19	1407414.555	7364241.904
2 - 75	307584	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	0.00	1407385.313	7364145.847
2 - 76	307585	13.22	nd	nd	0.09	nd	nd	bdl	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	0.15	1407338.32	7364060.182
2 - 77	307586	145.4	1.01	nd	0.32	nd	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407286.933	7363968.974
2 - 78	307587	93.63	0.51	nd	0.21	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	bdl	0.00	1407244.683	7363876.871
2 - 79	307588	1.45	nd	nd	0.46	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407187.943	7363795.249
2 - 80	307589	1.74	nd	bdl	3.11	nd	nd	0.25	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.20	1407141.271	7363710.59
2 - 81	308171	8.57	nd	nd	0.3	nd	nd	0.14	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.14	1407066.171	7363631.103
2 - 82	307591	3.07	nd	1.68	2.17	nd	0.22	0.17	nd	nd	nd	nd	0.04	bdl	nd	nd	nd	nd	bdl	bdl	0.04	1407040.214	7363537.713
2 - 83	307592	0.26	nd	48.66	6.93	nd	14.17	0.64	nd	nd	nd	nd	1.75	bdl	0.02	nd	nd	nd	bdl	bdl	0.21	1406993.351	7363449.63
2 - 84	307593	1.85	nd	10.28	3.62	nd	2.1	0.73	nd	nd	nd	nd	0.38	nd	nd	nd	nd	nd	nd	nd	0.22	1406944.478	7363361.911
2 - 85	307594	4.07	nd	6.13	7.17	nd	0.53	1.5	nd	bdl	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	0.25	1406895.933	7363274.937
2 - 86	307595	bdl	nd	nd	0.41	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.49	1406847.001	7363188.394
2 - 87	307596	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406776.073	7363115.239
2 - 88	307823	nd	nd	bdl	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406747.52	7363015.397
2 - 89	307824	nd	nd	nd	0.06	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406698.779	7362930.173
2 - 90	307825	0.03	nd	nd	0.13	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406649.943	7362840.384
2 - 91	307826	nd	nd	nd	0.15	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406599.753	7362754.039
2 - 92	307827	nd	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406575.465	7362710.213
2 - 93	307828	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406550.84	7362666.161
2 - 94 A	307829	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406526.415	7362623.422
2 - 94 B	307830	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406501.552	7362579.859
2 - 95	307831	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406428.321	7362449.848
2 - 96	307832	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406379.11	7362363.15

Table C-1: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
Industrial Area

Location ID #	ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
2 - 97	307833	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406330.531	7362276.474
2 - 98	307834	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.14	1406280.172	7362189.683
2 - 99	307835	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1406231.441	7362102.945
2 - 100	307836	0.35	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.39	1406181.995	7362018.057
2 - 101	307837	4.33	nd	nd	nd	nd	nd	0.14	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.03	1.94	1406130.021	7361929.583
2 - 102	307838	0.3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	3.49	1406079.947	7361843.048
2 - 103	307839	0.2	nd	nd	0.14	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.32	1406031.679	7361756.614
2 - 104	307840	0.43	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.24	1405992.305	7361685.965
2 - 105	307841	0.78	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1405933.34	7361581.451
2 - 106	307842	0.28	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405883.261	7361491.634
2 - 107	307843	2.8	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	10.47	1405813.167	7361422.101
2 - 108	307597	0.23	nd	0.48	nd	nd	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.53	1405838.266	7361290.979
2 - 109	307598	0.57	nd	0.79	nd	nd	0.05	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.22	1405787.86	7361204.465
2 - 110	307599	3.37	0.05	0.35	nd	0.03	0.02	nd	nd	nd	0.03	nd	nd	bdl	nd	nd	nd	nd	nd	nd	0.97	1405737.899	7361118.372
2 - 111	307600	1.25	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.50	1405689.186	7361030.108
2 - 112	307601	2.25	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405640.35	7360943.379
2 - 113	307602	1.18	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.08	1405590.303	7360856.716
2 - 114	308062	1.91	0.37	0.77	nd	nd	0.12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.77	1405126.122	7360202.942
2 - 115	308063	1.27	0.19	0.12	nd	nd	nd	0.11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.12	1405103.906	7360157.683
2 - 116	308064	1.39	0.27	0.18	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.18	1405078.763	7360113.837
2 - 117	308065	28.21	0.23	5.27	0.11	0.47	0.92	nd	nd	0.05	0.42	nd	0.18	nd	nd	nd	nd	nd	nd	nd	5.56	1405054.357	7360070.852
2 - 118	308066	22.25	nd	2.36	nd	nd	0.36	nd	nd	nd	nd	nd	0.08	nd	nd	nd	nd	nd	nd	nd	2.44	1405028.454	7360028.785
2 - 119	308067	26.17	0.09	1.4	nd	nd	0.12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.40	1405003.272	7359985.894
2 - 120	308068	15.13	0.05	1.87	nd	nd	0.25	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.87	1404978.383	7359942.604
2 - 121	308069	0.41	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404953.425	7359896.083
3 - 122	307489	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.12	1407740.313	7365436.637
3 - 123	307490	0.05	nd	nd	nd	nd	nd	0.14	nd	nd	nd	nd	nd	nd	0.03	nd	nd	nd	nd	nd	0.38	1407691.607	7365349.912
3 - 124	307491	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.04	nd	nd	nd	nd	nd	0.43	1407643.218	7365261.756
3 - 125	307492	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.00	1407593.539	7365174.681
3 - 126	307493	bdl	nd	nd	nd	nd	nd	0.06	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.08	1407543.122	7365087.407
3 - 127	307494	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407494.096	7365000.616
3 - 128	307495	nd	nd	bdl	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.08	1407429.606	7364911.061
3 - 129	307496	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.00	1407387.657	7364832.687
3 - 130	307497	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	nd	nd	nd	nd	nd	0.42	1407347.647	7364741.471
3 - 131	307498	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407298.382	7364654.393
3 - 132	307499	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407234.123	7364570.856
3 - 133	307500	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.20	1407199.311	7364480.432
3 - 134	307501	nd	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.14	1407137.692	7364404.532
3 - 135	307502	nd	nd	nd	0.89	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407101.663	7364310.767
3 - 136	307503	0.62	nd	nd	2.9	nd	nd	0.15	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	0.22	1407050.234	7364219.552
3 - 137	307504	1.69	nd	nd	4.86	nd	nd	0.14	nd	nd	nd	nd	nd	bdl	bdl	nd	nd	nd	bdl	bdl	0.00	1407000.047	7364131.5
3 - 138	307505	nd	nd	nd	2.55	nd	nd	0.3	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.07	1406921.889	7364056.759
3 - 139	307506	0.03	nd	nd	4.08	nd	nd	0.46	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406899.287	7363960.794
3 - 140	307507	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.00	1406783.529	7363885.114
3 - 141	307508	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.90	1406789.514	7363784.77
3 - 142	307509	nd	nd	nd	nd	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406729.014	7363716.289
3 - 143	307510	nd	nd	0.14	nd	nd	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406690.867	7363589.737
3 - 144	307511	nd	nd	0.41	0.06	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406658.004	7363523.786
3 - 145	307512	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.01	nd	nd	nd	nd	nd	0.12	1406609.031	7363436.856

Table C-1: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
Industrial Area

Location ID #	ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
3 - 146	307513	nd	nd	bdl	0.15	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406559.318	7363350.267
3 - 147	307514	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406502.754	7363277.338
3 - 148	307844	nd	nd	nd	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406514.079	7363148.532
3 - 149	307845	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406465.242	7363061.048
3 - 150	307846	0.35	nd	nd	0.31	nd	nd	0.43	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406416.153	7362974.428
3 - 151	307847	0.2	nd	nd	0.2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406367.293	7362886.77
3 - 152	307848	nd	nd	nd	0.24	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406342.424	7362844.61
3 - 153	307849	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406317.642	7362801.265
3 - 154	307850	0.04	nd	nd	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406294.175	7362756.225
3 - 155	307851	bdl	nd	nd	0.38	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406269.571	7362712.721
3 - 156	307852	0.04	nd	nd	0.11	nd	nd	0.22	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406219.634	7362625.334
3 - 157	307853	nd	nd	nd	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406169.967	7362538.416
3 - 158	307854	0.02	nd	0.31	0.16	nd	0.03	0.15	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406120.733	7362451.514
3 - 159	307855	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406071.829	7362365.79
3 - 160	308163	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406022.845	7362279.618
3 - 161	not retrieved	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3 - 162	307858	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405922.328	7362103.675
3 - 163	307859	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405873.367	7362018.304
3 - 164	307860	2.23	bdl	0.21	nd	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.05	1405848.869	7361974.62
3 - 165	307861	2	nd	0.07	nd	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405824.176	7361931.07
3 - 166	307862	3.2	nd	0.06	nd	nd	nd	0.14	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.10	1405800.073	7361889.375
3 - 167	307863	0.65	nd	nd	0.1	nd	nd	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405775.477	7361846.58
3 - 168	307864	0.91	0.05	nd	0.25	nd	nd	0.3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405749.708	7361801.76
3 - 169	307865	1	nd	nd	0.93	nd	nd	0.43	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405725.526	7361758.188
3 - 170	307866	0.16	nd	nd	0.29	nd	nd	0.17	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.05	1405700.978	7361714.742
3 - 171	307867	0.02	nd	nd	0.08	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405675.669	7361670.615
3 - 172	307868	0.16	nd	nd	1.44	nd	nd	0.76	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405650.588	7361627.485
3 - 173	307869	0.44	0.11	nd	0.69	nd	nd	0.35	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.11	1405627.115	7361582.071
3 - 174	308170	0.59	nd	nd	0.18	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405523.181	7361527.295
3 - 175	307871	0.93	nd	nd	0.45	nd	nd	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1405478.072	7361438.195
3 - 176	307872	0.34	nd	0.12	5.78	nd	nd	0.38	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405429.526	7361350.502
3 - 177	307873	0.03	nd	0.09	0.29	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.12	1405378.866	7361264.419
3 - 178	307874	0.1	nd	0.21	0.22	nd	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405330.918	7361177.106
3 - 179	307875	0.06	nd	0.2	nd	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405257.12	7361103.194
3 - 180	307876	nd	0.44	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405206.967	7361017.026
3 - 181	307621	15.42	0.11	12.17	0.4	0.35	0.63	0.2	nd	nd	0.35	nd	0.49	nd	nd	nd	nd	nd	nd	nd	0.21	1405234.528	7360805.88
3 - 182	307622	61.39	0.27	18.03	0.55	0.07	1.24	0.32	nd	nd	0.07	nd	0.74	nd	nd	nd	nd	nd	nd	nd	0.42	1405193.837	7360774.148
3 - 183	307623	66.35	0.51	16.35	0.82	0.08	1.16	0.51	nd	nd	0.08	nd	0.67	nd	nd	nd	nd	nd	nd	nd	0.86	1405192.843	7360687.134
3 - 184	307625	58.39	0.5	11.64	0.97	nd	1	0.28	nd	nd	nd	nd	0.48	nd	nd	nd	nd	nd	nd	nd	0.70	1405084.617	7360587.87
3 - 185	307626	85.01	0.22	11.06	1.17	0.04	0.89	0.29	nd	nd	0.04	0.1	0.45	nd	nd	nd	nd	nd	nd	nd	0.08	1405120.603	7360584.097
3 - 186	307627	10.34	0.09	0.56	nd	0.04	0.03	0.09	nd	nd	0.04	nd	nd	0.86	nd	nd	nd	nd	nd	nd	0.20	1405098.449	7360503.038
3 - 187	307629	102.33	2.97	15.08	0.29	0.22	1.06	0.31	nd	0.05	0.17	0.51	0.64	nd	nd	nd	nd	nd	nd	nd	2.74	1405015.584	7360481.169
3 - 188	307630	23.26	1.72	1.72	nd	0.27	0.26	0.1	nd	nd	0.27	0.1	0.08	1.4	nd	nd	nd	nd	nd	nd	0.50	1405020.969	7360412.138
3 - 189	307631	3.98	1.05	0.22	nd	0.02	0.02	nd	nd	nd	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd	6.96	1404983.027	7360388.281
3 - 190	308050	0.59	0.59	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.13	1404914.566	7360300.816
3 - 191	308051	0.76	0.4	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1404890.551	7360258.39
3 - 192	308052	3.05	0.61	0.23	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.23	1404866.018	7360214.454
3 - 193	308053	1.18	0.27	0.21	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.21	1404841.324	7360169.442
3 - 194	308054	0.94	0.25	0.53	nd	nd	0.25	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.53	1404817.214	7360124.582

Table C-1: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
Industrial Area

Location ID #	ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
3 - 195	308055	2.65	1.44	2.01	nd	nd	0.32	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.01	1404789.522	7360081.916
3 - 196	308056	2.63	0.25	6	nd	nd	0.78	0.09	nd	nd	nd	nd	0.22	nd	nd	nd	nd	nd	nd	nd	6.31	1404762.156	7360038.49
3 - 197	308057	0.3	0.11	0.29	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.29	1404742.935	7359995.79
3 - 198	308058	1.27	0.16	1.9	nd	nd	0.49	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.90	1404718.652	7359952.007
3 - 199	308059	2.41	0.61	1.11	nd	nd	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.11	1404694.66	7359907.986
3 - 200	308060	1.04	0.07	1.95	nd	nd	0.23	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.01	1404669.775	7359864.617
3 - 201	308061	0.4	0.19	0.61	nd	nd	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.61	1404661.881	7359821.65
4 - 202	307515	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	bdl	nd	nd	nd	nd	nd	0.00	1407567.228	7365538.754
4 - 203	307516	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.00	1407518.475	7365452.36
4 - 204	307517	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.00	1407470.493	7365364.033
4 - 205	307518	nd	0.59	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407422.063	7365278.256
4 - 206	307519	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.00	1407373.204	7365190.117
4 - 207	307520	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407324.617	7365102.428
4 - 208	307521	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.07	nd	nd	nd	nd	nd	0.40	1407277.862	7365013.326
4 - 209	307522	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407228.402	7364926.632
4 - 210	307523	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407178.4	7364840.643
4 - 211	307524	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	0.00	1407130.105	7364752.992
4 - 212	307525	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1407081.103	7364664.288
4 - 213	307526	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.00	1407032.433	7364576.788
4 - 214	307527	nd	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406983.805	7364488.233
4 - 215	307528	nd	nd	nd	0.38	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.19	1406933.845	7364401.564
4 - 216	307529	0.04	nd	nd	0.5	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1406886.086	7364315.869
4 - 217	307530	nd	nd	nd	0.32	nd	nd	0.06	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.00	1406837.041	7364228.57
4 - 218	307537	nd	nd	nd	0.07	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.07	1406803.175	7364129.483
4 - 219	307538	nd	nd	nd	0.06	nd	nd	bdl	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	3.61	1406742.083	7364051.675
4 - 220	307539	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.00	1406682.84	7363976.634
4 - 221	307540	nd	nd	nd	nd	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406654.88	7363869.001
4 - 222	307541	nd	nd	nd	nd	nd	nd	0.04	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.00	1406602.773	7363763.829
4 - 223	307542	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	0.03	nd	nd	nd	nd	nd	0.23	1406546.931	7363703.344
4 - 224	307543	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406500.136	7363615.502
4 - 225	307544	nd	nd	nd	nd	nd	nd	0.14	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.00	1406451.976	7363527.93
4 - 226	307545	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.34	1406402.675	7363439.686
4 - 227	307546	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.05	1406355.988	7363353.146
4 - 228	307885	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406303.744	7363266.033
4 - 229	307886	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406253.459	7363179.509
4 - 230	307887	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406205.681	7363090.865
4 - 231	307888	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.05	1406157.755	7363002.846
4 - 232	307889	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406108.678	7362915.431
4 - 233	307890	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406061.109	7362829.362
4 - 234	307891	0.35	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.03	nd	nd	nd	nd	nd	nd	0.00	1406011.246	7362743.104
4 - 235	307892	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.49	1405962.311	7362654.681
4 - 236	307893	0.16	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405916.168	7362565.857
4 - 237	307894	0.32	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405865.09	7362479.434
4 - 238	not installed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 - 239	307895	0.16	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.05	1405770.902	7362284.556
4 - 240	307896	9.84	0.1	0.88	0.48	nd	0.26	0.24	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.07	1405730.139	7362216.021
4 - 241	307897	10.49	0.08	1.69	1.13	nd	0.98	0.41	nd	nd	nd	0.1	0.08	nd	nd	nd	nd	bdl	nd	nd	1.31	1405679.059	7362130.761
4 - 242	307898	0.38	nd	0.05	0.31	nd	0.03	0.36	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	0.41	1405628.72	7362044.631
4 - 243	307899	0.37	nd	0.29	7.53	nd	0.15	1.34	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.07	1405580.645	7361956.69

Table C-1: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
Industrial Area

Location ID #	ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
4 - 244	307900	0.09	nd	0.45	43.55	nd	0.34	7.17	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.90	1405531.468	7361869.949
4 - 245	307901	0.52	nd	0.14	75.66	nd	0.06	10.85	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1405480.88	7361783.144
4 - 246	307902	3.02	nd	nd	17.42	nd	nd	3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.04	1405431.076	7361697.832
4 - 247	307903	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405381.112	7361609.524
4 - 248	307904	4.85	nd	nd	20.55	nd	nd	2.77	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405331.377	7361523.105
4 - 249	307905	6.06	nd	0.05	49.85	nd	nd	3.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.16	1405280.591	7361437.625
4 - 250	307906	3.88	0.04	0.23	15.48	nd	0.03	1.9	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.13	1405230.32	7361353.439
4 - 251	307907	0.4	nd	0.78	8.61	nd	0.1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405178.411	7361267.488
4 - 252	307908	2.11	0.15	2.19	2.09	nd	0.21	0.24	nd	nd	nd	nd	0.09	nd	nd	nd	nd	nd	nd	nd	0.48	1405129.826	7361179.343
4 - 253	307909	1.24	0.18	0.28	0.18	nd	0.04	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.21	1405080.689	7361091.618
4 - 254	308103	162.58	0.16	1.35	nd	2.51	0.11	0.08	nd	0.06	2.45	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.43	1404821.175	7360719.075
4 - 255	308102	66.48	0.2	1.81	nd	0.09	0.24	0.15	nd	nd	0.09	0.11	nd	nd	nd	nd	nd	nd	nd	nd	2.08	1404798.192	7360674.262
4 - 256	308101	129.02	0.43	7.28	nd	2.66	1.02	0.22	nd	0.11	2.55	2.11	0.26	nd	nd	nd	nd	nd	nd	nd	9.88	1404773.174	7360630.853
4 - 257	308100	70.64	0.33	2.49	nd	0.31	0.28	0.05	nd	nd	0.31	0.19	0.08	nd	nd	nd	nd	nd	nd	nd	2.81	1404746.643	7360588.513
4 - 258	308099	28.99	0.91	1.17	nd	nd	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.17	1404721.359	7360546.2
4 - 259	308071	3.26	0.31	0.98	nd	nd	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.98	1404614.947	7360363.091
4 - 260	308070	11.33	0.6	1	nd	nd	0.12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.00	1404742.761	7360290.541
4 - 261	308072	6.08	0.49	1.75	nd	nd	0.18	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.75	1404609.633	7360226.749
5 - 262	307648	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407409.673	7365626.05
5 - 263	307649	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.20	1407360.373	7365537.225
5 - 264	307650	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407311.774	7365450.751
5 - 265	307651	nd	0.87	0.09	nd	nd	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.10	1407261.887	7365363.029
5 - 266	307652	nd	0.45	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.36	1407213.571	7365275.957
5 - 267	307653	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.16	1407164.328	7365191.19
5 - 268	307654	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	0.04	1407095.224	7365105.741
5 - 269	307655	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.15	1407065.568	7365016.334
5 - 270	307656	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.13	1407015.988	7364927.948
5 - 271	307663	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	0.50	1406966.391	7364842.656
5 - 272	307664	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	0.14	1406917.527	7364754.242
5 - 273	307665	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.34	1406869.794	7364667.668
5 - 274	307666	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406811.628	7364590.148
5 - 275	307667	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406771.87	7364494.16
5 - 276	307668	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.19	1406721.649	7364406.88
5 - 277	307669	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.11	1406672.377	7364319.172
5 - 278	307670	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.22	1406623.381	7364233.289
5 - 279	307671	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.30	1406672.377	7364319.172
5 - 280	307672	bdl	5.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.89	1406623.381	7364233.289
5 - 281	307673	nd	bdl	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.27	1406466.089	7363975.214
5 - 282	307674	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.35	1406427.407	7363885.238
5 - 283	307675	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.51	1406377.47	7363798.71
5 - 284	307676	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.04	1406328.362	7363709.386
5 - 285	307677	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.43	1406278.958	7363624.426
5 - 286	307678	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.79	1406229.952	7363537.258
5 - 287	307679	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	1.34	1406172.279	7363457.148
5 - 288	307910	nd	nd	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	0.00	1406130.749	7363364.227
5 - 289	307911	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406081.184	7363277.681
5 - 290	307918	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406031.949	7363190.374
5 - 291	307919	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405983.533	7363103.172
5 - 292	307920	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405933.728	7363016.436
5 - 293	307921	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405884.752	7362929.628

Table C-1: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
Industrial Area

Location ID #	ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
5 - 294	307922	4.35	nd	nd	nd	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.87	1405818.112	7362841.982
5 - 295	307923	0.84	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.00	1405786.52	7362754.593
5 - 296	307924	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.74	1405737.92	7362667.197
5 - 297	307925	nd	nd	0.11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.76	1405688.462	7362580.87
5 - 298	307926	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.33	1405639.203	7362494.44
5 - 299	307927	1.58	nd	0.17	0.11	nd	nd	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.18	1405589.457	7362409.224
5 - 300	307928	8.74	0.09	0.4	0.19	nd	0.05	0.22	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.45	1405533.386	7362332.075
5 - 301	307929	1.21	0.17	0.11	nd	nd	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	49.78	1405492.39	7362234.109
5 - 302	307930	2.18	0.05	0.15	0.28	nd	0.02	0.14	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	31.44	1405444.051	7362146.619
5 - 303	307931	1.47	nd	0.56	2.72	nd	0.14	1.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	44.27	1405393.799	7362059.998
5 - 304	307932	nd	nd	nd	1.45	nd	nd	0.39	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	462.48	1405341.077	7361975.237
5 - 305	307933	0.3	nd	nd	3.99	nd	nd	0.87	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	67.26	1405291.845	7361888.239
5 - 306	307934	1.58	nd	nd	19.36	nd	nd	4.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	36.78	1405246.565	7361799.291
5 - 307	307935	2.31	nd	nd	1.44	nd	nd	0.59	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.21	1405189.482	7361709.994
5 - 308	307936	0.39	nd	nd	9.65	nd	nd	3.87	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	3.15	1405154.071	7361622.235
5 - 309	307937	nd	nd	nd	28.78	nd	nd	5.52	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.52	1405106.261	7361535.625
5 - 310	307938	nd	nd	nd	4.24	nd	nd	1.84	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	1.70	1405054.527	7361448.931
5 - 311	307939	0.28	nd	0.07	1.82	nd	nd	0.68	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.34	1405005.414	7361362.537
5 - 312	307940	1.17	nd	0.91	7	nd	0.2	1.58	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	2.06	1404955.535	7361274.839
5 - 313	307941	4.97	0.36	0.54	1.18	nd	0.07	0.57	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.46	1404905.141	7361191.438
5 - 314	308098	69.5	0.06	4.13	0.77	nd	0.7	0.08	nd	nd	nd	nd	0.14	nd	nd	nd	nd	nd	nd	nd	4.36	1404756.243	7360927.904
5 - 315	308097	88.04	0.07	8.51	0.78	0.04	1.36	0.13	nd	nd	0.04	nd	0.3	nd	nd	nd	nd	nd	nd	nd	8.95	1404730.936	7360884.741
5 - 316	308096	82.54	bdl	9.09	0.48	0.05	1.65	0.1	nd	nd	0.05	nd	0.33	nd	nd	nd	nd	nd	nd	nd	9.52	1404705.893	7360840.699
5 - 317	308094	31.58	0.04	4.15	0.07	nd	0.79	0.14	nd	nd	nd	nd	0.15	nd	nd	nd	nd	nd	nd	nd	4.43	1404682	7360795.897
5 - 318	308093	83.77	0.29	4.78	nd	nd	0.86	0.06	nd	nd	nd	nd	0.17	nd	nd	nd	nd	nd	nd	nd	5.01	1404657.403	7360752.42
5 - 319	308092	68.09	0.38	3.85	nd	nd	0.62	nd	nd	nd	nd	nd	0.14	nd	nd	nd	nd	nd	nd	nd	3.99	1404631.966	7360710.011
5 - 320	308091	53.99	1.17	2.86	nd	nd	0.38	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.86	1404607.033	7360667.207
5 - 321	308090	55.74	1.57	2.3	nd	nd	0.27	nd	nd	nd	nd	nd	0.08	nd	nd	nd	nd	nd	nd	nd	2.38	1404582.047	7360623.316
6 - 322	307680	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407331.078	7365670.245
6 - 323	307681	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407282.576	7365583.671
6 - 324	307682	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	0.76	1407233.365	7365498.919
6 - 325	307683	nd	nd	0.06	nd	nd	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.42	1407183.249	7365410.04
6 - 326	307684	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.13	1407134.71	7365325.016
6 - 327	307685	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407085.821	7365238.156
6 - 328	307686	nd	nd	nd	nd	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.15	1406989.284	7365177.683
6 - 329	307687	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.21	1406934.722	7365093.74
6 - 330	307688	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406889.919	7364999.966
6 - 331	307689	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1406835.661	7364916.543
6 - 332	307690	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406787.367	7364830.683
6 - 333	307691	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1406736.31	7364743.465
6 - 334	307692	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.07	1406686.61	7364657.691
6 - 335	307693	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.61	1406639.582	7364571.626
6 - 336	307694	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.08	1406589.785	7364485.056
6 - 337	307695	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406540.692	7364397.054
6 - 338	307696	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406493.538	7364309.706
6 - 339	307697	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406454.226	7364217.28
6 - 340	307698	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.34	1406405.298	7364130.339
6 - 341	307699	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.68	1406343.787	7364049.827
6 - 342	307700	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.09	1406294.421	7363961.992
6 - 343	307701	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406243.566	7363876.506

Table C-1: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
Industrial Area

Location ID #	ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
6 - 344	307702	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406193.564	7363789.908
6 - 345	307703	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406143.345	7363703.581
6 - 346	307704	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406094.502	7363616.71
6 - 347	307705	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406046.767	7363530.032
6 - 348	307942	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405998.625	7363442.643
6 - 349	307943	nd	nd	nd	nd	nd	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405951.495	7363354.796
6 - 350	307944	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405903.435	7363267.639
6 - 351	307945	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405854.214	7363181.003
6 - 352	307946	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405805.525	7363093.816
6 - 353	307947	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405756.559	7363006.647
6 - 354	307948	1.33	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405706.914	7362919.524
6 - 355	307949	1.65	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405656.826	7362833.171
6 - 356	307950	0.59	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405608.002	7362747.484
6 - 357	307951	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405557.853	7362659.981
6 - 358	307952	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405508.429	7362572.586
6 - 359	307953	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405457.731	7362485.712
6 - 360	307954	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405411.518	7362398.598
6 - 361	307955	0.45	nd	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405358.99	7362312.361
6 - 362	307956	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405312.991	7362224.897
6 - 363	307957	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405264.47	7362138.342
6 - 364	307958	nd	nd	nd	0.11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405214.981	7362051.505
6 - 365	307959	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405166.04	7361965.146
6 - 366	307960	0.03	nd	nd	0.11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405116.002	7361878.314
6 - 367	307961	0.17	0.1	nd	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405068.621	7361791.63
6 - 368	307962	0.06	nd	nd	1.12	nd	nd	0.2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405017.994	7361703.777
6 - 369	307963	0.05	nd	nd	4.97	nd	nd	0.36	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404971.354	7361616.6
6 - 370	307964	0.04	nd	nd	4.02	nd	nd	0.39	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404920.702	7361530.207
6 - 371	307965	0.02	nd	nd	0.26	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404870.682	7361441.788
6 - 372	307966	0.04	nd	0.26	1.1	nd	0.05	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404820.472	7361356.277
6 - 373	307967	0.15	0.11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404772.3	7361269.393
6 - 374	308110	14.64	nd	4.19	nd	nd	0.82	nd	nd	nd	nd	nd	0.15	nd	nd	nd	nd	nd	nd	nd	4.34	1404579.64	7360913.363
6 - 375	308109	3.35	bdl	1.16	nd	nd	0.24	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.16	1404556.36	7360863.89
6 - 376	308108	8.7	0.62	1.32	nd	nd	0.24	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.32	1404534.328	7360822.334
6 - 377	308107	13.44	1.56	0.8	nd	nd	0.12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.80	1404510.449	7360778.227
6 - 378	308106	1.78	0.43	0.19	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.19	1404484.24	7360734.502
6 - 379	308105	8.25	0.57	0.76	nd	nd	0.11	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.81	1404458.785	7360692.006
6 - 380	308120	24.92	2.46	2.96	nd	nd	0.48	nd	nd	nd	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	3.06	1404537.178	7361194.853
6 - 381	308119	48.95	1.34	3.49	nd	nd	0.73	nd	nd	nd	nd	nd	0.12	nd	nd	nd	nd	nd	nd	nd	3.61	1404511.406	7361152.175
6 - 382	308118	118.41	1.64	10.64	0.1	bdl	2.35	0.05	nd	bdl	nd	nd	0.38	nd	nd	nd	nd	nd	nd	nd	11.07	1404489.337	7361107.215
6 - 383	308117	75.77	0.55	2.91	nd	nd	1.02	nd	nd	nd	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	3.02	1404462.969	7361063.352
6 - 384	308116	60.76	0.24	3.15	nd	nd	0.78	nd	nd	nd	nd	nd	0.12	nd	nd	nd	nd	nd	nd	nd	3.27	1404435.563	7361020.785
6 - 385	308115	79.47	0.19	12.4	nd	0.03	2.74	0.1	nd	nd	0.03	nd	0.45	nd	nd	nd	nd	nd	nd	nd	12.95	1404410	7360979.903
6 - 386	308114	3.67	0.07	1.5	nd	nd	0.28	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.50	1404403.889	7360914.062
6 - 387	308113	8.1	0.97	14.15	nd	nd	3.18	0.13	nd	nd	nd	nd	0.5	nd	nd	nd	nd	nd	nd	nd	14.77	1404367.944	7360888.034
6 - 388	308112	11.13	0.25	5.88	nd	nd	1.99	0.11	nd	nd	nd	nd	0.21	nd	nd	nd	nd	nd	nd	nd	6.19	1404368.474	7360819.162
6 - 389	308111	2.81	bdl	1.48	nd	nd	0.43	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.55	1404313.154	7360807.512
6 - 390	not installed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7 - 391	307719	nd	nd	0.08	nd	nd	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.22	1406999.356	7365811.102
7 - 392	307720	nd	bdl	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	0.33	1406948.975	7365723.381

Table C-1: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
Industrial Area

Location ID #	ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
7 - 393	307721	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406900.347	7365636.816
7 - 394	307722	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406849.081	7365548.892
7 - 395	307723	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406800.485	7365463.008
7 - 396	not retrieved	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7 - 397	307725	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406704.17	7365287.309
7 - 398	307726	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406650.403	7365204.28
7 - 399	307727	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406600.061	7365104.82
7 - 400	307728	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406555.178	7365027.097
7 - 401	307729	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406506.196	7364941.065
7 - 402	307730	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406454.962	7364855.651
7 - 403	307731	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406383.791	7364779.783
7 - 404	307732	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.26	1406334.14	7364693.625
7 - 405	307733	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406284.713	7364607.16
7 - 406	307734	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406236.449	7364520.714
7 - 407	307735	0.02	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406187.69	7364434.141
7 - 408	307736	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.92	1406138.429	7364347.148
7 - 409	307737	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406089.346	7364262.058
7 - 410	307738	0.12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406039.778	7364173.333
7 - 411	307739	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405990.229	7364086.19
7 - 412	307740	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405941.033	7364000.066
7 - 413	307741	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.08	1405893.003	7363914.011
7 - 414	308172	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405842.328	7363829.126
7 - 415	307743	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405794.255	7363739.424
7 - 416	307968	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.12	1405745.491	7363650.28
7 - 417	307969	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405693.776	7363563.768
7 - 418	307970	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405643.983	7363477.512
7 - 419	307971	0.59	nd	nd	nd	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405599.25	7363389.115
7 - 420	307972	0.94	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405545.294	7363306.151
7 - 421	307973	0.7	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405495.73	7363218.822
7 - 422	307974	0.23	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405446.318	7363132.191
7 - 423	307975	8.46	nd	nd	nd	0.02	nd	nd	nd	nd	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405397.677	7363045.008
7 - 424	307976	2.61	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405347.769	7362958.766
7 - 425	307977	0.98	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405299.625	7362871.161
7 - 426	307978	1.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405250.507	7362783.999
7 - 427	307979	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405200.512	7362697.969
7 - 428	307980	1.96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405150.146	7362611.303
7 - 429	307981	0.44	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405105.095	7362517.521
7 - 430	307982	3.85	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405051.939	7362435.189
7 - 431	307983	0.32	nd	nd	0.23	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405003.277	7362349.694
7 - 432	307984	1.9	0.1	nd	1.03	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404953.414	7362263.23
7 - 433	307985	1.38	0.2	nd	1.41	nd	nd	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404905.273	7362175.131
7 - 434	307986	5.39	0.6	nd	0.89	nd	nd	0.15	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404855.195	7362089.832
7 - 435	307987	0.09	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404807.914	7362001.022
7 - 436	307988	0.38	0.06	nd	0.12	nd	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404754.674	7361915.375
7 - 437	307989	0.51	nd	nd	2.5	nd	nd	0.3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404707.696	7361827.873
7 - 438	307990	0.28	0.19	nd	2.67	nd	nd	0.24	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404657.088	7361741.676
7 - 439	307991	10.42	40.05	1.11	13.41	nd	0.52	0.68	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404608.926	7361654.198
7 - 440	307992	6.76	1.16	1.19	2.96	nd	0.49	0.36	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404560.988	7361565.797
7 - 441 A	307993	4.6	12.17	0.63	0.15	nd	0.3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.05	1404511.428	7361479.352

Table C-1: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
Industrial Area

Location ID #	ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
7 - 441 B	307994	2.6	1.03	0.34	nd	nd	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.07	1404456.654	7361385.747
7 - 442	308146	0.38	nd	0.51	nd	nd	0.12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.51	1404287.674	7361062.957
7 - 443	308145	0.11	nd	0.33	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.33	1404266.453	7361019.68
7 - 444	308144	1	0.24	3.17	nd	nd	0.49	nd	nd	nd	nd	nd	0.12	nd	nd	nd	nd	nd	nd	nd	3.29	1404241.501	7360975.79
7 - 445	308143	0.05	nd	0.63	nd	nd	0.18	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.63	1404216.05	7360931.144
7 - 446	308142	0.13	nd	0.86	nd	nd	0.29	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.86	1404191.38	7360887.393
7 - 447	308141	0.48	nd	1.85	nd	nd	0.54	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.85	1404167.219	7360844.592
7 - 448	308140	0.08	nd	0.24	nd	nd	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.24	1404141.021	7360799.715
7 - 449	308139	0.25	nd	0.71	nd	nd	0.19	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.71	1404117.29	7360756.896
7 - 450	308138	0.42	nd	1.3	nd	nd	0.43	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.30	1404092.701	7360714.06
7 - 451	308137	8.07	0.21	4.04	nd	nd	0.71	nd	nd	nd	nd	nd	0.15	nd	nd	nd	nd	nd	nd	nd	4.19	1404068.909	7360671.186
7 - 452	308136	2.26	0.22	0.47	nd	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.47	1404035.793	7360637.664
8 - 453	307744	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406867.83	7365883.619
8 - 454	307745	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406820.371	7365795.786
8 - 455	307746	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406771.559	7365707.422
8 - 456	307747	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.05	1406722.933	7365621.381
8 - 457	307748	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406674.081	7365535.026
8 - 458	307749	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406625.039	7365448.593
8 - 459	307750	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406575.371	7365358.97
8 - 460	307751	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406526.563	7365273.858
8 - 461	307752	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406478.678	7365186.523
8 - 462	307753	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406428.866	7365099.483
8 - 463	307754	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406379.59	7365013.319
8 - 464	307755	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406330.348	7364924.863
8 - 465	308150	0.95	1.26	7.13	nd	nd	0.85	nd	nd	nd	nd	nd	0.26	nd	nd	nd	nd	nd	nd	nd	7.38	1404176.303	7361183.609
8 - 466	308149	2.35	0.15	13.56	nd	nd	1.86	nd	nd	nd	nd	nd	0.47	nd	nd	nd	nd	nd	nd	nd	14.03	1404151.432	7361139.362
8 - 467	308148	11	0.22	26.64	nd	nd	4.47	0.07	nd	nd	nd	nd	0.95	nd	nd	nd	nd	nd	nd	nd	27.66	1404128.23	7361093.671
8 - 468	308147	14.42	0.46	25.83	nd	nd	3.86	0.09	nd	nd	nd	0.24	0.91	nd	nd	nd	nd	nd	nd	nd	27.07	1404102.604	7361053.439
8 - 469	not installed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8 - 470	308135	28.14	0.42	35.19	nd	0.02	5.98	0.16	nd	nd	bdl	nd	1.23	nd	nd	nd	nd	nd	nd	nd	36.58	1404052.437	7360964.949
8 - 471	308134	91.1	0.75	77.5	nd	0.17	14.02	0.28	nd	nd	0.17	0.16	2.67	nd	0.28	bdl	nd	nd	nd	nd	80.88	1404029.751	7360921.68
8 - 472	308133	66.18	1.72	71.61	nd	0.07	7.62	0.12	nd	nd	0.07	0.17	2.48	nd	nd	nd	nd	nd	nd	nd	74.38	1404006.879	7360878.455
8 - 473	308132	46.28	1.86	66.86	nd	0.07	9.7	0.08	nd	bdl	0.05	0.36	2.35	nd	nd	nd	nd	nd	nd	nd	69.65	1403981.377	7360834.885
8 - 474	308131	37.3	5.13	103.22	nd	0.08	10.47	0.08	nd	bdl	0.06	0.36	3.51	nd	nd	nd	nd	nd	nd	nd	107.17	1403958.425	7360793.02
8 - 475	308130	13.33	1.75	25.18	nd	nd	3.41	nd	nd	nd	nd	nd	0.89	nd	nd	nd	nd	nd	nd	nd	26.06	1403933.319	7360748.009
9 - 476	307756	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	0.00	1406687.301	7365982.522
9 - 477	307757	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406641.443	7365895.627
9 - 478	307758	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406597.664	7365808.919
9 - 479	307759	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406554.929	7365716.547
9 - 480	307760	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406513.14	7365624.876
9 - 481	307761	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406471.791	7365534.127
9 - 482	307762	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406431.425	7365442.041
9 - 483	307763	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406392.291	7365349.329
9 - 484	307764	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406350.229	7365257.861
9 - 485	307765	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406307.877	7365167.055
9 - 486	307766	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406265.513	7365077.908
9 - 487	307767	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406219.651	7364988.015
9 - 488	307768	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406170.811	7364888.824
9 - 489	307769	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406117.683	7364817.427

Table C-1: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
Industrial Area

Location ID #	ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
9 - 490	307770	bdl	nd	nd	nd	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406065.934	7364731.267
9 - 491	307771	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406017.589	7364643.627
9 - 492	307772	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405968.025	7364556.797
9 - 493	307773	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405918.563	7364469.846
9 - 494	307774	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405868.422	7364383.507
9 - 495	307775	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405819.272	7364296.187
9 - 496	307776	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405770.275	7364208.466
9 - 497	307777	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405721.037	7364121.613
9 - 498	307778	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405672.044	7364035.278
9 - 499	307779	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405622.814	7363948.097
9 - 500	307780	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405574.196	7363861.248
9 - 501	308000	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405517.125	7363759.434
9 - 502	308001	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405475.654	7363687.192
9 - 503	308002	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.19	1405425.732	7363600.021
9 - 504	308003	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405376.886	7363513.627
9 - 505	308004	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405327.743	7363425.837
9 - 506	308005	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.07	1405278.591	7363339.658
9 - 507	308006	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405229.306	7363252.242
9 - 508	308007	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1405181.526	7363163.432
9 - 509	308008	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.11	1405131.466	7363078.52
9 - 510	308009	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.27	1405081.809	7362993.621
9 - 511	308010	nd	nd	0.14	nd	nd	nd	0.41	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.14	1405032.203	7362906.783
9 - 512	308011	0.02	nd	0.79	nd	nd	0.11	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.07	1404983.351	7362818.934
9 - 513	308012	0.29	nd	1.05	0.73	nd	0.14	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.10	1404933.23	7362731.468
9 - 514	308013	2.7	0.08	0.37	0.51	nd	0.05	0.16	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.18	1404876.598	7362630.336
9 - 515	308014	0.31	nd	0.3	0.82	nd	0.06	0.18	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.07	1404814.229	7362570.07
9 - 516	308015	0.03	nd	nd	0.7	nd	nd	0.2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.78	1404763.859	7362483.278
9 - 517	308016	3.38	0.2	nd	3.07	nd	nd	0.94	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.20	1404715.685	7362395.526
9 - 518	308017	10.89	1.75	nd	1.42	nd	nd	0.86	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.43	1404666.986	7362307.607
9 - 519	308018	0.81	0.46	0.65	nd	nd	0.19	0.16	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	6.72	1404618.42	7362219.953
9 - 520	308019	0.22	0.13	nd	0.15	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.21	1404571.612	7362133.704
9 - 521 A	308020	0.09	0.09	nd	nd	nd	nd	3.84	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	3.12	1404516.046	7362042.191
9 - 521 B	308021	1.25	0.18	0.05	3.07	nd	nd	4.31	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.11	1404472.632	7361960.633
9 - 521 C	308022	3.06	0.4	0.28	13.51	nd	0.04	3.29	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.63	1404435.686	7361895.06
9 - 522	308023	3.64	0.13	0.84	13.55	nd	0.17	0.84	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	2.49	1404397.948	7361829.827
9 - 523	308024	1.17	0.85	2.2	8.61	nd	0.54	0.44	nd	nd	nd	nd	0.1	bdl	nd	nd	nd	0.02	bdl	bdl	4.72	1404373.81	7361786.539
9 - 524	308025	18.94	51.78	8.54	8.56	nd	4.78	0.26	nd	nd	nd	nd	0.34	nd	nd	nd	nd	0.02	nd	nd	9.58	1404348.878	7361742.557
9 - 525	308026	3.64	32.99	11.11	1.32	0.22	4.18	nd	nd	0.11	nd	nd	0.44	nd	nd	nd	nd	nd	nd	nd	1.06	1404324.921	7361699.268
9 - 526	308027	18.54	163.75	13.09	0.27	nd	4.14	0.12	nd	nd	nd	nd	0.52	nd	nd	nd	nd	nd	nd	nd	2.76	1404301.845	7361654.707
9 - 527	308028	13.01	170.09	15.44	0.16	nd	5.42	0.56	nd	nd	nd	nd	0.62	nd	nd	nd	nd	nd	nd	nd	0.82	1404275.596	7361614.518
9 - 528	308029	3.53	138.08	2.72	nd	nd	0.71	2.83	nd	nd	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	0.49	1404267.288	7361553.659
10 - 529	307706	40.12	0.65	2.74	nd	nd	0.27	0.04	nd	nd	nd	nd	0.13	nd	nd	nd	nd	0.03	nd	nd	0.58	1407175.523	7365730.374
10 - 530	308151	0.02	nd	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.09	1407205.848	7365776.744
10 - 531	307708	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.17	1407169.565	7365816.084
10 - 532	307709	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.02	nd	nd	1.29	1407127.86	7365839.012
10 - 533	307710	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407085.83	7365863.593
10 - 534	307711	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407042.398	7365888.205
10 - 535	307712	0.02	nd	0.2	nd	nd	0.01	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.72	1406997.367	7365913.876
10 - 536	307713	0.02	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.21	1406953.083	7365939.026

Table C-1: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
Industrial Area

Location ID #	ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
10 - 537	307714	0.06	nd	0.12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.59	1406909.145	7365963.222
10 - 538	307715	0.14	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406866.319	7365986.42
10 - 539	307716	0.4	nd	0.26	nd	nd	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.63	1406822.371	7366011.489
10 - 540	307717	0.6	nd	0.22	nd	nd	0.02	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1406778.249	7366037.03
10 - 541	307718	0.2	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406736.837	7366060.764
10 - 542	not installed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10 - 543	307569	0.17	nd	0.08	nd	nd	0.01	bdl	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	bdl	bdl	0.55	1406643.993	7366122.868
10 - 544	307570	0.27	nd	0.14	nd	nd	0.02	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	0.44	1406593.915	7366143.953
11 - 545	307564	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	0.35	1406325.708	7365576.357
11 - 546	307565	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	0.00	1406239.348	7365626.238
11 - 547	307566	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	bdl	nd	nd	nd	nd	nd	0.18	1406151.441	7365667.774
11 - 548	307567	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.17	1406066.821	7365717.247
11 - 549	307568	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	0.06	1405981.904	7365766.046
12 - 550	307559	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	bdl	0.69	1405845.295	7365092.32
12 - 551	307560	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.03	0.01	nd	nd	nd	nd	nd	0.00	1405759.355	7365145.182
12 - 552	307561	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.02	nd	nd	nd	nd	nd	0.26	1405669.286	7365189.916
12 - 553	307562	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405580.339	7365225.359
12 - 554	307563	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405496.235	7365287.398
13 - 555	307553	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405593.207	7364488.081
13 - 556	307554	nd	nd	nd	nd	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405505.457	7364538.623
13 - 557	307555	nd	nd	nd	nd	nd	nd	0.06	nd	nd	nd	nd	nd	nd	0.02	nd	nd	nd	nd	nd	0.00	1405412.34	7364587.112
13 - 558	307556	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.00	1405337.351	7364637.499
13 - 559	307557	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405252.968	7364683.835
13 - 560	307558	nd	nd	nd	nd	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1405163.845	7364731.78
14 - 561	307547	nd	nd	nd	nd	nd	nd	0.05	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.00	1405285.223	7363932.865
14 - 562	307548	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405196.727	7363979.37
14 - 563	307549	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1405110.423	7364026.528
14 - 564	307550	nd	nd	nd	nd	nd	nd	0.04	nd	nd	nd	nd	nd	bdl	bdl	nd	nd	nd	nd	nd	0.25	1405023.832	7364073.261
14 - 565	307551	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404935.706	7364121.629
14 - 566	307552	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	0.00	1404850.485	7364172.98
15 - 567	307813	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406640.992	7362448.787
15 - 568	307814	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406596.73	7362473.72
15 - 569	307815	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.05	1406553.284	7362498.915
15 - 570	307816	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406515.099	7362521
15 - 571	307817	nd	nd	nd	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1406467.114	7362548.71
15 - 572	308162	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406422.267	7362574.036
15 - 573	307819	nd	nd	nd	0.11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.04	1406380.957	7362597.504
15 - 574	307820	bdl	nd	nd	0.15	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406337.058	7362621.468
15 - 575	307821	0.04	nd	nd	0.29	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406293.005	7362643.956
15 - 576	307822	0.03	nd	bdl	0.53	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	0.00	1406247.991	7362673.295
16 - 577	307877	4.93	0.38	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	0.34	1406039.163	7361977.142
16 - 578	307878	7.15	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.97	1405995.405	7362001.36
16 - 579	307879	0.21	nd	nd	nd	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.18	1405951.764	7362025.493
16 - 580	307880	2.39	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.08	1405906.965	7362049.553
16 - 581	307453	16.33	0.38	1	0.46	0.2	0.24	0.55	nd	nd	0.21	0.29	nd	nd	nd	nd	nd	nd	nd	nd	10.40	1403748.496	7363275.587
16 - 582	307454	17.65	0.3	3.09	0.55	0.07	0.49	0.31	nd	nd	0.07	0.14	0.11	nd	nd	nd	nd	nd	nd	0.02	0.00	1403576.126	7363367.944
16 - 583	307455	13.71	0.23	1.11	0.51	nd	0.18	0.19	nd	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	0.63	1403396.834	7363459.218
16 - 584	307456	9.54	0.11	0.54	0.83	0.03	0.1	0.33	nd	nd	0.03	0.1	nd	nd	nd	nd	nd	nd	nd	nd	2.02	1403222.892	7363557.843
16 - 585	307457	8.27	0.13	0.57	nd	nd	0.15	0.1	nd	nd	nd	nd	nd	nd	0.01	nd	nd	nd	nd	nd	0.00	1403050.643	7363657.213

Table C-1: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
Industrial Area

Location ID #	ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
16 - 586	307458	1.8	0.04	0.41	nd	nd	0.05	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.22	1402878.116	7363743.136
16 - 587	307459	0.45	bdl	0.28	nd	nd	0.06	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402696.561	7363848.737
16 - 588	307460	1.15	0.04	0.99	nd	nd	0.17	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.08	1402530.138	7363949.302
16 - 589	307461	0.13	bdl	0.19	nd	nd	0.09	bdl	nd	nd	nd	nd	nd	nd	0.02	nd	nd	nd	nd	nd	0.25	1402374.492	7364075.946
16 - 590	307462	0.1	0.06	0.06	nd	nd	nd	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402243.217	7364226.042
17 - 591	307881	0.51	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.00	1405728.888	7361447.264
17 - 592	307882	0.3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.41	1405686.938	7361475.871
17 - 593	307883	0.48	0.09	nd	nd	nd	nd	0.12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405644.086	7361500.566
17 - 594	307884	0.4	bdl	nd	0.2	nd	nd	0.15	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405601.612	7361527.47
17 - 595	307429	0.32	0.25	0.43	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403434.271	7362722.064
17 - 596	307430	0.56	nd	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.09	1403259.606	7362819.962
17 - 597	307431	0.25	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	6.39	1403087.616	7362919.905
17 - 598	307432	0.68	0.11	0.18	nd	nd	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.78	1402914.099	7363019.741
17 - 599	307433	0.77	bdl	0.91	nd	nd	0.16	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	4.23	1402742.966	7363120.668
17 - 600	307434	0.99	nd	0.48	nd	nd	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.49	1402569.854	7363220.993
17 - 601	307435	4.62	0.06	0.52	nd	nd	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402395.219	7363317.896
17 - 602 A	307436	2.2	0.09	0.41	nd	nd	0.07	nd	nd	nd	nd	0.11	nd	nd	nd	nd	nd	nd	nd	nd	4.45	1402225.201	7363419.425
17 - 602 B	307437	0.57	nd	0.24	nd	nd	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.09	1402475.375	7363160.333
17 - 602 C	307438	0.61	0.08	0.11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.19	1402341.464	7363160.289
18 - 603	307603	27.1	0.63	1.34	nd	nd	0.06	0.06	nd	nd	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	0.24	1405710.827	7360643.403
18 - 604	307604	15.97	0.09	0.69	nd	nd	0.03	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.49	1405667.087	7360666.728
18 - 605	307605	15.47	0.05	0.68	nd	nd	0.03	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.55	1405622.864	7360693.274
18 - 606	307606	8.96	0.04	0.23	nd	nd	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.83	1405577.493	7360716.657
18 - 607	307607	5.05	0.05	0.18	nd	nd	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.82	1405536.394	7360742.872
18 - 608	307608	1.92	bdl	0.1	nd	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.72	1405493.132	7360766.735
18 - 609	307609	2.63	nd	0.11	nd	nd	nd	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.20	1405449.167	7360790.99
18 - 610	307610	2.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1405405.875	7360814.76
18 - 611	307611	0.44	bdl	0.11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.95	1405362.453	7360839.575
18 - 612	307612	1.81	0.2	0.62	nd	nd	0.04	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.87	1405318.213	7360866.344
18 - 613	307613	2.5	1.01	0.87	nd	nd	0.04	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.38	1405275.137	7360886.799
18 - 614	307995	4.59	4.18	0.19	nd	nd	nd	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.58	1404415.89	7361409.576
18 - 615	307996	5.21	10.92	0.68	nd	0.6	0.17	bdl	nd	nd	0.6	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404376.216	7361440.997
18 - 616	307997	4.28	78.81	3.04	nd	0.18	0.74	nd	nd	nd	0.18	nd	0.12	nd	nd	nd	nd	bdl	nd	nd	2.63	1404336.074	7361464.131
18 - 617	307998	2.8	21.02	0.94	nd	0.02	0.19	nd	nd	nd	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.63	1404291.185	7361488.126
18 - 618	307999	3.47	35.95	1.85	nd	nd	0.47	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404245.488	7361513.622
18 - 619	not installed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18 - 620	307439	27.95	332.39	25.22	nd	0.98	3.14	bdl	0.25	0.09	0.9	nd	0.9	nd	nd	bdl	0.17	nd	nd	nd	1.47	1404077.211	7361604.945
18 - 621	307440	65.08	355.45	44.45	nd	1.73	4.93	0.06	0.12	0.17	1.57	0.09	1.57	nd	nd	0.13	0.24	nd	nd	nd	9.39	1403991.473	7361655.074
18 - 622	307441	19.38	323	23.69	nd	0.34	2.96	nd	0.37	0.08	0.27	nd	0.86	nd	nd	0.15	0.24	nd	nd	nd	3.40	1403905.052	7361703.977
18 - 623	307442	24.68	317.26	15.98	nd	0.64	2.23	bdl	0.19	0.11	0.53	nd	0.56	nd	0.07	0.04	0.41	nd	nd	nd	1.19	1403817.505	7361753.13
18 - 624	307443	19.78	337.28	16.37	nd	0.59	2.09	bdl	0.15	0.07	0.52	nd	0.58	nd	nd	bdl	0.26	nd	nd	nd	1.07	1403729.477	7361801.175
18 - 625	307444	3.28	290.59	1.29	nd	0.26	0.25	0.07	nd	bdl	0.26	nd	nd	nd	nd	nd	0.27	nd	nd	nd	0.10	1403644.737	7361850.203
18 - 626	307445	5.39	157.57	5.68	nd	0.09	1.63	0.07	bdl	nd	0.09	nd	0.21	nd	nd	nd	0.08	nd	nd	nd	0.26	1403468.8	7361948.452
18 - 627	307446	7.81	125.93	15.2	nd	0.09	3.38	0.05	nd	nd	0.09	nd	0.56	nd	nd	nd	nd	nd	nd	nd	0.11	1403295.779	7362046.443
18 - 628	not retrieved	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18 - 629	307448	2.62	6.56	2.62	nd	nd	0.35	nd	nd	nd	nd	nd	0.09	nd	nd	nd	nd	nd	nd	nd	0.12	1402946.843	7362242.274
18 - 630	307449	1.81	3.63	1.87	nd	nd	0.24	nd	nd	nd	nd	nd	0.07	nd	nd	nd	nd	nd	nd	nd	0.15	1402771.853	7362336.298
18 - 631	307450	2.61	7	2.74	nd	nd	0.42	0.04	nd	nd	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	1.89	1402597.682	7362435.322
18 - 632	307451	1.99	2.4	2.53	nd	nd	0.32	0.09	nd	nd	nd	nd	0.09	nd	nd	nd	nd	nd	nd	nd	0.00	1402421.992	7362530.584

Table C-1: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
Industrial Area

Location ID #	ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
18 - 633	307452	4.23	0.67	1.62	nd	nd	0.24	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402246.446	7362618.76
19 - 634	307632	30.45	0.18	0.34	0.1	nd	0.03	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.25	1405538.34	7360547.163
19 - 635	307633	23.55	0.25	0.63	0.18	nd	0.11	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.74	1405484.192	7360573.547
19 - 636	307634	4.08	0.18	0.67	0.19	nd	0.11	0.05	nd	nd	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	0.73	1405439.08	7360600.134
19 - 637	307635	16.11	0.72	1.62	0.41	nd	0.24	bdl	nd	nd	nd	nd	0.07	nd	nd	nd	nd	nd	nd	nd	0.45	1405390.714	7360606.544
19 - 638	307636	1.56	0.79	1.27	0.1	nd	0.2	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	0.90	1405352.432	7360641.598
19 - 639	307637	0.82	1.79	1.63	0.06	nd	0.26	0.05	nd	nd	nd	nd	0.07	nd	nd	nd	nd	nd	nd	nd	1.52	1405306.22	7360669.307
19 - 640	307638	8.92	16.39	15.02	0.44	nd	1.06	0.1	nd	nd	nd	nd	0.62	nd	nd	nd	nd	nd	nd	nd	0.81	1405268.731	7360686.171
19 - 641	307639	60.4	11.65	15.56	0.82	0.51	2.23	0.31	nd	nd	0.51	0.08	0.67	nd	nd	nd	nd	nd	nd	nd	0.64	1405218.888	7360717.796
19 - 642	307624	64.45	0.7	14.49	0.78	0.08	1.13	0.51	nd	bdl	0.08	0.09	0.59	nd	nd	nd	nd	nd	nd	nd	0.46	1405178.791	7360663.339
20 - 643	307640	71.8	9	9.15	0.17	1.47	1.48	0.2	nd	0.06	1.41	0.2	0.4	nd	nd	nd	nd	nd	nd	nd	0.22	1405419.736	7360328.404
20 - 644	307641	23.52	1.97	2.6	0.15	nd	0.6	0.06	nd	nd	nd	nd	0.12	nd	nd	nd	nd	nd	nd	nd	0.04	1405385.905	7360359.863
20 - 645	307642	51.49	4.81	6.26	0.57	nd	0.87	0.14	nd	nd	bdl	0.55	0.28	nd	nd	nd	nd	nd	nd	nd	0.00	1405344.516	7360395
20 - 646	307643	29.11	1.87	3.11	0.45	nd	0.73	0.07	nd	nd	nd	nd	0.15	nd	nd	nd	nd	nd	nd	nd	0.70	1405297.482	7360434.467
20 - 647	307644	21.42	0.79	1.98	0.16	nd	0.27	0.07	nd	nd	nd	nd	0.11	nd	nd	nd	nd	nd	nd	nd	0.53	1405261.854	7360438.124
20 - 648	307645	49.18	0.82	6.24	0.54	0.02	0.99	0.14	nd	nd	0.02	nd	0.28	nd	nd	nd	nd	nd	nd	nd	0.36	1405208.067	7360486.299
20 - 649	307646	36.01	0.32	5.82	0.77	0.29	0.7	0.1	nd	nd	0.29	nd	0.27	nd	nd	nd	nd	nd	nd	nd	1.67	1405170.015	7360497.637
20 - 650	307647	66.03	0.47	20.26	2.59	0.05	2.08	0.17	nd	nd	0.05	nd	0.86	nd	nd	nd	nd	nd	nd	nd	1.88	1405133.721	7360527.46
20 - 651	307628	67.07	0.31	10.01	0.33	0.04	0.62	0.23	nd	nd	0.04	0.13	0.4	nd	nd	nd	nd	nd	nd	nd	0.33	1405085.281	7360490.747
20 - 652	308073	166.44	0.32	8.55	0.47	0.04	0.93	0.23	nd	nd	0.04	nd	0.3	nd	nd	nd	nd	nd	nd	nd	9.08	1405041.707	7360619.825
20 - 653	308074	120.67	0.41	1.79	nd	0.19	0.23	0.08	nd	nd	0.19	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.87	1404981.785	7360623.793
20 - 654	308075	242.84	1.51	9.32	0.17	0.68	0.95	0.29	nd	nd	0.68	nd	0.33	nd	nd	nd	nd	nd	nd	nd	9.94	1404952.1	7360667.905
20 - 655	308076	191.98	1.04	6.42	nd	3.75	0.68	0.43	nd	0.12	3.63	0.24	0.22	nd	nd	nd	nd	nd	nd	nd	7.31	1404905.939	7360691.013
20 - 656	308104	80.28	nd	1.3	nd	nd	0.09	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.36	1404781.129	7360772.264
20 - 657	308095	13.13	nd	0.73	nd	nd	0.1	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	0.79	1404738.711	7360798.663
21 - 658	308033	4.57	10.41	1.43	nd	1.49	0.18	bdl	nd	nd	1.49	nd	nd	nd	nd	nd	nd	nd	nd	bdl	1.43	1405387.684	7360136.425
21 - 659	308034	8.83	23.84	0.66	nd	0.16	0.07	nd	nd	nd	0.16	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.66	1405345.396	7360172.308
21 - 660	308035	1.72	1.54	0.22	nd	0.07	0.02	nd	nd	nd	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.22	1405292.388	7360171.351
21 - 661	308036	4.36	2.23	0.23	nd	0.2	0.03	nd	nd	nd	0.2	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.23	1405256.951	7360235.974
21 - 662	308037	6.92	3.59	0.31	nd	0.13	0.04	0.06	nd	nd	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.38	1405219.222	7360264.507
21 - 663	308044	7.43	3.77	0.89	nd	0.18	0.17	0.05	nd	nd	0.18	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.94	1405164.403	7360241.759
21 - 664	308045	4.38	2.4	0.26	nd	0.08	0.03	nd	nd	nd	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.26	1405134.222	7360308.671
21 - 665	308046	0.82	0.31	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.09	1405087.476	7360335.098
21 - 666	308047	1.24	0.18	0.42	nd	nd	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.42	1405038.765	7360343.131
21 - 667	308048	0.53	0.62	0.26	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.26	1404981.689	7360329.388
21 - 668	308049	0.38	0.18	0.12	nd	0.04	nd	0.08	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.20	1404947.283	7360361.29
21 - 669	308077	1.8	0.47	0.2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.20	1404904.054	7360395.96
21 - 670	308078	0.95	bdl	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.05	1404860.653	7360425.035
21 - 671	308079	8.36	0.52	0.29	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.29	1404819.12	7360449.284
21 - 672	308080	10.9	0.87	0.3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	0.30	1404775.218	7360470.517
21 - 673	308081	13.98	1.04	0.53	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.53	1404731.341	7360493.102
21 - 674	308082	12.87	1.85	0.54	nd	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.54	1404687.375	7360517.336
21 - 675	308083	2.17	0.13	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.07	1404644.291	7360543.746
21 - 676	308084	6.63	0.26	0.29	nd	nd	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.29	1404601.969	7360568.358
21 - 677	308085	6.87	0.62	0.24	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.24	1404558.381	7360593.536
21 - 678	308086	6.87	0.57	0.29	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.29	1404514.978	7360618.471
21 - 679	308087	7.74	0.53	0.63	nd	nd	0.11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.63	1404471.778	7360643.912
21 - 680	308088	15.26	0.78	2.25	nd	0.04	0.29	nd	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.25	1404428.417	7360668.767
21 - 681	308089	0.39	0.94	nd	nd	nd	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	1404411.477	7360704.016

Table C-1: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
Industrial Area

Location ID #	ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
21 - 682	308121	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404352.103	7360717.399
21 - 683	308122	22.36	1.37	6.35	nd	0.02	1.79	0.11	nd	nd	0.02	nd	0.22	nd	nd	nd	nd	nd	nd	nd	6.68	1404312.9	7360733.318
21 - 684	308123	15.11	1.45	7.33	nd	nd	3.5	nd	nd	nd	nd	nd	0.25	nd	nd	nd	nd	nd	nd	nd	7.58	1404269.769	7360757.636
21 - 685	308124	4.1	0.09	4.06	nd	nd	1.31	0.05	nd	nd	nd	nd	0.14	nd	nd	nd	nd	nd	nd	nd	4.25	1404224.009	7360782.895
21 - 686	308125	5.68	0.4	1.33	nd	nd	0.46	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.33	1404184.115	7360810.331
22 - 687	308126	8.33	1.1	3.74	nd	nd	0.88	nd	nd	nd	nd	nd	0.13	nd	nd	nd	nd	nd	nd	nd	3.88	1403988.581	7360652.589
22 - 688	308127	0.68	0.2	0.64	nd	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.64	1403953.412	7360682.86
22 - 689	308128	0.63	0.06	0.3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.30	1403908.155	7360700.931
22 - 690	308129	4.14	0.26	3.27	nd	nd	0.19	nd	nd	nd	nd	nd	0.12	nd	nd	nd	nd	nd	nd	nd	3.39	1403838.349	7360750.108
22 - 691	307398	8.57	0.15	7.18	nd	0.07	1.25	0.04	nd	nd	0.07	nd	0.26	nd	nd	nd	nd	nd	nd	nd	0.00	1403790.799	7360797.003
22 - 692	307399	49.26	0.27	58.84	nd	11.65	12.03	0.17	nd	0.13	11.52	6.77	2.1	nd	nd	0.05	nd	nd	nd	nd	0.11	1403704.043	7360846.317
22 - 693	307400	27.79	0.62	6.78	nd	0.57	0.98	bdl	nd	nd	0.57	0.08	0.25	nd	nd	nd	nd	nd	nd	nd	0.08	1403617.219	7360894.804
22 - 694	307401	40.11	1.63	16.11	nd	0.87	2.81	0.09	nd	bdl	0.87	0.24	0.58	nd	nd	bdl	nd	nd	nd	nd	0.11	1403529.61	7360942.3
22 - 695	307402	55.76	17.93	139.75	nd	0.71	11.72	0.24	nd	bdl	0.71	0.36	4.79	nd	nd	bdl	nd	nd	nd	nd	0.23	1403442.718	7360990.33
22 - 696	307403	13.16	1.58	13.53	nd	0.23	1.98	0.07	nd	nd	0.23	0.06	0.49	nd	nd	nd	nd	nd	nd	nd	0.12	1403354.723	7361037.392
22 - 697	307404	18.75	0.99	5.64	nd	0.35	0.88	0.07	nd	nd	0.35	0.1	0.21	nd	nd	nd	nd	nd	nd	nd	0.09	1403266.25	7361082.681
22 - 698	307411	7.15	2.79	0.96	nd	0.21	0.13	nd	nd	nd	0.21	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403177.069	7361128.055
22 - 699	307412	31.04	2.66	4.61	nd	0.8	0.72	0.12	nd	nd	0.8	0.29	0.17	nd	nd	nd	nd	nd	nd	nd	0.00	1403088.109	7361173.705
22 - 700	307413	19.24	0.78	3.82	nd	0.03	0.5	0.08	nd	nd	0.03	nd	0.14	nd	nd	nd	nd	nd	nd	nd	0.15	1402908.659	7361259.198
22 - 701	307414	20.96	0.56	2.58	nd	0.11	0.46	0.1	nd	nd	0.11	0.11	0.1	nd	nd	nd	nd	nd	nd	nd	0.00	1402727.771	7361345.113
22 - 702	307415	14.52	2.63	5.35	nd	0.04	0.77	0.11	nd	nd	0.04	0.08	0.2	nd	nd	nd	nd	nd	nd	nd	0.00	1402546.253	7361427.226
22 - 703	307416	8.38	0.6	1.03	nd	0.07	0.17	0.07	nd	nd	0.07	0.07	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402379.991	7361520.233
22 - 704	307417	6.64	0.76	1.53	nd	nd	0.19	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402321.215	7361710.661
22 - 705	307418	5.28	0.74	1.81	nd	nd	0.27	0.09	nd	nd	nd	nd	0.07	nd	nd	nd	nd	nd	nd	nd	0.10	1402271.156	7361904.195
22 - 706	307419	4.89	0.74	3.15	nd	nd	0.49	0.19	nd	nd	nd	nd	0.12	nd	nd	nd	nd	nd	nd	nd	1.86	1402218.173	7362099.132
22 - 707	307420	2.04	0.54	0.98	nd	nd	0.14	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402176.23	7362293.679
22 - 708	307421	1.53	0.51	0.41	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402131.997	7362488.821
22 - 709	308173	3.42	0.48	0.29	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.29	1402093.611	7362685.973
22 - 710	307423	3.5	0.1	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402152.041	7362873.687
22 - 711	307424	1.89	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402220.09	7363062.815
22 - 712	307425	0.54	0.07	nd	nd	nd	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402162.225	7363251.158
22 - 713	307426	1.85	0.3	0.64	nd	nd	0.09	nd	nd	nd	nd	0.07	nd	nd	nd	nd	nd	nd	nd	nd	0.10	1402041.989	7363579.361
22 - 714	307427	1.09	0.2	0.19	nd	nd	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402050.622	7363777.204
22 - 715	307428	0.69	0.14	0.15	nd	nd	0.03	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402026.197	7363975.631
1 - C	308279	0.53	nd	0.53	nd	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402695.757	7363506.610
2 - C	308280	2.29	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403007.538	7364060.079
3 - C	308281	0.75	nd	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403346.104	7363875.878
4 - C	308282	0.45	nd	0.18	nd	nd	0.08	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403021.363	7363342.355
5 - C	308277	nd	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402734.833	7362844.885
6 - C	308251	0.81	0.2	0.63	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402332.120	7361260.385
7 - C	308270	0.07	0.14	0.52	nd	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402720.534	7361919.376
8 - C	308276	nd	0.27	0.2	nd	nd	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.14	1403069.753	7362628.576
9 - C	308283	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403361.931	7363156.085
10 - C	308284	nd	nd	0.17	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403687.914	7363700.322
11 - C	308285	0.32	nd	0.1	nd	nd	0.02	0.27	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403899.364	7363543.039
12 - C	308286	0.22	nd	nd	1.06	nd	nd	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403580.323	7362972.350
13 - C	308275	nd	1.75	0.63	nd	nd	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403308.115	7362477.255
14 - C	308269	4.68	0.67	0.88	nd	nd	0.24	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.51	1403008.812	7361778.033
15 - C	308253	21.54	0.78	1.79	nd	0.05	0.39	0.17	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.55	1402872.407	7361544.137

Table C-1: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
Industrial Area

Location ID #	ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
16 - C	308250	7.4	0.15	1.38	nd	nd	0.28	nd	nd	nd	nd	nd	nd	nd	0.13	nd	nd	nd	nd	nd	0.00	1402643.505	7361096.287
17 - C	308252	3.63	0.09	0.84	nd	nd	0.11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1402471.911	7360779.141
18 - C	308249	2.31	0.14	1.3	nd	nd	0.28	nd	nd	nd	nd	nd	nd	nd	0.10	nd	nd	nd	nd	nd	0.00	1402968.949	7360916.531
19 - C	308254	30.07	48.76	2.54	nd	0.61	0.46	0.18	nd	nd	0.61	0.15	0.11	nd	nd	nd	nd	nd	nd	nd	0.00	1403211.337	7361345.475
20 - C	308271	3.73	120.59	2.66	nd	nd	0.47	nd	nd	nd	nd	nd	0.11	nd	nd	nd	nd	nd	nd	nd	0.17	1403345.558	7361574.220
21 - C	308274	nd	3.17	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403640.529	7362277.413
22 - C	308278	nd	0.23	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404043.756	7362027.193
23 - C	308273	9.07	336.17	4.15	nd	0.48	1.12	0.09	0.11	0.07	0.41	nd	0.19	nd	nd	nd	0.27	nd	nd	nd	0.00	1403816.192	7361754.454
24 - C	308272	19.46	43.11	2.79	nd	nd	0.63	0.18	nd	nd	nd	nd	0.12	nd	nd	nd	nd	nd	nd	nd	0.00	1403631.522	7361390.622
25 - C	308255	32.8	3.67	17.58	nd	0.92	3.74	0.19	nd	nd	0.92	0.21	0.81	nd	nd	nd	nd	nd	nd	nd	0.00	1403512.716	7361163.526
26 - C	308248	0.89	nd	2.45	nd	nd	0.28	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403352.106	7360715.407
27 - C	308244	1.06	nd	0.14	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403302.455	7360069.750
28 - C	308245	0.06	nd	0.29	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403444.257	7360321.573
29 - C	308246	3.54	0.07	2.99	nd	nd	0.48	nd	nd	nd	nd	nd	0.13	nd	nd	nd	nd	nd	nd	nd	0.00	1403629.342	7360562.148
30 - C	308247	1.06	nd	2.09	nd	nd	0.33	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403580.135	7360681.690
31 - C	308263	86.32	1.6	23.49	nd	2.56	4.9	0.12	nd	bdl	2.56	0.29	1.08	nd	nd	nd	nd	nd	nd	nd	0.19	1403753.817	7361038.435
32 - C	308264	47.79	3.08	13.91	nd	nd	3.01	nd	nd	nd	nd	nd	0.63	nd	nd	nd	nd	nd	nd	nd	0.00	1403874.896	7361261.336
33 - C	308265	91.11	16.53	29.83	nd	nd	7.55	0.09	nd	nd	nd	nd	1.38	nd	nd	nd	nd	nd	nd	nd	0.36	1403941.671	7361375.139
34 - C	308266	21.49	412.79	13.23	nd	0.24	2.84	0.2	0.09	0.14	0.11	nd	0.6	nd	nd	bdl	0.38	nd	nd	nd	0.30	1404158.385	7361722.130
35 - C	308267	0.38	1.6	3.61	2.92	nd	0.37	1.25	nd	nd	nd	nd	0.16	nd	nd	nd	nd	nd	nd	nd	0.00	1404261.843	7361918.079
36 - C	308268	0.23	0.52	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.35	1404329.927	7362045.714
37 - C	308261	4.43	0.47	1.71	nd	nd	0.36	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404358.046	7361250.176
38 - C	308262	30.34	4.36	54.09	nd	0.08	7.08	0.12	nd	nd	0.08	0.33	2.45	nd	nd	0.06	nd	nd	nd	nd	1.55	1403954.010	7360786.817
39 - C	308240	18.67	nd	3.92	nd	nd	0.7	nd	nd	nd	nd	nd	0.19	nd	nd	nd	nd	nd	nd	nd	0.00	1403998.989	7360316.908
40 - C	308241	3.87	nd	0.56	nd	nd	0.15	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403721.200	7360012.771
41 - C	308243	0.26	nd	0.16	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403759.377	7359837.554
42 - C	308242	0.53	nd	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403605.670	7359803.001
43 - C	308232	1.15	0.07	0.15	nd	nd	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403609.999	7359612.647
44 - C	308233	1.31	nd	0.21	nd	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403334.380	7359174.548
45 - C	308234	1.59	nd	0.15	nd	nd	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403128.184	7358795.358
46 - C	308236	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403275.464	7358488.046
47 - C	308235	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1403458.337	7358749.180
48 - C	308230	11.26	0.12	0.59	0.18	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.62	1403586.433	7359106.676
49 - C	308231	5.68	1.75	0.66	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.52	1403988.353	7359108.561
50 - C	308229	20.99	0.27	1.36	0.31	nd	0.33	0.17	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.17	1403835.745	7359529.871
51 - C	308239	3.8	0.07	0.63	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404279.629	7360161.669
52 - C	308238	nd	nd	2.27	nd	nd	0.67	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404662.764	7359489.298
53 - C	308237	0.32	nd	1.94	nd	nd	0.48	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404773.981	7359571.079
54 - C	308225	11.51	0.16	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405561.913	7359854.165
55 - C	308226	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405736.099	7360190.121
56 - C	308228	23.24	nd	0.35	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.44	1405930.362	7360522.406
57 - C	308227	7.88	nd	nd	nd	0.13	nd	nd	nd	nd	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406123.505	7360854.370
58 - C	308256	199.78	1.04	3.53	nd	0.76	1.03	0.25	nd	bdl	0.76	nd	0.15	nd	nd	nd	nd	nd	nd	nd	2.75	1404954.328	7360647.387
59 - C	308259	95.51	nd	0.14	nd	72.88	nd	0.1	nd	1.06	71.82	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404845.374	7360761.305
60 - C	308258	41.26	nd	0.37	nd	6.89	0.08	0.03	nd	0.12	6.78	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1404875.656	7360811.585
61 - C	308257	9.66	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	7.64	1404911.847	7360863.569
62 - C	308260	30.54	0.72	0.45	nd	0.04	0.15	nd	nd	nd	0.04	nd	nd	nd	nd	nd	nd	bdl	nd	nd	0.00	1404608.100	7361027.312
63 - C	308219	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407025.039	7362337.926
64 - C	308220	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407275.608	7362236.324

Table C-1: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
Industrial Area

Location ID #	ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
65 - C	308221	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407587.865	7362065.285
66 - C	308222	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407840.440	7362508.756
67 - C	308287	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407396.583	7362479.401
68 - C	308218	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407208.026	7362649.166
69 - C	308217	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407402.616	7362978.229
70 - C	308216	nd	nd	nd	0.31	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1407639.763	7363323.474
71 - C	308223	2.48	nd	3.4	nd	nd	0.36	nd	nd	nd	nd	nd	0.15	nd	nd	nd	nd	nd	nd	nd	0.00	1408037.234	7362882.388
72 - C	308224	1.75	nd	3.13	nd	nd	0.43	0.14	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1408074.209	7362938.191
73 - C	308288	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406440.937	7366245.305
74 - C	308289	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406303.053	7366325.537
75 - C	308296	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406125.175	7366430.052
76 - C	308299	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405941.870	7366537.923
77 - C	308298	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406076.316	7366626.646
78 - C	308297	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406218.123	7366550.711
79 - C	308300	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1406086.797	7366279.422
80 - C	308301	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	1405923.975	7366372.202

Note: All units in micrograms (ug) per sorber
MDL = Maximum Detection Limit
N/A = not analyzed
nd = non detect
bdl = Below detection limit

TCE = trichloroethene
PCE = tetrachloroethene
111TCA = 1,1,1-trichloroethane
CCl4 = carbon tetrachloride
ct12DCE = cis-trans 1,2-dichloroethene

11DCE = 1,1-dichloroethene
CHCl3 = chloroform
CIBENZ = chlorobenzene
t12DCE = trans-1,2-dichloroethene
c12DCE = cis-1,2-dichloroethene

11DCA = 1,1-dichloroethane
12DCA = 1,2-dichloroethane
14DCB = 1,4-dichlorobenzene
MeCl2 = methylene chloride
112TCA = 1,1,2-trichloroethane

1112TetCA = 1,1,1,2-tetrachloroethane
1122TetCA = 1,1,2,2-tetrachloroethane
13DCB = 1,3-dichlorobenzene
12DCB = 1,2-dichlorobenzene
BTEX = summed values for benzene, toluene, ethylbenzene, and xylenes (ND represented by zero)

* Based on US State Plane 1983, Utah Central 4302, NAD 1983 (CONUS), GEOID 96 (Continental US)
** No MDL is available for summed combinations of analytes (i.e., benzene, toluene, ethylbenzene, xylenes).

Table C-2: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
DRMO Area

Location ID #	Sample ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	VC 0.03	Sample ID# MDL (ug)	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
A - 1	300133	nd	nd	0.31	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300133	0.28	1408077.65	7363016.89
A - 2	300134	nd	nd	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300134	0.24	1408044.483	7363083.725
A - 3	300135	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300135	0.24	1408013.35	7363151.974
A - 4	300136	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300136	0.00	1407981.414	7363217.428
A - 5	300137	nd	nd	0.12	0.31	nd	nd	0.31	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300137	0.15	1407948.731	7363286.06
A - 6	300138	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300138	0.14	1407889.683	7363357.898
A - 7	300139	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300139	0.14	1407854.155	7363401.355
A - 8	Not retrieved	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not retrieved	N/A	1407807.808	7363460.447
A - 9	300141	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300141	0.00	1407761.726	7363518.494
A - 10	300142	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300142	0.13	1407714.088	7363579.078
A - 11	300143	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300143	0.00	1407668.893	7363642.793
F - 1	300166	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300166	0.07	1407607.77	7363680.232
B - 1	300167	nd	nd	0.74	nd	nd	0.14	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300167	0.17	1408142.604	7363049.5
B - 2	300168	nd	nd	0.38	nd	nd	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300168	0.00	1408120.537	7363094.01
B - 3	300169	nd	nd	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300169	0.13	1408098.239	7363139.332
B - 4	300170	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300170	0.00	1408075.926	7363183.662
B - 5	300171	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300171	0.00	1408054.335	7363228.457
B - 6	300172	nd	nd	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300172	0.00	1408032.685	7363272.728
B - 7	300173	nd	nd	0.11	0.11	nd	nd	0.11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300173	0.00	1408012.463	7363320.944
B - 8	300174	nd	nd	nd	0.24	nd	nd	0.24	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300174	0.00	1407984.694	7363359.079
B - 9	300175	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300175	0.13	1407952.16	7363397.941
B - 10	300176	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300176	0.26	1407919.513	7363436.613
B - 11	300177	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300177	0.00	1407888.496	7363475.803
B - 12	300178	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300178	0.00	1407857.039	7363515.023
B - 13	300179	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300179	0.00	1407826.348	7363552.641
B - 14	300180	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300180	0.00	1407793.841	7363590.515
B - 15	300181	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300181	0.00	1407764.56	7363628.58
B - 16	300182	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300182	0.00	1407732.321	7363668.717
B - 17	300183	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300183	0.00	1407701.165	7363706.462
C - 1	300185	nd	nd	1.54	nd	nd	0.36	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300185	0.00	1408188.795	7363073.614
C - 2	300186	nd	nd	0.34	nd	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300186	0.00	1408167.293	7363116.44
C - 3	300188	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300188	0.00	1408144.847	7363163.296
C - 4	300189	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300189	0.00	1408123.558	7363206.561
C - 5	300190	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300190	0.00	1408101.453	7363250.619
C - 6	300194	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300194	0.00	1408078.88	7363294.854
C - 7	300195	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300195	0.00	1408057.781	7363340.3
C - 8	300199	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300199	0.00	1408036.692	7363384.682
C - 9	300200	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300200	0.00	1407999.821	7363417.732
C - 10	300201	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300201	0.15	1407966.634	7363454.625
C - 11	300202	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	300202	0.12	1407935.037	7363495.471
C - 12	300203	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300203	0.00	1407902.468	7363534.767
C - 13	300204	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300204	0.00	1407874.382	7363572.737
C - 14	300205	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300205	0.00	1407842.616	7363611.318
C - 15	300206	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300206	0.00	1407809.763	7363649.988
C - 16	300207	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300207	0.00	1407777.924	7363687.95
C - 17	300208	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300208	0.00	1407747.773	7363727.931
C - 18	300209	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300209	0.12	1407716.639	7363765.038
D - 1	300210	nd	nd	2.65	0.04	nd	0.52	0.04	nd	nd	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	300210	0.00	1408255.869	7363106.397
D - 2	300211	nd	nd	1.14	nd	nd	0.2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300211	0.00	1408222.074	7363173.094
D - 3	300212	nd	nd	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300212	0.00	1408190.797	7363239.996
D - 4	300213	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300213	0.00	1408158.259	7363306.996
D - 5	300214	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300214	0.00	1408125.735	7363374.281
D - 6	300215	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300215	0.00	1408104.515	7363418.654
D - 7	300216	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300216	0.18	1408053.071	7363472.53
D - 8	300217	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300217	0.00	1408005.714	7363530.404

Table C-2: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
DRMO Area

	Location ID #	Sample ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	VC 0.03	Sample ID# MDL (ug)	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
	D - 9	300218	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300218	0.11	1407958.413	7363588.421
	D - 10	300219	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300219	0.00	1407911.382	7363646.616
	D - 11	300220	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300220	0.00	1407863.28	7363702.233
	D - 12	300221	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300221	0.00	1407814.844	7363761.277
	D - 13	300222	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300222	0.00	1407769.224	7363819.515
	E - 1	300223	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300223	0.00	1407631.425	7363670.355
	E - 2	300224	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300224	0.00	1407659.829	7363713.341
	E - 3	300225	nd	nd	nd	0.06	nd	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300225	0.00	1407682.643	7363757.482
	E - 4	300226	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300226	0.00	1407707.012	7363798.818
	E - 5	300227	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300227	0.20	1407730.629	7363840.993
	E - 6	300228	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300228	0.22	1407754.164	7363886.151
	F - 2	300229	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300229	0.00	1407623.485	7363731.651
	F - 3	300230	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300230	0.00	1407650.056	7363774.082
	F - 4	300231	nd	nd	nd	0.06	nd	nd	0.06	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300231	0.25	1407671.707	7363816.235
	F - 5	300232	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300232	0.00	1407696.368	7363858.924
	F - 6	300233	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300233	0.00	1407722.449	7363894.701
	G - 1	300234	nd	nd	0.16	nd	nd	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300234	0.00	1408073.619	7362534.113
	G - 2	300235	nd	nd	0.97	nd	nd	0.25	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300235	0.00	1408110.593	7362597.793
	G - 3	300236	nd	nd	2.45	nd	nd	0.45	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300236	0.10	1408145.599	7362662.143
	G - 4	300237	nd	nd	1.39	nd	nd	0.34	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300237	0.22	1408180.736	7362726.342
	H - 1	300238	nd	nd	0.19	nd	nd	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300238	0.13	1408008.044	7362571.008
	H - 2	300239	nd	nd	0.65	nd	nd	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300239	0.12	1408044.779	7362635.55
	H - 3	300240	nd	nd	2.74	nd	nd	0.59	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300240	0.00	1408081.329	7362700.301
	H - 4	300241	nd	nd	4.99	nd	nd	1.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300241	1.21	1408118.24	7362763.172
	I - 1	300242	nd	nd	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300242	0.00	1407942.659	7362607.462
	I - 2	300243	0.11	nd	1.54	nd	nd	0.3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300243	0.00	1407979.547	7362671.737
	I - 3	300244	0.22	nd	2.76	nd	nd	0.49	nd	nd	nd	nd	nd	0.12	nd	nd	nd	nd	nd	nd	nd	nd	300244	0.48	1408015.495	7362736.623
	I - 4	300245	nd	nd	1.81	nd	nd	0.46	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300245	1.15	1408052.007	7362802.295
	J - 1	300246	nd	nd	0.43	nd	nd	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300246	0.00	no data	no data
	J - 2	300247	0.04	nd	1.59	nd	nd	0.32	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300247	0.19	no data	no data
	J - 3	300248	0.28	nd	2.3	0.07	nd	0.45	0.07	nd	nd	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	300248	0.47	no data	no data
	K - 1	300249	0.95	nd	3	nd	nd	0.61	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300249	0.24	1408217.989	7362793.661
	K - 2	300250	nd	0.28	2.42	nd	nd	0.48	nd	nd	nd	nd	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	300250	0.15	1408243.01	7362836.225
	K - 3	300251	nd	0.06	1.3	nd	nd	0.24	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300251	0.22	1408267.427	7362879.663
	K - 4	300252	2.02	nd	1.13	nd	nd	0.23	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300252	0.40	1408290.845	7362922.954
	L - 1	300253	nd	nd	3.06	nd	nd	0.66	nd	nd	nd	nd	nd	0.14	nd	nd	nd	nd	nd	nd	nd	nd	300253	0.00	1408175.603	7362816.008
	L - 2	300254	0.13	0.44	4.1	nd	nd	0.84	nd	nd	nd	nd	nd	0.17	nd	nd	nd	nd	nd	nd	nd	nd	300254	0.25	1408199.08	7362858.981
	L - 3	300255	nd	0.08	1.05	nd	nd	0.21	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300255	0.16	1408222.088	7362903.396
	L - 4	300256	nd	nd	0.7	nd	nd	0.14	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300256	0.12	1408246.226	7362948.077
	M - 1	300257	0.16	nd	3.2	0.07	nd	1.08	0.07	nd	nd	nd	nd	0.13	nd	nd	nd	nd	nd	nd	nd	nd	300257	0.15	1408130.119	7362841.083
	M - 2	300258	1.24	0.12	4.53	nd	nd	0.96	nd	nd	nd	nd	nd	0.2	nd	nd	nd	nd	nd	nd	nd	nd	300258	0.40	1408154.401	7362884.447
	M - 3	Not retrieved	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not retrieved	N/A	1408178.445	7362927.463
	M - 4	300260	nd	nd	0.58	nd	nd	0.16	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300260	0.13	1408201.257	7362971.008
	N - 1	300261	1.4	0.23	4.96	0.12	nd	0.93	0.12	nd	nd	nd	nd	0.22	nd	nd	nd	nd	nd	nd	nd	nd	300261	0.88	1408080.182	7362863.696
	N - 2	300262	1.64	nd	1.98	0.04	nd	0.38	0.04	nd	nd	nd	nd	0.08	nd	nd	nd	nd	nd	nd	nd	nd	300262	0.15	1408112.318	7362907.672
	N - 3	300263	nd	nd	0.53	nd	nd	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300263	0.20	1408135.912	7362952.028
	N - 4	300264	nd	nd	0.42	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	300264	0.00	1408158.786	7362995.496
	O - 1	300265	2.32	nd	3.28	nd	nd	0.51	nd	nd	nd	nd	nd	0.12	nd	nd	nd	nd	nd	nd	nd	nd	300265	0.18	1408044.296	7362887.53
	O - 2	300266	2.41	nd	2.04	nd	nd	0.31	nd	nd	nd	nd	nd	0.09	nd	nd	nd	nd	nd	nd	nd	nd	300266	0.00	1408069.235	7362931.045
Phase I	P - 1	300267	0.18	nd	2.9	nd	nd	0.34	nd	nd	nd	nd	nd	0.13	nd	nd	nd	nd	nd	nd	nd	nd	300267	0.40	1408269.836	7363022.143
	P - 2	300268	nd	0.26	3.79	nd	nd	0.54	nd	nd	nd	nd	nd	0.17	nd	nd	nd	nd	nd	nd	nd	nd	300268	0.49	1408304.409	7362998.897
	P - 3	300269	nd	nd	8.83	nd	nd	1.46	nd	nd	nd	nd	nd	0.4	nd	nd	nd	nd	nd	nd	nd	nd	300269	0.21	1408337.362	7363064.762
Phase II	1 - B	308175	nd	nd	0.11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308175	0.00	1408225.053	7362526.741
	2 - B	308176	nd	nd	0.15	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308176	0.00	1408289.590	7362641.495
	3 - B	308177	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308177	0.00	1408376.870	7362790.082

Table C-2: SUMMARY OF PASSIVE SOIL GAS SURVEY RESULTS
DRMO Area

Location ID #	Sample ID# MDL (ug)	TCE 0.02	PCE 0.04	111TCA 0.04	CCl4 0.04	ct12DCE 0.02	11DCE 0.01	CHCl3 0.04	ClBENZ 0.04	t12DCE 0.04	c12DCE 0.02	11DCA 0.03	12DCA 0.04	14DCB 0.02	MeCl2 0.01	112TCA 0.03	1112TetCA 0.02	1122TetCA 0.02	13DCB 0.02	12DCB 0.02	VC 0.03	Sample ID# MDL (ug)	BTEX **	GPS Location Information *Easting (ft)	*Northing (ft)
4 - B	308178	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308178	0.00	1408436.860	7362866.159
5 - B	308179	nd	nd	0.46	nd	nd	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308179	0.09	1408499.895	7362976.770
6 - B	308180	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308180	0.00	1408565.044	7363087.723
7 - B	308181	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308181	0.00	1408628.476	7363201.180
8 - B	308182	nd	nd	0.33	nd	nd	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308182	0.16	1408333.067	7362926.325
9 - B	308183	nd	nd	1.43	nd	nd	0.06	nd	nd	nd	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	N/A	308183	0.73	1408398.240	7363045.732
10 - B	308184	nd	nd	0.97	nd	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308184	0.00	1408452.498	7363138.433
11 - B	308185	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308185	0.06	1408524.643	7363207.217
12 - B	308186	nd	nd	0.54	nd	nd	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308186	0.21	1408384.593	7363181.994
13 - B	308187	12.92	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308187	0.06	1408462.557	7363282.239
14 - B	308188	3.35	nd	2.46	0.06	nd	0.11	nd	nd	nd	nd	nd	0.11	nd	nd	nd	nd	nd	nd	nd	N/A	308188	0.00	1408037.234	7362882.388
15 - B	308189	0.26	nd	0.86	nd	nd	0.08	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308189	0.00	1408074.209	7362938.191
16 - B	308190	nd	0.04	nd	nd	nd	nd	0.10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308190	0.10	1408308.139	7363294.573
17 - B	308191	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308191	0.00	1408239.901	7363399.573
18 - B	308192	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308192	0.00	1407840.397	7362680.524
19 - B	308193	nd	0.16	0.88	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308193	0.00	1407892.815	7362785.136
20 - B	308194	30.49	bdl	2.84	0.40	nd	0.22	0.08	nd	nd	nd	nd	0.12	nd	nd	nd	nd	nd	nd	nd	N/A	308194	0.12	1407944.707	7362887.307
21 - B	308195	7.88	nd	0.81	0.46	nd	0.05	0.04	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	N/A	308195	0.00	1407997.127	7362982.185
22 - B	308196	0.03	nd	0.04	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308196	0.12	1407684.474	7362764.644
23 - B	308197	0.21	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308197	0.00	1407747.911	7362851.992
24 - B	308198	25.55	nd	nd	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308198	0.00	1407805.488	7362941.474
25 - B	308199	43.95	nd	0.06	0.89	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308199	0.00	1407864.207	7363032.181
26 - B	308200	nd	0.04	nd	0.11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308200	0.00	1407922.264	7363116.275
27 - B	308201	0.16	nd	nd	0.14	nd	nd	0.11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308201	0.00	1407718.613	7363057.388
28 - B	308202	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308202	0.00	1407785.164	7363152.128
29 - B	308203	nd	nd	nd	0.20	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308203	0.00	1407846.137	7363238.647
30 - B	308204	nd	nd	nd	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308204	0.53	1407776.782	7363298.688
31 - B	308212	nd	nd	nd	1.36	nd	nd	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308212	0.00	1407708.004	7363194.504
32 - B	308213	nd	nd	nd	1.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308213	0.00	1407630.375	7363105.468
33 - B	308214	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308214	0.00	1407504.498	7363121.333
34 - B	308215	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308215	0.00	1407532.643	7363023.824
35 - B	308211	0.18	nd	nd	nd	nd	nd	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308211	0.47	1407652.499	7362961.399
36 - B	308210	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308210	1.01	1408376.251	7363400.927
37 - B	308209	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308209	0.72	1408538.751	7363379.909
38 - B	308208	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	N/A	308208	0.00	1408573.185	7363324.018

Note: All units in micrograms (ug) per sorber
MDL = Maximum Detection Limit
N/A = not analyzed
nd = non detect
bdl = below detection limit

TCE = trichloroethene
PCE = tetrachloroethene
111TCA = 1,1,1-trichloroethane
CCl4 = carbon tetrachloride
ct12DCE = cis-trans 1,2-dichloroethene

11DCE = 1,1-dichloroethene
CHCl3 = chloroform
CIBENZ = chlorobenzene
t12DCE = trans-1,2-dichloroethene
c12DCE = cis-1,2-dichloroethene

11DCA = 1,1-dichloroethane
12DCA = 1,2-dichloroethane
14DCB = 1,4-dichlorobenzene
MeCl2 = methylene chloride
112TCA = 1,1,2-trichloroethane

1112TetCA = 1,1,1,2-tetrachloroethane
1122TetCA = 1,1,2,2-tetrachloroethane
13DCB = 1,3-dichlorobenzene
12DCB = 1,2-dichlorobenzene
VC= vinyl choride (analyzed for only first phase in DRMO)
BTEX = summed values for benzene, toluene, ethylbenzene, and xylenes (ND represented by zero)

* Based on US State Plane 1983, Utah Central 4302, NAD 1983 (CONUS), GEOID 96 (Continental US)
** No MDL is available for summed combinations of analytes (i.e., benzene, toluene, ethylbenzene, xylenes).

Table C-3: SUMMARY OF ACTIVE SOIL GAS SURVEY RESULTS

Industrial Area Active Soil Gas (ASG) Results

ASG I-1 Results

Sample Name:	ASG #I-1		Date of Collection:	10/06/1999
	Easting	**Northing**		
Location:	1405046.701	7360453.918	*Station Pressure:	24.80" Hg (S)
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Methyl Ethyl Keytone	13	39	24	71
1,1-Dichloroethene	3.3	13	70	280
1,1-Dichloroethane	3.3	13	15	62
Chloroform	3.3	16	8	40
1,1,1-Trichloroethane	3.3	18	250	1400
Carbon Tetrachloride	3.3	21	4.9	31
Trichloroethene	3.3	18	1200	6400
Tetrachloroethene	3.3	23	18	130
Acetone	13	32	140	340

ASG I-2 Results

Sample Name:	ASG #I-2		Date of Collection:	10/06/1999
	Easting	**Northing**		
Location:	1404950.032	7360649.85	*Station Pressure:	24.80" Hg (S)
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1,1-Trichloroethane	16	91	190	1000
1,1-Dichloroethene	16	66	75	300
Trichloroethene	16	90	3700	20,000
cis-1,2-Dichloroethene	16	66	17	68

ASG I-3 Results

Sample Name:	ASG #I-3		Date of Collection:	10/07/1999
	Easting	**Northing**		
Location:	1404821.046	7360726.228	*Station Pressure:	25.04" Hg (R)
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
cis-1,2-Dichloroethene	11	46	110	430
1,1,1-Trichloroethane	11	63	35	200
Trichloroethene	11	62	4400	24,000
Tetrachloroethene	11	78	1300	8700

ASG I-4 Results

Sample Name:	ASG #I-4		Date of Collection:	10/06/1999
	Easting	**Northing**		
Location:	1404490.997	7361101.793	*Station Pressure:	24.63" Hg (R)
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Freon 11	8.2	47	37	210
1,1-Dichloroethene	8.2	33	190	780
1,1,1-Trichloroethane	8.2	45	320	1800
Trichloroethene	8.2	45	1800	9900
Tetrachloroethene	8.2	57	29	200

ASG I-5 Results

Sample Name:	ASG #I-5		Date of Collection:	10/06/1999
	Easting	**Northing**		
Location:	1403961.257	7360802.918	*Station Pressure:	24.65" Hg (R)
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1,1-Trichloroethane	27	150	6700	37000
1,1-Dichloroethane	27	110	48	200
Trichloroethene	27	150	370	2000
Tetrachloroethene	27	190	680	4600
1,1-Dichloroethene	27	110	310	1200

Table C-3: SUMMARY OF ACTIVE SOIL GAS SURVEY RESULTS

ASG I-6 Results

Sample Name:	ASG #I-6		Date of Collection:	07/28/1999
	Easting	**Northing**		
Location:	1403442.746	7360989.651	*Station Pressure:	24.69" Hg (R)

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
1,1-Dichloroethene	11	43	86	350
cis-1,2-Dichloroethene	11	43	11	45
Chloroform	11	53	35	170
1,1,1-Trichloroethane	11	60	3000	17000
Tetrachloroethene	11	74	450	3100
Trichloroethene	11	59	530	2900
Freon 11	11	61	11	64
1,1-Dichloroethane	11	44	15	63

ASG I-7 Results

Sample Name:	ASG #I-7		Date of Collection:	10/06/1999
	Easting	**Northing**		
Location:	1403084.856	7361181.738	*Station Pressure:	24.72" Hg (R)

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
Freon 11	1.6	9	360	2000
1,1-Dichloroethene	1.6	6.4	3.4	14
Freon 113	1.6	12	3	23
Chloroform	1.6	7.8	3.6	18
1,1,1-Trichloroethane	1.6	8.8	170	940
cis-1,2-Dichloroethene	1.6	6.4	12	47
Trichloroethene	1.6	8.6	410	2200
Tetrachloroethene	1.6	11	210	1400
Acetone	6.3	15	7.8	19
1,1-Dichloroethane	1.6	6.5	13	56
1,4-Dioxane	6.3	23	7.1	26

ASG I-8 Results

Sample Name:	ASG #I-8		Date of Collection:	10/07/1999
	Easting	**Northing**		
Location:	1403294.667	7362049.711	*Station Pressure:	24.98" Hg (S)

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
1,1,1-Trichloroethane	8.1	45	390	2200
1,1-Dichloroethene	8.1	32	140	540
Trichloroethene	8.1	44	150	830
Tetrachloroethene	8.1	56	3,100	22000

ASG I-9 Results

Sample Name:	ASG #I-9		Date of Collection:	10/07/1999
	Easting	**Northing**		
Location:	1403726.862	7361805.242	*Station Pressure:	25.01" Hg (S)

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
1,1-Dichloroethene	200	800	240	980
1,1,1-Trichloroethane	200	1100	610	3400
Trichloroethene	200	1100	440	2400
Tetrachloroethene	200	1400	53,000	370,000

ASG I-10 Results

Sample Name:	ASG #I-10		Date of Collection:	10/07/1999
	Easting	**Northing**		
Location:	1403989.461	7361660.405	*Station Pressure:	25.01" Hg (S)

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
1,1,1-Trichloroethane	320	1800	810	4500
Trichloroethene	320	1700	940	5100
Tetrachloroethene	320	2200	52,000	360,000

Table C-3: SUMMARY OF ACTIVE SOIL GAS SURVEY RESULTS

ASG I-11 Results

Sample Name:	ASG #I-11		Date of Collection:	10/06/1999
	Easting	**Northing**		
Location:	1404276.341	7361614.735	*Station Pressure:	24.65" Hg (R)

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
1,1,1-Trichloroethane	27	150	840	4600
1,1-Dichloroethene	27	110	810	3300
Trichloroethene	27	150	450	2400
Tetrachloroethene	27	190	5,900	41,000

ASG I-12 Results

Sample Name:	ASG #I-12		Date of Collection:	10/07/1999
	Easting	**Northing**		
Location:	1405281.965	7361442.655	*Station Pressure:	25.04" Hg (S)

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
Chloroform	2.6	13	110	570
1,1,1-Trichloroethane	2.6	14	3.2	18
Carbon Tetrachloride	2.6	16	460	2900
Trichloroethene	2.6	14	140	770
Tetrachloroethene	2.6	18	780	5400

ASG I-13 Results

Sample Name:	ASG #I-13		Date of Collection:	10/07/1999
	Easting	**Northing**		
Location:	1405477.384	7361784.617	*Station Pressure:	25.04" Hg (S)

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
Chloroform	3.9	19	34	170
Carbon Tetrachloride	3.9	25	42	270
Trichloroethene	3.9	21	48	260
Tetrachloroethene	3.9	27	1200	8500

ASG I-14 Results

Sample Name:	ASG #I-14		Date of Collection:	10/07/1999
	Easting	**Northing**		
Location:	1403220.656	7363557.147	*Station Pressure:	25.01" Hg (R)

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
1,1,1-Trichloroethane	11	63	17	96
Trichloroethene	11	62	180	1000
Tetrachloroethene	11	78	4200	29,000

ASG I-15 Results

Sample Name:	ASG #I-15		Date of Collection:	10/08/1999
	Easting	**Northing**		
Location:	1406989.209	7363452.142	*Station Pressure:	25.10" Hg (S)

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
1,1-Dichloroethene	4.6	18	1400	5500
Chloroform	4.6	23	30	150
1,1,1-Trichloroethane	4.6	26	1600	9200
Carbon Tetrachloride	4.6	29	240	1500
Trichloroethene	4.6	25	300	1600
Tetrachloroethene	4.6	32	220	1500

ASG I-16 Results

Sample Name:	ASG #I-16		Date of Collection:	10/08/1999
	Easting	**Northing**		
Location:	1407255.116	7363933.963	*Station Pressure:	25.10" Hg (S)

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
Trichloroethene	21	110	6200	34,000
Tetrachloroethene	21	140	160	1100

Table C-3: SUMMARY OF ACTIVE SOIL GAS SURVEY RESULTS

ASG I-17 Results

Sample Name:	ASG #I-17		Date of Collection:	10/08/1999
	Easting	**Northing**		
Location:	1406988.615	7364126.336	*Station Pressure:	25.10" Hg (S)

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
1,1,1-Trichloroethane	0.9	5	2.4	13
Carbon Tetrachloride	0.9	5.7	130	840
Trichloroethene	0.9	4.9	150	830
Tetrachloroethene	0.9	6.2	280	1900
Chloromethane	0.9	1.9	1.7	3.6
Methylene Chloride	0.9	3.2	1	3.7
Chloroform	0.9	4.4	9.5	47
Acetone	3.6	8.6	10	25

ASG I-18 Results

Sample Name:	ASG #I-18		Date of Collection:	10/08/1999
	Easting	**Northing**		
Location:	1407176.300	7365726.288	*Station Pressure:	25.10" Hg (S)

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
Ethyl Benzene	1.6	7.1	2.4	10
m,p-Xylene	1.6	7.1	5.3	24
o-Xylene	1.6	7.1	1.6	7.2
Hexane	6.4	23	10	37
Heptane	6.4	27	11	47
1,2,4-Trimethylbenzene	1.6	8	2.4	12
Chloroform	1.6	8	4	20
1,1,1-Trichloroethane	1.6	8.9	79	440
Benzene	1.6	5.2	3.8	12
Trichloroethene	1.6	8.8	130	730
Tetrachloroethene	1.6	11	540	3700
Toluene	1.6	6.2	7.4	28
Chloromethane	1.6	3.4	1.6	3.4
Freon 11	1.6	9.2	2.8	16
Acetone	6.4	16	12	29

ASG I-19 Results

Sample Name:	ASG #I-19		Date of Collection:	10/06/1999
	Easting	**Northing**		
Location:	1405440.959	7360375.167	*Station Pressure:	24.63" Hg (R)

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
cis-1,2-Dichloroethene	4.7	19	87	350
1,1-Dichloroethene	4.7	19	250	1000
1,1-Dichloroethane	4.7	19	30	120
Chloroform	4.7	23	18	90
1,1,1-Trichloroethane	4.7	26	590	3300
Carbon Tetrachloride	4.7	30	6.8	43
Trichloroethene	4.7	26	1500	8400
Tetrachloroethene	4.7	32	61	420
Acetone	19	45	19	47

DRMO Area Active Soil Gas (ASG) Results

ASG D-1 Results

Sample Name:	ASG #D-1		Date of Collection:	07/28/1999
	Easting	**Northing**		
Location:	1408071.099	7362896.324	Date of Analysis:	08/03/1999

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
Freon 11	1.1	6.4	4.4	25
1,1-Dichloroethene	1.1	4.5	22	91
Freon 113	1.1	8.7	1.8	14
Chloroform	1.1	5.6	3.1	16
1,1,1-Trichloroethane	1.1	6.2	360	2000
Carbon Tetrachloride	1.1	7.2	14	88
Trichloroethene	1.1	6.1	93	510
Toluene	1.1	\	1.2	4.8
Acetone	4.5	11	8.1	20
Ethanol	4.5	8.6	14	27

Table C-3: SUMMARY OF ACTIVE SOIL GAS SURVEY RESULTS

ASG D-2 Results

Sample Name:	ASG #D-2		Date of Collection:	07/28/1999
	Easting	**Northing**		
Location:	1408049.914	7363286.593	Date of Analysis:	08/03/1999

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
1,1,1-Trichloroethane	0.84	4.7	10	59
Carbon Tetrachloride	0.84	5.4	5.9	38
Trichloroethene	0.84	4.6	1.6	9
1,1,2-Trichloroethane	0.84	4.7	1.3	7.2
Acetone	3.4	8.1	4.1	10

ASG D-3 Results

Sample Name:	ASG #D-3		Date of Collection:	07/28/1999
	Easting	**Northing**		
Location:	1408381.889	7363093.29	Date of Analysis:	08/03/1999

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
1,1-Dichloroethene	2.3	9.5	**64**	260
cis-1,2-Dichloroethene	2.3	9.5	8.8	36
Chloroform	2.3	12	3.1	15
1,1,1-Trichloroethane	2.3	13	700	3900
Carbon Tetrachloride	2.3	15	4.5	29
Trichloroethene	2.3	13	7.2	40
1,1,2-Trichloroethane	2.3	13	12	69
trans-1,2-Dichlorethene	9.4	38	14	56

ASG D-4 Results

Sample Name:	ASG #D-4		Date of Collection:	09/04/1999
	Easting	**Northing**		
Location:	1407939.964	7362888.650	Date of Analysis:	09/10/1999

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
1,1-Dichloroethene	4.5	18	11	45
1,1,1-Trichloroethane	4.5	25	190	1100
Carbon Tetrachloride	4.5	29	36	230
Trichloroethene	4.5	25	1500	8400
Toluene	4.5	17	5.3	20
Acetone	18	44	21	50

ASG D-5 Results

Sample Name:	ASG #D-5		Date of Collection:	09/04/1999
	Easting	**Northing**		
Location:	1407868.015	7363032.319	Date of Analysis:	09/10/1999

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv)	Detection (ug/m^3)
Chloromethane	3.2	6.8	6.7	14
1,1,1-Trichloroethane	3.2	18	10	56
Carbon Tetrachloride	3.2	21	52	330
Trichloroethene	3.2	18	860	4700
Toluene	3.2	12	4.8	18
Acetone	13	31	14	35

ASG D1 Results--Duplicate

Sample Name:	ASG #1 (02) **(duplicate)**	Date of Collectic	09/04/1999
Location:	Between Modules O-1 and O-2	Date of Analysis:	09/10/1999

Compound	Detection Limit (ppbv)	Detection Limit (ug/m^3)	Detection (ppbv) *(initial)*	Detection (ppbv) duplicate	Detection (ug/m^3) *(initial)*	Detection (ug/m^3) duplicate
Freon 11	1.1	6.4	*(4.4)*	3.6	*(25)*	21
1,1-Dichloroethene	1.1	4.5	*(22)*	18	*(91)*	71
Freon 113	1.1	8.7	*(1.8)*	1.6	*(14)*	12
Chloroform	1.1	5.6	*(3.1)*	3.4	*(16)*	17
1,1,1-Trichloroethane	1.1	6.2	*(360)*	400	*(2000)*	2200
Carbon Tetrachloride	1.1	7.2	*(14)*	13	*(88)*	82
Trichloroethene	1.1	6.1	*(93)*	81	*(510)*	440
Toluene	1.1	4.3	*(1.2)*	nd	*(4.8)*	nd
Acetone	4.5	11	*(8.1)*	7.3	*(20)*	18
Ethanol	4.5	8.6	*(14)*	nd	*(27)*	nd

ppbv: parts per billion volum ug/m3: micrograms per cubic meter ASG: active soil gas

*barometric (gauge) pressure as recorded at the weather station in Tooele City [(S) steady, (R) rising, (F) falling]

Table C-4: SUMMARY OF VERTICAL SOIL GAS RESULTS

VSG #3 (reported by sample port depth below ground surface [bgs])				
Sample Port # 10: Depth = 370 ft bgs (sampled 10/22/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Carbon Disulfite	13	42	25	78
Methyl Ethyl Ketone	13	40	780	2300
Tetrahydrofuran	13	40	26	79
4-Methyl-2-pentanone	13	56	15	62
Methyl tert-Butyl Ether	13	49	15	58
Chloromethane	3.4	7	3.9	8.2
Carbon Tetrachloride	3.4	21	27	170
Benzene	3.4	11	15	48
Trichloroethene	3.4	18	7.1	39
Toluene	3.4	13	54	210
m,p-Xylene	3.4	15	8.8	39
Acetone	13	32	250	610
Sample Port # 9: Depth = 334 ft bgs (sampled 10/22/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Carbon Disulfide	3.2	10	8.2	26
Methyl Ethyl Ketone	3.2	9.5	150	450
Hexane	3.2	11	6	22
Tetrahydrofuran	3.2	9.5	21	63
1,4-Dioxane	3.2	12	3.6	13
4-Methyl-2-pentanone	3.2	13	8.8	36
Heptane	3.2	13	3.6	15
Chloromethane	0.79	1.6	1.7	3.5
Vinyl Chloride	0.79	2	2.8	7.2
Carbon Tetrachloride	0.79	5	120	750
Benzene	0.79	2.6	11	37
Trichloroethene	0.79	4.3	10	57
Toluene	0.79	3	26	100
Ethyl Benzene	0.79	3.5	0.85	3.7
m,p-Xylene	0.79	3.5	2.4	11
o-Xylene	0.79	3.5	1.3	5.6
Acetone	3.2	7.6	140	320
Sample Port # 8: Depth = 298 ft bgs (sampled 10/22/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Carbon Disulfide	3.3	10	4.3	14
Methyl Ethyl Ketone	3.3	9.8	93	280
Hexane	3.3	9.8	23	68
4-Methyl-2-pentanone	3.3	14	9.3	39
Vinyl Chloride	0.82	2.1	0.89	2.3
1,1,1-Trichloroethane	0.82	4.5	1.3	7.2
Carbon Tetrachloride	0.82	5.2	170	1,100
Benzene	0.82	2.7	5.9	19
Trichloroethene	0.82	4.5	23	120
Toluene	0.82	3.1	16	60
m,p-Xylene	0.82	3.6	2.5	11
o-Xylene	0.82	3.6	1.2	5.4
Acetone	3.3	7.9	130	310
Sample Port # 7: Depth = 262 ft bgs (sampled 10/22/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Methy Ethyl Ketone	4.5	13	140	410
Tetrahydrofuran	4.5	13	44	130
4-Methyl-2-pentanone	4.5	19	8.1	34
Chloromethane	1.1	2.4	1.4	3
Carbon Tetrachloride	1.1	7.2	350	2200
Benzene	1.1	3.6	7.6	25
Trichloroethene	1.1	6.1	11	62
Toluene	1.1	4.3	3.7	14
Acetone	4.5	11	160	370

Table C-4: SUMMARY OF VERTICAL SOIL GAS RESULTS

Sample Port # 6: Depth = 226 ft bgs (sampled 10/22/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Methyl Ethyl Ketone	6.7	20	63	190
Tetrahydrofuran	6.7	20	17	52
1,1-Dichloroethene	1.7	6.8	2.4	9.8
1,1,1-Trichlororthane	1.7	9.3	4.9	27
Carbon Tetrachloride	1.7	11	460	3000
Benzene	1.7	5.4	3.9	13
Trichloroethene	1.7	9.2	32	180
Toluene	1.7	6.4	3.7	14
m,p-Xylene	1.7	7.4	1.8	7.8
Acetone	6.7	16	66	160
Sample Port # 5: Depth =190 ft bgs (sampled 10/22/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Methyl Ethyl Ketone	3.4	10	12	36
Tetrahydrofuran	3.4	10	4.9	15
1,1-Dichloroethene	0.84	3.4	5.9	24
Methylene Chloride	0.84	3	1.2	4.1
Chloroform	0.084	4.2	1.5	7.6
1,1,1-Trichoroethane	0.84	4.6	15	84
Carbon Tetrachloride	0.84	5.4	220	1400
Benzene	0.84	2.7	1.7	5.5
Trichloroethene	0.84	4.6	140	790
Acetone	3.4	8.1	52	120
Sample Port # 4: Depth =154 ft bgs (sampled 10/22/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Methyl Ethyl Ketone	9.3	28	9.4	28
1,1-Dichloroethene	2.3	9.4	14	54
Methylene Chloride	2.3	8.2	3.2	11
Chloroform	2.3	12	4.1	20
1,1,1-Trichloroethane	2.3	13	50	280
Carbon Tetrachloride	2.3	15	660	4200
Benzene	2.3	7.6	3.7	12
Trichloroethene	2.3	13	590	3200
Sample Port # 3: Depth =118 ft bgs (sampled 10/22/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	6.7	27	34	140
1,1,1-Trichloroethane	6.7	37	120	670
Carbon Tetrachloride	6.7	43	530	3400
Trichloroethene	6.7	36	2,000	11000
Acetone	27	65	58	140
Sample Port # 2: Depth =82 ft bgs (sampled 10/22/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Methyl Ethyl Ketone	34	100	35	100
1,1-Dichloroethene	8.4	34	52	210
1,1,1-Trichloroethane	8.4	46	160	880
Carbon Tetrachloride	8.4	54	450	2900
Trichloroethene	8.4	46	3,000	16,000
Acetone	34	81	70	170
Sample Port # 1: Depth =46 ft bgs (sampled 10/22/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	11	45	48	190
1,1,1-Trichloroethane	11	62	190	1100
Carbon Tetrachloride	11	72	180	1200
Benzene	11	36	13	43
Trichloroethene	11	61	4,000	22000
ASG #D-4: Depth = 10 ft bgs (sampled 08/03/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	4.5	18	11	45
1,1,1-Trichloroethane	4.5	25	190	1100
Carbon Tetrachloride	4.5	29	36	230
Trichloroethene	4.5	25	1500	8400
Toluene	4.5	17	5	20
Acetone	18	44	21	50

ppbv = parts per billion volume
ug/m^3 = micrograms per cubic meter
VSG = vertical soil gas
ASG = active soil gas

Table C-4: SUMMARY OF VERTICAL SOIL GAS RESULTS

VSG #4 (reported by sample port depth below ground surface [bgs])				
Sample Port # 10: Depth = 320 ft bgs (sampled 11/1/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	32	130	150	610
1,1,1-Trichloroethane	32	180	41	230
Carbon Tetrachloride	32	200	39	250
Trichloroethene	32	180	7700	42000
Acetone	130	310	240	590
Sample Port # 9: Depth = 289 ft bgs (sampled 11/1/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	80	320	180	710
Trichloroethene	80	440	9200	50000
Sample Port # 8: Depth = 258 ft bgs (sampled 11/1/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	32	130	160	650
1,1,1-Trichloroethane	32	180	39	220
Carbon Tetrachloride	32	200	37	240
Trichloroethene	32	180	7000	38000
Acetone	130	310	220	620
Sample Port # 7: Depth = 227 ft bgs (sampled 11/1/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	32	130	300	1200
1,1,1-Trichloroethane	32	180	72	400
Carbon Tetrachloride	32	200	71	460
Trichloroethene	32	180	7700	42000
Acetone	130	310	180	430
Sample Port # 6: Depth = 196 ft bgs (sampled 11/1/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	32	130	200	830
1,1,1-Trichloroethane	32	180	73	410
Carbon Tetrachloride	32	200	40	250
Trichloroethene	32	180	5600	31000
Sample Port # 5: Depth = 165 ft bgs (sampled 11/1/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	32	130	230	920
1,1,1-Trichoroethane	32	180	89	490
Carbon Tetrachloride	32	200	43	280
Trichloroethene	32	180	5000	27000
Sample Port # 4: Depth = 134 ft bgs (sampled 11/1/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	32	130	250	1000
1,1,1-Trichlororthane	32	180	110	590
Carbon Tetrachloride	32	200	47	300
Trichloroethene	32	180	5400	30000
Sample Port # 3: Depth = 103 ft bgs (sampled 11/1/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	32	130	290	1200
cis-1,2-Dichloroethene	32	130	140	660
1,1,1-Trichloroethane	32	180	180	1000
Carbon Tetrachloride	32	200	33	210
Trichloroethene	32	180	8500	46000

Table C-4: SUMMARY OF VERTICAL SOIL GAS RESULTS

Sample Port # 2: Depth = 72 ft bgs (sampled 11/1/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	32	130	170	700
cis-1,2-Dichloroethene	32	130	160	660
1,1,1-Trichloroethane	32	180	130	730
Trichloroethene	32	180	6,200	34000
Sample Port # 1: Depth = 41ft bgs (sampled 11/1/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	34	140	100	420
cis-1,2-Dichloroethene	34	140	130	530
1,1,1-Trichloroethane	34	190	120	670
Trichloroethene	34	180	5500	30000
ASG #I-2 Depth = 10 ft bgs (sampled 10/6/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	16	66	75	300
1,1,1-Trichloroethane	16	91	190	1000
Trichloroethene	16	90	3700	20000
cis-1,2-Dichloroethene	16	66	17	68

ppbv = parts per billion volume
ug/m^3 = micrograms per cubic meter
VSG = vertical soil gas
ASG = active soil gas

Table C-4: SUMMARY OF VERTICAL SOIL GAS RESULTS

VSG #5 (reported by sample port depth below ground surface [bgs])				
Sample Port # 10: Depth = 330ft bgs (sampled 11/5/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Trichloroethene	320	1,800	72,000	390,000
Sample Port # 9: Depth = 298 ft bgs (sampled 11/5/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Trichloroethene	640	3,500	89,000	480,000
Sample Port # 8: Depth = 266 ft bgs (sampled 11/5/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Trichloroethene	320	1,800	75,000	410,000
Sample Port # 7: Depth = 234 ft bgs (sampled 11/5/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Trichloroethene	320	1,800	70,000	380,000
Sample Port # 6: Depth = 202 ft bgs (sampled 11/5/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Trichloroethene	320	1,800	69,000	380,000
Sample Port # 5: Depth = 170 ft bgs (sampled 11/5/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Trichloroethene	320	1,800	83,000	450,000
Sample Port # 4: Depth = 138 ft bgs (sampled 11/5/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Trichloroethene	640	3,500	220,000	1,200,000
Sample Port # 3: Depth = 106 ft bgs (sampled 11/5/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Trichloroethene	1,600	8,800	320,000	1,800,000
Sample Port # 2: Depth = 74 ft bgs (sampled 11/5/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Trichloroethene	1,600	8,800	410,000	2,200,000
Sample Port # 1: Depth = 42 ft bgs (sampled 11/5/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Trichloroethene	1,600	8,800	390,000	2,200,000
ASG# I-16 Depth = 10 ft bgs (sampled 10/8/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Trichloroethene	21	110	6,200	34,000
Tetrachloroethene	21	140	160	1,100

ppbv = parts per billion volume
ug/m^3 = micrograms per cubic meter
VSG = vertical soil gas
ASG = active soil gas

Table C-4: SUMMARY OF VERTICAL SOIL GAS RESULTS

VSG #6 (reported by sample port depth below ground surface [bgs])				
Sample Port # 10: Depth = 285 ft bgs (sampled 11/12/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Chloromethane	6.3	13	11	23
Vinyl Chloride	6.3	16	20	53
1,1-Dichloroethene	6.3	25	600	2,400
Methylene Chloride	6.3	22	6.9	24
1,1-Dichloroethane	6.3	26	19	77
cis-1,2-Dichloroethene	6.3	25	170	700
Chloroform	6.3	31	7	35
1,1,1-Trichloroethane	6.3	35	180	990
Benzene	6.3	20	8	26
1,2-Dichloroethane	6.3	26	18	76
Trichloroethene	6.3	34	740	4,100
Toluene	6.3	24	320	1,200
1,1,2-Trichloroethane	6.3	35	30	160
Tetrachloroethene	6.3	43	1,000	6,900
Acetone	25	61	89	220
utanone (Methyl Ethyl Ketc	25	76	27	82
Hexane	25	90	410	1500
Sample Port # 9: Depth = 257.6 ft bgs (sampled 11/12/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Vinyl Chloride	7.9	20	10	26
1,1-Dichloroethene	7.9	32	860	3,500
1,1-Dichloroethane	7.9	32	26	110
cis-1,2-Dichloroethene	7.9	32	240	970
1,1,1-Trichloroethane	7.9	44	320	1,800
Benzene	7.9	26	8.8	29
1,2-Dichloroethane	7.9	32	19	79
Trichloroethene	7.9	43	1,100	6,100
Toluene	7.9	30	290	1,100
1,1,2-Trichloroethane	7.9	44	43	240
Tetrachloroethene	7.9	54	2,600	18,000
Acetone	32	76	53	130
Hexane	32	110	260	940
Sample Port # 8: Depth = 229.2 ft bgs (sampled 11/12/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Chloromethane	7.9	16	8.4	18
Vinyl Chloride	7.9	20	8.6	22
1,1-Dichloroethene	7.9	32	340	1,400
1,1-Dichloroethane	7.9	32	22	91
cis-1,2-Dichloroethene	7.9	32	170	670
1,1,1-Trichloroethane	7.9	44	240	1,300
Benzene	7.9	26	16	53
Trichloroethene	7.9	43	730	4,000
Toluene	7.9	30	230	870
1,1,2-Trichloroethane	7.9	44	20	110
Tetrachloroethene	7.9	54	2,100	15,000
Acetone	32	76	90	220
Hexane	32	110	330	1,200
Sample Port # 7: Depth = 201.8 ft bgs (sampled 11/12/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	7.9	32	430	1,700
1,1-Dichloroethane	7.9	32	20	84
cis-1,2-Dichloroethene	7.9	32	83	330
1,1,1-Trichloroethane	7.9	44	320	1,800
Trichloroethene	7.9	43	360	2,000
Toluene	7.9	30	130	510
Tetrachloroethene	7.9	54	2,400	17,000
Acetone	32	76	50	120
Hexane	32	110	180	660

Table C-4: SUMMARY OF VERTICAL SOIL GAS RESULTS

Sample Port # 6: Depth = 174.4 ft bgs (sampled 11/12/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	7.9	32	850	3,400
1,1-Dichloroethane	7.9	32	29	120
cis-1,2-Dichloroethene	7.9	32	61	240
1,1,1-Trichloroethane	7.9	44	500	2,800
Benzene	7.9	26	12	40
Trichloroethene	7.9	43	270	1,500
Toluene	7.9	30	110	410
Tetrachloroethene	7.9	54	2,600	18,000
Acetone	32	76	88	210
utanone (Methyl Ethyl Ketc	32	95	53	160
Hexane	32	110	120	440
Sample Port # 5: Depth = 147 ft bgs (sampled 11/12/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	160	640	2,300	9,500
1,1,1-Trichloroethane	160	880	1,700	9,500
Trichloroethene	160	860	650	3,500
Tetrachloroethene	160	1,100	28,000	190,000
Sample Port # 4: Depth = 119.6 ft bgs (sampled 11/12/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	160	640	2,400	9,700
1,1,1-Trichloroethane	160	880	1,800	9,800
Trichloroethene	160	860	600	3,300
Tetrachloroethene	160	1,100	38,000	260,000
Sample Port # 3: Depth = 92.2 ft bgs (sampled 11/12/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	160	620	1,600	6,300
1,1,1-Trichloroethane	160	860	1,200	6,600
Trichloroethene	160	850	460	2,500
Tetrachloroethene	160	1,100	41,000	280,000
Sample Port # 2: Depth =64.8 ft bgs (sampled 11/12/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	160	620	1,500	6,200
1,1,1-Trichloroethane	160	860	1,100	6,200
Trichloroethene	160	850	410	2,200
Tetrachloroethene	160	1,100	50,000	340,000
Sample Port # 1: Depth =37.4 ft bgs (sampled 11/12/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	160	620	990	4,000
1,1,1-Trichloroethane	160	860	1,000	5,700
Trichloroethene	160	850	260	1,400
Tetrachloroethene	160	1,100	39,000	270,000
ASG #I-9 Depth = 10 ft bgs (sampled 10/7/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	200	800	240	980
1,1,1-Trichloroethane	200	1,100	610	3,400
Trichloroethene	200	1,100	440	2,400
Tetrachloroethene	200	1,400	53,000	370,000

ppbv = parts per billion volume
ug/m^3 = micrograms per cubic meter
VSG = vertical soil gas
ASG = active soil gas

Table C-4: SUMMARY OF VERTICAL SOIL GAS RESULTS

VSG #7 (reported by sample port depth below ground surface [bgs])				
Sample Port # 10: Depth =310 ft bgs (sampled 11/23/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Freon 12	1.0	5.0	1.6	7.8
Freon 11	1.0	5.7	2.9	17
1,1-Dichloroethene	1.0	4.0	81	330
1,1,1-Trichloroethane	1.0	5.6	85	470
Carbon Tetrachloride	1.0	6.4	1.9	12
Benzene	1.0	3.3	1.9	6.3
Trichloroethene	1.0	5.5	210	1100
Toluene	1.0	3.8	60	230
m,p-Xylene	1.0	4.4	1.3	5.6
Acetone	4.0	9.7	120	300
Carbon Disulfide	4.0	13	6.2	20
2-Propanol	4.0	10	11	28
2-Butanone	4.0	12	80	240
Hexane	4.0	14	100	360
Tetrahydrofuran	4.0	12	34	100
Ethanol	4.0	7.7	11	22
Heptane	4.0	17	180	750
Sample Port # 9: Depth =280 ft bgs (sampled 11/23/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Freon	0.79	4.0	2.6	13
Chloromethane	0.79	1.6	0.82	1.7
Freon 11	0.79	4.5	4.5	26
1,1-Dichloroethene	0.79	3.2	110	440
cis-1,2-Dichloroethene	0.79	3.2	0.93	3.8
1,1,1-Trichloroethane	0.79	4.4	200	1100
Carbon Tetrachloride	0.79	5.0	3.0	19
Benzene	0.79	2.6	2.0	6.6
Trichloroethene	0.79	4.3	210	1200
Toluene	0.79	3.0	29	110
m,p-Xylene	0.79	3.6	1.1	5.0
Acetone	3.2	7.6	50	120
Carbon Disulfide	3.2	10	3.9	12
2-Propanol	3.2	7.9	5.5	14
2-Butanone	3.2	9.5	19	57
Hexane	3.2	11	44	160
Tetrahydrofuran	3.2	9.5	6.7	20
Ethanol	3.2	6.0	11	20
Heptane	3.2	13	26	110
Sample Port # 8: Depth =250 ft bgs (sampled 11/23/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Freon 12	1.1	5.4	3.3	16
Chloromethane	1.1	2.2	1.2	2.5
Freon 11	1.1	6.1	3.2	18
1,1-Dichloroethene	1.1	4.3	150	590
1,1-Dichloroethane	1.1	4.4	1.1	4.7
cis-1,2-Dichloroethene	1.1	4.3	1.9	7.8
Chloroform	1.1	5.3	1.2	5.7
1,1,1-Trichloroethane	1.1	6.0	310	1700
Carbon Tetrachloride	1.1	6.9	3.0	19
Benzene	1.1	3.5	2.5	8.2
Trichloroethene	1.1	5.9	170	940
Toluene	1.1	4.1	37	140
Tetrachloroethene	1.1	7.4	2.0	14
m,p-Xylene	1.1	4.7	1.4	6.1
Acetone	4.3	10	120	290
Carbon Disulfide	4.3	14	5.3	17
2-Propanol	4.3	11	5.6	14
2-Butanone	4.3	13	20	61
Hexane	4.3	15	34	120
Tetrahydrofuran	4.3	13	8.9	27
Ethanol	4.3	8.2	4.4	8.4
Heptane	4.3	18	18	76

Table C-4: SUMMARY OF VERTICAL SOIL GAS RESULTS

Sample Port # 7: Depth =220 ft bgs (sampled 11/23/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Freon 12	1.1	5.4	3.6	18
Freon 11	1.1	6.1	2.9	17
1,1-Dichloroethene	1.1	4.3	290	1200
cis-1,2-Dichloroethene	1.1	4.3	1.6	8.3
Chloroform	1.1	6.3	1.3	6.5
1,1,1-Trichloroethane	1.1	6.0	330	1800
Carbon Tetrachloride	1.1	6.9	3.8	24
Benzene	1.1	3.5	1.5	4.8
Trichloroethene	1.1	5.9	140	790
Toluene	1.1	4.1	31	120
Tetrachloroethene	1.1	7.4	2.5	17
Acetone	4.3	10	68	160
2-Propanol	4.3	11	11	26
2-Butanone	4.3	13	37	110
Hexane	4.3	15	34	120
Tetrahydrofuran	4.3	13	11	34
Ethanol	4.3	8.2	7.9	15
Heptane	4.3	18	20	83
Sample Port # 6: Depth =190 ft bgs (sampled 11/23/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Freon 12	2.7	13	5.5	28
Freon 11	2.7	15	4.7	27
1,1-Dichloroethene	2.7	11	590	2400
1,1-Dichloroethane	2.7	11	3.0	12
1,1,1-Trichoroethane	2.7	15	630	3600
Carbon Tetrachloride	2.7	17	4.9	31
Trichloroethene	2.7	15	140	740
Toluene	2.7	10	13	49
Acetone	11	26	54	130
2-Butanone	11	32	43	130
Hexane	11	38	19	67
Tetrahydrofuran	11	32	12	38
Sample Port # 5: Depth =160 ft bgs (sampled 11/23/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Freon 12	4.0	20	5.1	26
1,1-Dichloroethene	4.0	16	800	3200
1,1,1-Trichloroethane	4.0	22	1100	6100
Carbon Tetrachloride	4.0	25	5.5	35
Trichloroethene	4.0	22	160	850
Toluene	4.0	15	12	46
Acetone	16	38	35	84
2-Butanone	16	47	28	86
Hexane	16	56	29	100
Heptane	16	66	18	77
Sample Port # 4: Depth =130 ft bgs (sampled 11/23/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
Freon 12	5.4	27	6.1	31
1,1-Dichloroethene	5.4	22	960	3900
1,1-Dichloroethane	5.4	22	7.6	31
1,1,1-Trichloroethane	5.4	30	1600	8700
Trichloroethene	5.4	29	250	1400
Toluene	5.4	20	8.9	34
Acetone	21	52	45	110
Hexane	21	77	25	89.0

Table C-4: SUMMARY OF VERTICAL SOIL GAS RESULTS

Sample Port # 3: Depth =100 ft bgs (sampled 11/23/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	11	44	1900	7800
1,1-Dichloroethane	11	45	21	88
cis-1,2-Dichloroethene	11	44	17	68
1,1,1-Trichloroethane	11	61	3700	20000
Trichloroethene	11	60	1100	6100
Acetone	44	100	46	110
Sample Port # 2: Depth =70 ft bgs (sampled 11/23/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	11	43	1900	7600
1,1-Dichloroethane	11	44	40	160
cis-1,2-Dichloroethene	11	43	33	130
1,1,1-Trichloroethane	11	60	3600	20000
Trichloroethene	11	59	1700	9500
Acetone	43	100	49	190
2-Butanone	43	130	260	790
Sample Port # 1: Depth =40 ft bgs (sampled 11/23/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1-Dichloroethene	4.0	16	560	2300
1,1,-Dichloroethane	4.0	16	17	70
cis-1,2-Dichloroethene	4.0	16	10	42
Chloroform	4.0	20	4.6	23
1,1,1-Trichoroethane	4.0	22	1200	6400
Trichloroethene	4.0	22	640	3500
Acetone	16	38	42	100
2-Butanone	16	47	43	130
Heptane	16	66	23	97
ASG #I-5 Depth = 10 ft bgs (sampled 10/6/99)				
Compound	**Detection Limit (ppbv)**	**Detection Limit (ug/m^3)**	**Detection (ppbv)**	**Detection (ug/m^3)**
1,1,1-Trichloroethane	27	150	6700	37000
1,1-Dichloroethane	27	110	48	200
1,1-Dichloroethene	27	110	310	1200
Trichloroethene	27	150	370	2000
Tetrachloroethene	27	190	680	4600

ppbv = parts per billion volume
ug/m^3 = micrograms per cubic meter
VSG = vertical soil gas
ASG = active soil gas

TEAD SWMU 58 VSG Locations			
Well No.	**Easting**	**Northing**	**Elevation above MSL**
VSG3	1407939.185	7362884.844	4856.635
VSG4	1404949.773	7360655.559	4830.128
VSG5	1407300.79	7363878.369	4822.224
VSG6	1403721.302	7361794.681	4786.06
VSG7	1404020.028	7360859.646	4799.056

MSL: mean sea level

TableC-5
SUMMARY OF MAJOR ION ANALYSES

Parameter	Water Quality Standard (ppm)	C-12	C-13	C-14	C-15	C-16	C-17	C-18	C-19	C-20	C-21	C-22	C-23	C-24	*C-25
Date Sampled		01/06/1997	01/20/1997	02/03/1997	03/29/1997	05/12/1997	05/13/1997	05/20/1997	07/17/1997	07/18/1997	08/29/1997	09/08/1997	10/31/1997	10/08/1997	11/07/1997
Cations															
Sodium	20 DWEL	NA	NA	NA	NA	160	NA	51	138	113	128.43	123.8	105.7	62.59	210
Potassium	NE	NA	NA	NA	NA	4.1	NA	1.5	4.2	2.3	3.35	2.41	4.2	1.69	5.46
Calcium	NE	NA	NA	NA	NA	130	NA	80	82.8	51.9	51.33	48.6	45.3	64.24	107
Magnesium	NE	NA	NA	NA	NA	57	NA	22	32.7	17.9	20.15	17.3	16.5	20.6	43
Iron	300 S	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.11	0.06	0.17	0.02	NA
Anions															
Bicarbonate	NE	NA	NA	NA	NA	270	NA	260	214	208	224	250	82	212	234
Carbonate	NE	NA	NA	NA	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	<1
Chloride	250 S	NA	NA	NA	NA	NA	NA	54	224	108	171.32	116.8	89.9	91.5	398
Bromide	NE	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	NA
Sulfate	1000	NA	NA	NA	NA	NA	NA	36	104	61	95.01	61.8	54.4	40.16	69
Nitrate (as N)	10	NA	NA	NA	NA	NA	NA	NA	5.5	3.66	5.67	5.67	2.6	3.61	2.3
Nitrite (as N)	1	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	NA
Fluoride	4	NA	NA	NA	NA	NA	NA	NA	0.4 B	0.4 B	0.3 B	0.3 B	0.26 B	0.56 B	NA
Hydroxide	NE	NA	NA	NA	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA
O-Phosphorus	NE	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	NA
Other															
pH	6.5-8.5 S	7.47	7.85	7.38	7.25	7.3	7.59	8.32	7.35	7.38	7.23	7.7	6.08	7.32	8.98
Conductivity	NE	665	831	91	717	1366	1197	470	1120	741	823	850	457	414	1363
Temp. (^{o}C)	NE	13.7	10.2	16.8	13.9	17.5	18.3	12.7	28.3	18.2	19.1	20.3	18.6	13.9	17.8
TDS	2000	NA	NA	NA	592	1036	891	399	NA	NA	602	NA	338	341	1027

"Other" parameters were measured directly from the well immediately preceding the sampling procedures. Units are in mg/L

B: Detected below limit of quantitation, but above method detection limit. J: Detected below quantitation limit ND: Not Detected NA: Not Analyzed

P: Primary Drinking Water Standard NE: None established S: Secondary Drinking Water Standard

DWEL: Drinking Water Equivalent Level. A lifetime exposure concentration that is protective of adverse, non-cancer health effects if drinking water is the only source of exposure.

*Well C-25 was installed under a different contract and data was provided by USACE.

Table C-5
SUMMARY OF MAJOR ION ANALYSES

Parameter	Water Quality Standard (ppm)	C-26	C-27	C-28	C-29	C-30	C-31	C-32	C-33	C-34	C-35	C-36	C-37	C-38
Date Sampled		11/17/1997	12/29/1997	09/02/1998	09/16/1998	01/20/1999	01/21/1999	12/20/1999	03/30/2000	04/10/2000	04/17/2000	05/11/2000	06/05/2000	06/12/2000
Cations														
Sodium	20 DWEL	77.3	48.4	62.3	79.28	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NE	1.73	1.62	1.78	1.68	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	NE	57.7	63.2	96.84	62.81	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	NE	18.9	20.4	30.65	19.71	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3 S	0.12	ND	0.03	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anions														
Bicarbonate	NE	210	220	202	205	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbonate	NE	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	250 S	94.7	75.5	147.51	104.41	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromide	NE	ND	ND	ND	0.176 B	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	1000	44	43.53	57.66	41.04	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	10	3.8	3.05	4.62	4.49	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrite (as N)	1	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoride	4	0.123 B	0.26 B	0.63 B	0.36 B	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hydroxide	NE	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
O-Phosphorus	NE	ND	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Others														
pH	6.5-8.5 S	7.73	7.64	6.98	6.91	7.42	7.41	7.77	7.5	7.23	7.21	7.11	7.23	7.58
Conductivity	NE	811	779	716	602	897	468	570	432	1202	196	2810	912	702
Temp. (^{o}C)	NE	12.1	7.6	13.9	14.6	19.1	15.4	14.8	15.9	18.3	18.8	12.4	19.5	16.0
TDS	2000	NA	NA	591	488	657	371	461	340	885	144	NA	662	551

"Other" parameters were measured directly from the well immediately preceding the sampling procedures. Units are in mg/L

B: Detected below limit of quantitation, but above method detection limit. J: Detected below quantitation limit ND: Not Detected NA: Not Analyzed

P: Primary Drinking Water Standard NE: None established S: Secondary Drinking Water Standard

DWEL: Drinking Water Equivalent Level. A lifetime exposure concentration that is protective of adverse, non-cancer health effects if drinking water is the only source of exposure.

Data was taken from the corresponding well completion reports and water quality standards were found at the following web sites:
http://www.epa.gov/ostwater/Tools/dwstds0.html and http://www.rules.state.ut.us/publicat/code/r309/r309-103.htm#T2

Table C-6
INITIAL SAMPLING: SUMMARY OF VOLATILE ORGANIC COMPOUND ANALYSES

Parameter	Water Quality Standards (ppb)	C-12	C-13	C-14	C-15	C-16	C-17	C-18	C-19	C-20	C-21	C-22	C-23	C-24
Date Sampled	→	6-Jan-97	20-Jan-97	3-Feb-97	29-Mar-97	12-May-97	13-May-97	20-May-97	17-Jul-97	18-Jul-97	29-Aug-97	8-Sep-97	31-Oct-97	8-Oct-97
Laboratory	→	MSA	MSA	MSA	CT	CT	CT	CT	MSA	MSA	MSA	MSA	MSA	MSA
Acetone	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrolein	NE	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
Acrylonitrile	0 MCLG	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
Benzene	5 P	ND	ND	ND	ND	ND	**690**	ND	ND	ND	ND	ND	ND	ND
Bromobenzene	ID	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	10 HA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	100 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	100 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	10 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	ID	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	ID	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	ID	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	5 P	ND	ND	**9**	ND	ND	ND	ND	ND	**11**	ND	ND	ND	ND
Chlorobenzene	100 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorodibromomethane	100 P	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl vinyl ether	NE	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
Chloroform	100 P	ND	ND	ND	ND	**4 J**	**15 J**	ND	ND	ND	ND	ND	ND	ND
Chloromethane	3 HA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	100 HA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	100 HA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Units in micrograms per liter
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Table C-6
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Laboratory	→	MSA	MSA	MSA	CT	CT	CT	CT	MSA	MSA	MSA	MSA	MSA	MSA
Dibromochloromethane	ID	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	0.2 P	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane (EDB)	0.05 P	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600 P	ND*	ND*	ND*	NA	ND*	NA	ND*	ND*	ND*	ND*	ND*	ND*	ND*
1,3-Dichlorobenzene	600 HA	ND*	ND*	ND*	NA	ND*	NA	ND*	ND*	ND*	ND*	ND*	ND*	ND*
1,4-Dichlorobenzene	75 P	ND*	ND*	ND*	NA	ND*	NA	ND*	ND*	ND*	ND*	ND*	ND*	ND*
trans-1,4-Dichloro-2-butene	NE	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	1 HA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	5 P	ND	ND	ND	ND	**15**	**170**	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	7 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	70 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	5 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	ID	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	ID	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	ID	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	0 MCLG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichlrorpropene	0 MCLG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700 P	**2 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl methacrylate	NE	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	1 MCLG	ND*	ND*	ND*	NA	ND*	NA	ND*	ND*	ND*	ND*	ND*	ND*	ND*
2-Hexanone	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	NE	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	ID	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Laboratory	→	MSA	MSA	MSA	CT	CT	CT	CT	MSA	MSA	MSA	MSA	MSA	MSA
p-Isopropyltoluene	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	5 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl-t-Butyl ether (MTBE)	20 HA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	20 HA	ND*	ND*	ND*	NA	ND*	NA	ND*	ND*	ND*	ND*	ND*	ND*	ND*
n-Propylbenzene	ID	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	70 HA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5 P	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
Toluene	1 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4,-Trichlorobenzene	70 P	ND*	ND*	ND*	NA	ND*	NA	ND*	ND*	ND*	ND*	ND*	ND*	ND*
1,1,1-Trichloroethane	200 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	5 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5 P	**220**	**210**	**10**	**59**	ND	ND	ND	**168**	ND	**24**	ND	**90**	**91**
Trichlorofluoromethane	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	40 HA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	ID	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	ID	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl acetate	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	2 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	Total xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m/p-Xylene	10 P	ND	ND	ND	ND	ND	**65**	ND	ND	ND	ND	ND	ND	ND

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Date Sampled	→	17-Nov-97	29-Dec-97	02-Sep-98	16-Sep-98	20-Jan-99	21-Jan-99	20-Dec-99	30-Mar-00	10-Apr-00	17-Apr-00	11-May-00	05-Jun-00	12-Jun-00	23-Oct-00
Laboratory	→	MSA	MSA	MSA	MSA	APCL	APCL	APCL	MSA	MSA	MSA	MSA	MSA	MSA	MSA
Acetone	NE	ND	ND	ND	ND	ND	ND	<100	ND	ND	ND	ND	ND	ND	ND
Acrolein	NE	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrylonitrile	0 MCLG	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	5 P	ND	ND	ND	ND	ND	ND	<5	ND	ND	**19.4 J**	ND	ND	ND	ND
Bromobenzene	ID	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	10 HA	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	100 P	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
Bromoform	100 P	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
Bromomethane	10 P	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	NE	ND	ND	ND	ND	ND	ND	<100	ND	ND	ND	ND	ND	ND	ND
n-butylbenzene	ID	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	ID	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	ID	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	ID	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	5 P	ND	ND	ND	ND	**29**	**ND**	**1 J**	ND	**155 J**	ND	**1.42 J**	ND	ND	ND
Chlorobenzene	100 P	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
Chlorodibromomethane	100 P	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
Chloroethane	ID	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
2-chloroethyl vinyl ether	NE	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	100 P	**2 J**	ND	ND	ND	ND	ND	<5	ND	**0.804 J**	ND	**0.597 J**	**0.447 J**	**1.10 J**	ND
Chloromethane	3 HA	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	100 HA	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	100 HA	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	ID	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	0.2 P	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane (EDB)	0.05 P	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	ID	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600 P	ND*	ND*	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	600 HA	ND*	ND*	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75 P	ND*	ND*	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	NE	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Laboratory	→	MSA	MSA	MSA	MSA	APCL	APCL	APCL	MSA	MSA	MSA	MSA	MSA	MSA	MSA
Dichlorodifluoromethane	1 HA	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	NE	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	5 P	ND	ND	ND	ND	ND	ND	<5	ND	**1.50 J**	ND	ND	ND	ND	ND
1,1-Dichloroethene	7 P	ND	ND	ND	ND	ND	ND	<5	ND	ND	**17.1 J**	ND	ND	ND	ND
cis-1,2-Dichloroethene	70 P	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100 P	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	5 P	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	ID	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	ID	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	ID	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	0 MCLG	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0 MCLG	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700 P	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
Ethyl methacrylate	NE	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	1 MCLG	ND*	ND*	ND*	ND*	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NE	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
Iodomethane	NE	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene (Cumene)	ID	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
p-Isopropyltoluene	NE	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	5 p	**5 J**	ND	ND	ND	ND	ND	<50	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	NE	ND	ND	ND	ND	ND	ND	<10	ND	ND	ND	ND	ND	ND	ND
Methyl-t-Butyl ether (MTBE)	20 HA	NA	NA	NA	NA	ND	ND	<5	ND	ND	**13.3 J**	ND	ND	ND	ND
Naphthalene	20 HA	ND*	ND*	ND*	ND*	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ID	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
Styrene	100 P	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	70 HA	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	ID	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5 p	ND	ND	ND	ND	ND	ND	<5	ND	ND	231	ND	ND	ND	ND
Toluene	1 p	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	NE	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	70 P	ND*	ND*	ND*	ND*	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA

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Laboratory	→	MSA	MSA	MSA	MSA	APCL	APCL	APCL	MSA	MSA	MSA	MSA	MSA	MSA	MSA
1,1,1-Trichloroethane	200 P	ND	ND	ND	ND	ND	ND	<5	ND	ND	**8.63 J**	ND	ND	ND	ND
1,1,2-Trichloroethane	5 p	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5 p	**130**	ND	ND	ND	**5**	**8**	<5	**1360**	**1.46**	**455**	**2.91**	**21.3**	**1.04**	ND
Trichlorofluoromethane	NE	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	40 HA	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	ID	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	ID	NA	NA	NA	NA	ND	ND	<5	NA	NA	NA	NA	NA	NA	NA
Vinyl acetate	NE	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	2 p	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
o-Xylene	Total xylenes	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND
m/p-Xylene	10:00 PM	ND	ND	ND	ND	ND	ND	<5	ND	ND	ND	ND	ND	ND	ND

NA: Not analyzed
ND: Non detect
ND*: Non detect when analyzed as an SVOC
Units in micrograms per liter
J: Detected below limit of quantitation
B: Detected below limit of quantitation but above the method detection limit
MSA: Mountain States Analytical, Inc.
CT: Curtis & Tomkins, Ltd.
APCL: Applied Physics & Chemistry Laboratory
P: Primary Drinking Water Standard
NE: None established
ID: Insufficient data to establish a guideline
MCLG: Maximum Contaminant Level Goal. A non-enforceable concentration of a drinking water contaminant that is protective of adverse human health effects and allows an adequate margin of safety.

Data was taken from the corresponding well completion reports and water quality standards were found at the following web sites:
http://www.epa.gov/ostwater/Tools/dwstds0.html and http://www.rules.states.ut.us/publicat/code/r309/r309-103.htm#T2

TableC-7

INITIAL SAMPLING: SUMMARY OF SEMI-VOLATILE ORGANIC COMPOUND ANALYSES

Parameter	Water Quality Standards (ppb)	C-12	C-13	C-14	C-16	C-18	C-19	C-20	C-21	C-22	C-23	C-24	C-26	C-27	C-28	C-29
Date Sampled	→	01/06/1997	01/20/1997	02/03/1997	05/12/1997	05/20/1997	07/17/1997	07/18/1997	08/29/1997	09/08/1997	10/31/1997	10/08/1997	11/26/1997	01/06/1998	01/30/1998	10/06/1998
Laboratory	→	MSA	MSA	MSA	CT	CT	MSA	MSA	MSA	MSA	MSA	MSA	MSA	MSA	MSA	MSA
Phenol	4000 HA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis (2-Chloroethyl) ether	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	40 HA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	600 HA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenezene	75 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl alcohol	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol (o-cresol)	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl) ether	300 HA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3+4-Methylphenol	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodi-N-propylamine	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	1 HA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	100 HA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic acid	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethoxy) methane	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	20 HA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	70 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Napthalene	20 HA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	1 MCLG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	50 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	300 CR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethylphthalate	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	5 CR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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MSA: Mountain States Analytical, Inc.
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Units in micrograms per liter
CR: Concentration at which a cancer risk is at 0.0001.
P: Primary Drinking Water Standard
NE: None established
ID: Insufficient data to establish a guideline
Wells C-15, C-17, C-25 and C-30 to C-39 were not analyzed for SVOCs.

MCLG: Maximum Contaminant Level Goal. A non-enforceable concentration of a drinking water contaminant that is protective of adverse human health effects and allows an adequate margin of safety

DWEL: Drinking Water Equivalent Level. A lifetime exposure concentration that is protective of adverse, non-cancer health effects if drinking water is the only source of exposure.

HA: Drinking Water Health Advisory. The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects over a lifetime of exposure, with a margin of safety

TableC-7

INITIAL SAMPLING: SUMMARY OF SEMI-VOLATILE ORGANIC COMPOUND ANALYSES

Parameter	Water Quality Standards (ppb)	C-12	C-13	C-14	C-16	C-18	C-19	C-20	C-21	C-22	C-23	C-24	C-26	C-27	C-28	C-29
Date Sampled	→	01/06/1997	01/20/1997	02/03/1997	05/12/1997	05/20/1997	07/17/1997	07/18/1997	08/29/1997	09/08/1997	10/31/1997	10/08/1997	11/17/1997	12/29/1997	09/02/1998	09/16/1998
Laboratory	→	MSA	MSA	MSA	CT	CT	MSA	MSA	MSA	MSA	MSA	MSA	MSA	MSA	MSA	MSA
Acenapthylene	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitronaniline	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenapthene	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	60 HA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	5 CR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	5000 HA	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2 J**	ND	ND	ND	ND	ND
4-Chlorophenyl-phenyl ether	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromopheynyl-phenyl ether	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	1 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-N-butyl phthalate	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butylbenzyl phthalate	7000 DWEL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl) phthalate	6 P	**5 J**	ND	ND	ND	ND	**2 J**	**6 J**	**4 J**	**43**	**29**	**3 J**	**11**	ND	ND	**16**
3,3'-Dichlorobenzidine	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benz(a) anthracene	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-N-octyl phthalate	NE	ND	ND	ND	ND	ND	**7 J**	**7 J**	ND	ND	**41**	**9 J**	**6 J**	**1 J**	ND	**3.5 J**
Benzo (b) fluoranthene	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (k) fluoranthene	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a) pyrene	0.2 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno (1,2,3-cd) pyrene	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz (a,h) anthracene	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (ghi) perylene	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aniline	NE	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodimethylamine	NE	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Azobenzene	NE	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Data was taken from the corresponding well completion reports and water quality standards were found at the following web sites: http://www.epa.gov/ostwater/Tools/dwstds0.html and http://www.rules.state.ut.us/publicat/code/r309/r309-103.htm#T2

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
A-01	A-01	03/17/1988	6010	Chromium	0.013		NA	0.029	mg/L
A-01	A-01	03/17/1988	6010	Arsenic	0.007		NA	0.01	mg/L
A-02A	TEAD-11-99-1A2A	11/30/1999	SW8010	Trichloroethene	3.8	J	0.05	1	ug/L
A-04	A-04	03/23/1988	8240	Trichloroethene	130		NA	1.0	ug/L
A-04	A-04	03/23/1988	6010	Lead	0.002		NA	0.005	mg/L
A-04	A-04	03/23/1988	6010	Chromium	0.034		NA	0.029	mg/L
A-04	A-04	03/23/1988	8240	Chloroform	4.2		NA	1.0	ug/L
A-04	A-04	03/23/1988	8240	Carbon Tetrachloride	20		NA	1.0	ug/L
A-04	A-04	03/23/1988	6010	Arsenic	0.004		NA	0.01	mg/L
A-04	A-04	03/23/1988	8240	1,1-Dichloroethene	2.2		NA	1.0	ug/L
A-06	A-06	03/22/1988	8240	Trichloroethene	70		NA	1.0	ug/L
A-06	A-06	03/22/1988	8240	Toluene	0.6		NA	1.0	ug/L
A-06	A-06	03/22/1988	6010	Chromium	0.053		NA	0.029	mg/L
A-06	A-06	03/22/1988	8240	Chloroform	0.4		NA	1.0	ug/L
A-06	A-06	03/22/1988	8240	Carbon Tetrachloride	5		NA	1.0	ug/L
A-06	A-06	03/22/1988	8240	Benzene	0.3		NA	1.0	ug/L
A-06	A-06	03/22/1988	6010	Arsenic	0.002		NA	0.01	mg/L
A-06	A-06	03/22/1988	8240	1,1-Dichloroethene	0.6		NA	1.0	ug/L
A-06	A-06	03/22/1988	8240	1,1-Dichloroethane	1.4		NA	1.0	ug/L
A-06	A-06	03/22/1988	8240	1,1,1-Trichloroethane	1.9		NA	1.0	ug/L
A-07	A-07	04/11/1988	8240	Trichloroethene	39		NA	1.0	ug/L
A-07	A-07	04/11/1988	8240	Toluene	35		NA	1.0	ug/L
A-07	A-07	04/11/1988	6010	Lead	0.002		NA	0.002	mg/L
A-07	A-07	04/11/1988	6010	Chromium	0.026		NA	0.029	mg/L
A-07	A-07	04/11/1988	8240	Chloroform	0.3		NA	1.0	ug/L
A-07	A-07	04/11/1988	8240	Carbon Tetrachloride	0.3		NA	1.0	ug/L
A-07	A-07	04/11/1988	8240	Benzene	6.4		NA	1.0	ug/L
A-07	A-07	04/11/1988	6010	Arsenic	0.002		NA	0.01	mg/L
A-07	A-07	04/11/1988	8240	1,1-Dichloroethene	0.1		NA	1.0	ug/L
A-07	A-07	04/11/1988	8240	1,1-Dichloroethane	0.5		NA	1.0	ug/L
A-07	A-07	04/11/1988	8240	1,1,1-Trichloroethane	0.2		NA	1.0	ug/L
A-07A	A-07A	10/05/1993	8240	Trichloroethene	51		NA	1.0	ug/L
A-07A	A-07A	10/05/1993	8240	Carbon Tetrachloride	5.5		NA	1.0	ug/L
A-08	A-08	03/22/1988	8240	Trichloroethene	12		NA	1.0	ug/L
A-08	A-08	03/22/1988	8240	Toluene	0.2		NA	1.0	ug/L
A-08	A-08	03/22/1988	8240	Chloroform	0.3		NA	1.0	ug/L
A-08	A-08	03/22/1988	8240	Carbon Tetrachloride	2.1		NA	1.0	ug/L
A-08	A-08	03/22/1988	8240	Benzene	2.3		NA	1.0	ug/L
A-08	A-08	03/22/1988	6010	Arsenic	0.002		NA	0.01	mg/L
A-08	A-08	03/22/1988	8240	1,1-Dichloroethene	0.2		NA	1.0	ug/L
A-08	A-08	03/22/1988	8240	1,1-Dichloroethane	4.8		NA	1.0	ug/L
A-08	A-08	03/22/1988	8240	1,1,1-Trichloroethane	0.7		NA	1.0	ug/L
B-01	TEAD-8-97-1B01	08/15/1997	8260A	Trichloroethene	1.1		NA	1	ug/L
B-03	TEAD-11-99-1B03	01/25/2000	SW8010	Trichloroethene	72	J	0.28	1	ug/L
B-03	TEAD-11-99-1B03	01/25/2000	SW8010	Methylene Chloride	3	UJ	0.51	5	ug/L
B-03	TEAD-11-99-1B03	01/25/2000	SW8010	Chloroform	1		0.31	1	ug/L
B-03	TEAD-11-99-1B03	01/25/2000	SW8010	Carbon Tetrachloride	18		0.33	1	ug/L
B-04	TEAD-8-97-1B04	08/15/1997	8260A	Trichloroethene	33		NA	1	ug/L
B-05	TEAD-11-99-1B05	01/11/2000	SW8010	Trichloroethene	102	J	0.28	1	ug/L
B-05	TEAD-11-99-1B05	01/11/2000	SW8010	Methylene Chloride	2	UJ	0.51	5	ug/L
B-05	TEAD-11-99-1B05	01/11/2000	SW8010	Chloroform	1		0.31	1	ug/L
B-05	TEAD-11-99-1B05	01/11/2000	SW8010	Carbon Tetrachloride	9		0.33	1	ug/L
B-05	TEAD-11-99-1B05	01/11/2000	SW8010	1,1-Dichloroethane	2		0.23	1	ug/L
B-06	TEAD-11-99-1B06	12/01/1999	SW8010	Trichloroethene	10	J	0.05	1	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
B-07	TEAD-11-99-1B07	01/03/2000	SW8010	Trichloroethene	29	J	0.3	1	ug/L
B-07	TEAD-11-99-1B07	01/03/2000	SW8010	Trichloroethene	29	J	0.3	1	ug/L
B-07	TEAD-11-99-1B07	01/03/2000	SW8010	Methylene Chloride	2	UJ	0.21	5	ug/L
B-07	TEAD-11-99-1B07	01/03/2000	SW8010	Methylene Chloride	2	UJ	0.21	5	ug/L
B-07	TEAD-11-99-1B07	01/03/2000	SW8010	Carbon Tetrachloride	2		0.18	1	ug/L
B-07	TEAD-11-99-1B07	01/03/2000	SW8010	Carbon Tetrachloride	2		0.18	1	ug/L
B-08	B-08	11/18/1992	8240	Trichloroethene	61		NA	1.0	ug/L
B-08	B-08	11/18/1992	8240	Carbon Tetrachloride	6.1		NA	1.0	ug/L
B-08	B-08	11/18/1992	8240	1,1-Dichloroethane	1.7		NA	1.0	ug/L
B-09	TEAD-11-99-1B09	12/22/1999	SW8010	Trichloroethene	21	J	0.26	1	ug/L
B-09	TEAD-11-99-1B09	12/22/1999	SW8010	Carbon Tetrachloride	4.7		0.22	1	ug/L
B-10	TEAD-11-99-1B10	12/22/1999	SW8010	Trichloroethene	23	J	0.26	1	ug/L
B-10	TEAD-11-99-1B10	12/22/1999	SW8010	Methylene Chloride	1	UJ	0.22	5	ug/L
B-10	TEAD-11-99-1B10	12/22/1999	SW8010	Carbon Tetrachloride	6.9		0.22	1	ug/L
B-12	TEAD-11-99-1B12	01/06/2000	SW8010	Trichloroethene	30	J	0.3	1	ug/L
B-12	TEAD-11-99-1B12	01/06/2000	SW8010	Methylene Chloride	1	UJ	0.21	5	ug/L
B-12	TEAD-11-99-1B12	01/06/2000	SW8010	Carbon Tetrachloride	1		0.18	1	ug/L
B-13	TEAD-8-97-1B13	08/15/1997	8260A	Trichloroethene	27		NA	1	ug/L
B-15	TEAD-8-97-1B15	08/15/1997	8260A	Trichloroethene	35		NA	1	ug/L
B-15	TEAD-8-97-1B15	08/15/1997	8260A	Carbon Tetrachloride	2.3		NA	1	ug/L
B-16	TEAD-8-97-1B16	08/15/1997	8260A	Trichloroethene	3.2		NA	1	ug/L
B-17	TEAD-11-99-1B17	11/22/1999	SW8010	Trichloroethene	4	J	0.26	1	ug/L
B-17	TEAD-11-99-1B17	11/22/1999	SW8020	Toluene	0.6	UJ	0.37	1	ug/L
B-18	TEAD-11-99-1B18	11/23/1999	SW8010	Trichloroethene	4.9	J	0.26	1	ug/L
B-18	TEAD-11-99-1B18	11/23/1999	SW8020	Toluene	0.5	UJ	0.37	1	ug/L
B-19	TEAD-8-97-1B19	08/15/1997	8260A	Trichloroethene	4.6		NA	1	ug/L
B-21	TEAD-11-99-1B21	01/11/2000	SW8010	Trichloroethene	93	J	0.28	1	ug/L
B-21	TEAD-11-99-1B21	01/11/2000	SW8010	Methylene Chloride	2	UJ	0.51	5	ug/L
B-21	TEAD-11-99-1B21	01/11/2000	SW8010	Carbon Tetrachloride	7.6		0.33	1	ug/L
B-22	TEAD-11-99-1B22	01/05/2000	SW8010	Trichloroethene	39	J	0.3	1	ug/L
B-22	TEAD-11-99-1B22	01/05/2000	SW8010	Trichloroethene	39	J	0.3	1	ug/L
B-22	TEAD-11-99-1B22	01/05/2000	SW8010	Carbon Tetrachloride	11		0.18	1	ug/L
B-22	TEAD-11-99-1B22	01/05/2000	SW8010	Carbon Tetrachloride	11		0.18	1	ug/L
B-24	TEAD-11-99-1B24	11/24/1999	SW8010	Trichloroethene	6	J	0.26	1	ug/L
B-24	TEAD-11-99-1B24	11/24/1999	SW8020	Toluene	0.4	UJ	0.37	1	ug/L
B-24	TEAD-11-99-1B24	11/24/1999	SW6010	Chromium	11	J	1.1	5	ug/L
B-24	TEAD-11-99-1B24	11/24/1999	SW8010	Carbon Tetrachloride	8		0.43	1	ug/L
B-26	TEAD-11-99-1B26	01/05/2000	SW8010	Trichloroethene	25	J	0.3	1	ug/L
B-26	TEAD-11-99-1B26	01/05/2000	SW8010	Trichloroethene	25	J	0.3	1	ug/L
B-26	TEAD-11-99-1B26	01/05/2000	SW6010	Chromium (dissolved)	16		1.1	5	ug/L
B-26	TEAD-11-99-1B26	01/05/2000	SW6010	Chromium	17	J	1.1	5	ug/L
B-26	TEAD-11-99-1B26	01/05/2000	SW8010	Chloroform	0.8	UJ	0.1	1	ug/L
B-26	TEAD-11-99-1B26	01/05/2000	SW8010	Carbon Tetrachloride	36		0.18	1	ug/L
B-26	TEAD-11-99-1B26	01/05/2000	SW8010	Carbon Tetrachloride	36		0.18	1	ug/L
B-27	TEAD-11-99-1B27	01/26/2000	SW8010	Trichloroethene	163	J	0.28	1	ug/L
B-27	TEAD-11-99-1B27	01/26/2000	SW8010	Tetrachloroethene	3		0.39	1	ug/L
B-27	TEAD-11-99-1B27	01/26/2000	SW8010	Methylene Chloride	4	UJ	0.51	5	ug/L
B-27	TEAD-11-99-1B27	01/26/2000	SW8010	Chloroform	0.7	UJ	0.31	1	ug/L
B-27	TEAD-11-99-1B27	01/26/2000	SW8010	Carbon Tetrachloride	12		0.33	1	ug/L
B-27	TEAD-11-99-1B27	01/26/2000	SW8010	1,1,1-Trichloroethane	0.6	UJ	0.19	1	ug/L
B-29	TEAD-8-97-1B29	08/15/1997	8260A	Trichloroethene	12		NA	1	ug/L
B-30	TEAD-11-99-1B30	12/06/1999	SW8010	Trichloroethene	11	J	0.26	1	ug/L
B-31	TEAD-11-99-1B31	11/11/1999	SW8010	Trichloroethene	1	J	0.26	1	ug/L
B-32	TEAD-8-97-1B32	08/15/1997	8260A	Trichloroethene	2.4		NA	1	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
B-34	TEAD-11-99-1B34	11/12/1999	SW8010	Trichloroethene	3	J	0.26	1	ug/L
B-34	TEAD-11-99-1B34	11/12/1999	SW8020	Toluene	0.7	UJ	0.18	1	ug/L
B-34	TEAD-11-99-1B34	11/12/1999	SW8020	m+p-Xylene	1	J	0.42	1	ug/L
B-34	TEAD-11-99-1B34	11/12/1999	SW6010	Chromium (dissolved)	3.5	UJ	1.1	5	ug/L
B-34	TEAD-11-99-1B34	11/12/1999	SW6010	Chromium	6	J	1.1	5	ug/L
B-35	TEAD-11-99-1B35	11/29/1999	SW8010	Trichloroethene	5	J	0.05	1	ug/L
B-35	TEAD-11-99-1B35	11/29/1999	SW6010	Chromium (dissolved)	11	J	1.1	5	ug/L
B-35	TEAD-11-99-1B35	11/29/1999	SW6010	Chromium	39	J	1.1	5	ug/L
B-37	TEAD-11-99-1B37	11/29/1999	SW8010	Trichloroethene	3	J	0.05	1	ug/L
B-37	TEAD-11-99-1B37	11/29/1999	SW8010	Methylene Chloride	0.9	UJ	0.06	5	ug/L
B-40	TEAD-11-99-1B40	12/14/1999	SW8010	Trichloroethene	13	J	0.26	1	ug/L
B-40	TEAD-11-99-1B40	12/14/1999	SW8020	Toluene	0.6	UJ	0.37	1	ug/L
B-40	TEAD-11-99-1B40	12/14/1999	SW8010	Methylene Chloride	5	J	0.37	5	ug/L
B-40	TEAD-11-99-1B40	12/14/1999	SW6010	Chromium (dissolved)	7.7	J	1.1	5	ug/L
B-40	TEAD-11-99-1B40	12/14/1999	SW6010	Chromium	12	J	1.1	5	ug/L
B-43	TEAD-11-99-1B43	11/04/1999	SW6010	Chromium (dissolved)	1.9	UJ	1.1	5	ug/L
B-43	TEAD-11-99-1B43	11/04/1999	SW6010	Chromium	10	J	1.1	5	ug/L
B-43	TEAD-11-99-1B43	11/04/1999	SW6010	Chromium	9	J	1.1	5	ug/L
B-44	TEAD-5-99-1B44	05/18/1999	SW6010	Chromium	7.1		1.1	5	ug/L
B-45	B-45	12/09/1991	8240	Total Xylenes	3.1		NA	1.0	ug/L
B-45	B-45	12/09/1991	8240	Toluene	1.5		NA	1.0	ug/L
B-45	B-45	12/09/1991	8240	Ethylbenzene	0.24		NA	1.0	ug/L
B-47	TEAD-5-99-1B47	05/24/1999	SW6010	Chromium	7.6		1.4	5	ug/L
B-54	TEAD-11-99-1B54	01/04/2000	SW8010	Trichloroethene	23	J	0.3	1	ug/L
B-54	TEAD-11-99-1B54	01/04/2000	SW8010	Trichloroethene	23	J	0.3	1	ug/L
B-54	TEAD-11-99-1B54	01/04/2000	SW8010	Methylene Chloride	2	UJ	0.21	5	ug/L
B-54	TEAD-11-99-1B54	01/04/2000	SW8010	Methylene Chloride	2	UJ	0.21	5	ug/L
B-54	TEAD-11-99-1B54	01/04/2000	SW8010	Chloroform	1		0.1	1	ug/L
B-54	TEAD-11-99-1B54	01/04/2000	SW8010	Chloroform	1		0.1	1	ug/L
B-54	TEAD-11-99-1B54	01/04/2000	SW8010	Carbon Tetrachloride	8		0.18	1	ug/L
B-54	TEAD-11-99-1B54	01/04/2000	SW8010	Carbon Tetrachloride	8		0.18	1	ug/L
B-54	TEAD-11-99-1B54	01/04/2000	SW8010	Carbon Tetrachloride	8.8		0.18	1	ug/L
B-54	TEAD-11-99-1B54	01/04/2000	SW8010	Carbon Tetrachloride	8.8		0.18	1	ug/L
B-55	B-55	10/02/1988	8240	Trichloroethene	3.5		NA	1.0	ug/L
B-55	B-55	10/02/1988	8240	Toluene	0.5		NA	1.0	ug/L
B-56	TEAD-11-99-1B56	11/12/1999	SW8010	Trichloroethene	2	J	0.26	1	ug/L
B-57	TEAD-8-97-1B57	08/15/1997	8260A	Trichloroethene	14		NA	1	ug/L
B-59	TEAD-11-99-1B59	12/13/1999	SW8010	Trichloroethene	4.8	J	0.26	1	ug/L
B-59	TEAD-11-99-1B59	12/13/1999	SW8020	Toluene	0.7	UJ	0.37	1	ug/L
B-59	TEAD-11-99-1B59	12/13/1999	SW8010	Methylene Chloride	4	UJ	0.37	5	ug/L
B-59	TEAD-11-99-1B59	12/13/1999	SW6010	Chromium (dissolved)	3	UJ	1.1	5	ug/L
B-59	TEAD-11-99-1B59	12/13/1999	SW6010	Chromium	24	J	1.1	5	ug/L
B-59	TEAD-11-99-1B59	12/13/1999	SW6010	Chromium	27	J	1.1	5	ug/L
B-62	TEAD-11-99-1B62	01/03/2000	SW8010	Trichloroethene	31	J	0.3	1	ug/L
B-62	TEAD-11-99-1B62	01/03/2000	SW8010	Trichloroethene	31	J	0.3	1	ug/L
B-62	TEAD-11-99-1B62	01/03/2000	SW8010	Carbon Tetrachloride	1		0.18	1	ug/L
B-62	TEAD-11-99-1B62	01/03/2000	SW8010	Carbon Tetrachloride	1		0.18	1	ug/L
C-04	TEAD-11-99-IC04	11/01/1999	SW6010	Chromium (dissolved)	4.3	UJ	1.1	5	ug/L
C-04	TEAD-11-99-IC04	11/01/1999	SW6010	Chromium	27.5	J	1.1	5	ug/L
C-04	TEAD-11-99-IC04MD	11/01/1999	SW6010	Chromium	27		1.1	5	ug/L
C-07	TEAD-5-99-2C-07	05/05/1999	8010-80	Chloroform	0.9	UJ	0.07	1	ug/L
C-08	TEAD-11-99-1C08	11/29/1999	SW8010	Trichloroethene	3.7	J	0.05	1	ug/L
C-08	TEAD-11-99-1C08	11/29/1999	SW6010	Chromium (dissolved)	2.9	UJ	1.1	5	ug/L
C-08	TEAD-11-99-1C08	11/29/1999	SW6010	Chromium	4	UJ	1.1	5	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
C-08	TEAD-11-99-1C08	11/29/1999	SW8010	Carbon Tetrachloride	0.9	UJ	0.06	1	ug/L
C-09	TEAD-11-99-1C09	01/06/2000	SW8010	Trichloroethene	45	J	0.3	1	ug/L
C-09	TEAD-11-99-1C09	01/06/2000	SW8010	Carbon Tetrachloride	5		0.18	1	ug/L
C-10	TEAD-11-99-1C10	01/27/2000	SW8010	Trichloroethene	132	J	0.28	1	ug/L
C-10	TEAD-11-99-1C10	01/27/2000	SW8010	Methylene Chloride	2	UJ	0.51	5	ug/L
C-10	TEAD-11-99-1C10	01/27/2000	SW8010	Carbon Tetrachloride	2		0.33	1	ug/L
C-11	TEAD-11-99-1C11	12/28/1999	SW8010	Trichloroethene	21	J	0.26	1	ug/L
C-11	TEAD-11-99-1C11	12/28/1999	SW8010	Methylene Chloride	2	UJ	0.37	5	ug/L
C-11	TEAD-11-99-1C11	12/28/1999	SW8010	Carbon Tetrachloride	1		0.43	1	ug/L
C-12	TEAD-11-99-1C12	01/26/2000	SW8010	Trichloroethene	71	J	0.28	1	ug/L
C-12	TEAD-11-99-1C12	01/26/2000	SW8010	Methylene Chloride	3	UJ	0.51	5	ug/L
C-13	TEAD-11-99-1C13	01/27/2000	SW8010	Trichloroethene	119	J	0.28	1	ug/L
C-13	TEAD-11-99-1C13	01/27/2000	SW8010	Methylene Chloride	0.8	UJ	0.51	5	ug/L
C-14	TEAD-8-97-1C14	08/15/1997	8260A	Trichloroethene	18		NA	1	ug/L
C-14	TEAD-8-97-1C14	08/15/1997	8260A	Carbon Tetrachloride	14		NA	1	ug/L
C-15	TEAD-11-99-1C15	01/04/2000	SW8010	Trichloroethene	28	J	0.3	1	ug/L
C-15	TEAD-11-99-1C15	01/04/2000	SW8010	Trichloroethene	28	J	0.3	1	ug/L
C-16	TEAD-11-99-1C16	11/23/1999	SW8010	Trichloroethene	2	J	0.26	1	ug/L
C-16	TEAD-11-99-1C16	11/23/1999	SW8020	Toluene	0.6	UJ	0.37	1	ug/L
C-16	TEAD-11-99-1C16	11/23/1999	SW8010	Chloroform	2		0.24	1	ug/L
C-17	TEAD-11-99-1C17	01/28/2000	SW8020	Toluene	10	J	2.1	10	ug/L
C-17	TEAD-11-99-1C17	01/28/2000	SW8020	o-Xylene	30		2.7	10	ug/L
C-17	TEAD-11-99-1C17	01/28/2000	SW8010	Methylene Chloride	19	UJ	5.1	50	ug/L
C-17	TEAD-11-99-1C17	01/28/2000	SW8020	m+p-Xylene	221	J	4.5	10	ug/L
C-17	TEAD-11-99-1C17	01/28/2000	SW8020	Ethylbenzene	42		2.6	10	ug/L
C-17	TEAD-11-99-1C17	01/28/2000	SW6010	Chromium (dissolved)	1	UJ	0.95	5	ug/L
C-17	TEAD-11-99-1C17	01/28/2000	SW6010	Chromium	2	UJ	0.95	5	ug/L
C-17	TEAD-11-99-1C17	01/28/2000	SW8010	Chloroform	10		3.1	10	ug/L
C-17	TEAD-11-99-1C17	01/28/2000	SW8020	Benzene	1380		2.6	10	ug/L
C-17	TEAD-11-99-1C17	01/28/2000	SW8010	1,2-Dichloroethane	120		1.9	10	ug/L
C-19	TEAD-11-99-1C19	01/24/2000	SW8010	Trichloroethene	143	J	0.28	1	ug/L
C-19	TEAD-11-99-1C19	01/24/2000	SW8010	Methylene Chloride	3	UJ	0.51	5	ug/L
C-19	TEAD-11-99-1C19	01/24/2000	SW8010	Chloroform	0.5	UJ	0.31	1	ug/L
C-20	TEAD-11-99-1C20	11/09/1999	SW8010	Carbon Tetrachloride	8.7		0.22	1	ug/L
C-21	TEAD-11-99-1C21	12/14/1999	SW8010	Trichloroethene	14	J	0.26	1	ug/L
C-21	TEAD-11-99-1C21	12/14/1999	SW8020	Toluene	0.4	UJ	0.37	1	ug/L
C-21	TEAD-11-99-1C21	12/14/1999	SW8010	Methylene Chloride	5	J	0.37	5	ug/L
C-22	TEAD-5-99-1C22	05/11/1999	SW8010	Chloroform	1		0.17	1	ug/L
C-24	C24P-1008-01	10/08/1997	8260A	Trichloroethene	91		0.67	5	ug/L
C-24	C24P-1008-01	10/08/1997	300	Sulfate	40		0.022	12	mg/L
C-24	C24P-1008-01	10/08/1997	D-596-83	Sodium (dissolved)	61.7		0.2	1.5	mg/L
C-24	C24P-1008-01	10/08/1997	D-596-83	Potassium (dissolved)	1.7		0.1	1	mg/L
C-24	C24P-1008-01	10/08/1997	300	Nitrate (as N)	3.6		0.0044	1.2	mg/L
C-24	C24P-1008-01	10/08/1997	7470	Mercury (dissolved)	0.00011		0.1	0.0005	mg/L
C-24	C24P-1008-01	10/08/1997	D-596-83	Magnesium (dissolved)	20.2		0.05	0.1	mg/L
C-24	C24P-1008-01	10/08/1997	300	Fluoride	0.6		0.0142	2	mg/L
C-24	C24P-1008-01	10/08/1997	8270A	Di-n-Octyl Phthalate	9		1.14	10	ug/L
C-24	C24P-1008-01	10/08/1997	300	Chloride (as CL)	92		0.0099	12	mg/L
C-24	C24P-1008-01	10/08/1997	D-596-83	Cations	7.6		NA	0.5	meqL
C-24	C24P-1008-01	10/08/1997	D-596-83	Cation/Anion Balance	0.65		NA	0.1	%
C-24	C24P-1008-01	10/08/1997	D-596-83	Calcium (dissolved)	63.7		0.4	0.8	mg/L
C-24	C24P-1008-01	10/08/1997	8270A	Bis(2-ethylhexyl)phthalate	3		0.97	10	ug/L
C-24	C24P-1008-01	10/08/1997	310.1	Bicarbonate as CACO3	212		1	5	mg/L
C-24	C24P-1008-01	10/08/1997	6010A	Barium (dissolved)	0.081		0.003	0.015	mg/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
C-24	C24P-1008-01	10/08/1997	6010A	Barium	0.083		0.003	0.015	mg/L
C-24	C24P-1008-01	10/08/1997	D-596-83	Anions	7.7		NA	0.5	meqL
C-25	TEAD-11-99-1C25	12/29/1999	SW8010	Trichloroethene	12	J	0.26	1	ug/L
C-25	TEAD-11-99-1C25	12/29/1999	SW8010	Methylene Chloride	0.9	UJ	0.37	5	ug/L
C-25	TEAD-11-99-1C25	12/29/1999	SW8010	Carbon Tetrachloride	7.7		0.43	1	ug/L
C-25	TEAD-11-99-1C25	12/29/1999	SW8010	1,1-Dichloroethane	2		0.22	1	ug/L
C-26	TEAD-11-99-1C26	01/10/2000	SW8010	Trichloroethene	52	J	0.28	1	ug/L
C-26	TEAD-11-99-1C26	01/10/2000	SW8010	Methylene Chloride	2	UJ	0.51	5	ug/L
C-27	TEAD-11-99-1C27	11/11/1999	SW6010	Chromium (dissolved)	2.2	UJ	1.1	5	ug/L
C-27	TEAD-11-99-1C27	11/11/1999	SW6010	Chromium	2	UJ	1.1	5	ug/L
C-28	TEAD-5-99-1C28	05/17/1999	SW6010	Chromium (dissolved)	3.7		1.1	5	ug/L
C-28	TEAD-5-99-1C28	05/17/1999	SW6010	Chromium	4	UJ	1.1	5	ug/L
C-28	TEAD-5-99-1C28	05/17/1999	SW6010	Chromium	4	UJ	1.1	5	ug/L
C-30	TEAD-11-99-1C30	11/30/1999	SW8010	Trichloroethene	4.9	J	0.05	1	ug/L
C-30	TEAD-11-99-1C30	11/30/1999	SW6010	Chromium (dissolved)	1.5	UJ	1.1	5	ug/L
C-30	TEAD-11-99-1C30	11/30/1999	SW6010	Chromium	2.6	UJ	1.1	5	ug/L
C-30	TEAD-11-99-1C30	11/30/1999	SW8010	Carbon Tetrachloride	28		0.06	1	ug/L
C-31	TEAD-11-99-1C31	12/01/1999	SW8010	Trichloroethene	6.7	J	0.05	1	ug/L
C-31	TEAD-11-99-1C31	12/01/1999	SW6010	Chromium (dissolved)	2	UJ	1.1	5	ug/L
C-31	TEAD-11-99-1C31	12/01/1999	SW6010	Chromium	2.6	UJ	1.1	5	ug/L
C-32	TEAD-C32-01	12/20/1999	EPA 6010	Zinc (dissolved)	12.4		0.77	10	ug/L
C-32	TEAD-C32-01	12/20/1999	EPA 6010	Zinc	14.7		0.77	10	ug/L
C-32	TEAD-C32-01	12/20/1999	EPA 6010	Thallium	2	UJ	2	10	ug/L
C-32	TEAD-C32-01	12/20/1999	EPA 6010	Nickel (dissolved)	1.4	UJ	0.55	5	ug/L
C-32	TEAD-C32-01	12/20/1999	EPA 6010	Nickel	1.3	UJ	0.55	5	ug/L
C-32	TEAD-C32-01	12/20/1999	EPA 7470	Mercury	0.18	UJ	0.085	0.5	ug/L
C-32	TEAD-C32-01	12/20/1999	EPA 6010	Lead	1.3	UJ	1.2	5	ug/L
C-32	TEAD-C32-01	12/20/1999	EPA 6010	Chromium (dissolved)	4.4	UJ	0.6	5	ug/L
C-32	TEAD-C32-01	12/20/1999	EPA 6010	Chromium	4.9	UJ	0.6	5	ug/L
C-32	TEAD-C32-01	12/20/1999	EPA 8260	Carbon Tetrachloride	1	UJ	0.43	5	ug/L
C-33	TEAD-C33-H20-02	04/03/2000	SW8260B	Trichloroethene	1360		0.30	1.00	ug/L
C-33	TEAD-C33-H20-02	04/03/2000	PH-CHK	pH	2		0.00	1.0e-03	std unit
C-34	TEAD-C34-H2O-01	04/10/2000	SW8260B	Trichloroethene	1.46		0.30	1.00	ug/L
C-34	TEAD-C34-H2O-01	04/10/2000	PH-CHK	pH	2		0.00	1.0e-03	std unit
C-34	TEAD-C34-H2O-01	04/10/2000	SW8260B	Chloroform	0.804		0.30	5.00	ug/L
C-34	TEAD-C34-H2O-01	04/10/2000	SW8260B	Carbon Tetrachloride	1.55		0.30	5.00	ug/L
C-34	TEAD-C34-H2O-01	04/10/2000	SW6010B	Barium (dissolved)	0.0538		3.0e-03	0.01	mg/L
C-34	TEAD-C34-H2O-01	04/10/2000	SW6010B	Barium	0.0531		3.0e-03	0.01	mg/L
C-34	TEAD-C34-H2O-01	04/10/2000	SW8260B	1,2-Dichloroethane	1.50		0.20	5.00	ug/L
C-35	Tead-C35-H20-01	04/17/2000	SW8260B	Trichloroethene	455		3.00	10.00	ug/L
C-35	Tead-C35-H20-01	04/17/2000	SW8260B	Trichloroethene	455		3.00	10.00	ug/L
C-35	Tead-C35-H20-01	04/17/2000	SW8260B	Tetrachloroethene	231		2.00	10.00	ug/L
C-35	Tead-C35-H20-01	04/17/2000	SW8260B	Tetrachloroethene	231		2.00	10.00	ug/L
C-35	Tead-C35-H20-01	04/17/2000	SW8260B	tert-Butyl Methyl Ether	13.3		7.00	100.00	ug/L
C-35	Tead-C35-H20-01	04/17/2000	SW7470A	Mercury	0.150	UJ	0.10	0.50	ug/L
C-35	Tead-C35-H20-01	04/17/2000	SW7470A	Mercury	0.150	UJ	0.10	0.50	ug/L
C-35	Tead-C35-H20-01	04/17/2000	SW8260B	Benzene	19.4	UJ	3.00	50.00	ug/L
C-35	Tead-C35-H20-01	04/17/2000	SW8260B	Benzene	19.4	UJ	3.00	50.00	ug/L
C-35	Tead-C35-H20-01	04/17/2000	SW6010B	Barium	0.0763		3.0e-03	0.01	mg/L
C-35	Tead-C35-H20-01	04/17/2000	SW6010B	Barium	0.0763		3.0e-03	0.01	mg/L
C-35	Tead-C35-H20-01	04/17/2000	SW6010B	Arsenic	0.0240	UJ	0.02	0.10	mg/L
C-35	Tead-C35-H20-01	04/17/2000	SW6010B	Arsenic	0.0240	UJ	0.02	0.10	mg/L
C-35	Tead-C35-H20-01	04/17/2000	SW8260B	1,1-Dichloroethene	17.1	UJ	3.00	50.00	ug/L
C-35	Tead-C35-H20-01	04/17/2000	SW8260B	1,1-Dichloroethene	17.1	UJ	3.00	50.00	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
C-35	Tead-C35-H20-01	04/17/2000	SW8260B	1,1,1-Trichloroethane	8.63	UJ	2.00	50.00	ug/L
C-35	Tead-C35-H20-01	04/17/2000	SW8260B	1,1,1-Trichloroethane	8.63	UJ	2.00	50.00	ug/L
C-35	TEAD-C35-H2O-01	04/17/2000	SW7470A	Mercury (dissolved)	0.230		0.10	0.50	ug/L
C-35	TEAD-C35-H2O-01	04/17/2000	SW6010B	Barium (dissolved)	0.0748		3.0e-03	0.01	mg/L
C-36	TEAD-C36-H2O-01	05/11/2000	SW8260B	Trichloroethene	2.91		0.30	1.00	ug/L
C-36	TEAD-C36-H2O-01	05/11/2000	PH-CHK	pH	2		0.00	1.0e-03	std unit
C-36	TEAD-C36-H2O-01	05/11/2000	SW8260B	Methylene Chloride	0.842	UJ	0.40	10.00	ug/L
C-36	TEAD-C36-H2O-01	05/11/2000	SW8260B	Chloroform	0.597		0.30	5.00	ug/L
C-36	TEAD-C36-H2O-01	05/11/2000	SW8260B	Carbon Tetrachloride	1.42		0.30	5.00	ug/L
C-36	TEAD-C36-H2O-01	05/11/2000	SW6010B	Barium (dissolved)	0.0513		3.0e-03	0.01	mg/L
C-36	TEAD-C36-H2O-01	05/11/2000	SW6010B	Barium (dissolved)	0.0513		3.0e-03	0.01	mg/L
C-36	TEAD-C36-H2O-01	05/11/2000	SW6010B	Barium	0.0520	J	3.0e-03	0.01	mg/L
C-36	TEAD-C36-H2O-01	05/11/2000	SW6010B	Barium	0.0520		3.0e-03	0.01	mg/L
C-37	TEAD-C37-H20-01	04/21/2000	SW8260B	Trichloroethene	21.3		0.3	1	ug/L
C-37	TEAD-C37-H20-01	04/21/2000	SW8260B	Chloroform	0.447		0.3	5	ug/L
C-37	TEAD-C37-H20-01	04/21/2000	SW6010B	Barium (dissolved)	0.132		3.00E-03	0.01	mg/L
C-37	TEAD-C37-H20-01	04/21/2000	SW6010B	Barium	0.137		3.00E-03	0.01	mg/L
C-38	TEAD-C38-H2O-01	06/12/2000	SW8260B	Trichloroethene	1.04		0.3	1	ug/L
C-38	TEAD-C38-H2O-01	06/12/2000	PH-CHK	pH	<2		0	1.00E-03	std unit
C-38	TEAD-C38-H2O-01	06/12/2000	SW8260B	Chloroform	1.1		0.3	5	ug/L
C-38	TEAD-C38-H2O-01	06/12/2000	SW6010B	Barium (dissolved)	0.103		3.00E-03	0.01	mg/L
C-38	TEAD-C38-H2O-01	06/12/2000	SW6010B	Barium	0.0983		3.00E-03	0.01	mg/L
N-110-88	N110B1FS	06/26/1997	6010A	Zinc (dissolved)	37.6		NA	18.0	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Zinc	71.7		NA	18.0	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Thallium	10		NA	10	ug/L
N-110-88	N110B1FS	06/26/1997	8330	Tetryl	0.631		NA	0.631	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Sodium (dissolved)	105000		NA	80000	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Sodium	99700		NA	80000	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Silver	10		NA	10	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Selenium (dissolved)	2.53		NA	2.53	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Selenium	2.53		NA	2.53	ug/L
N-110-88	N110B1FS	06/26/1997	8330	RDX	0.416		NA	0.416	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Pyrene	17		NA	17	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Potassium (dissolved)	13700		NA	4000	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Potassium	13300		NA	4000	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Phenol	2.2		NA	2.2	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Phenanthrene	9.9		NA	9.9	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Pentachlorophenol	9.1		NA	9.1	ug/L
N-110-88	N110B1FS	06/26/1997	8330	Nitrobenzene	0.682		NA	0.682	ug/L
N-110-88	N110B1FS	06/26/1997	300.1	Nitrate/Nitrite	2800		NA	1000	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Nickel (dissolved)	32.1		NA	32.1	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Nickel	49.1		NA	32.1	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Naphthalene	0.5		NA	0.5	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	N-Nitrosodiphenylamine	3.7		NA	3.7	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	N-Nitroso-Di-n-Propylamine	6.8		NA	6.8	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Manganese (dissolved)	9.67		NA	9.67	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Manganese	409		NA	9.67	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Magnesium (dissolved)	71300		NA	34000	ug/L

Notes:

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Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-110-88	N110B1FS	06/26/1997	6010A	Magnesium	68200		NA	34000	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Isophorone	2.4		NA	2.4	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Iron (dissolved)	103		NA	77.5	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Iron	16300		NA	77.5	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Indeno(1,2,3-cd)pyrene	21		NA	21	ug/L
N-110-88	N110B1FS	06/26/1997	8330	HMX	0.533		NA	0.533	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Hexachloroethane	8.3		NA	8.3	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Hexachlorocyclopentadiene	54		NA	54	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Hexachlorobutadiene	8.7		NA	8.7	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Hexachlorobenzene	12		NA	12	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Fluorene	9.2		NA	9.2	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Fluoranthene	24		NA	24	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Dimethyl Phthalate	2.2		NA	2.2	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Diethyl Phthalate	5.9		NA	5.9	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Dibenzofuran	5.1		NA	5.1	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Dibenzo(a,h)anthracene	12		NA	12	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Di-n-Octyl Phthalate	1.5		NA	1.5	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Di-n-butyl Phthalate	33		NA	33	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Cyanide	5		NA	5	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Copper	37.8		NA	18.8	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Cobalt	25		NA	25	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Chrysene	7.4		NA	7.4	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Chromium	37		NA	16.8	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Carbazole	5		NA	5	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Calcium (dissolved)	183000		NA	50000	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Calcium	175000		NA	50000	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Butyl Benzyl Phthalate	28		NA	28	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Bis(2-ethylhexyl)phthalate	7.7		NA	7.7	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Bis(2-Chloroisopropyl)ether	5		NA	5	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Bis(2-Chloroethyl)ether	0.68		NA	0.68	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Bis(2-Chloroethoxy) Methane	10		NA	10	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Bid(2-Chloroethoxy)methane	6.8		NA	6.8	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Benzo(g,h,i)perylene	15		NA	15	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Benzo(b)fluoranthene	10		NA	10	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Benzo(a)pyrene	14		NA	14	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Benzo(a)Anthracene	9.8		NA	9.8	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Barium (dissolved)	34		NA	25	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Barium	242		NA	25	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Arsenic (dissolved)	5.69		NA	2.35	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Arsenic	6.97		NA	2.35	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Antimony	10		NA	10	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Anthracene	5.2		NA	5.2	ug/L
N-110-88	N110B1FS	06/26/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

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Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-110-88	N110B1FS	06/26/1997	6010A	Aluminum	7650		NA	112	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Acenaphthylene	5.1		NA	5.1	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	Acenaphthene	5.8		NA	5.8	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	4-Nitrophenol	96		NA	96	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	4-Nitroaniline	31		NA	31	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	4-Methylphenol	2.8		NA	2.8	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	4-Chlorophenyl Phenyl Ether	23		NA	23	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	4-Chloroaniline	1		NA	1	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	4-Chloro-3-Methylphenol	8.5		NA	8.5	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	4-Bromophenyl Phenyl Ether	22		NA	22	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	3-Nitroaniline	15		NA	15	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	3,3'-Dichlorobenzidine	5		NA	5	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	2-Nitrophenol	8.2		NA	8.2	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	2-Nitroaniline	31		NA	31	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	2-Methylphenol	3.6		NA	3.6	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	2-Methylnaphthalene	1.3		NA	1.3	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	2-Methyl-4,6-Dinitrophenol	50		NA	50	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	2-Chlorophenol	2.8		NA	2.8	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	2-Chloronaphthalene	2.6		NA	2.6	ug/L
N-110-88	N110B1FS	06/26/1997	8330	2,6-Dinitrotoluene	0.6		NA	0.6	ug/L
N-110-88	N110B1FS	06/26/1997	8330	2,4-Dinitrotoluene	0.397		NA	0.397	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	2,4-Dinitrophenol	180		NA	180	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	2,4-Dimethylphenol	4.4		NA	4.4	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	2,4-Dichlorophenol	8.4		NA	8.4	ug/L
N-110-88	N110B1FS	06/26/1997	8330	2,4,6-Trinitrotoluene	0.426		NA	0.426	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	2,4,6-Trichlorophenol	3.6		NA	3.6	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	2,4,5-Trichlorophenol	2.8		NA	2.8	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	1,4-Dichlorobenzene	1.5		NA	1.5	ug/L
N-110-88	N110B1FS	06/26/1997	8330	1,3-Dinitrobenzene	0.458		NA	0.458	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	1,3-Dichlorobenzene	3.4		NA	3.4	ug/L
N-110-88	N110B1FS	06/26/1997	8330	1,3,5-Trinitrobenzene	0.402		NA	0.21	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	1,2-Dichlorobenzene	1.2		NA	1.2	ug/L
N-110-88	N110B1FS	06/26/1997	8270A	1,2,4-Trichlorobenzene	2.4		NA	2.4	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Zinc (dissolved)	18		NA	18	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Zinc	18		NA	18	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Toxaphene	1.64		NA	1.64	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Thallium	10		NA	10	ug/L
N-112-88	N112B1FS	06/29/1997	8330	Tetryl	0.631		NA	0.631	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Sodium (dissolved)	172000		NA	80000	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Sodium	168000		NA	80000	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Silver	10		NA	10	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Selenium (dissolved)	5.27		NA	2.53	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Selenium	5.59		NA	2.53	ug/L
N-112-88	N112B1FS	06/29/1997	8330	RDX	0.416		NA	0.416	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Pyrene	17		NA	17	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Potassium (dissolved)	6550		NA	4000	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Potassium	6040		NA	4000	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Phenol	2.2		NA	2.2	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Phenanthrene	9.9		NA	9.9	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Pentachlorophenol	9.1		NA	9.1	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-112-88	N112B1FS	06/29/1997	8330	Nitrobenzene	0.682		NA	0.682	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Nickel (dissolved)	32.1		NA	32.1	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Nickel	32.1		NA	32.1	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Naphthalene	0.5		NA	0.5	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	N-Nitrosodiphenylamine	3.7		NA	3.7	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	N-Nitroso-Di-n-Propylamine	6.8		NA	6.8	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Methoxychlor	0.075		NA	0.075	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Manganese (dissolved)	9.67		NA	9.67	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Manganese	9.67		NA	9.67	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Magnesium (dissolved)	78000		NA	34000	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Magnesium	76300		NA	34000	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Isophorone	2.4		NA	2.4	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Iron (dissolved)	77.5		NA	77.5	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Iron	1470		NA	77.5	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Indeno(1,2,3-cd)pyrene	21		NA	21	ug/L
N-112-88	N112B1FS	06/29/1997	8330	HMX	0.533		NA	0.533	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Hexachloroethane	8.3		NA	8.3	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Hexachlorocyclopentadiene	54		NA	54	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Hexachlorobutadiene	8.7		NA	8.7	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Hexachlorobenzene	12		NA	12	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Heptachlor Epoxide	0.0063		NA	0.0063	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Heptachlor	0.0025		NA	0.0025	ug/L
N-112-88	N112B1FS	06/29/1997	8081	gamma-Chlordane	0.0025		NA	0.0025	ug/L
N-112-88	N112B1FS	06/29/1997	8081	gamma-BHC	0.0025		NA	0.0025	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Fluorene	9.2		NA	9.2	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Fluoranthene	24		NA	24	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Endrin Ketone	0.0025		NA	0.0025	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Endrin Aldehyde	0.0504		NA	0.0504	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Endrin	0.0176		NA	0.0176	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Endosulfan Sulfate	0.0025		NA	0.0025	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Endosulfan II	0.0077		NA	0.0077	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Endosulfan I	0.0025		NA	0.0025	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Dimethyl Phthalate	2.2		NA	2.2	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Diethyl Phthalate	5.9		NA	5.9	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Dieldrin	0.0074		NA	0.0074	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Dibenzofuran	5.1		NA	5.1	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Dibenzo(a,h)anthracene	12		NA	12	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Di-n-Octyl Phthalate	1.5		NA	1.5	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Di-n-butyl Phthalate	33		NA	33	ug/L
N-112-88	N112B1FS	06/29/1997	8081	delta-BHC	0.0034		NA	0.0034	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Cyanide	5		NA	5	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Cobalt	25		NA	25	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Chrysene	7.4		NA	7.4	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Chromium	16.8		NA	16.8	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Chlordane	0.0312		NA	0.0312	ug/L

Notes:

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Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-112-88	N112B1FS	06/29/1997	8270A	Carbazole	5		NA	5	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Calcium (dissolved)	170000		NA	50000	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Calcium	170000		NA	50000	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Butyl Benzyl Phthalate	28		NA	28	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Bis(2-ethylhexyl)phthalate	7.7		NA	7.7	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Bis(2-Chloroisopropyl)ether	5		NA	5	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Bis(2-Chloroethyl)ether	0.68		NA	0.68	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Bis(2-Chloroethoxy) Methane	10		NA	10	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Bid(2-Chloroethoxy)methane	6.8		NA	6.8	ug/L
N-112-88	N112B1FS	06/29/1997	8081	beta-BHC	0.0099		NA	0.0099	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Benzo(g,h,i)perylene	15		NA	15	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Benzo(b)fluoranthene	10		NA	10	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Benzo(a)pyrene	14		NA	14	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Benzo(a)Anthracene	9.8		NA	9.8	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Barium (dissolved)	37.4		NA	25	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Barium	39.3		NA	25	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Arsenic (dissolved)	3.47		NA	2.35	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Arsenic	4.16		NA	2.35	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Aroclor 1248	0.1		NA	0.1	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Aroclor 1232	0.1		NA	0.1	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Aroclor 1221	0.1		NA	0.1	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Aroclor 1016	0.385		NA	0.385	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Arochlor 1260	0.176		NA	0.176	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Arochlor 1254	0.1		NA	0.1	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Arochlor 1242	0.1		NA	0.1	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Antimony	10		NA	10	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Anthracene	5.2		NA	5.2	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-112-88	N112B1FS	06/29/1997	6010A	Aluminum	188		NA	112	ug/L
N-112-88	N112B1FS	06/29/1997	8081	alpha-Chlordane	0.0025		NA	0.0025	ug/L
N-112-88	N112B1FS	06/29/1997	8081	alpha-BHC	0.0025		NA	0.0025	ug/L
N-112-88	N112B1FS	06/29/1997	8081	Aldrin	0.0074		NA	0.0074	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Acenaphthylene	5.1		NA	5.1	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	Acenaphthene	5.8		NA	5.8	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	4-Nitrophenol	96		NA	96	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	4-Nitroaniline	31		NA	31	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	4-Methylphenol	2.8		NA	2.8	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	4-Chlorophenyl Phenyl Ether	23		NA	23	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	4-Chloroaniline	1		NA	1	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	4-Chloro-3-Methylphenol	8.5		NA	8.5	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	4-Bromophenyl Phenyl Ether	22		NA	22	ug/L
N-112-88	N112B1FS	06/29/1997	8081	4,4'-DDT	0.0025		NA	0.0025	ug/L
N-112-88	N112B1FS	06/29/1997	8081	4,4'-DDE	0.0039		NA	0.0039	ug/L
N-112-88	N112B1FS	06/29/1997	8081	4,4'-DDD	0.0081		NA	0.0081	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	3-Nitroaniline	15		NA	15	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	3,3'-Dichlorobenzidine	5		NA	5	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	2-Nitrophenol	8.2		NA	8.2	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	2-Nitroaniline	31		NA	31	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	2-Methylphenol	3.6		NA	3.6	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

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Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-112-88	N112B1FS	06/29/1997	8270A	2-Methylnaphthalene	1.3		NA	1.3	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	2-Methyl-4,6-Dinitrophenol	50		NA	50	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	2-Chlorophenol	2.8		NA	2.8	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	2-Chloronaphthalene	2.6		NA	2.6	ug/L
N-112-88	N112B1FS	06/29/1997	8330	2,6-Dinitrotoluene	0.6		NA	0.6	ug/L
N-112-88	N112B1FS	06/29/1997	8330	2,4-Dinitrotoluene	0.397		NA	0.397	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	2,4-Dinitrophenol	180		NA	180	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	2,4-Dimethylphenol	4.4		NA	4.4	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	2,4-Dichlorophenol	8.4		NA	8.4	ug/L
N-112-88	N112B1FS	06/29/1997	8330	2,4,6-Trinitrotoluene	0.426		NA	0.426	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	2,4,6-Trichlorophenol	3.6		NA	3.6	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	2,4,5-Trichlorophenol	2.8		NA	2.8	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	1,4-Dichlorobenzene	1.5		NA	1.5	ug/L
N-112-88	N112B1FS	06/29/1997	8330	1,3-Dinitrobenzene	0.458		NA	0.458	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	1,3-Dichlorobenzene	3.4		NA	3.4	ug/L
N-112-88	N112B1FS	06/29/1997	8330	1,3,5-Trinitrobenzene	0.24		NA	0.21	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	1,2-Dichlorobenzene	1.2		NA	1.2	ug/L
N-112-88	N112B1FS	06/29/1997	8270A	1,2,4-Trichlorobenzene	2.4		NA	2.4	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Zinc (dissolved)	18		NA	18	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Zinc	18		NA	18	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Toxaphene	1.64		NA	1.64	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Thallium	10		NA	10	ug/L
N-114-88	N114B1FS	06/29/1997	8330	Tetryl	0.631		NA	0.631	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Sodium (dissolved)	134000		NA	80000	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Sodium	131000		NA	80000	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Silver	10		NA	10	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Selenium (dissolved)	3.73		NA	2.53	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Selenium	2.8		NA	2.53	ug/L
N-114-88	N114B1FS	06/29/1997	8330	RDX	0.416		NA	0.416	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Pyrene	17		NA	17	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Potassium (dissolved)	5320		NA	4000	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Potassium	4980		NA	4000	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Phenol	2.2		NA	2.2	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Phenanthrene	9.9		NA	9.9	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Pentachlorophenol	9.1		NA	9.1	ug/L
N-114-88	N114B1FS	06/29/1997	8330	Nitrobenzene	0.682		NA	0.682	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Nickel (dissolved)	32.1		NA	32.1	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Nickel	32.1		NA	32.1	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Naphthalene	0.5		NA	0.5	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	N-Nitrosodiphenylamine	3.7		NA	3.7	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	N-Nitroso-Di-n-Propylamine	6.8		NA	6.8	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Methoxychlor	0.075		NA	0.075	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Manganese (dissolved)	9.67		NA	9.67	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Manganese	9.67		NA	9.67	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Magnesium (dissolved)	58900		NA	34000	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Magnesium	57500		NA	34000	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Lead	4.47		NA	4.47	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

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Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-114-88	N114B1FS	06/29/1997	8270A	Isophorone	2.4		NA	2.4	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Iron (dissolved)	77.5		NA	77.5	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Iron	246		NA	77.5	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Indeno(1,2,3-cd)pyrene	21		NA	21	ug/L
N-114-88	N114B1FS	06/29/1997	8330	HMX	0.533		NA	0.533	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Hexachloroethane	8.3		NA	8.3	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Hexachlorocyclopentadiene	54		NA	54	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Hexachlorobutadiene	8.7		NA	8.7	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Hexachlorobenzene	12		NA	12	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Heptachlor Epoxide	0.0063		NA	0.0063	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Heptachlor	0.0025		NA	0.0025	ug/L
N-114-88	N114B1FS	06/29/1997	8081	gamma-Chlordane	0.0025		NA	0.0025	ug/L
N-114-88	N114B1FS	06/29/1997	8081	gamma-BHC	0.0025		NA	0.0025	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Fluorene	9.2		NA	9.2	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Fluoranthene	24		NA	24	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Endrin Ketone	0.0025		NA	0.0025	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Endrin Aldehyde	0.0504		NA	0.0504	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Endrin	0.0176		NA	0.0176	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Endosulfan Sulfate	0.0025		NA	0.0025	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Endosulfan II	0.0077		NA	0.0077	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Endosulfan I	0.0025		NA	0.0025	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Dimethyl Phthalate	2.2		NA	2.2	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Diethyl Phthalate	5.9		NA	5.9	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Dieldrin	0.0074		NA	0.0074	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Dibenzofuran	5.1		NA	5.1	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Dibenzo(a,h)anthracene	12		NA	12	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Di-n-Octyl Phthalate	1.5		NA	1.5	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Di-n-butyl Phthalate	33		NA	33	ug/L
N-114-88	N114B1FS	06/29/1997	8081	delta-BHC	0.0034		NA	0.0034	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Cyanide	5		NA	5	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Cobalt	25		NA	25	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Chrysene	7.4		NA	7.4	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Chromium	16.8		NA	16.8	ug/L
N-114-88	N114B1FS	06/29/1997	8260	Chloroform	10		0.67	1	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Chlordane	0.0312		NA	0.0312	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Carbazole	5		NA	5	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Calcium (dissolved)	138000		NA	50000	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Calcium	136000		NA	50000	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Butyl Benzyl Phthalate	28		NA	28	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Bis(2-ethylhexyl)phthalate	7.7		NA	7.7	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Bis(2-Chloroisopropyl)ether	5		NA	5	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Bis(2-Chloroethyl)ether	0.68		NA	0.68	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Bis(2-Chloroethoxy) Methane	10		NA	10	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Bid(2-Chloroethoxy)methane	6.8		NA	6.8	ug/L
N-114-88	N114B1FS	06/29/1997	8081	beta-BHC	0.0099		NA	0.0099	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Beryllium	1.12		NA	1.12	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-114-88	N114B1FS	06/29/1997	8270A	Benzo(g,h,i)perylene	15		NA	15	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Benzo(b)fluoranthene	10		NA	10	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Benzo(a)pyrene	14		NA	14	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Benzo(a)Anthracene	9.8		NA	9.8	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Barium (dissolved)	56.7		NA	25	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Barium	56.1		NA	25	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Arsenic (dissolved)	3.53		NA	2.35	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Arsenic	3.15		NA	2.35	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Aroclor 1248	0.1		NA	0.1	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Aroclor 1232	0.1		NA	0.1	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Aroclor 1221	0.1		NA	0.1	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Aroclor 1016	0.385		NA	0.385	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Arochlor 1260	0.176		NA	0.176	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Arochlor 1254	0.1		NA	0.1	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Arochlor 1242	0.1		NA	0.1	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Antimony	10		NA	10	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Anthracene	5.2		NA	5.2	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-114-88	N114B1FS	06/29/1997	6010A	Aluminum	112		NA	112	ug/L
N-114-88	N114B1FS	06/29/1997	8081	alpha-Chlordane	0.0025		NA	0.0025	ug/L
N-114-88	N114B1FS	06/29/1997	8081	alpha-BHC	0.0025		NA	0.0025	ug/L
N-114-88	N114B1FS	06/29/1997	8081	Aldrin	0.0074		NA	0.0074	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Acenaphthylene	5.1		NA	5.1	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	Acenaphthene	5.8		NA	5.8	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	4-Nitrophenol	96		NA	96	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	4-Nitroaniline	31		NA	31	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	4-Methylphenol	2.8		NA	2.8	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	4-Chlorophenyl Phenyl Ether	23		NA	23	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	4-Chloroaniline	1		NA	1	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	4-Chloro-3-Methylphenol	8.5		NA	8.5	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	4-Bromophenyl Phenyl Ether	22		NA	22	ug/L
N-114-88	N114B1FS	06/29/1997	8081	4,4'-DDT	0.0025		NA	0.0025	ug/L
N-114-88	N114B1FS	06/29/1997	8081	4,4'-DDE	0.0039		NA	0.0039	ug/L
N-114-88	N114B1FS	06/29/1997	8081	4,4'-DDD	0.0081		NA	0.0081	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	3-Nitroaniline	15		NA	15	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	3,3'-Dichlorobenzidine	5		NA	5	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	2-Nitrophenol	8.2		NA	8.2	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	2-Nitroaniline	31		NA	31	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	2-Methylphenol	3.6		NA	3.6	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	2-Methylnaphthalene	1.3		NA	1.3	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	2-Methyl-4,6-Dinitrophenol	50		NA	50	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	2-Chlorophenol	2.8		NA	2.8	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	2-Chloronaphthalene	2.6		NA	2.6	ug/L
N-114-88	N114B1FS	06/29/1997	8330	2,6-Dinitrotoluene	0.6		NA	0.6	ug/L
N-114-88	N114B1FS	06/29/1997	8330	2,4-Dinitrotoluene	0.397		NA	0.397	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	2,4-Dinitrophenol	180		NA	180	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	2,4-Dimethylphenol	4.4		NA	4.4	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	2,4-Dichlorophenol	8.4		NA	8.4	ug/L
N-114-88	N114B1FS	06/29/1997	8330	2,4,6-Trinitrotoluene	0.426		NA	0.426	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	2,4,6-Trichlorophenol	3.6		NA	3.6	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	2,4,5-Trichlorophenol	2.8		NA	2.8	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	1,4-Dichlorobenzene	1.5		NA	1.5	ug/L
N-114-88	N114B1FS	06/29/1997	8330	1,3-Dinitrobenzene	0.458		NA	0.458	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-114-88	N114B1FS	06/29/1997	8270A	1,3-Dichlorobenzene	3.4		NA	3.4	ug/L
N-114-88	N114B1FS	06/29/1997	8330	1,3,5-Trinitrobenzene	0.21		NA	0.21	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	1,2-Dichlorobenzene	1.2		NA	1.2	ug/L
N-114-88	N114B1FS	06/29/1997	8270A	1,2,4-Trichlorobenzene	2.4		NA	2.4	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Zinc (dissolved)	20		NA	18.0	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Zinc	18		NA	18	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-115-88	N115B1FS	07/01/1997	8260	Trichloroethene	2.2		0.61	1	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Toxaphene	1.64		NA	1.64	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Thallium	10		NA	10	ug/L
N-115-88	N115B1FS	07/01/1997	8330	Tetryl	0.631		NA	0.631	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Sodium (dissolved)	170000		NA	80000	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Sodium	161000		NA	80000	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Silver	10		NA	10	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Selenium (dissolved)	30.2		NA	2.53	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Selenium	13.4		NA	2.53	ug/L
N-115-88	N115B1FS	07/01/1997	8330	RDX	0.416		NA	0.416	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Pyrene	17		NA	17	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Potassium (dissolved)	8810		NA	4000	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Potassium	8770		NA	4000	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Phenol	2.2		NA	2.2	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Phenanthrene	9.9		NA	9.9	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Pentachlorophenol	9.1		NA	9.1	ug/L
N-115-88	N115B1FS	07/01/1997	8330	Nitrobenzene	0.682		NA	0.682	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Nickel (dissolved)	32.1		NA	32.1	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Nickel	32.1		NA	32.1	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Naphthalene	0.5		NA	0.5	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	N-Nitrosodiphenylamine	3.7		NA	3.7	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	N-Nitroso-Di-n-Propylamine	6.8		NA	6.8	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Methoxychlor	0.075		NA	0.075	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Manganese (dissolved)	9.67		NA	9.67	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Manganese	9.67		NA	9.67	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Magnesium (dissolved)	117000		NA	34000	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Magnesium	111000		NA	34000	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Isophorone	2.4		NA	2.4	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Iron (dissolved)	77.5		NA	77.5	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Iron	194		NA	77.5	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Indeno(1,2,3-cd)pyrene	21		NA	21	ug/L
N-115-88	N115B1FS	07/01/1997	8330	HMX	0.533		NA	0.533	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Hexachloroethane	8.3		NA	8.3	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Hexachlorocyclopentadiene	54		NA	54	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Hexachlorobutadiene	8.7		NA	8.7	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Hexachlorobenzene	12		NA	12	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Heptachlor Epoxide	0.0063		NA	0.0063	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Heptachlor	0.0025		NA	0.0025	ug/L
N-115-88	N115B1FS	07/01/1997	8081	gamma-Chlordane	0.0025		NA	0.0025	ug/L
N-115-88	N115B1FS	07/01/1997	8081	gamma-BHC	0.0025		NA	0.0025	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-115-88	N115B1FS	07/01/1997	8270A	Fluorene	9.2		NA	9.2	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Fluoranthene	24		NA	24	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Endrin Ketone	0.0025		NA	0.0025	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Endrin Aldehyde	0.0504		NA	0.0504	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Endrin	0.0176		NA	0.0176	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Endosulfan Sulfate	0.0025		NA	0.0025	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Endosulfan II	0.0077		NA	0.0077	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Endosulfan I	0.0025		NA	0.0025	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Dimethyl Phthalate	2.2		NA	2.2	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Diethyl Phthalate	5.9		NA	5.9	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Dieldrin	0.0074		NA	0.0074	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Dibenzofuran	5.1		NA	5.1	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Dibenzo(a,h)anthracene	12		NA	12	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Di-n-Octyl Phthalate	1.5		NA	1.5	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Di-n-butyl Phthalate	33		NA	33	ug/L
N-115-88	N115B1FS	07/01/1997	8081	delta-BHC	0.0034		NA	0.0034	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Cyanide	5		NA	5	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Cobalt	25		NA	25	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Chrysene	7.4		NA	7.4	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Chromium	16.8		NA	16.8	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Chlordane	0.0312		NA	0.0312	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Carbazole	5		NA	5	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Calcium (dissolved)	250000		NA	50000	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Calcium	220000		NA	50000	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Butyl Benzyl Phthalate	28		NA	28	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Bis(2-ethylhexyl)phthalate	7.7		NA	7.7	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Bis(2-Chloroisopropyl)ether	5		NA	5	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Bis(2-Chloroethyl)ether	0.68		NA	0.68	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Bis(2-Chloroethoxy) Methane	10		NA	10	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Bid(2-Chloroethoxy)methane	6.8		NA	6.8	ug/L
N-115-88	N115B1FS	07/01/1997	8081	beta-BHC	0.0099		NA	0.0099	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Benzo(g,h,i)perylene	15		NA	15	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Benzo(b)fluoranthene	10		NA	10	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Benzo(a)pyrene	14		NA	14	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Benzo(a)Anthracene	9.8		NA	9.8	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Barium (dissolved)	99.4		NA	25	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Barium	96.5		NA	25	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Arsenic (dissolved)	2.97		NA	2.35	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Arsenic	4.16		NA	2.35	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Aroclor 1248	0.1		NA	0.1	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Aroclor 1232	0.1		NA	0.1	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Aroclor 1221	0.1		NA	0.1	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Aroclor 1016	0.385		NA	0.385	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Arochlor 1260	0.176		NA	0.176	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Arochlor 1254	0.1		NA	0.1	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-115-88	N115B1FS	07/01/1997	8081	Arochlor 1242	0.1		NA	0.1	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Antimony	10		NA	10	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Anthracene	5.2		NA	5.2	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-115-88	N115B1FS	07/01/1997	6010A	Aluminum	112		NA	112	ug/L
N-115-88	N115B1FS	07/01/1997	8081	alpha-Chlordane	0.0025		NA	0.0025	ug/L
N-115-88	N115B1FS	07/01/1997	8081	alpha-BHC	0.0025		NA	0.0025	ug/L
N-115-88	N115B1FS	07/01/1997	8081	Aldrin	0.0074		NA	0.0074	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Acenaphthylene	5.1		NA	5.1	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	Acenaphthene	5.8		NA	5.8	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	4-Nitrophenol	96		NA	96	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	4-Nitroaniline	31		NA	31	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	4-Methylphenol	2.8		NA	2.8	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	4-Chlorophenyl Phenyl Ether	23		NA	23	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	4-Chloroaniline	1		NA	1	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	4-Chloro-3-Methylphenol	8.5		NA	8.5	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	4-Bromophenyl Phenyl Ether	22		NA	22	ug/L
N-115-88	N115B1FS	07/01/1997	8081	4,4'-DDT	0.0025		NA	0.0025	ug/L
N-115-88	N115B1FS	07/01/1997	8081	4,4'-DDE	0.0039		NA	0.0039	ug/L
N-115-88	N115B1FS	07/01/1997	8081	4,4'-DDD	0.0081		NA	0.0081	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	3-Nitroaniline	15		NA	15	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	3,3'-Dichlorobenzidine	5		NA	5	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	2-Nitrophenol	8.2		NA	8.2	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	2-Nitroaniline	31		NA	31	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	2-Methylphenol	3.6		NA	3.6	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	2-Methylnaphthalene	1.3		NA	1.3	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	2-Methyl-4,6-Dinitrophenol	50		NA	50	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	2-Chlorophenol	2.8		NA	2.8	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	2-Chloronaphthalene	2.6		NA	2.6	ug/L
N-115-88	N115B1FS	07/01/1997	8330	2,6-Dinitrotoluene	0.6		NA	0.6	ug/L
N-115-88	N115B1FS	07/01/1997	8330	2,4-Dinitrotoluene	0.397		NA	0.397	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	2,4-Dinitrophenol	180		NA	180	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	2,4-Dimethylphenol	4.4		NA	4.4	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	2,4-Dichlorophenol	8.4		NA	8.4	ug/L
N-115-88	N115B1FS	07/01/1997	8330	2,4,6-Trinitrotoluene	0.426		NA	0.426	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	2,4,6-Trichlorophenol	3.6		NA	3.6	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	2,4,5-Trichlorophenol	2.8		NA	2.8	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	1,4-Dichlorobenzene	1.5		NA	1.5	ug/L
N-115-88	N115B1FS	07/01/1997	8330	1,3-Dinitrobenzene	0.458		NA	0.458	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	1,3-Dichlorobenzene	3.4		NA	3.4	ug/L
N-115-88	N115B1FS	07/01/1997	8330	1,3,5-Trinitrobenzene	0.21		NA	0.21	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	1,2-Dichlorobenzene	1.2		NA	1.2	ug/L
N-115-88	N115B1FS	07/01/1997	8270A	1,2,4-Trichlorobenzene	2.4		NA	2.4	ug/L
N-116-88	N-116-88-01	02/17/1999	EPA 8260B	Trichloroethene	10		0.26	1	ug/L
N-116-88	N-116-88-01	02/17/1999	EPA 6010	Thallium (dissolved)	1.7	UJ	1.6	10	ug/L
N-116-88	N-116-88-01	02/17/1999	EPA 6010	Thallium	2.4	UJ	1.6	10	ug/L
N-116-88	N-116-88-01	02/17/1999	EPA 6010	Nickel (dissolved)	1.3	UJ	0.36	5	ug/L
N-116-88	N-116-88-01	02/17/1999	EPA 6010	Nickel	2.3	UJ	0.36	5	ug/L
N-116-88	N-116-88-01	02/17/1999	EPA 7470	Mercury (dissolved)	0.14	UJ	0.11	0.5	ug/L
N-116-88	N-116-88-01	02/17/1999	EPA 7470	Mercury	0.13	UJ	0.11	0.5	ug/L
N-116-88	N-116-88-01	02/17/1999	EPA 6010	Manganese (dissolved)	0.59	UJ	0.24	5	ug/L
N-116-88	N-116-88-01	02/17/1999	EPA 6010	Manganese	4.3	UJ	0.24	5	ug/L
N-116-88	N-116-88-01	02/17/1999	EPA 6010	Chromium (dissolved)	1.7	UJ	0.41	5	ug/L

Notes:

ND - Not Detected

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Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-116-88	N-116-88-01	02/17/1999	EPA 6010	Chromium	4.6	UJ	0.41	5	ug/L
N-116-88	N-116-88-01	02/17/1999	EPA 6010	Antimony (dissolved)	1.5	UJ	1.5	10	ug/L
N-117-88	N-117-88-01	02/17/1999	EPA 8260B	Trichloroethene	13		0.26	1	ug/L
N-117-88	N-117-88-01	02/17/1999	EPA 6010	Nickel (dissolved)	3.9	UJ	0.36	5	ug/L
N-117-88	N-117-88-01	02/17/1999	EPA 6010	Nickel	9.4	J	0.36	5	ug/L
N-117-88	N-117-88-01	02/17/1999	EPA 7470	Mercury (dissolved)	0.15	UJ	0.11	0.5	ug/L
N-117-88	N-117-88-01	02/17/1999	EPA 7470	Mercury	0.13	UJ	0.11	0.5	ug/L
N-117-88	N-117-88-01	02/17/1999	EPA 6010	Manganese (dissolved)	5.8	J	0.24	5	ug/L
N-117-88	N-117-88-01	02/17/1999	EPA 6010	Manganese	3.0	UJ	0.24	5	ug/L
N-117-88	N-117-88-01	02/17/1999	EPA 6010	Chromium (dissolved)	2.6	UJ	0.41	5	ug/L
N-117-88	N-117-88-01	02/17/1999	EPA 6010	Chromium	25.6	J	0.41	5	ug/L
N-117-88	N-117-88-01	02/17/1999	EPA 6010	Antimony (dissolved)	2.0	UJ	1.5	10	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Zinc (dissolved)	18		NA	18	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Zinc	18		NA	18	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Toxaphene	1.64		NA	1.64	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Thallium	10		NA	10	ug/L
N-118-88	N118B1FS	06/30/1997	8330	Tetryl	0.631		NA	0.631	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Sodium (dissolved)	159000		NA	80000	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Sodium	159000		NA	80000	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Silver	10		NA	10	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Selenium (dissolved)	11.2		NA	2.53	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Selenium	11.8		NA	2.53	ug/L
N-118-88	N118B1FS	06/30/1997	8330	RDX	0.416		NA	0.416	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Pyrene	17		NA	17	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Potassium (dissolved)	7940		NA	4000	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Potassium	8620		NA	4000	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Phenol	2.2		NA	2.2	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Phenanthrene	9.9		NA	9.9	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Pentachlorophenol	9.1		NA	9.1	ug/L
N-118-88	N118B1FS	06/30/1997	8330	Nitrobenzene	0.682		NA	0.682	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Nickel (dissolved)	32.1		NA	32.1	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Nickel	32.1		NA	32.1	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Naphthalene	0.5		NA	0.5	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	N-Nitrosodiphenylamine	3.7		NA	3.7	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	N-Nitroso-Di-n-Propylamine	6.8		NA	6.8	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Methoxychlor	0.075		NA	0.075	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Manganese (dissolved)	9.67		NA	9.67	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Manganese	9.67		NA	9.67	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Magnesium (dissolved)	94500		NA	34000	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Magnesium	94300		NA	34000	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Isophorone	2.4		NA	2.4	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Iron (dissolved)	77.5		NA	77.5	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Iron	235		NA	77.5	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Indeno(1,2,3-cd)pyrene	21		NA	21	ug/L
N-118-88	N118B1FS	06/30/1997	8330	HMX	0.533		NA	0.533	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Hexachloroethane	8.3		NA	8.3	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

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Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-118-88	N118B1FS	06/30/1997	8270A	Hexachlorocyclopentadiene	54		NA	54	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Hexachlorobutadiene	8.7		NA	8.7	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Hexachlorobenzene	12		NA	12	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Heptachlor Epoxide	0.0063		NA	0.0063	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Heptachlor	0.0025		NA	0.0025	ug/L
N-118-88	N118B1FS	06/30/1997	8081	gamma-Chlordane	0.0025		NA	0.0025	ug/L
N-118-88	N118B1FS	06/30/1997	8081	gamma-BHC	0.0025		NA	0.0025	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Fluorene	9.2		NA	9.2	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Fluoranthene	24		NA	24	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Endrin Ketone	0.0025		NA	0.0025	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Endrin Aldehyde	0.0504		NA	0.0504	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Endrin	0.0176		NA	0.0176	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Endosulfan Sulfate	0.0025		NA	0.0025	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Endosulfan II	0.0077		NA	0.0077	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Endosulfan I	0.0025		NA	0.0025	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Dimethyl Phthalate	2.2		NA	2.2	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Diethyl Phthalate	5.9		NA	5.9	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Dieldrin	0.0074		NA	0.0074	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Dibenzofuran	5.1		NA	5.1	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Dibenzo(a,h)anthracene	12		NA	12	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Di-n-Octyl Phthalate	1.5		NA	1.5	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Di-n-butyl Phthalate	33		NA	33	ug/L
N-118-88	N118B1FS	06/30/1997	8081	delta-BHC	0.0034		NA	0.0034	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Cyanide	5		NA	5	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Cobalt	25		NA	25	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Chrysene	7.4		NA	7.4	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Chromium	16.8		NA	16.8	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Chlordane	0.0312		NA	0.0312	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Carbazole	5		NA	5	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Calcium (dissolved)	192000		NA	50000	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Calcium	192000		NA	50000	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Butyl Benzyl Phthalate	28		NA	28	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Bis(2-ethylhexyl)phthalate	7.7		NA	7.7	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Bis(2-Chloroisopropyl)ether	5		NA	5	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Bis(2-Chloroethyl)ether	0.68		NA	0.68	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Bis(2-Chloroethoxy) Methane	10		NA	10	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Bid(2-Chloroethoxy)methane	6.8		NA	6.8	ug/L
N-118-88	N118B1FS	06/30/1997	8081	beta-BHC	0.0099		NA	0.0099	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Benzo(g,h,i)perylene	15		NA	15	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Benzo(b)fluoranthene	10		NA	10	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Benzo(a)pyrene	14		NA	14	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Benzo(a)Anthracene	9.8		NA	9.8	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Barium (dissolved)	110		NA	25	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Barium	105		NA	25	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Arsenic (dissolved)	4.05		NA	2.35	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-118-88	N118B1FS	06/30/1997	6010A	Arsenic	4.28		NA	2.35	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Aroclor 1248	0.1		NA	0.1	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Aroclor 1232	0.1		NA	0.1	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Aroclor 1221	0.1		NA	0.1	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Aroclor 1016	0.385		NA	0.385	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Arochlor 1260	0.176		NA	0.176	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Arochlor 1254	0.1		NA	0.1	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Arochlor 1242	0.1		NA	0.1	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Antimony	10		NA	10	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Anthracene	5.2		NA	5.2	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-118-88	N118B1FS	06/30/1997	6010A	Aluminum	112		NA	112	ug/L
N-118-88	N118B1FS	06/30/1997	8081	alpha-Chlordane	0.0025		NA	0.0025	ug/L
N-118-88	N118B1FS	06/30/1997	8081	alpha-BHC	0.0025		NA	0.0025	ug/L
N-118-88	N118B1FS	06/30/1997	8081	Aldrin	0.0074		NA	0.0074	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Acenaphthylene	5.1		NA	5.1	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	Acenaphthene	5.8		NA	5.8	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	4-Nitrophenol	96		NA	96	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	4-Nitroaniline	31		NA	31	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	4-Methylphenol	2.8		NA	2.8	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	4-Chlorophenyl Phenyl Ether	23		NA	23	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	4-Chloroaniline	1		NA	1	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	4-Chloro-3-Methylphenol	8.5		NA	8.5	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	4-Bromophenyl Phenyl Ether	22		NA	22	ug/L
N-118-88	N118B1FS	06/30/1997	8081	4,4'-DDT	0.0029		NA	0.0025	ug/L
N-118-88	N118B1FS	06/30/1997	8081	4,4'-DDE	0.0039		NA	0.0039	ug/L
N-118-88	N118B1FS	06/30/1997	8081	4,4'-DDD	0.0081		NA	0.0081	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	3-Nitroaniline	15		NA	15	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	3,3'-Dichlorobenzidine	5		NA	5	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	2-Nitrophenol	8.2		NA	8.2	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	2-Nitroaniline	31		NA	31	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	2-Methylphenol	3.6		NA	3.6	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	2-Methylnaphthalene	1.3		NA	1.3	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	2-Methyl-4,6-Dinitrophenol	50		NA	50	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	2-Chlorophenol	2.8		NA	2.8	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	2-Chloronaphthalene	2.6		NA	2.6	ug/L
N-118-88	N118B1FS	06/30/1997	8330	2,6-Dinitrotoluene	0.6		NA	0.6	ug/L
N-118-88	N118B1FS	06/30/1997	8330	2,4-Dinitrotoluene	0.397		NA	0.397	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	2,4-Dinitrophenol	180		NA	180	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	2,4-Dimethylphenol	4.4		NA	4.4	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	2,4-Dichlorophenol	8.4		NA	8.4	ug/L
N-118-88	N118B1FS	06/30/1997	8330	2,4,6-Trinitrotoluene	0.426		NA	0.426	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	2,4,6-Trichlorophenol	3.6		NA	3.6	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	2,4,5-Trichlorophenol	2.8		NA	2.8	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	1,4-Dichlorobenzene	1.5		NA	1.5	ug/L
N-118-88	N118B1FS	06/30/1997	8330	1,3-Dinitrobenzene	0.458		NA	0.458	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	1,3-Dichlorobenzene	3.4		NA	3.4	ug/L
N-118-88	N118B1FS	06/30/1997	8330	1,3,5-Trinitrobenzene	0.289		NA	0.21	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	1,2-Dichlorobenzene	1.2		NA	1.2	ug/L
N-118-88	N118B1FS	06/30/1997	8270A	1,2,4-Trichlorobenzene	2.4		NA	2.4	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Zinc (dissolved)	18		NA	18	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Zinc	47.7		NA	18.0	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-119-88	N119B1FS	07/02/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-119-88	N119B1FS	07/02/1997	8260	Trichloroethene	200		0.61	1	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Toxaphene	1.64		NA	1.64	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Thallium	10		NA	10	ug/L
N-119-88	N119B1FS	07/02/1997	8330	Tetryl	0.631		NA	0.631	ug/L
N-119-88	N119B1FS	07/02/1997	8260	Tetrachloroethene	2.6		0.8	1	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Sodium (dissolved)	183000		NA	80000	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Sodium	186000		NA	80000	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Silver	10		NA	10	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Selenium (dissolved)	3.52		NA	2.53	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Selenium	3.01		NA	2.53	ug/L
N-119-88	N119B1FS	07/02/1997	8330	RDX	0.416		NA	0.416	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Pyrene	17		NA	17	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Potassium (dissolved)	6320		NA	4000	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Potassium	7740		NA	4000	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Phenol	2.2		NA	2.2	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Phenanthrene	9.9		NA	9.9	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Pentachlorophenol	9.1		NA	9.1	ug/L
N-119-88	N119B1FS	07/02/1997	8330	Nitrobenzene	0.682		NA	0.682	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Nickel (dissolved)	150		NA	32.1	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Nickel	327		NA	32.1	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Naphthalene	0.5		NA	0.5	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	N-Nitrosodiphenylamine	3.7		NA	3.7	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	N-Nitroso-Di-n-Propylamine	6.8		NA	6.8	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Methoxychlor	0.075		NA	0.075	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Manganese (dissolved)	44.4		NA	9.67	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Manganese	338		NA	9.67	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Magnesium (dissolved)	72900		NA	34000	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Magnesium	75900		NA	34000	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Lead	8.99		NA	4.47	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Isophorone	2.4		NA	2.4	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Iron (dissolved)	131		NA	77.5	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Iron	24100		NA	77.5	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Indeno(1,2,3-cd)pyrene	21		NA	21	ug/L
N-119-88	N119B1FS	07/02/1997	8330	HMX	0.533		NA	0.533	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Hexachloroethane	8.3		NA	8.3	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Hexachlorocyclopentadiene	54		NA	54	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Hexachlorobutadiene	8.7		NA	8.7	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Hexachlorobenzene	12		NA	12	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Heptachlor Epoxide	0.0063		NA	0.0063	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Heptachlor	0.0025		NA	0.0025	ug/L
N-119-88	N119B1FS	07/02/1997	8081	gamma-Chlordane	0.0025		NA	0.0025	ug/L
N-119-88	N119B1FS	07/02/1997	8081	gamma-BHC	0.0025		NA	0.0025	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Fluorene	9.2		NA	9.2	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Fluoranthene	24		NA	24	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Endrin Ketone	0.0025		NA	0.0025	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Endrin Aldehyde	0.0504		NA	0.0504	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Endrin	0.0176		NA	0.0176	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Endosulfan Sulfate	0.0025		NA	0.0025	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

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PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-119-88	N119B1FS	07/02/1997	8081	Endosulfan II	0.0077		NA	0.0077	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Endosulfan I	0.0025		NA	0.0025	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Dimethyl Phthalate	2.2		NA	2.2	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Diethyl Phthalate	5.9		NA	5.9	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Dieldrin	0.0074		NA	0.0074	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Dibenzofuran	5.1		NA	5.1	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Dibenzo(a,h)anthracene	12		NA	12	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Di-n-Octyl Phthalate	1.5		NA	1.5	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Di-n-butyl Phthalate	33		NA	33	ug/L
N-119-88	N119B1FS	07/02/1997	8081	delta-BHC	0.0034		NA	0.0034	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Cyanide	5		NA	5	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Cobalt	25		NA	25	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Chrysene	7.4		NA	7.4	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Chromium	128		NA	16.8	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Chlordane	0.0312		NA	0.0312	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Carbazole	5		NA	5	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Calcium (dissolved)	160000		NA	50000	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Calcium	201000		NA	50000	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Butyl Benzyl Phthalate	28		NA	28	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Bis(2-ethylhexyl)phthalate	7.7		NA	7.7	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Bis(2-Chloroisopropyl)ether	5		NA	5	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Bis(2-Chloroethyl)ether	0.68		NA	0.68	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Bis(2-Chloroethoxy) Methane	10		NA	10	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Bid(2-Chloroethoxy)methane	6.8		NA	6.8	ug/L
N-119-88	N119B1FS	07/02/1997	8081	beta-BHC	0.0099		NA	0.0099	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Benzo(g,h,i)perylene	15		NA	15	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Benzo(b)fluoranthene	10		NA	10	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Benzo(a)pyrene	14		NA	14	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Benzo(a)Anthracene	9.8		NA	9.8	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Barium (dissolved)	57.3		NA	25	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Barium	101		NA	25	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Arsenic (dissolved)	2.63		NA	2.35	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Arsenic	10.6		NA	2.35	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Aroclor 1248	0.1		NA	0.1	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Aroclor 1232	0.1		NA	0.1	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Aroclor 1221	0.1		NA	0.1	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Aroclor 1016	0.385		NA	0.385	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Arochlor 1260	0.176		NA	0.176	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Arochlor 1254	0.1		NA	0.1	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Arochlor 1242	0.1		NA	0.1	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Antimony	10		NA	10	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Anthracene	5.2		NA	5.2	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-119-88	N119B1FS	07/02/1997	6010A	Aluminum	2700		NA	112	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-119-88	N119B1FS	07/02/1997	8081	alpha-Chlordane	0.0025		NA	0.0025	ug/L
N-119-88	N119B1FS	07/02/1997	8081	alpha-BHC	0.0025		NA	0.0025	ug/L
N-119-88	N119B1FS	07/02/1997	8081	Aldrin	0.0074		NA	0.0074	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Acenaphthylene	5.1		NA	5.1	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	Acenaphthene	5.8		NA	5.8	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	4-Nitrophenol	96		NA	96	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	4-Nitroaniline	31		NA	31	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	4-Methylphenol	2.8		NA	2.8	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	4-Chlorophenyl Phenyl Ether	23		NA	23	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	4-Chloroaniline	1		NA	1	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	4-Chloro-3-Methylphenol	8.5		NA	8.5	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	4-Bromophenyl Phenyl Ether	22		NA	22	ug/L
N-119-88	N119B1FS	07/02/1997	8081	4,4'-DDT	0.0025		NA	0.0025	ug/L
N-119-88	N119B1FS	07/02/1997	8081	4,4'-DDE	0.0039		NA	0.0039	ug/L
N-119-88	N119B1FS	07/02/1997	8081	4,4'-DDD	0.0081		NA	0.0081	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	3-Nitroaniline	15		NA	15	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	3,3'-Dichlorobenzidine	5		NA	5	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	2-Nitrophenol	8.2		NA	8.2	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	2-Nitroaniline	31		NA	31	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	2-Methylphenol	3.6		NA	3.6	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	2-Methylnaphthalene	1.3		NA	1.3	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	2-Methyl-4,6-Dinitrophenol	50		NA	50	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	2-Chlorophenol	2.8		NA	2.8	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	2-Chloronaphthalene	2.6		NA	2.6	ug/L
N-119-88	N119B1FS	07/02/1997	8330	2,6-Dinitrotoluene	0.6		NA	0.6	ug/L
N-119-88	N119B1FS	07/02/1997	8330	2,4-Dinitrotoluene	0.397		NA	0.397	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	2,4-Dinitrophenol	180		NA	180	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	2,4-Dimethylphenol	4.4		NA	4.4	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	2,4-Dichlorophenol	8.4		NA	8.4	ug/L
N-119-88	N119B1FS	07/02/1997	8330	2,4,6-Trinitrotoluene	0.426		NA	0.426	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	2,4,6-Trichlorophenol	3.6		NA	3.6	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	2,4,5-Trichlorophenol	2.8		NA	2.8	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	1,4-Dichlorobenzene	1.5		NA	1.5	ug/L
N-119-88	N119B1FS	07/02/1997	8330	1,3-Dinitrobenzene	0.458		NA	0.458	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	1,3-Dichlorobenzene	3.4		NA	3.4	ug/L
N-119-88	N119B1FS	07/02/1997	8330	1,3,5-Trinitrobenzene	0.308		NA	0.21	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	1,2-Dichlorobenzene	1.2		NA	1.2	ug/L
N-119-88	N119B1FS	07/02/1997	8270A	1,2,4-Trichlorobenzene	2.4		NA	2.4	ug/L
N-120-88	N-120-88-01	02/18/1999	EPA 8260B	Trichloroethene	8.2		0.26	1	ug/L
N-120-88	N-120-88-01	02/18/1999	EPA 8260B	Toluene	0.6	UJ	0.37	5	ug/L
N-120-88	N-120-88-01	02/18/1999	EPA 7470	Mercury (dissolved)	0.12	UJ	0.097	0.5	ug/L
N-120-88	N-120-88-01	02/18/1999	EPA 7470	Mercury	0.17	UJ	0.097	0.5	ug/L
N-120-88	N-120-88-01	02/18/1999	EPA 6010	Chromium (dissolved)	1.8	UJ	0.40	5	ug/L
N-120-88	N-120-88-01	02/18/1999	EPA 6010	Chromium	2.9	UJ	0.40	5	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Zinc (dissolved)	38.2		NA	18.0	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Zinc	29.6		NA	18.0	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Thallium	10		NA	10	ug/L
N-127-88	N127B1FS	06/27/1997	8330	Tetryl	0.631		NA	0.631	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Sodium (dissolved)	126000		NA	80000	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Sodium	133000		NA	80000	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Silver (dissolved)	10		NA	10	ug/L

Notes:

ND - Not Detected

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J - Estimated result, detected above PQL

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PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-127-88	N127B1FS	06/27/1997	6010A	Silver	10		NA	10	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Selenium (dissolved)	3.71		NA	2.53	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Selenium	3.41		NA	2.53	ug/L
N-127-88	N127B1FS	06/27/1997	8330	RDX	0.416		NA	0.416	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Pyrene	17		NA	17	ug/L
N-127-88	N127B1FS	06/27/1997	8260A	Propylene	4		NA	0	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Potassium (dissolved)	15300		NA	4000	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Potassium	16300		NA	4000	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Phenol	2.2		NA	2.2	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Phenanthrene	9.9		NA	9.9	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Pentachlorophenol	9.1		NA	9.1	ug/L
N-127-88	N127B1FS	06/27/1997	8330	Nitrobenzene	0.682		NA	0.682	ug/L
N-127-88	N127B1FS	06/27/1997	300.1	Nitrate/Nitrite	14000		NA	1000	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Nickel (dissolved)	32.1		NA	32.1	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Nickel	32.1		NA	32.1	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Naphthalene	0.5		NA	0.5	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	N-Nitrosodiphenylamine	3.7		NA	3.7	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	N-Nitroso-Di-n-Propylamine	6.8		NA	6.8	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Manganese (dissolved)	9.67		NA	9.67	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Manganese	9.67		NA	9.67	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Magnesium (dissolved)	146000		NA	34000	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Magnesium	149000		NA	34000	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Isophorone	2.4		NA	2.4	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Iron (dissolved)	77.5		NA	77.5	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Iron	141		NA	77.5	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Indeno(1,2,3-cd)pyrene	21		NA	21	ug/L
N-127-88	N127B1FS	06/27/1997	8330	HMX	0.533		NA	0.533	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Hexachloroethane	8.3		NA	8.3	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Hexachlorocyclopentadiene	54		NA	54	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Hexachlorobutadiene	8.7		NA	8.7	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Hexachlorobenzene	12		NA	12	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Fluorene	9.2		NA	9.2	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Fluoranthene	24		NA	24	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Dimethyl Phthalate	2.2		NA	2.2	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Diethyl Phthalate	5.9		NA	5.9	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Dibenzofuran	5.1		NA	5.1	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Dibenzo(a,h)anthracene	12		NA	12	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Di-n-Octyl Phthalate	1.5		NA	1.5	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Di-n-butyl Phthalate	33		NA	33	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Cyanide	5		NA	5	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Cobalt	25		NA	25	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Chrysene	7.4		NA	7.4	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Chromium	16.8		NA	16.8	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Carbazole	5		NA	5	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Calcium (dissolved)	230000		NA	50000	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-127-88	N127B1FS	06/27/1997	6010A	Calcium	240000		NA	50000	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Butyl Benzyl Phthalate	28		NA	28	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Bis(2-ethylhexyl)phthalate	7.7		NA	7.7	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Bis(2-Chloroisopropyl)ether	5		NA	5	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Bis(2-Chloroethyl)ether	0.68		NA	0.68	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Bis(2-Chloroethoxy) Methane	10		NA	10	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Bid(2-Chloroethoxy)methane	6.8		NA	6.8	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Benzo(g,h,i)perylene	15		NA	15	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Benzo(b)fluoranthene	10		NA	10	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Benzo(a)pyrene	14		NA	14	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Benzo(a)Anthracene	9.8		NA	9.8	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Barium (dissolved)	34.7		NA	25	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Barium	35.7		NA	25	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Arsenic (dissolved)	5.42		NA	2.35	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Arsenic	5.79		NA	2.35	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Antimony	10		NA	10	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Anthracene	5.2		NA	5.2	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-127-88	N127B1FS	06/27/1997	6010A	Aluminum	112		NA	112	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Acenaphthylene	5.1		NA	5.1	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	Acenaphthene	5.8		NA	5.8	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	4-Nitrophenol	96		NA	96	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	4-Nitroaniline	31		NA	31	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	4-Methylphenol	2.8		NA	2.8	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	4-Chlorophenyl Phenyl Ether	23		NA	23	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	4-Chloroaniline	1		NA	1	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	4-Chloro-3-Methylphenol	8.5		NA	8.5	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	4-Bromophenyl Phenyl Ether	22		NA	22	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	3-Nitroaniline	15		NA	15	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	3,3'-Dichlorobenzidine	5		NA	5	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	2-Nitrophenol	8.2		NA	8.2	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	2-Nitroaniline	31		NA	31	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	2-Methylphenol	3.6		NA	3.6	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	2-Methylnaphthalene	1.3		NA	1.3	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	2-Methyl-4,6-Dinitrophenol	50		NA	50	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	2-Chlorophenol	2.8		NA	2.8	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	2-Chloronaphthalene	2.6		NA	2.6	ug/L
N-127-88	N127B1FS	06/27/1997	8330	2,6-Dinitrotoluene	0.6		NA	0.6	ug/L
N-127-88	N127B1FS	06/27/1997	8330	2,4-Dinitrotoluene	0.397		NA	0.397	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	2,4-Dinitrophenol	180		NA	180	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	2,4-Dimethylphenol	4.4		NA	4.4	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	2,4-Dichlorophenol	8.4		NA	8.4	ug/L
N-127-88	N127B1FS	06/27/1997	8330	2,4,6-Trinitrotoluene	0.426		NA	0.426	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	2,4,6-Trichlorophenol	3.6		NA	3.6	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	2,4,5-Trichlorophenol	2.8		NA	2.8	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	1,4-Dichlorobenzene	1.5		NA	1.5	ug/L
N-127-88	N127B1FS	06/27/1997	8330	1,3-Dinitrobenzene	0.458		NA	0.458	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	1,3-Dichlorobenzene	3.4		NA	3.4	ug/L
N-127-88	N127B1FS	06/27/1997	8330	1,3,5-Trinitrobenzene	0.31		NA	0.21	ug/L

Notes:

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PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-127-88	N127B1FS	06/27/1997	8270A	1,2-Dichlorobenzene	1.2		NA	1.2	ug/L
N-127-88	N127B1FS	06/27/1997	8270A	1,2,4-Trichlorobenzene	2.4		NA	2.4	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Zinc (dissolved)	45		NA	18.0	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Zinc	19.9		NA	18.0	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Thallium	10		NA	10	ug/L
N-128-88	N128B1FS	06/27/1997	8330	Tetryl	0.631		NA	0.631	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Sodium (dissolved)	136000		NA	80000	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Sodium	137000		NA	80000	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Silver	10		NA	10	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Selenium (dissolved)	5.02		NA	2.53	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Selenium	9.06		NA	2.53	ug/L
N-128-88	N128B1FS	06/27/1997	8330	RDX	0.416		NA	0.416	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Pyrene	17		NA	17	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Potassium (dissolved)	14300		NA	4000	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Potassium	14300		NA	4000	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Phenol	2.2		NA	2.2	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Phenanthrene	9.9		NA	9.9	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Pentachlorophenol	9.1		NA	9.1	ug/L
N-128-88	N128B1FS	06/27/1997	8330	Nitrobenzene	0.682		NA	0.682	ug/L
N-128-88	N128B1FS	06/27/1997	300.1	Nitrate/Nitrite	19000		NA	1000	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Nickel (dissolved)	32.1		NA	32.1	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Nickel	32.1		NA	32.1	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Naphthalene	0.5		NA	0.5	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	N-Nitrosodiphenylamine	3.7		NA	3.7	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	N-Nitroso-Di-n-Propylamine	6.8		NA	6.8	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Manganese (dissolved)	9.67		NA	9.67	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Manganese	9.67		NA	9.67	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Magnesium (dissolved)	80300		NA	34000	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Magnesium	81200		NA	34000	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Isophorone	2.4		NA	2.4	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Iron (dissolved)	77.5		NA	77.5	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Iron	718		NA	77.5	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Indeno(1,2,3-cd)pyrene	21		NA	21	ug/L
N-128-88	N128B1FS	06/27/1997	8330	HMX	0.533		NA	0.533	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Hexachloroethane	8.3		NA	8.3	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Hexachlorocyclopentadiene	54		NA	54	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Hexachlorobutadiene	8.7		NA	8.7	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Hexachlorobenzene	12		NA	12	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Fluorene	9.2		NA	9.2	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Fluoranthene	24		NA	24	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Dimethyl Phthalate	2.2		NA	2.2	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Diethyl Phthalate	5.9		NA	5.9	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Dibenzofuran	5.1		NA	5.1	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Dibenzo(a,h)anthracene	12		NA	12	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Di-n-Octyl Phthalate	1.5		NA	1.5	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Di-n-butyl Phthalate	33		NA	33	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-128-88	N128B1FS	06/27/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Cyanide	5		NA	5	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Cobalt	25		NA	25	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Chrysene	7.4		NA	7.4	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Chromium	16.8		NA	16.8	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Carbazole	5		NA	5	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Calcium (dissolved)	183000		NA	50000	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Calcium	186000		NA	50000	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Butyl Benzyl Phthalate	28		NA	28	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Bis(2-ethylhexyl)phthalate	7.7		NA	7.7	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Bis(2-Chloroisopropyl)ether	5		NA	5	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Bis(2-Chloroethyl)ether	0.68		NA	0.68	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Bis(2-Chloroethoxy) Methane	10		NA	10	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Bid(2-Chloroethoxy)methane	6.8		NA	6.8	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Benzo(g,h,i)perylene	15		NA	15	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Benzo(b)fluoranthene	10		NA	10	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Benzo(a)pyrene	14		NA	14	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Benzo(a)Anthracene	9.8		NA	9.8	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Barium (dissolved)	31.6		NA	25	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Barium	36.9		NA	25	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Arsenic (dissolved)	2.35		NA	2.35	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Arsenic	5.68		NA	2.35	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Antimony	10		NA	10	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Anthracene	5.2		NA	5.2	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-128-88	N128B1FS	06/27/1997	6010A	Aluminum	336		NA	112	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Acenaphthylene	5.1		NA	5.1	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	Acenaphthene	5.8		NA	5.8	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	4-Nitrophenol	96		NA	96	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	4-Nitroaniline	31		NA	31	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	4-Methylphenol	2.8		NA	2.8	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	4-Chlorophenyl Phenyl Ether	23		NA	23	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	4-Chloroaniline	1		NA	1	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	4-Chloro-3-Methylphenol	8.5		NA	8.5	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	4-Bromophenyl Phenyl Ether	22		NA	22	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	3-Nitroaniline	15		NA	15	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	3,3'-Dichlorobenzidine	5		NA	5	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	2-Nitrophenol	8.2		NA	8.2	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	2-Nitroaniline	31		NA	31	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	2-Methylphenol	3.6		NA	3.6	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	2-Methylnaphthalene	1.3		NA	1.3	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	2-Methyl-4,6-Dinitrophenol	50		NA	50	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	2-Chlorophenol	2.8		NA	2.8	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	2-Chloronaphthalene	2.6		NA	2.6	ug/L
N-128-88	N128B1FS	06/27/1997	8330	2,6-Dinitrotoluene	0.6		NA	0.6	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

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Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-128-88	N128B1FS	06/27/1997	8330	2,4-Dinitrotoluene	0.397		NA	0.397	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	2,4-Dinitrophenol	180		NA	180	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	2,4-Dimethylphenol	4.4		NA	4.4	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	2,4-Dichlorophenol	8.4		NA	8.4	ug/L
N-128-88	N128B1FS	06/27/1997	8330	2,4,6-Trinitrotoluene	0.426		NA	0.426	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	2,4,6-Trichlorophenol	3.6		NA	3.6	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	2,4,5-Trichlorophenol	2.8		NA	2.8	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	1,4-Dichlorobenzene	1.5		NA	1.5	ug/L
N-128-88	N128B1FS	06/27/1997	8330	1,3-Dinitrobenzene	0.458		NA	0.458	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	1,3-Dichlorobenzene	3.4		NA	3.4	ug/L
N-128-88	N128B1FS	06/27/1997	8330	1,3,5-Trinitrobenzene	0.21		NA	0.21	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	1,2-Dichlorobenzene	1.2		NA	1.2	ug/L
N-128-88	N128B1FS	06/27/1997	8270A	1,2,4-Trichlorobenzene	2.4		NA	2.4	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Zinc (dissolved)	27.8		NA	18.0	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Zinc	18		NA	18	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Thallium	10		NA	10	ug/L
N-129-88	N129B1FS	06/27/1997	8330	Tetryl	0.631		NA	0.631	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Sodium (dissolved)	140000		NA	80000	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Sodium	144000		NA	80000	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Silver	10		NA	10	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Selenium (dissolved)	10.5		NA	2.53	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Selenium	12		NA	2.53	ug/L
N-129-88	N129B1FS	06/27/1997	8330	RDX	0.416		NA	0.416	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Pyrene	17		NA	17	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Potassium (dissolved)	13400		NA	4000	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Potassium	14600		NA	4000	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Phenol	2.2		NA	2.2	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Phenanthrene	9.9		NA	9.9	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Pentachlorophenol	9.1		NA	9.1	ug/L
N-129-88	N129B1FS	06/27/1997	8330	Nitrobenzene	0.682		NA	0.682	ug/L
N-129-88	N129B1FS	06/27/1997	300.1	Nitrate/Nitrite	12000		NA	1000	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Nickel (dissolved)	32.1		NA	32.1	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Nickel	32.1		NA	32.1	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Naphthalene	0.5		NA	0.5	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	N-Nitrosodiphenylamine	3.7		NA	3.7	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	N-Nitroso-Di-n-Propylamine	6.8		NA	6.8	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Manganese (dissolved)	15.1		NA	9.67	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Manganese	12.9		NA	9.67	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Magnesium (dissolved)	89100		NA	34000	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Magnesium	89700		NA	34000	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Isophorone	2.4		NA	2.4	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Iron (dissolved)	77.5		NA	77.5	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Iron	275		NA	77.5	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Indeno(1,2,3-cd)pyrene	21		NA	21	ug/L
N-129-88	N129B1FS	06/27/1997	8330	HMX	0.533		NA	0.533	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Hexachloroethane	8.3		NA	8.3	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-129-88	N129B1FS	06/27/1997	8270A	Hexachlorocyclopentadiene	54		NA	54	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Hexachlorobutadiene	8.7		NA	8.7	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Hexachlorobenzene	12		NA	12	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Fluorene	9.2		NA	9.2	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Fluoranthene	24		NA	24	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Dimethyl Phthalate	2.2		NA	2.2	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Diethyl Phthalate	5.9		NA	5.9	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Dibenzofuran	5.1		NA	5.1	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Dibenzo(a,h)anthracene	12		NA	12	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Di-n-Octyl Phthalate	1.5		NA	1.5	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Di-n-butyl Phthalate	33		NA	33	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Cyanide	5		NA	5	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Cobalt	25		NA	25	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Chrysene	7.4		NA	7.4	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Chromium	16.8		NA	16.8	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Carbazole	5		NA	5	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Calcium (dissolved)	220000		NA	50000	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Calcium	220000		NA	50000	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Butyl Benzyl Phthalate	28		NA	28	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Bis(2-ethylhexyl)phthalate	7.7		NA	7.7	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Bis(2-Chloroisopropyl)ether	5		NA	5	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Bis(2-Chloroethyl)ether	0.68		NA	0.68	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Bis(2-Chloroethoxy) Methane	10		NA	10	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Bid(2-Chloroethoxy)methane	6.8		NA	6.8	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Benzo(g,h,i)perylene	15		NA	15	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Benzo(b)fluoranthene	10		NA	10	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Benzo(a)pyrene	14		NA	14	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Benzo(a)Anthracene	9.8		NA	9.8	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Barium (dissolved)	25.3		NA	25	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Barium	25.1		NA	25	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Arsenic (dissolved)	5.95		NA	2.35	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Arsenic	5.42		NA	2.35	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Antimony	10		NA	10	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Anthracene	5.2		NA	5.2	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-129-88	N129B1FS	06/27/1997	6010A	Aluminum	112		NA	112	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Acenaphthylene	5.1		NA	5.1	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	Acenaphthene	5.8		NA	5.8	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	4-Nitrophenol	96		NA	96	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	4-Nitroaniline	31		NA	31	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	4-Methylphenol	2.8		NA	2.8	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	4-Chlorophenyl Phenyl Ether	23		NA	23	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	4-Chloroaniline	1		NA	1	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	4-Chloro-3-Methylphenol	8.5		NA	8.5	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-129-88	N129B1FS	06/27/1997	8270A	4-Bromophenyl Phenyl Ether	22		NA	22	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	3-Nitroaniline	15		NA	15	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	3,3'-Dichlorobenzidine	5		NA	5	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	2-Nitrophenol	8.2		NA	8.2	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	2-Nitroaniline	31		NA	31	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	2-Methylphenol	3.6		NA	3.6	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	2-Methylnaphthalene	1.3		NA	1.3	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	2-Methyl-4,6-Dinitrophenol	50		NA	50	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	2-Chlorophenol	2.8		NA	2.8	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	2-Chloronaphthalene	2.6		NA	2.6	ug/L
N-129-88	N129B1FS	06/27/1997	8330	2,6-Dinitrotoluene	0.6		NA	0.6	ug/L
N-129-88	N129B1FS	06/27/1997	8330	2,4-Dinitrotoluene	0.397		NA	0.397	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	2,4-Dinitrophenol	180		NA	180	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	2,4-Dimethylphenol	4.4		NA	4.4	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	2,4-Dichlorophenol	8.4		NA	8.4	ug/L
N-129-88	N129B1FS	06/27/1997	8330	2,4,6-Trinitrotoluene	0.426		NA	0.426	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	2,4,6-Trichlorophenol	3.6		NA	3.6	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	2,4,5-Trichlorophenol	2.8		NA	2.8	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	1,4-Dichlorobenzene	1.5		NA	1.5	ug/L
N-129-88	N129B1FS	06/27/1997	8330	1,3-Dinitrobenzene	0.458		NA	0.458	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	1,3-Dichlorobenzene	3.4		NA	3.4	ug/L
N-129-88	N129B1FS	06/27/1997	8330	1,3,5-Trinitrobenzene	0.21		NA	0.21	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	1,2-Dichlorobenzene	1.2		NA	1.2	ug/L
N-129-88	N129B1FS	06/27/1997	8270A	1,2,4-Trichlorobenzene	2.4		NA	2.4	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Zinc (dissolved)	18.9		NA	18.0	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Zinc	20.6		NA	18.0	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Thallium	10		NA	10	ug/L
N-130-88	N130B1FS	06/27/1997	8330	Tetryl	0.631		NA	0.631	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Sodium (dissolved)	141000		NA	80000	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Sodium	139000		NA	80000	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Silver	10		NA	10	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Selenium (dissolved)	8.68		NA	2.53	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Selenium	7.99		NA	2.53	ug/L
N-130-88	N130B1FS	06/27/1997	8330	RDX	0.416		NA	0.416	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Pyrene	17		NA	17	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Potassium (dissolved)	14100		NA	4000	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Potassium	13400		NA	4000	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Phenol	2.2		NA	2.2	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Phenanthrene	9.9		NA	9.9	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Pentachlorophenol	9.1		NA	9.1	ug/L
N-130-88	N130B1FS	06/27/1997	8330	Nitrobenzene	0.682		NA	0.682	ug/L
N-130-88	N130B1FS	06/27/1997	300.1	Nitrate/Nitrite	13000		NA	1000	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Nickel (dissolved)	32.1		NA	32.1	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Nickel	32.1		NA	32.1	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Naphthalene	0.5		NA	0.5	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	N-Nitrosodiphenylamine	3.7		NA	3.7	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	N-Nitroso-Di-n-Propylamine	6.8		NA	6.8	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Manganese (dissolved)	146		NA	9.67	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

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PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-130-88	N130B1FS	06/27/1997	6010A	Manganese	167		NA	9.67	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Magnesium (dissolved)	92100		NA	34000	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Magnesium	90600		NA	34000	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Isophorone	2.4		NA	2.4	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Iron (dissolved)	2390		NA	77.5	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Iron	2680		NA	77.5	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Indeno(1,2,3-cd)pyrene	21		NA	21	ug/L
N-130-88	N130B1FS	06/27/1997	8330	HMX	0.533		NA	0.533	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Hexachloroethane	8.3		NA	8.3	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Hexachlorocyclopentadiene	54		NA	54	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Hexachlorobutadiene	8.7		NA	8.7	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Hexachlorobenzene	12		NA	12	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Fluorene	9.2		NA	9.2	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Fluoranthene	24		NA	24	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Dimethyl Phthalate	2.2		NA	2.2	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Diethyl Phthalate	5.9		NA	5.9	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Dibenzofuran	5.1		NA	5.1	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Dibenzo(a,h)anthracene	12		NA	12	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Di-n-Octyl Phthalate	1.5		NA	1.5	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Di-n-butyl Phthalate	33		NA	33	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Cyanide	5		NA	5	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Cobalt	25		NA	25	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Chrysene	7.4		NA	7.4	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Chromium	16.8		NA	16.8	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Carbazole	5		NA	5	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Calcium (dissolved)	210000		NA	50000	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Calcium	199000		NA	50000	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Butyl Benzyl Phthalate	28		NA	28	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Bis(2-ethylhexyl)phthalate	7.7		NA	7.7	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Bis(2-Chloroisopropyl)ether	5		NA	5	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Bis(2-Chloroethyl)ether	0.68		NA	0.68	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Bis(2-Chloroethoxy) Methane	10		NA	10	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Bid(2-Chloroethoxy)methane	6.8		NA	6.8	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Benzo(g,h,i)perylene	15		NA	15	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Benzo(b)fluoranthene	10		NA	10	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Benzo(a)pyrene	14		NA	14	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Benzo(a)Anthracene	9.8		NA	9.8	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Barium (dissolved)	54.7		NA	25	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Barium	54.9		NA	25	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Arsenic (dissolved)	2.65		NA	2.35	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Arsenic	3.24		NA	2.35	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Antimony	10		NA	10	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-130-88	N130B1FS	06/27/1997	8270A	Anthracene	5.2		NA	5.2	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-130-88	N130B1FS	06/27/1997	6010A	Aluminum	112		NA	112	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Acenaphthylene	5.1		NA	5.1	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	Acenaphthene	5.8		NA	5.8	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	4-Nitrophenol	96		NA	96	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	4-Nitroaniline	31		NA	31	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	4-Methylphenol	2.8		NA	2.8	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	4-Chlorophenyl Phenyl Ether	23		NA	23	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	4-Chloroaniline	1		NA	1	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	4-Chloro-3-Methylphenol	8.5		NA	8.5	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	4-Bromophenyl Phenyl Ether	22		NA	22	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	3-Nitroaniline	15		NA	15	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	3,3'-Dichlorobenzidine	5		NA	5	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	2-Nitrophenol	8.2		NA	8.2	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	2-Nitroaniline	31		NA	31	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	2-Methylphenol	3.6		NA	3.6	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	2-Methylnaphthalene	1.3		NA	1.3	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	2-Methyl-4,6-Dinitrophenol	50		NA	50	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	2-Chlorophenol	2.8		NA	2.8	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	2-Chloronaphthalene	2.6		NA	2.6	ug/L
N-130-88	N130B1FS	06/27/1997	8330	2,6-Dinitrotoluene	0.6		NA	0.6	ug/L
N-130-88	N130B1FS	06/27/1997	8330	2,4-Dinitrotoluene	0.397		NA	0.397	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	2,4-Dinitrophenol	180		NA	180	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	2,4-Dimethylphenol	4.4		NA	4.4	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	2,4-Dichlorophenol	8.4		NA	8.4	ug/L
N-130-88	N130B1FS	06/27/1997	8330	2,4,6-Trinitrotoluene	0.426		NA	0.426	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	2,4,6-Trichlorophenol	3.6		NA	3.6	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	2,4,5-Trichlorophenol	2.8		NA	2.8	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	1,4-Dichlorobenzene	1.5		NA	1.5	ug/L
N-130-88	N130B1FS	06/27/1997	8330	1,3-Dinitrobenzene	0.458		NA	0.458	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	1,3-Dichlorobenzene	3.4		NA	3.4	ug/L
N-130-88	N130B1FS	06/27/1997	8330	1,3,5-Trinitrobenzene	0.317		NA	0.21	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	1,2-Dichlorobenzene	1.2		NA	1.2	ug/L
N-130-88	N130B1FS	06/27/1997	8270A	1,2,4-Trichlorobenzene	2.4		NA	2.4	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Zinc (dissolved)	58.2		NA	18.0	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Zinc	65.6		NA	18.0	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Thallium	10		NA	10	ug/L
N-131-90	N131B1FS	06/26/1997	8330	Tetryl	0.631		NA	0.631	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Sodium (dissolved)	165000		NA	80000	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Sodium	170000		NA	80000	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Silver	10		NA	10	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Selenium (dissolved)	2.53		NA	2.53	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Selenium	2.53		NA	2.53	ug/L
N-131-90	N131B1FS	06/26/1997	8330	RDX	0.416		NA	0.416	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Pyrene	17		NA	17	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Potassium (dissolved)	10200		NA	4000	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Potassium	9980		NA	4000	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Phenol	2.2		NA	2.2	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Phenanthrene	9.9		NA	9.9	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-131-90	N131B1FS	06/26/1997	8270A	Pentachlorophenol	9.1		NA	9.1	ug/L
N-131-90	N131B1FS	06/26/1997	8330	Nitrobenzene	0.682		NA	0.682	ug/L
N-131-90	N131B1FS	06/26/1997	300.1	Nitrate/Nitrite	3200		NA	1000	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Nickel (dissolved)	32.1		NA	32.1	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Nickel	95.3		NA	32.1	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Naphthalene	0.5		NA	0.5	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	N-Nitrosodiphenylamine	3.7		NA	3.7	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	N-Nitroso-Di-n-Propylamine	6.8		NA	6.8	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Manganese (dissolved)	9.67		NA	9.67	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Manganese	45.1		NA	9.67	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Magnesium (dissolved)	89600		NA	34000	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Magnesium	92300		NA	34000	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Isophorone	2.4		NA	2.4	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Iron (dissolved)	77.5		NA	77.5	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Iron	3490		NA	77.5	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Indeno(1,2,3-cd)pyrene	21		NA	21	ug/L
N-131-90	N131B1FS	06/26/1997	8330	HMX	0.533		NA	0.533	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Hexachloroethane	8.3		NA	8.3	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Hexachlorocyclopentadiene	54		NA	54	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Hexachlorobutadiene	8.7		NA	8.7	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Hexachlorobenzene	12		NA	12	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Fluorene	9.2		NA	9.2	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Fluoranthene	24		NA	24	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Dimethyl Phthalate	2.2		NA	2.2	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Diethyl Phthalate	5.9		NA	5.9	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Dibenzofuran	5.1		NA	5.1	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Dibenzo(a,h)anthracene	12		NA	12	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Di-n-Octyl Phthalate	1.5		NA	1.5	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Di-n-butyl Phthalate	33		NA	33	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Cyanide	5		NA	5	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Copper	29.5		NA	18.8	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Cobalt	25		NA	25	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Chrysene	7.4		NA	7.4	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Chromium	790		NA	16.8	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Carbazole	5		NA	5	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Calcium (dissolved)	194000		NA	50000	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Calcium	200000		NA	50000	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Butyl Benzyl Phthalate	28		NA	28	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Bis(2-ethylhexyl)phthalate	7.7		NA	7.7	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Bis(2-Chloroisopropyl)ether	5		NA	5	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Bis(2-Chloroethyl)ether	0.68		NA	0.68	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Bis(2-Chloroethoxy) Methane	10		NA	10	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Bid(2-Chloroethoxy)methane	6.8		NA	6.8	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L

Notes:

ND - Not Detected

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Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-131-90	N131B1FS	06/26/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Benzo(g,h,i)perylene	15		NA	15	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Benzo(b)fluoranthene	10		NA	10	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Benzo(a)pyrene	14		NA	14	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Benzo(a)Anthracene	9.8		NA	9.8	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Barium (dissolved)	40.5		NA	25	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Barium	45.1		NA	25	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Arsenic (dissolved)	2.97		NA	2.35	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Arsenic	9.6		NA	2.35	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Antimony	10		NA	10	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Anthracene	5.2		NA	5.2	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-131-90	N131B1FS	06/26/1997	6010A	Aluminum	195		NA	112	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Acenaphthylene	5.1		NA	5.1	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	Acenaphthene	5.8		NA	5.8	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	4-Nitrophenol	96		NA	96	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	4-Nitroaniline	31		NA	31	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	4-Methylphenol	2.8		NA	2.8	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	4-Chlorophenyl Phenyl Ether	23		NA	23	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	4-Chloroaniline	1		NA	1	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	4-Chloro-3-Methylphenol	8.5		NA	8.5	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	4-Bromophenyl Phenyl Ether	22		NA	22	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	3-Nitroaniline	15		NA	15	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	3,3'-Dichlorobenzidine	5		NA	5	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	2-Nitrophenol	8.2		NA	8.2	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	2-Nitroaniline	31		NA	31	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	2-Methylphenol	3.6		NA	3.6	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	2-Methylnaphthalene	1.3		NA	1.3	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	2-Methyl-4,6-Dinitrophenol	50		NA	50	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	2-Chlorophenol	2.8		NA	2.8	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	2-Chloronaphthalene	2.6		NA	2.6	ug/L
N-131-90	N131B1FS	06/26/1997	8330	2,6-Dinitrotoluene	0.6		NA	0.6	ug/L
N-131-90	N131B1FS	06/26/1997	8330	2,4-Dinitrotoluene	0.397		NA	0.397	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	2,4-Dinitrophenol	180		NA	180	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	2,4-Dimethylphenol	4.4		NA	4.4	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	2,4-Dichlorophenol	8.4		NA	8.4	ug/L
N-131-90	N131B1FS	06/26/1997	8330	2,4,6-Trinitrotoluene	0.426		NA	0.426	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	2,4,6-Trichlorophenol	3.6		NA	3.6	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	2,4,5-Trichlorophenol	2.8		NA	2.8	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	1,4-Dichlorobenzene	1.5		NA	1.5	ug/L
N-131-90	N131B1FS	06/26/1997	8330	1,3-Dinitrobenzene	0.458		NA	0.458	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	1,3-Dichlorobenzene	3.4		NA	3.4	ug/L
N-131-90	N131B1FS	06/26/1997	8330	1,3,5-Trinitrobenzene	0.308		NA	0.21	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	1,2-Dichlorobenzene	1.2		NA	1.2	ug/L
N-131-90	N131B1FS	06/26/1997	8270A	1,2,4-Trichlorobenzene	2.4		NA	2.4	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Zinc (dissolved)	32.3		NA	18.0	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Zinc	37.6		NA	18.0	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Thallium	10		NA	10	ug/L
N-132-90	N132B1FS	06/26/1997	8330	Tetryl	0.631		NA	0.631	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Sodium (dissolved)	150000		NA	80000	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-132-90	N132B1FS	06/26/1997	6010A	Sodium	150000		NA	80000	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Silver	10		NA	10	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Selenium (dissolved)	2.83		NA	2.53	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Selenium	3.81		NA	2.53	ug/L
N-132-90	N132B1FS	06/26/1997	8330	RDX	0.416		NA	0.416	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Pyrene	17		NA	17	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Potassium (dissolved)	9800		NA	4000	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Potassium	8830		NA	4000	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Phenol	2.2		NA	2.2	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Phenanthrene	9.9		NA	9.9	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Pentachlorophenol	9.1		NA	9.1	ug/L
N-132-90	N132B1FS	06/26/1997	8330	Nitrobenzene	0.682		NA	0.682	ug/L
N-132-90	N132B1FS	06/26/1997	300.1	Nitrate/Nitrite	6800		NA	1000	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Nickel (dissolved)	32.1		NA	32.1	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Nickel	32.1		NA	32.1	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Naphthalene	0.5		NA	0.5	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	N-Nitrosodiphenylamine	3.7		NA	3.7	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	N-Nitroso-Di-n-Propylamine	6.8		NA	6.8	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Manganese (dissolved)	9.67		NA	9.67	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Manganese	10.2		NA	9.67	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Magnesium (dissolved)	97900		NA	34000	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Magnesium	97200		NA	34000	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Isophorone	2.4		NA	2.4	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Iron (dissolved)	77.5		NA	77.5	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Iron	546		NA	77.5	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Indeno(1,2,3-cd)pyrene	21		NA	21	ug/L
N-132-90	N132B1FS	06/26/1997	8330	HMX	0.533		NA	0.533	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Hexachloroethane	8.3		NA	8.3	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Hexachlorocyclopentadiene	54		NA	54	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Hexachlorobutadiene	8.7		NA	8.7	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Hexachlorobenzene	12		NA	12	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Fluorene	9.2		NA	9.2	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Fluoranthene	24		NA	24	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Dimethyl Phthalate	2.2		NA	2.2	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Diethyl Phthalate	5.9		NA	5.9	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Dibenzofuran	5.1		NA	5.1	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Dibenzo(a,h)anthracene	12		NA	12	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Di-n-Octyl Phthalate	1.5		NA	1.5	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Di-n-butyl Phthalate	33		NA	33	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Cyanide	5		NA	5	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Cobalt	25		NA	25	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Chrysene	7.4		NA	7.4	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Chromium	44.1		NA	16.8	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Carbazole	5		NA	5	ug/L

Notes:

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J - Estimated result, detected above PQL

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Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-132-90	N132B1FS	06/26/1997	6010A	Calcium (dissolved)	198000		NA	50000	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Calcium	198000		NA	50000	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Butyl Benzyl Phthalate	28		NA	28	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Bis(2-ethylhexyl)phthalate	7.7		NA	7.7	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Bis(2-Chloroisopropyl)ether	5		NA	5	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Bis(2-Chloroethyl)ether	0.68		NA	0.68	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Bis(2-Chloroethoxy) Methane	10		NA	10	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Bid(2-Chloroethoxy)methane	6.8		NA	6.8	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Benzo(g,h,i)perylene	15		NA	15	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Benzo(b)fluoranthene	10		NA	10	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Benzo(a)pyrene	14		NA	14	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Benzo(a)Anthracene	9.8		NA	9.8	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Barium (dissolved)	33.6		NA	25	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Barium	35.6		NA	25	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Arsenic (dissolved)	3.51		NA	2.35	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Arsenic	3.94		NA	2.35	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Antimony	10		NA	10	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Anthracene	5.2		NA	5.2	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-132-90	N132B1FS	06/26/1997	6010A	Aluminum	309		NA	112	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Acenaphthylene	5.1		NA	5.1	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	Acenaphthene	5.8		NA	5.8	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	4-Nitrophenol	96		NA	96	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	4-Nitroaniline	31		NA	31	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	4-Methylphenol	2.8		NA	2.8	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	4-Chlorophenyl Phenyl Ether	23		NA	23	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	4-Chloroaniline	1		NA	1	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	4-Chloro-3-Methylphenol	8.5		NA	8.5	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	4-Bromophenyl Phenyl Ether	22		NA	22	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	3-Nitroaniline	15		NA	15	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	3,3'-Dichlorobenzidine	5		NA	5	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	2-Nitrophenol	8.2		NA	8.2	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	2-Nitroaniline	31		NA	31	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	2-Methylphenol	3.6		NA	3.6	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	2-Methylnaphthalene	1.3		NA	1.3	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	2-Methyl-4,6-Dinitrophenol	50		NA	50	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	2-Chlorophenol	2.8		NA	2.8	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	2-Chloronaphthalene	2.6		NA	2.6	ug/L
N-132-90	N132B1FS	06/26/1997	8330	2,6-Dinitrotoluene	0.6		NA	0.6	ug/L
N-132-90	N132B1FS	06/26/1997	8330	2,4-Dinitrotoluene	0.397		NA	0.397	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	2,4-Dinitrophenol	180		NA	180	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	2,4-Dimethylphenol	4.4		NA	4.4	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	2,4-Dichlorophenol	8.4		NA	8.4	ug/L
N-132-90	N132B1FS	06/26/1997	8330	2,4,6-Trinitrotoluene	0.426		NA	0.426	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	2,4,6-Trichlorophenol	3.6		NA	3.6	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	2,4,5-Trichlorophenol	2.8		NA	2.8	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	1,4-Dichlorobenzene	1.5		NA	1.5	ug/L
N-132-90	N132B1FS	06/26/1997	8330	1,3-Dinitrobenzene	0.458		NA	0.458	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	1,3-Dichlorobenzene	3.4		NA	3.4	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-132-90	N132B1FS	06/26/1997	8330	1,3,5-Trinitrobenzene	0.32		NA	0.21	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	1,2-Dichlorobenzene	1.2		NA	1.2	ug/L
N-132-90	N132B1FS	06/26/1997	8270A	1,2,4-Trichlorobenzene	2.4		NA	2.4	ug/L
N-133-90	N-133-90-01	02/10/1999	EPA 8260B	Tetrachloroethene	5.7		0.24	1	ug/L
N-133-90	N-133-90-01	02/10/1999	EPA 6010	Nickel (dissolved)	211	J	1.9	5	ug/L
N-133-90	N-133-90-01	02/10/1999	EPA 6010	Nickel	715	J	1.9	5	ug/L
N-133-90	N-133-90-01	02/10/1999	EPA 6010	Manganese (dissolved)	25.0	J	1.3	5	ug/L
N-133-90	N-133-90-01	02/10/1999	EPA 6010	Manganese	421	J	1.3	5	ug/L
N-133-90	N-133-90-01	02/10/1999	EPA 6010	Chromium (dissolved)	55.4	J	1.1	5	ug/L
N-133-90	N-133-90-01	02/10/1999	EPA 6010	Chromium	8950	J	1.1	5	ug/L
N-133-90	N-133-90-01	02/10/1999	EPA 8260B	Chlorobenzene	0.5	UJ	0.23	5	ug/L
N-133-90	N-133-90-01	02/10/1999	EPA 6010	Antimony	249	J	1.5	10	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Zinc (dissolved)	18		NA	18	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Zinc	22.1		NA	18.0	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Toxaphene	1.64		NA	1.64	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Thallium	10		NA	10	ug/L
N-134-90	N134B1FS	06/29/1997	8330	Tetryl	0.631		NA	0.631	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Sodium (dissolved)	140000		NA	80000	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Sodium	146000		NA	80000	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Silver	10		NA	10	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Selenium (dissolved)	4.09		NA	2.53	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Selenium	3.71		NA	2.53	ug/L
N-134-90	N134B1FS	06/29/1997	8330	RDX	0.416		NA	0.416	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Pyrene	17		NA	17	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Potassium (dissolved)	6410		NA	4000	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Potassium	7120		NA	4000	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Phenol	2.2		NA	2.2	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Phenanthrene	9.9		NA	9.9	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Pentachlorophenol	9.1		NA	9.1	ug/L
N-134-90	N134B1FS	06/29/1997	8330	Nitrobenzene	0.682		NA	0.682	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Nickel (dissolved)	135		NA	32.1	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Nickel	212		NA	32.1	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Naphthalene	0.5		NA	0.5	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	N-Nitrosodiphenylamine	3.7		NA	3.7	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	N-Nitroso-Di-n-Propylamine	6.8		NA	6.8	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Methoxychlor	0.075		NA	0.075	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Manganese (dissolved)	9.67		NA	9.67	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Manganese	25.2		NA	9.67	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Magnesium (dissolved)	70600		NA	34000	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Magnesium	74200		NA	34000	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Isophorone	2.4		NA	2.4	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Iron (dissolved)	77.5		NA	77.5	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Iron	2670		NA	77.5	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Indeno(1,2,3-cd)pyrene	21		NA	21	ug/L
N-134-90	N134B1FS	06/29/1997	8330	HMX	0.533		NA	0.533	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Hexachloroethane	8.3		NA	8.3	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-134-90	N134B1FS	06/29/1997	8270A	Hexachlorocyclopentadiene	54		NA	54	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Hexachlorobutadiene	8.7		NA	8.7	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Hexachlorobenzene	12		NA	12	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Heptachlor Epoxide	0.0063		NA	0.0063	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Heptachlor	0.0025		NA	0.0025	ug/L
N-134-90	N134B1FS	06/29/1997	8081	gamma-Chlordane	0.0025		NA	0.0025	ug/L
N-134-90	N134B1FS	06/29/1997	8081	gamma-BHC	0.0025		NA	0.0025	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Fluorene	9.2		NA	9.2	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Fluoranthene	24		NA	24	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Endrin Ketone	0.0025		NA	0.0025	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Endrin Aldehyde	0.0504		NA	0.0504	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Endrin	0.0176		NA	0.0176	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Endosulfan Sulfate	0.0025		NA	0.0025	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Endosulfan II	0.0077		NA	0.0077	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Endosulfan I	0.0025		NA	0.0025	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Dimethyl Phthalate	2.2		NA	2.2	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Diethyl Phthalate	5.9		NA	5.9	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Dieldrin	0.0074		NA	0.0074	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Dibenzofuran	5.1		NA	5.1	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Dibenzo(a,h)anthracene	12		NA	12	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Di-n-Octyl Phthalate	1.5		NA	1.5	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Di-n-butyl Phthalate	33		NA	33	ug/L
N-134-90	N134B1FS	06/29/1997	8081	delta-BHC	0.0034		NA	0.0034	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Cyanide	5		NA	5	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Cobalt	25		NA	25	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Chrysene	7.4		NA	7.4	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Chromium	670		NA	16.8	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Chlordane	0.0312		NA	0.0312	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Carbazole	5		NA	5	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Calcium (dissolved)	142000		NA	50000	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Calcium	151000		NA	50000	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Butyl Benzyl Phthalate	28		NA	28	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Bis(2-ethylhexyl)phthalate	7.7		NA	7.7	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Bis(2-Chloroisopropyl)ether	5		NA	5	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Bis(2-Chloroethyl)ether	0.68		NA	0.68	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Bis(2-Chloroethoxy) Methane	10		NA	10	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Bid(2-Chloroethoxy)methane	6.8		NA	6.8	ug/L
N-134-90	N134B1FS	06/29/1997	8081	beta-BHC	0.0099		NA	0.0099	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Benzo(g,h,i)perylene	15		NA	15	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Benzo(b)fluoranthene	10		NA	10	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Benzo(a)pyrene	14		NA	14	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Benzo(a)Anthracene	9.8		NA	9.8	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Barium (dissolved)	65.7		NA	25	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Barium	71.8		NA	25	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Arsenic (dissolved)	3		NA	2.35	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-134-90	N134B1FS	06/29/1997	6010A	Arsenic	5.85		NA	2.35	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Aroclor 1248	0.1		NA	0.1	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Aroclor 1232	0.1		NA	0.1	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Aroclor 1221	0.1		NA	0.1	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Aroclor 1016	0.385		NA	0.385	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Arochlor 1260	0.176		NA	0.176	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Arochlor 1254	0.1		NA	0.1	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Arochlor 1242	0.1		NA	0.1	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Antimony	10		NA	10	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Anthracene	5.2		NA	5.2	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-134-90	N134B1FS	06/29/1997	6010A	Aluminum	112		NA	112	ug/L
N-134-90	N134B1FS	06/29/1997	8081	alpha-Chlordane	0.0025		NA	0.0025	ug/L
N-134-90	N134B1FS	06/29/1997	8081	alpha-BHC	0.0025		NA	0.0025	ug/L
N-134-90	N134B1FS	06/29/1997	8081	Aldrin	0.0074		NA	0.0074	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Acenaphthylene	5.1		NA	5.1	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	Acenaphthene	5.8		NA	5.8	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	4-Nitrophenol	96		NA	96	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	4-Nitroaniline	31		NA	31	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	4-Methylphenol	2.8		NA	2.8	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	4-Chlorophenyl Phenyl Ether	23		NA	23	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	4-Chloroaniline	1		NA	1	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	4-Chloro-3-Methylphenol	8.5		NA	8.5	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	4-Bromophenyl Phenyl Ether	22		NA	22	ug/L
N-134-90	N134B1FS	06/29/1997	8081	4,4'-DDT	0.0025		NA	0.0025	ug/L
N-134-90	N134B1FS	06/29/1997	8081	4,4'-DDE	0.0039		NA	0.0039	ug/L
N-134-90	N134B1FS	06/29/1997	8081	4,4'-DDD	0.0081		NA	0.0081	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	3-Nitroaniline	15		NA	15	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	3,3'-Dichlorobenzidine	5		NA	5	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	2-Nitrophenol	8.2		NA	8.2	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	2-Nitroaniline	31		NA	31	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	2-Methylphenol	3.6		NA	3.6	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	2-Methylnaphthalene	1.3		NA	1.3	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	2-Methyl-4,6-Dinitrophenol	50		NA	50	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	2-Chlorophenol	2.8		NA	2.8	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	2-Chloronaphthalene	2.6		NA	2.6	ug/L
N-134-90	N134B1FS	06/29/1997	8330	2,6-Dinitrotoluene	0.6		NA	0.6	ug/L
N-134-90	N134B1FS	06/29/1997	8330	2,4-Dinitrotoluene	0.397		NA	0.397	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	2,4-Dinitrophenol	180		NA	180	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	2,4-Dimethylphenol	4.4		NA	4.4	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	2,4-Dichlorophenol	8.4		NA	8.4	ug/L
N-134-90	N134B1FS	06/29/1997	8330	2,4,6-Trinitrotoluene	0.426		NA	0.426	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	2,4,6-Trichlorophenol	3.6		NA	3.6	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	2,4,5-Trichlorophenol	2.8		NA	2.8	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	1,4-Dichlorobenzene	1.5		NA	1.5	ug/L
N-134-90	N134B1FS	06/29/1997	8330	1,3-Dinitrobenzene	0.458		NA	0.458	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	1,3-Dichlorobenzene	3.4		NA	3.4	ug/L
N-134-90	N134B1FS	06/29/1997	8330	1,3,5-Trinitrobenzene	0.365		NA	0.21	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	1,2-Dichlorobenzene	1.2		NA	1.2	ug/L
N-134-90	N134B1FS	06/29/1997	8270A	1,2,4-Trichlorobenzene	2.4		NA	2.4	ug/L
N-135-90	N-135-90-01	02/16/1999	EPA 8260B	Trichloroethene	11		0.26	1	ug/L
N-135-90	N-135-90-01	02/16/1999	EPA 6010	Nickel (dissolved)	35.7	J	1.9	5	ug/L
N-135-90	N-135-90-01	02/16/1999	EPA 6010	Nickel	39.7	J	1.9	5	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-135-90	N-135-90-01	02/16/1999	EPA 6010	Manganese (dissolved)	3.9	UJ	1.3	5	ug/L
N-135-90	N-135-90-01	02/16/1999	EPA 6010	Manganese	6.1	J	1.3	5	ug/L
N-135-90	N-135-90-01	02/16/1999	EPA 6010	Chromium (dissolved)	3.1	UJ	1.1	5	ug/L
N-135-90	N-135-90-01	02/16/1999	EPA 6010	Chromium	54.5	J	1.1	5	ug/L
N-135-90	N-135-90-01	02/16/1999	EPA 8270C	Bis(2-ethylhexyl)phthalate	3	UJ	2.8	10	ug/L
N-135-90	N-135-90-01	02/16/1999	EPA 6010	Antimony	2.1	UJ	1.5	10	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Zinc (dissolved)	36.3		NA	18.0	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Zinc	33.6		NA	18.0	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Toxaphene	1.64		NA	1.64	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Thallium	10		NA	10	ug/L
N-136-90	N136B1FS	07/01/1997	8330	Tetryl	0.631		NA	0.631	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Sodium (dissolved)	170000		NA	80000	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Sodium	160000		NA	80000	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Silver	10		NA	10	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Selenium (dissolved)	19.6		NA	2.53	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Selenium	11.5		NA	2.53	ug/L
N-136-90	N136B1FS	07/01/1997	8330	RDX	0.416		NA	0.416	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Pyrene	17		NA	17	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Potassium (dissolved)	8380		NA	4000	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Potassium	8970		NA	4000	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Phenol	2.2		NA	2.2	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Phenanthrene	9.9		NA	9.9	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Pentachlorophenol	9.1		NA	9.1	ug/L
N-136-90	N136B1FS	07/01/1997	8330	Nitrobenzene	0.682		NA	0.682	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Nickel (dissolved)	32.1		NA	32.1	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Nickel	32.1		NA	32.1	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Naphthalene	0.5		NA	0.5	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	N-Nitrosodiphenylamine	3.7		NA	3.7	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	N-Nitroso-Di-n-Propylamine	6.8		NA	6.8	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Methoxychlor	0.075		NA	0.075	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Manganese (dissolved)	9.67		NA	9.67	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Manganese	9.67		NA	9.67	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Magnesium (dissolved)	124000		NA	34000	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Magnesium	108000		NA	34000	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Isophorone	2.4		NA	2.4	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Iron (dissolved)	77.5		NA	77.5	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Iron	848		NA	77.5	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Indeno(1,2,3-cd)pyrene	21		NA	21	ug/L
N-136-90	N136B1FS	07/01/1997	8330	HMX	0.533		NA	0.533	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Hexachloroethane	8.3		NA	8.3	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Hexachlorocyclopentadiene	54		NA	54	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Hexachlorobutadiene	8.7		NA	8.7	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Hexachlorobenzene	12		NA	12	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Heptachlor Epoxide	0.0063		NA	0.0063	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Heptachlor	0.0025		NA	0.0025	ug/L
N-136-90	N136B1FS	07/01/1997	8081	gamma-Chlordane	0.0025		NA	0.0025	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

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Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-136-90	N136B1FS	07/01/1997	8081	gamma-BHC	0.0025		NA	0.0025	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Fluorene	9.2		NA	9.2	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Fluoranthene	24		NA	24	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Endrin Ketone	0.0025		NA	0.0025	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Endrin Aldehyde	0.0504		NA	0.0504	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Endrin	0.0176		NA	0.0176	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Endosulfan Sulfate	0.0025		NA	0.0025	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Endosulfan II	0.0077		NA	0.0077	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Endosulfan I	0.0025		NA	0.0025	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Dimethyl Phthalate	2.2		NA	2.2	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Diethyl Phthalate	5.9		NA	5.9	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Dieldrin	0.0074		NA	0.0074	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Dibenzofuran	5.1		NA	5.1	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Dibenzo(a,h)anthracene	12		NA	12	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Di-n-Octyl Phthalate	1.5		NA	1.5	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Di-n-butyl Phthalate	33		NA	33	ug/L
N-136-90	N136B1FS	07/01/1997	8081	delta-BHC	0.0034		NA	0.0034	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Cyanide	5		NA	5	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Cobalt	25		NA	25	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Chrysene	7.4		NA	7.4	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Chromium	132		NA	16.8	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Chlordane	0.0312		NA	0.0312	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Carbazole	5		NA	5	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Calcium (dissolved)	260000		NA	50000	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Calcium	240000		NA	50000	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Butyl Benzyl Phthalate	28		NA	28	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Bis(2-ethylhexyl)phthalate	7.7		NA	7.7	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Bis(2-Chloroisopropyl)ether	5		NA	5	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Bis(2-Chloroethyl)ether	0.68		NA	0.68	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Bis(2-Chloroethoxy) Methane	10		NA	10	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Bid(2-Chloroethoxy)methane	6.8		NA	6.8	ug/L
N-136-90	N136B1FS	07/01/1997	8081	beta-BHC	0.0099		NA	0.0099	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Beryllium	1.52		NA	1.12	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Benzo(g,h,i)perylene	15		NA	15	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Benzo(b)fluoranthene	10		NA	10	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Benzo(a)pyrene	14		NA	14	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Benzo(a)Anthracene	9.8		NA	9.8	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Barium (dissolved)	99.9		NA	25	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Barium	97.2		NA	25	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Arsenic (dissolved)	2.35		NA	2.35	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Arsenic	3.6		NA	2.35	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Aroclor 1248	0.1		NA	0.1	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Aroclor 1232	0.1		NA	0.1	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Aroclor 1221	0.1		NA	0.1	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Aroclor 1016	0.385		NA	0.385	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Arochlor 1260	0.176		NA	0.176	ug/L

Notes:

ND - Not Detected

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Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-136-90	N136B1FS	07/01/1997	8081	Arochlor 1254	0.1		NA	0.1	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Arochlor 1242	0.1		NA	0.1	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Antimony	10		NA	10	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Anthracene	5.2		NA	5.2	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-136-90	N136B1FS	07/01/1997	6010A	Aluminum	112		NA	112	ug/L
N-136-90	N136B1FS	07/01/1997	8081	alpha-Chlordane	0.0025		NA	0.0025	ug/L
N-136-90	N136B1FS	07/01/1997	8081	alpha-BHC	0.0025		NA	0.0025	ug/L
N-136-90	N136B1FS	07/01/1997	8081	Aldrin	0.0074		NA	0.0074	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Acenaphthylene	5.1		NA	5.1	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	Acenaphthene	5.8		NA	5.8	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	4-Nitrophenol	96		NA	96	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	4-Nitroaniline	31		NA	31	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	4-Methylphenol	2.8		NA	2.8	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	4-Chlorophenyl Phenyl Ether	23		NA	23	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	4-Chloroaniline	1		NA	1	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	4-Chloro-3-Methylphenol	8.5		NA	8.5	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	4-Bromophenyl Phenyl Ether	22		NA	22	ug/L
N-136-90	N136B1FS	07/01/1997	8081	4,4'-DDT	0.0025		NA	0.0025	ug/L
N-136-90	N136B1FS	07/01/1997	8081	4,4'-DDE	0.0039		NA	0.0039	ug/L
N-136-90	N136B1FS	07/01/1997	8081	4,4'-DDD	0.0081		NA	0.0081	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	3-Nitroaniline	15		NA	15	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	3,3'-Dichlorobenzidine	5		NA	5	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	2-Nitrophenol	8.2		NA	8.2	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	2-Nitroaniline	31		NA	31	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	2-Methylphenol	3.6		NA	3.6	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	2-Methylnaphthalene	1.3		NA	1.3	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	2-Methyl-4,6-Dinitrophenol	50		NA	50	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	2-Chlorophenol	2.8		NA	2.8	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	2-Chloronaphthalene	2.6		NA	2.6	ug/L
N-136-90	N136B1FS	07/01/1997	8330	2,6-Dinitrotoluene	0.6		NA	0.6	ug/L
N-136-90	N136B1FS	07/01/1997	8330	2,4-Dinitrotoluene	0.397		NA	0.397	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	2,4-Dinitrophenol	180		NA	180	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	2,4-Dimethylphenol	4.4		NA	4.4	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	2,4-Dichlorophenol	8.4		NA	8.4	ug/L
N-136-90	N136B1FS	07/01/1997	8330	2,4,6-Trinitrotoluene	0.426		NA	0.426	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	2,4,6-Trichlorophenol	3.6		NA	3.6	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	2,4,5-Trichlorophenol	2.8		NA	2.8	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	1,4-Dichlorobenzene	1.5		NA	1.5	ug/L
N-136-90	N136B1FS	07/01/1997	8330	1,3-Dinitrobenzene	0.458		NA	0.458	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	1,3-Dichlorobenzene	3.4		NA	3.4	ug/L
N-136-90	N136B1FS	07/01/1997	8330	1,3,5-Trinitrobenzene	0.21		NA	0.21	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	1,2-Dichlorobenzene	1.2		NA	1.2	ug/L
N-136-90	N136B1FS	07/01/1997	8270A	1,2,4-Trichlorobenzene	2.4		NA	2.4	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Zinc (dissolved)	18		NA	18	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Zinc	18		NA	18	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Thallium	10		NA	10	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Sodium (dissolved)	157000		NA	80000	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Sodium	162000		NA	80000	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Silver (dissolved)	10		NA	10	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-137-90	N137C1FD	07/31/1997	6010A	Silver	10		NA	10	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Selenium (dissolved)	2.53		NA	2.53	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Selenium	2.53		NA	2.53	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Potassium (dissolved)	5120		NA	4000	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Potassium	5600		NA	4000	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Nickel (dissolved)	138		NA	32.1	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Nickel	173		NA	32.1	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Manganese (dissolved)	9.97		NA	9.67	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Manganese	23.4		NA	9.67	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Magnesium (dissolved)	45500		NA	34000	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Magnesium	47500		NA	34000	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Iron (dissolved)	77.5		NA	77.5	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Iron	638		NA	77.5	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Cyanide	5		NA	5	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Cobalt	25		NA	25	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Chromium	39.8		NA	16.8	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Calcium (dissolved)	84600		NA	50000	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Calcium	88400		NA	50000	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Barium (dissolved)	77.6		NA	25	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Barium	81.9		NA	25	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Arsenic (dissolved)	2.35		NA	2.35	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Arsenic	2.35		NA	2.35	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Antimony	10		NA	10	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-137-90	N137C1FD	07/31/1997	6010A	Aluminum	182		NA	112	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Zinc (dissolved)	51.8		NA	18.0	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Zinc	18		NA	18	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Thallium	10		NA	10	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Sodium (dissolved)	162000		NA	80000	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Sodium	155000		NA	80000	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Silver	10		NA	10	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Selenium (dissolved)	2.53		NA	2.53	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Selenium	2.53		NA	2.53	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Potassium (dissolved)	6150		NA	4000	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Potassium	6070		NA	4000	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Nickel (dissolved)	154		NA	32.1	ug/L

Notes:

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MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-137-90	N137C1FS	07/31/1997	6010A	Nickel	154		NA	32.1	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Manganese (dissolved)	9.97		NA	9.67	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Manganese	21		NA	9.67	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Magnesium (dissolved)	47600		NA	34000	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Magnesium	45300		NA	34000	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Iron (dissolved)	77.5		NA	77.5	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Iron	588		NA	77.5	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Cyanide	5.77		NA	5.0	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Cobalt	28		NA	25	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Chromium	42.7		NA	16.8	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Calcium (dissolved)	88000		NA	50000	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Calcium	84600		NA	50000	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Barium (dissolved)	79.5		NA	25	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Barium	78		NA	25	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Arsenic (dissolved)	2.35		NA	2.35	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Arsenic	2.35		NA	2.35	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Antimony	10		NA	10	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-137-90	N137C1FS	07/31/1997	6010A	Aluminum	199		NA	112	ug/L
N-139-90	N13990-120197-01	12/01/1997	6010A	Nickel	0.378		0.02	0.15	mg/L
N-139-90	N13990-120197-01	12/01/1997	6010A	Manganese	0.118		0.003	0.01	mg/L
N-139-90	N13990-120197-01	12/01/1997	6010A	Chromium	0.302		0.01	0.05	mg/L
N-139-90	N13990-120197-02	12/01/1997	6010A	Nickel (dissolved)	0.412		0.02	0.15	mg/L
N-139-90	N13990-120197-02	12/01/1997	6010A	Manganese (dissolved)	0.104		0.003	0.01	mg/L
N-140-93	N140C1FS	07/30/1997	6010A	Zinc (dissolved)	18		NA	18	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Zinc	18		NA	18	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Thallium	10		NA	10	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Sodium (dissolved)	157000		NA	80000	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Sodium	165000		NA	80000	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Silver	10		NA	10	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Selenium (dissolved)	2.53		NA	2.53	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Selenium	2.53		NA	2.53	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Potassium (dissolved)	5840		NA	4000	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Potassium	5670		NA	4000	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Nickel (dissolved)	32.1		NA	32.1	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Nickel	32.1		NA	32.1	ug/L

Notes:

ND - Not Detected

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J - Estimated result, detected above PQL

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PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-140-93	N140C1FS	07/30/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Manganese (dissolved)	9.67		NA	9.67	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Manganese	9.67		NA	9.67	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Magnesium (dissolved)	45000		NA	34000	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Magnesium	47100		NA	34000	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Iron (dissolved)	77.5		NA	77.5	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Iron	630		NA	77.5	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Cyanide	5		NA	5	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Cobalt	25		NA	25	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Chromium	16.8		NA	16.8	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Calcium (dissolved)	84000		NA	50000	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Calcium	90300		NA	50000	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Barium (dissolved)	73.3		NA	25	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Barium	78.5		NA	25	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Arsenic (dissolved)	2.35		NA	2.35	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Arsenic	2.35		NA	2.35	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Antimony	10		NA	10	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-140-93	N140C1FS	07/30/1997	6010A	Aluminum	382		NA	112	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Zinc (dissolved)	18		NA	18	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Zinc	53.3		NA	18.0	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Thallium	10		NA	10	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Sodium (dissolved)	177000		NA	80000	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Sodium	183000		NA	80000	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Silver	10		NA	10	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Selenium (dissolved)	2.53		NA	2.53	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Selenium	2.53		NA	2.53	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Potassium (dissolved)	5880		NA	4000	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Potassium	5870		NA	4000	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Nickel (dissolved)	32.1		NA	32.1	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Nickel	50		NA	32.1	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Manganese (dissolved)	9.67		NA	9.67	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Manganese	16.5		NA	9.67	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Magnesium (dissolved)	48400		NA	34000	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Magnesium	50200		NA	34000	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-141-93	N141C1FS	07/30/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Iron (dissolved)	77.5		NA	77.5	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Iron	662		NA	77.5	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Cyanide	5		NA	5	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Cobalt (dissolved)	26.1		NA	25	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Cobalt	25		NA	25	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Chromium	20		NA	16.8	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Calcium (dissolved)	91100		NA	50000	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Calcium	96100		NA	50000	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Barium (dissolved)	89.4		NA	25	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Barium	97.1		NA	25	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Arsenic (dissolved)	2.35		NA	2.35	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Arsenic	2.35		NA	2.35	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Antimony	10		NA	10	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-141-93	N141C1FS	07/30/1997	6010A	Aluminum	566		NA	112	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Zinc (dissolved)	18		NA	18	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Zinc	34.7		NA	18.0	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Toxaphene	1.64		NA	1.64	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Thallium	10		NA	10	ug/L
N-144-93	N144B1FS	06/30/1997	8330	Tetryl	0.631		NA	0.631	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Sodium (dissolved)	149000		NA	80000	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Sodium	144000		NA	80000	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Silver	10		NA	10	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Selenium (dissolved)	2.53		NA	2.53	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Selenium	2.53		NA	2.53	ug/L
N-144-93	N144B1FS	06/30/1997	8330	RDX	0.416		NA	0.416	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Pyrene	17		NA	17	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Potassium (dissolved)	7720		NA	4000	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Potassium	7790		NA	4000	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Phenol	2.2		NA	2.2	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Phenanthrene	9.9		NA	9.9	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Pentachlorophenol	9.1		NA	9.1	ug/L
N-144-93	N144B1FS	06/30/1997	8330	Nitrobenzene	0.682		NA	0.682	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Nickel (dissolved)	32.1		NA	32.1	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Nickel	32.1		NA	32.1	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Naphthalene	0.5		NA	0.5	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	N-Nitrosodiphenylamine	3.7		NA	3.7	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	N-Nitroso-Di-n-Propylamine	6.8		NA	6.8	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Methoxychlor	0.075		NA	0.075	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-144-93	N144B1FS	06/30/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Manganese (dissolved)	9.67		NA	9.67	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Manganese	9.67		NA	9.67	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Magnesium (dissolved)	72200		NA	34000	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Magnesium	72300		NA	34000	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Isophorone	2.4		NA	2.4	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Iron (dissolved)	77.5		NA	77.5	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Iron	157		NA	77.5	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Indeno(1,2,3-cd)pyrene	21		NA	21	ug/L
N-144-93	N144B1FS	06/30/1997	8330	HMX	0.533		NA	0.533	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Hexachloroethane	8.3		NA	8.3	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Hexachlorocyclopentadiene	54		NA	54	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Hexachlorobutadiene	8.7		NA	8.7	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Hexachlorobenzene	12		NA	12	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Heptachlor Epoxide	0.0063		NA	0.0063	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Heptachlor	0.0025		NA	0.0025	ug/L
N-144-93	N144B1FS	06/30/1997	8081	gamma-Chlordane	0.0025		NA	0.0025	ug/L
N-144-93	N144B1FS	06/30/1997	8081	gamma-BHC	0.0025		NA	0.0025	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Fluorene	9.2		NA	9.2	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Fluoranthene	24		NA	24	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Endrin Ketone	0.0025		NA	0.0025	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Endrin Aldehyde	0.0504		NA	0.0504	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Endrin	0.0176		NA	0.0176	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Endosulfan Sulfate	0.0025		NA	0.0025	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Endosulfan II	0.0077		NA	0.0077	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Endosulfan I	0.0025		NA	0.0025	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Dimethyl Phthalate	2.2		NA	2.2	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Diethyl Phthalate	5.9		NA	5.9	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Dieldrin	0.0074		NA	0.0074	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Dibenzofuran	5.1		NA	5.1	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Dibenzo(a,h)anthracene	12		NA	12	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Di-n-Octyl Phthalate	1.5		NA	1.5	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Di-n-butyl Phthalate	33		NA	33	ug/L
N-144-93	N144B1FS	06/30/1997	8081	delta-BHC	0.0034		NA	0.0034	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Cyanide	5		NA	5	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Cobalt	25		NA	25	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Chrysene	7.4		NA	7.4	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Chromium	16.8		NA	16.8	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Chlordane	0.0312		NA	0.0312	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Carbazole	5		NA	5	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Calcium (dissolved)	152000		NA	50000	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Calcium	147000		NA	50000	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Butyl Benzyl Phthalate	28		NA	28	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Bis(2-ethylhexyl)phthalate	7.7		NA	7.7	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

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PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-144-93	N144B1FS	06/30/1997	8270A	Bis(2-Chloroisopropyl)ether	5		NA	5	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Bis(2-Chloroethyl)ether	0.68		NA	0.68	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Bis(2-Chloroethoxy) Methane	10		NA	10	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Bid(2-Chloroethoxy)methane	6.8		NA	6.8	ug/L
N-144-93	N144B1FS	06/30/1997	8081	beta-BHC	0.0099		NA	0.0099	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Benzo(g,h,i)perylene	15		NA	15	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Benzo(b)fluoranthene	10		NA	10	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Benzo(a)pyrene	14		NA	14	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Benzo(a)Anthracene	9.8		NA	9.8	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Barium (dissolved)	74		NA	25	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Barium	73.5		NA	25	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Arsenic (dissolved)	4.14		NA	2.35	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Arsenic	3.84		NA	2.35	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Aroclor 1248	0.1		NA	0.1	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Aroclor 1232	0.1		NA	0.1	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Aroclor 1221	0.1		NA	0.1	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Aroclor 1016	0.385		NA	0.385	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Arochlor 1260	0.176		NA	0.176	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Arochlor 1254	0.1		NA	0.1	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Arochlor 1242	0.1		NA	0.1	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Antimony	10		NA	10	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Anthracene	5.2		NA	5.2	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-144-93	N144B1FS	06/30/1997	6010A	Aluminum	112		NA	112	ug/L
N-144-93	N144B1FS	06/30/1997	8081	alpha-Chlordane	0.0025		NA	0.0025	ug/L
N-144-93	N144B1FS	06/30/1997	8081	alpha-BHC	0.0025		NA	0.0025	ug/L
N-144-93	N144B1FS	06/30/1997	8081	Aldrin	0.0074		NA	0.0074	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Acenaphthylene	5.1		NA	5.1	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	Acenaphthene	5.8		NA	5.8	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	4-Nitrophenol	96		NA	96	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	4-Nitroaniline	31		NA	31	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	4-Methylphenol	2.8		NA	2.8	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	4-Chlorophenyl Phenyl Ether	23		NA	23	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	4-Chloroaniline	1		NA	1	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	4-Chloro-3-Methylphenol	8.5		NA	8.5	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	4-Bromophenyl Phenyl Ether	22		NA	22	ug/L
N-144-93	N144B1FS	06/30/1997	8081	4,4'-DDT	0.0025		NA	0.0025	ug/L
N-144-93	N144B1FS	06/30/1997	8081	4,4'-DDE	0.0039		NA	0.0039	ug/L
N-144-93	N144B1FS	06/30/1997	8081	4,4'-DDD	0.0081		NA	0.0081	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	3-Nitroaniline	15		NA	15	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	3,3'-Dichlorobenzidine	5		NA	5	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	2-Nitrophenol	8.2		NA	8.2	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	2-Nitroaniline	31		NA	31	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	2-Methylphenol	3.6		NA	3.6	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	2-Methylnaphthalene	1.3		NA	1.3	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	2-Methyl-4,6-Dinitrophenol	50		NA	50	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	2-Chlorophenol	2.8		NA	2.8	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	2-Chloronaphthalene	2.6		NA	2.6	ug/L
N-144-93	N144B1FS	06/30/1997	8330	2,6-Dinitrotoluene	0.6		NA	0.6	ug/L
N-144-93	N144B1FS	06/30/1997	8330	2,4-Dinitrotoluene	0.397		NA	0.397	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	2,4-Dinitrophenol	180		NA	180	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-144-93	N144B1FS	06/30/1997	8270A	2,4-Dimethylphenol	4.4		NA	4.4	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	2,4-Dichlorophenol	8.4		NA	8.4	ug/L
N-144-93	N144B1FS	06/30/1997	8330	2,4,6-Trinitrotoluene	0.426		NA	0.426	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	2,4,6-Trichlorophenol	3.6		NA	3.6	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	2,4,5-Trichlorophenol	2.8		NA	2.8	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	1,4-Dichlorobenzene	1.5		NA	1.5	ug/L
N-144-93	N144B1FS	06/30/1997	8330	1,3-Dinitrobenzene	0.458		NA	0.458	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	1,3-Dichlorobenzene	3.4		NA	3.4	ug/L
N-144-93	N144B1FS	06/30/1997	8330	1,3,5-Trinitrobenzene	0.282		NA	0.21	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	1,2-Dichlorobenzene	1.2		NA	1.2	ug/L
N-144-93	N144B1FS	06/30/1997	8270A	1,2,4-Trichlorobenzene	2.4		NA	2.4	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Zinc (dissolved)	18		NA	18	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Zinc	18		NA	18	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Vanadium (dissolved)	27.6		NA	27.6	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Vanadium	27.6		NA	27.6	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Thallium (dissolved)	10		NA	10	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Thallium	10		NA	10	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Sodium (dissolved)	156000		NA	80000	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Sodium	156000		NA	80000	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Silver (dissolved)	10		NA	10	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Silver	10		NA	10	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Selenium (dissolved)	2.53		NA	2.53	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Selenium	2.53		NA	2.53	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Potassium (dissolved)	6420		NA	4000	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Potassium	5790		NA	4000	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Nickel (dissolved)	32.1		NA	32.1	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Nickel	32.1		NA	32.1	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Mercury (dissolved)	0.1		NA	0.1	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Mercury	0.1		NA	0.1	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Manganese (dissolved)	9.67		NA	9.67	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Manganese	9.67		NA	9.67	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Magnesium (dissolved)	47000		NA	34000	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Magnesium	46600		NA	34000	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Lead (dissolved)	4.47		NA	4.47	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Lead	4.47		NA	4.47	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Iron (dissolved)	77.5		NA	77.5	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Iron	137		NA	77.5	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Cyanide (dissolved)	5		NA	5	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Cyanide	5		NA	5	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Copper (dissolved)	18.8		NA	18.8	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Copper	18.8		NA	18.8	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Cobalt (dissolved)	25		NA	25	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Cobalt	25		NA	25	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Chromium (dissolved)	16.8		NA	16.8	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Chromium	16.8		NA	16.8	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Calcium (dissolved)	86600		NA	50000	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Calcium	86300		NA	50000	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Cadmium (dissolved)	6.78		NA	6.78	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Cadmium	6.78		NA	6.78	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Beryllium (dissolved)	1.12		NA	1.12	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Beryllium	1.12		NA	1.12	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Barium (dissolved)	77.6		NA	25	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Barium	77.4		NA	25	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Arsenic (dissolved)	2.35		NA	2.35	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
N-145-93	N145C1FS	07/30/1997	6010A	Arsenic	2.35		NA	2.35	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Antimony (dissolved)	10		NA	10	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Antimony	10		NA	10	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Aluminum (dissolved)	112		NA	112	ug/L
N-145-93	N145C1FS	07/30/1997	6010A	Aluminum	119		NA	112	ug/L
N-146-97	N146-9701	02/04/1999	EPA 6010	Nickel (dissolved)	2.6	UJ	1.9	5	ug/L
N-146-97	N146-9701	02/04/1999	EPA 6010	Nickel	1.4	UJ	1.9	5	ug/L
N-146-97	N146-9701	02/04/1999	EPA 6010	Manganese (dissolved)	3.1	UJ	1.3	5	ug/L
N-146-97	N146-9701	02/04/1999	EPA 6010	Manganese	1.5	UJ	1.3	5	ug/L
N-146-97	N146-9701	02/04/1999	EPA 6010	Chromium (dissolved)	4.3	UJ	1.1	5	ug/L
N-146-97	N146-9701	02/04/1999	EPA 6010	Chromium	3.6	UJ	1.1	5	ug/L
N-146-97	N146-9701	02/04/1999	EPA 6010	Antimony (dissolved)	1.5	UJ	1.5	10	ug/L
N-146-97	N146-9701	02/04/1999	EPA 6010	Antimony	1.3	UJ	1.5	10	ug/L
N-147-97	N-147-97-01	02/08/1999	EPA 6010	Nickel (dissolved)	2.7	UJ	1.9	5	ug/L
N-147-97	N-147-97-01	02/08/1999	EPA 6010	Nickel	1.3	UJ	1.9	5	ug/L
N-147-97	N-147-97-01	02/08/1999	EPA 6010	Manganese (dissolved)	5.4		1.3	5	ug/L
N-147-97	N-147-97-01	02/08/1999	EPA 6010	Manganese	13.2		1.3	5	ug/L
N-147-97	N-147-97-01	02/08/1999	EPA 6010	Chromium (dissolved)	4.7	UJ	1.1	5	ug/L
N-147-97	N-147-97-01	02/08/1999	EPA 6010	Chromium	5.1		1.1	5	ug/L
N-147-97	N-147-97-01	02/08/1999	EPA 6010	Antimony (dissolved)	1.5	UJ	1.5	10	ug/L
N-147-97	N-147-97-01	02/08/1999	EPA 6010	Antimony	1.3	UJ	1.5	10	ug/L
N-148-97	N-148-97-01	02/09/1999	EPA 8260B	Tetrachloroethene	79		0.24	1	ug/L
N-148-97	N-148-97-01	02/09/1999	EPA 6010	Nickel	5.2	J	1.9	5	ug/L
N-148-97	N-148-97-01	02/09/1999	EPA 6010	Manganese	6.8	J	1.3	5	ug/L
N-148-97	N-148-97-01	02/09/1999	EPA 6010	Chromium (dissolved)	4.9	UJ	1.1	5	ug/L
N-148-97	N-148-97-01	02/09/1999	EPA 6010	Chromium	12.1		1.1	5	ug/L
N-149-97	N14997-120197-01	12/01/1997	6010A	Nickel	0.054	UJ	0.02	0.15	mg/L
N-149-97	N14997-120197-01	12/01/1997	6010A	Manganese	0.134		0.003	0.01	mg/L
N-149-97	N14997-120197-01	12/01/1997	6010A	Chromium	0.085		0.01	0.05	mg/L
N-149-97	N14997-120197-02	12/01/1997	6010A	Manganese (dissolved)	0.006		0.003	0.01	mg/L
N-150-97	N-150-97-01	02/16/1999	EPA 8260B	Trichloroethene	205		1.3	5	ug/L
N-150-97	N-150-97-01	02/16/1999	EPA 6010	Thallium	1.7	UJ	1.4	10	ug/L
N-150-97	N-150-97-01	02/16/1999	EPA 6010	Chromium (dissolved)	4.6	UJ	1.1	5	ug/L
N-150-97	N-150-97-01	02/16/1999	EPA 6010	Chromium	19.4	J	1.1	5	ug/L
N-3A	N3A-01	02/03/1999	EPA 6010	Thallium (dissolved)	8.5	UJ	1.4	10	ug/L
N-3A	N3A-01	02/03/1999	EPA 6010	Thallium	9.2	UJ	1.4	10	ug/L
N-3A	N3A-01	02/03/1999	EPA 8330	RDX	9	UJ	0.29	25	ug/L
N-3A	N3A-01	02/03/1999	EPA 8270C	Bis(2-ethylhexyl)phthalate	4	UJ	1.1	10	ug/L
N-3H	N-3H-01	02/08/1999	EPA 8330	RDX	16	UJ	0.29	25	ug/L
N-3H	N-3H-01	02/08/1999	EPA 6010	Nickel (dissolved)	3.6	UJ	1.9	5	ug/L
N-3H	N-3H-01	02/08/1999	EPA 6010	Nickel	0.99	UJ	1.9	5	ug/L
N-3H	N-3H-01	02/08/1999	EPA 6010	Manganese (dissolved)	4.4	UJ	1.3	5	ug/L
N-3H	N-3H-01	02/08/1999	EPA 6010	Chromium (dissolved)	2.7	UJ	1.1	5	ug/L
N-3H	N-3H-01	02/08/1999	EPA 6010	Chromium	1.1	UJ	1.1	5	ug/L
N-3H	N-3H-01	02/08/1999	EPA 8270C	Bis(2-ethylhexyl)phthalate	1	UJ	1.1	10	ug/L
N-3H	N-3H-01	02/08/1999	EPA 6010	Antimony (dissolved)	2.0	UJ	1.5	10	ug/L
T-01	T-01	08/10/1994	8240	1,1-Dichloroethane	7		NA	1.0	ug/L
T-02	T-02	09/08/1994	8240	Trichloroethene	74		NA	1.0	ug/L
T-02	T-02	09/08/1994	6010	Chromium (dissolved)	0.02		NA	0.029	mg/L
T-02	T-02	09/08/1994	6010	Chromium	0.025		NA	0.029	mg/L
T-02	T-02	09/08/1994	8240	Carbon Tetrachloride	8.8		NA	1.0	ug/L
T-03	TEAD-8-97-1T03	08/15/1997	8260A	Trichloroethene	33		NA	1	ug/L
T-03	TEAD-8-97-1T03	08/15/1997	8260A	Carbon Tetrachloride	2.7		NA	1	ug/L
T-04	T-04	09/09/1994	8240	Trichloroethene	39		NA	1.0	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

Table C-8
Summary of Recent Groundwater Monitoring Results

Well No.	Sample ID	Sample Date	Method	Constituent Name	Sample Result	Result Qualifier	MDL	PQL	Unit
T-04	T-04	09/09/1994	6010	Chromium (dissolved)	0.01		NA	0.029	mg/L
T-04	T-04	09/09/1994	6010	Chromium	0.012		NA	0.029	mg/L
T-04	T-04	09/09/1994	8240	Carbon Tetrachloride	3.2		NA	1.0	ug/L
T-06	TEAD-11-99-1T06	12/29/1999	SW8010	Trichloroethene	24	J	0.26	1	ug/L

Notes:

ND - Not Detected

UJ - Estimated result, detected below PQL

J - Estimated result, detected above PQL

MDL - Method Detection Limit

PQL - Practical Quantitation Limit

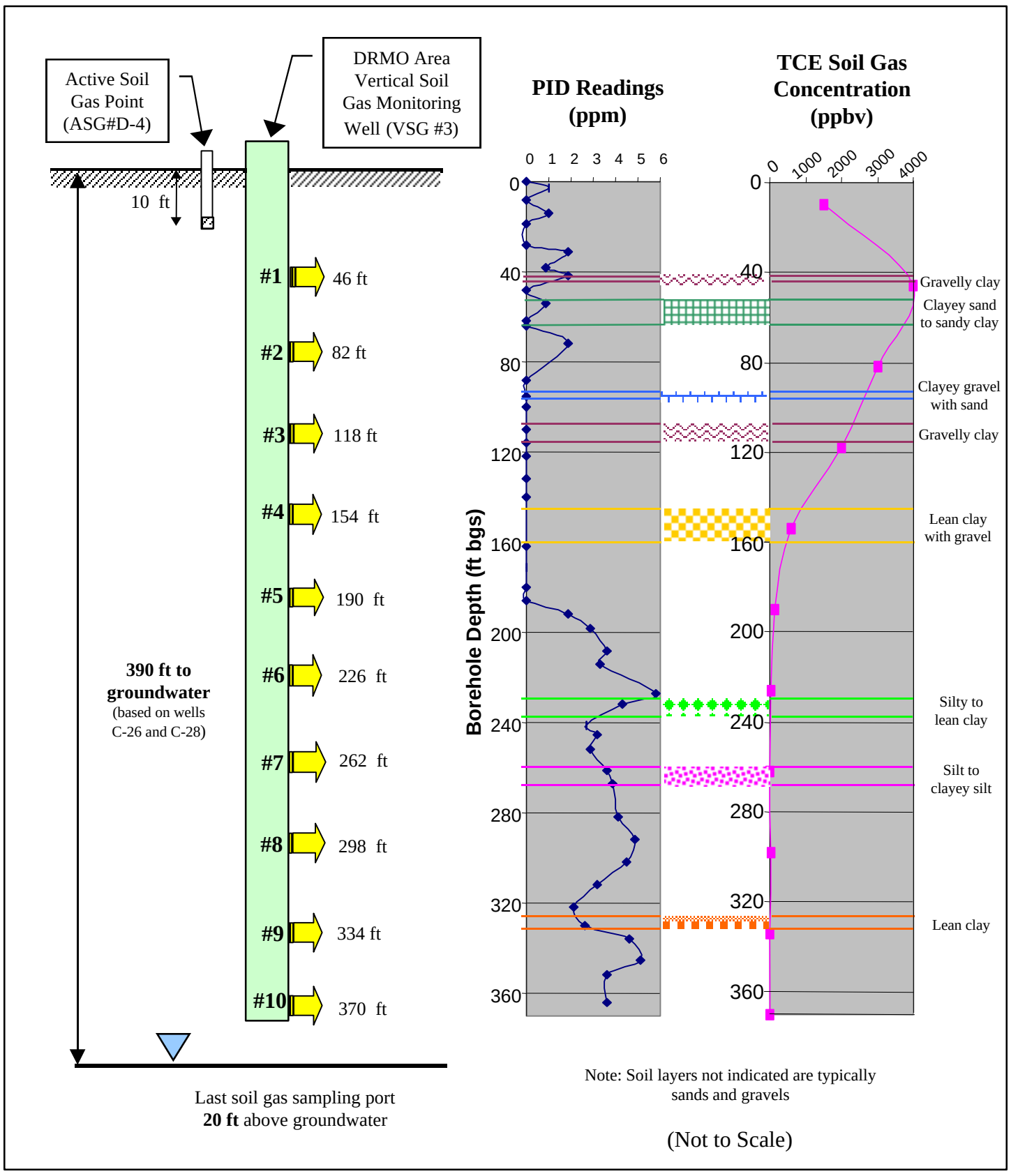
Table C-9
INITIAL SAMPLING: SUMMARY OF METAL ANALYSES

Parameter	Water Quality Standards	C-12	C-13	C-14	C-19	C-20	C-21	C-22	C-23	C-24	*C-25	C-26	C-27
Date Sampled	→	06-Jan-97	20-Jan-97	03-Feb-97	17-Jul-97	18-Jul-97	29-Aug-97	08-Sep-97	31-Oct-97	08-Oct-97	07-Nov-97	17-Nov-97	29-Dec-97
Laboratory	→	MSA	MSA	MSA	MSA	MSA	MSA	MSA	MSA	MSA	MSA	MSA	MSA
Mercury	2 ppb	**.1 B**	ND	ND	ND	ND	**0.1 B**	**0.1 B**	ND	ND	NA	ND	ND
Arsenic	5 ppb	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND
Barium	2000 ppb	**90**	**90**	**130**	**80**	**90**	**60**	**80**	**40**	ND	NA	**80**	**70**
Cadmium	5 ppb	ND	**0.5 B**	ND	ND	ND	ND	ND	ND	ND	**NA**	ND	ND
Chromium	100 ppb (s)	ND	ND	ND	**19 B**	ND	**37 B**	ND	ND	ND	**24**	ND	ND
Lead	15 ppb	**2.8 B**	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND
Selenium	50 ppb	ND	**7 B**	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND
Silver	100 ppb (s)	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND
Cyanide	200 ppb	ND	**2 B**	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA

Parameter	Water Quality Standards	C-28	C-29	C-30	C-31	C-32	C-33	C-34	C-35	C-36	C-37	C-38	C-39
Date Sampled	→	02-Sep-98	16-Sep-98	20-Jan-99	21-Jan-99	20-Dec-99	30-Mar-00	10-Apr-00	17-Apr-00	11-May-00	05-Jun-00	12-Jun-00	23-Oct-00
Laboratory	→	MSA	MSA	APCL	APCL	APCL	MSA	MSA	MSA	MSA	MSA	MSA	MSA
Mercury	2 ppb	ND	ND	ND	ND	**0.18 J**	ND	ND	**0.150 J**	ND	?	ND	ND
Arsenic	5 ppb	ND	ND	**2.4 J**	ND	<5	ND	ND	**24.0 J**	ND	ND	ND	ND
Barium	2000 ppb	**111**	**81**	**95.2**	**87.4**	NA	**77.6**	**53.1**	**76.3**	**52**	**137**	**98.3**	**93.0**
Cadmium	5 ppb	ND	ND	ND	ND	<2	ND	ND	ND	ND	ND	ND	ND
Chromium	100 ppb	ND	ND	**11.1**	**4.6 J**	**4.9 J**	ND	ND	ND	ND	ND	ND	ND
Lead	15 ppb	ND	ND	ND	ND	**1.3 J**	ND	ND	ND	ND	ND	ND	ND
Selenium	50 ppb	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND
Silver	100 ppb (s)	**6 B**	**11 B**	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND
Nickel	NE	NA	NA	NA	NA	**1.3 J**	NA	NA	NA	NA	NA	NA	NA
Thallium	2 ppb	NA	NA	NA	NA	**2.0 J**	NA	NA	NA	NA	NA	NA	NA
Zinc	5 ppm (s)	NA	NA	NA	NA	**14.7**	NA	NA	NA	NA	NA	NA	NA

NA: No analysis was done, also applicable for wells and analytes pairs not shown.
ND: Non Detect
MSA: Mountain States Analytical, Inc.
ppb: parts per billion
J: Value is below quantitation limit
APCL: Applied Physics & Chemistry Laboratory
Values are the total/unfiltered results (units in ug/L)
B: Value is below quantitation limit but above detection limit
NE: No standard established
s: Secondary standard

*Well C-25 was installed under a different contract and data was provided by USACE; total manganese for this sample was reported as 35 ug/L.
Data taken from the corresponding well completion reports and water quality standards were found at the following web sites:
http://www.epa.gov/ostwater/Tools/dwstds0.html and http://www.rules.states.ut.us/publicat/code/r309/r309-103.htm#T2



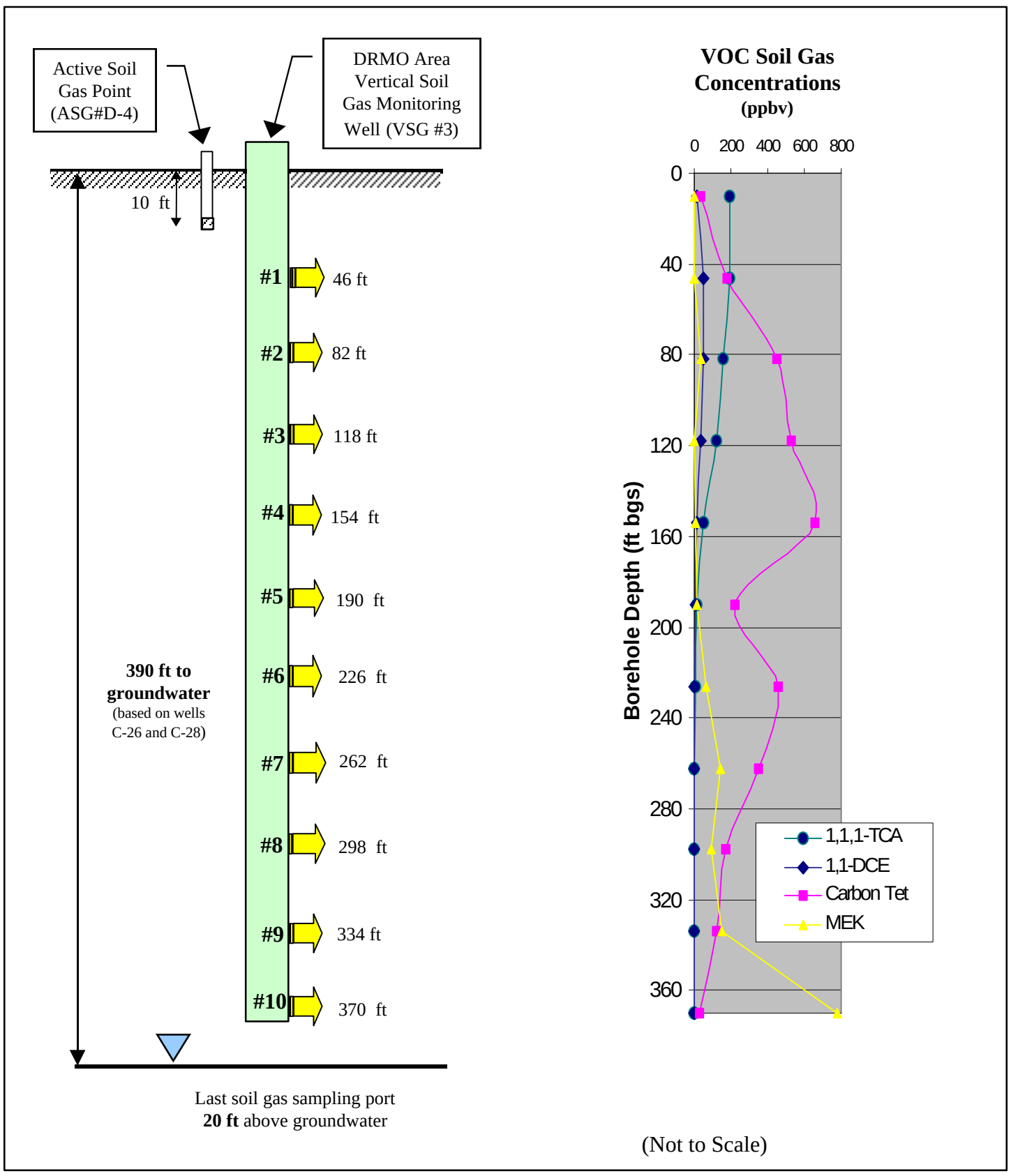
#1 SOIL GAS SAMPLING LOCATION AND NUMBER

KLEINFELDER

Project Number - 23-9000-46.A08/3510R270

DRMO Area Vertical Soil Gas Monitoring Well (VSG#3)
Schematic Drawing
DRMO Area
Tooele Army Depot, Utah April 4, 2002

FIGURE
C-1a
(1 of 2)



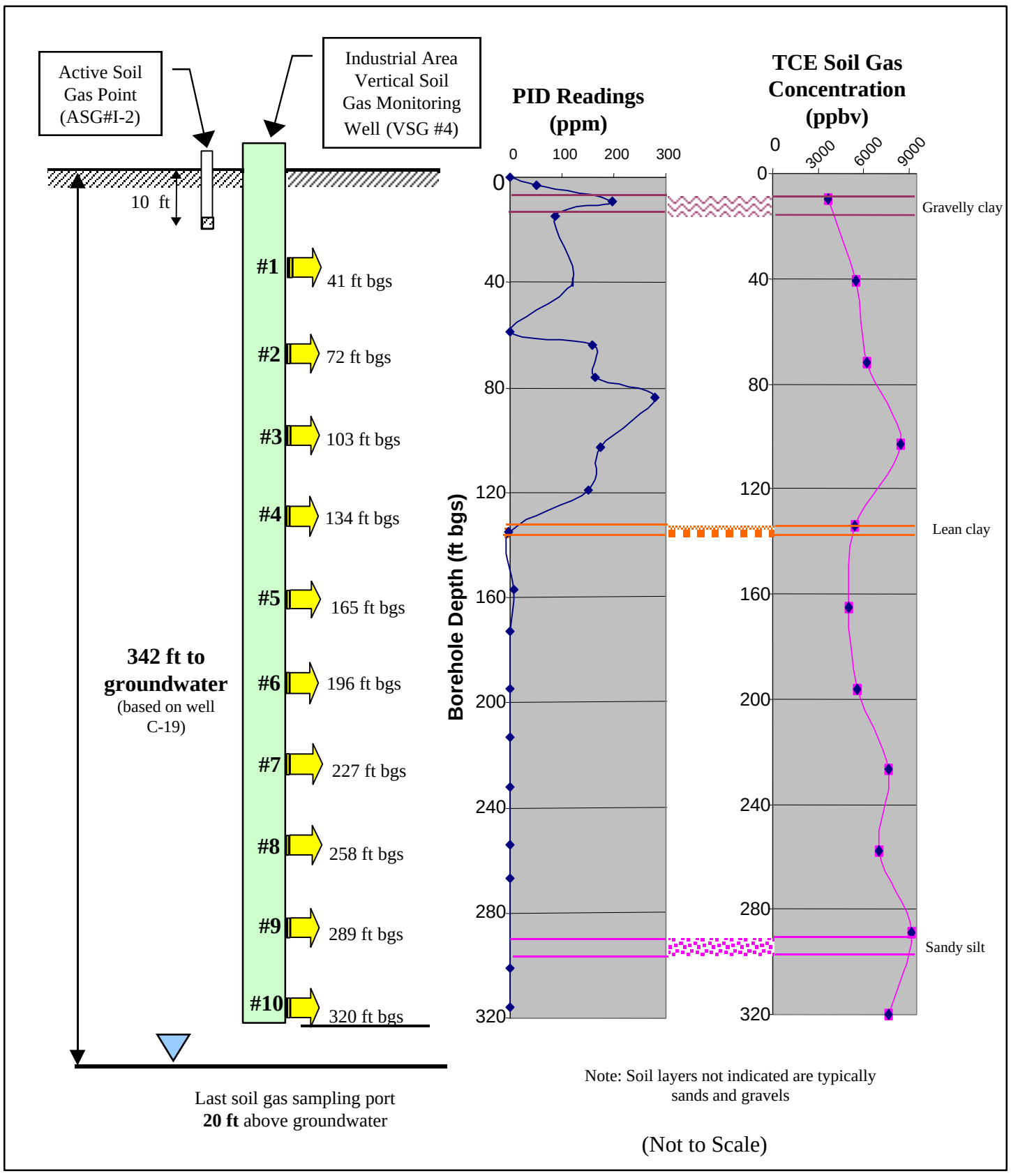
#1 SOIL GAS SAMPLING LOCATION AND NUMBER

KLEINFELDER

Project Number - 23-9000-46.A08/3510R270

DRMO Area Vertical Soil Gas Monitoring Well (VSG#3)
Schematic Drawing
DRMO Area
Tooele Army Depot, Utah April 4, 2002

FIGURE
C-1b
(2 of 2)



#1 SOIL GAS SAMPLING LOCATION AND NUMBER

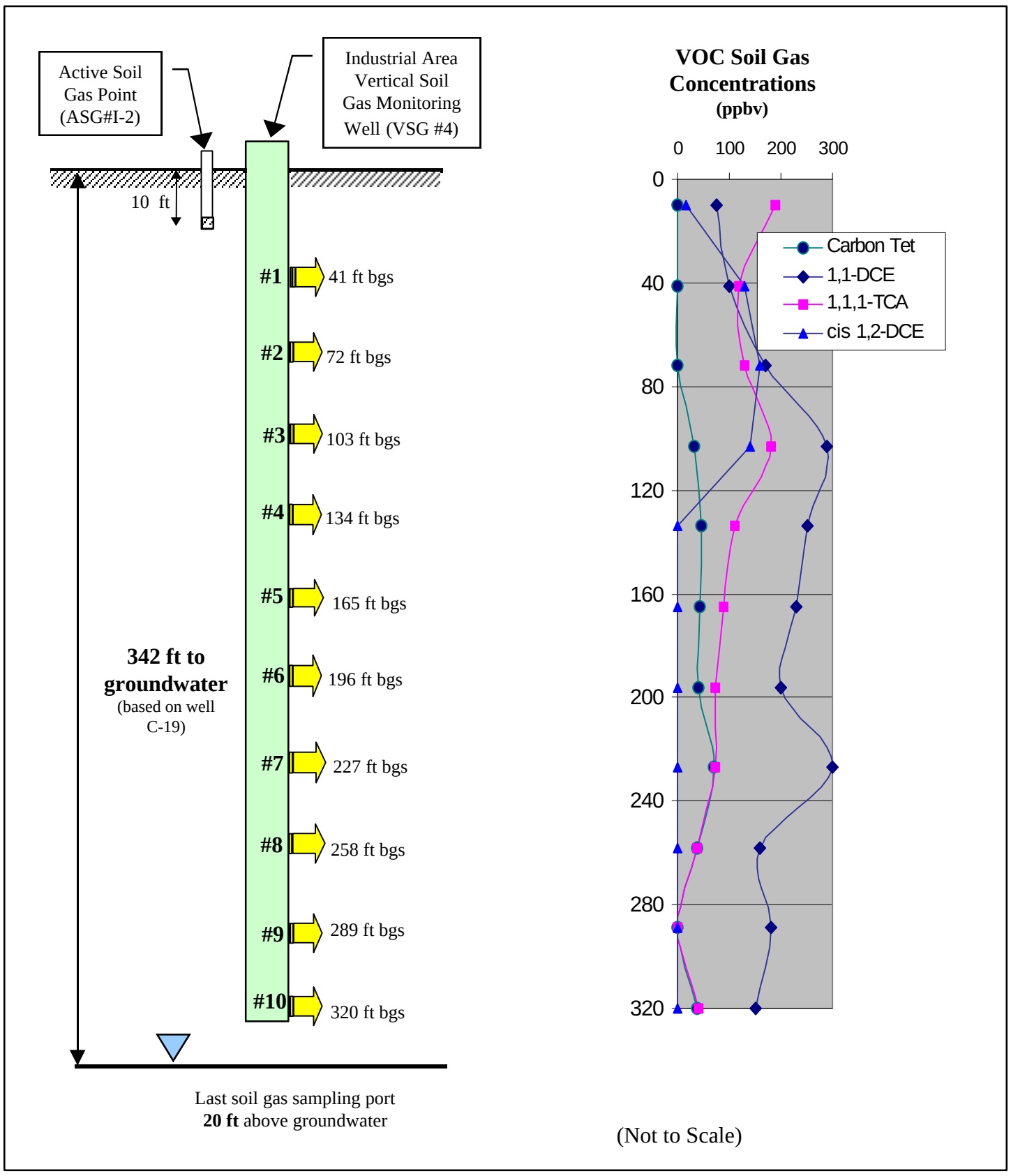
KLEINFELDER

Project Number - 23-9000-46.A08/3510R270

Industrial Area Vertical Soil Gas Monitoring Well (VSG#4)
Schematic Drawing
Industrial Area
Tooele Army Depot, Utah April 4, 2002

FIGURE
C-2a

(1 of 2)



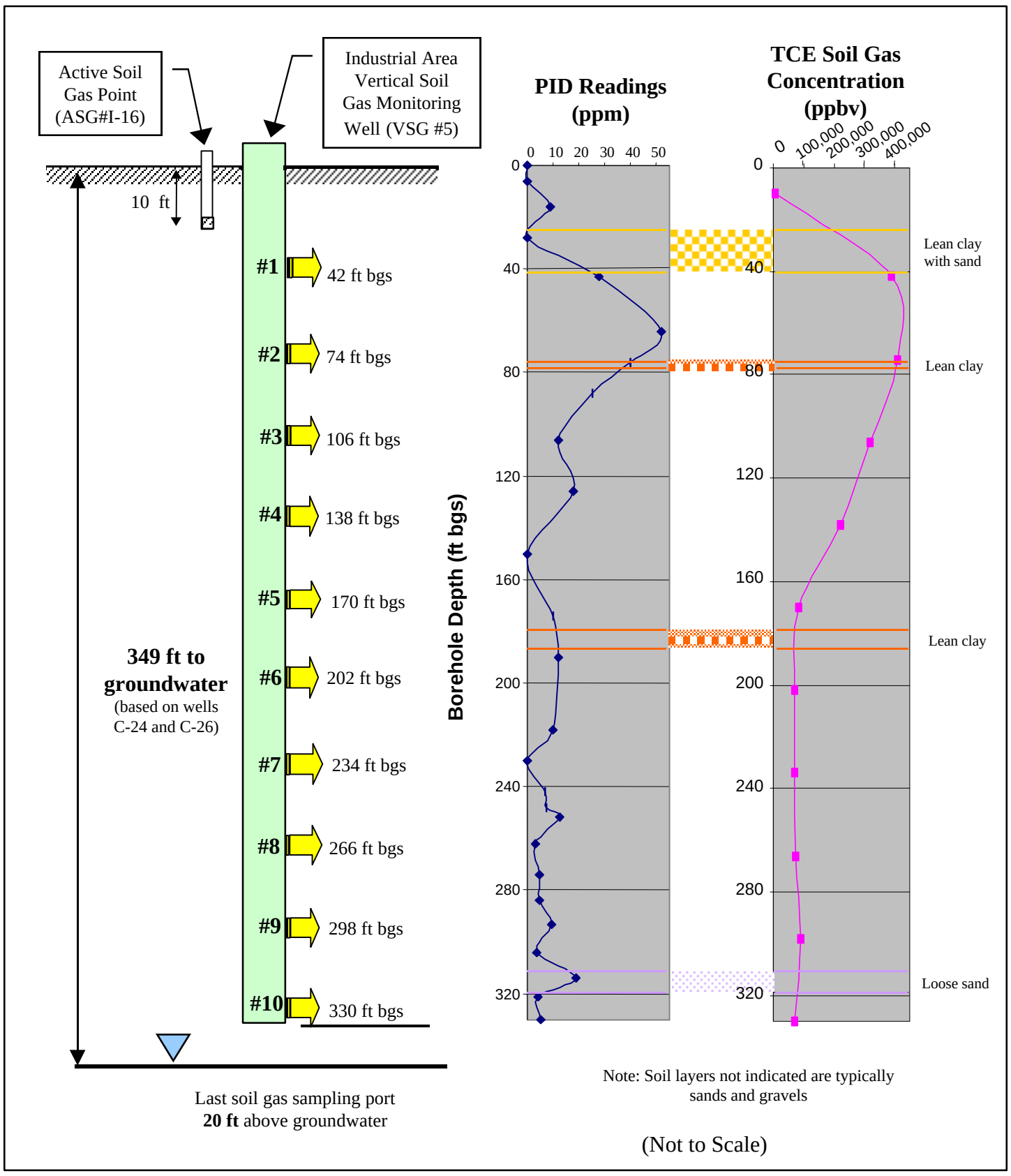
#1 SOIL GAS SAMPLING LOCATION AND NUMBER

KLEINFELDER

Project Number - 23-9000-46.A08/3510R270

Industrial Area Vertical Soil Gas Monitoring Well (VSG#4)
Schematic Drawing
Industrial Area
Tooele Army Depot, Utah April 4, 2002

FIGURE
C-2b
(2 of 2)



#1 SOIL GAS SAMPLING LOCATION AND NUMBER

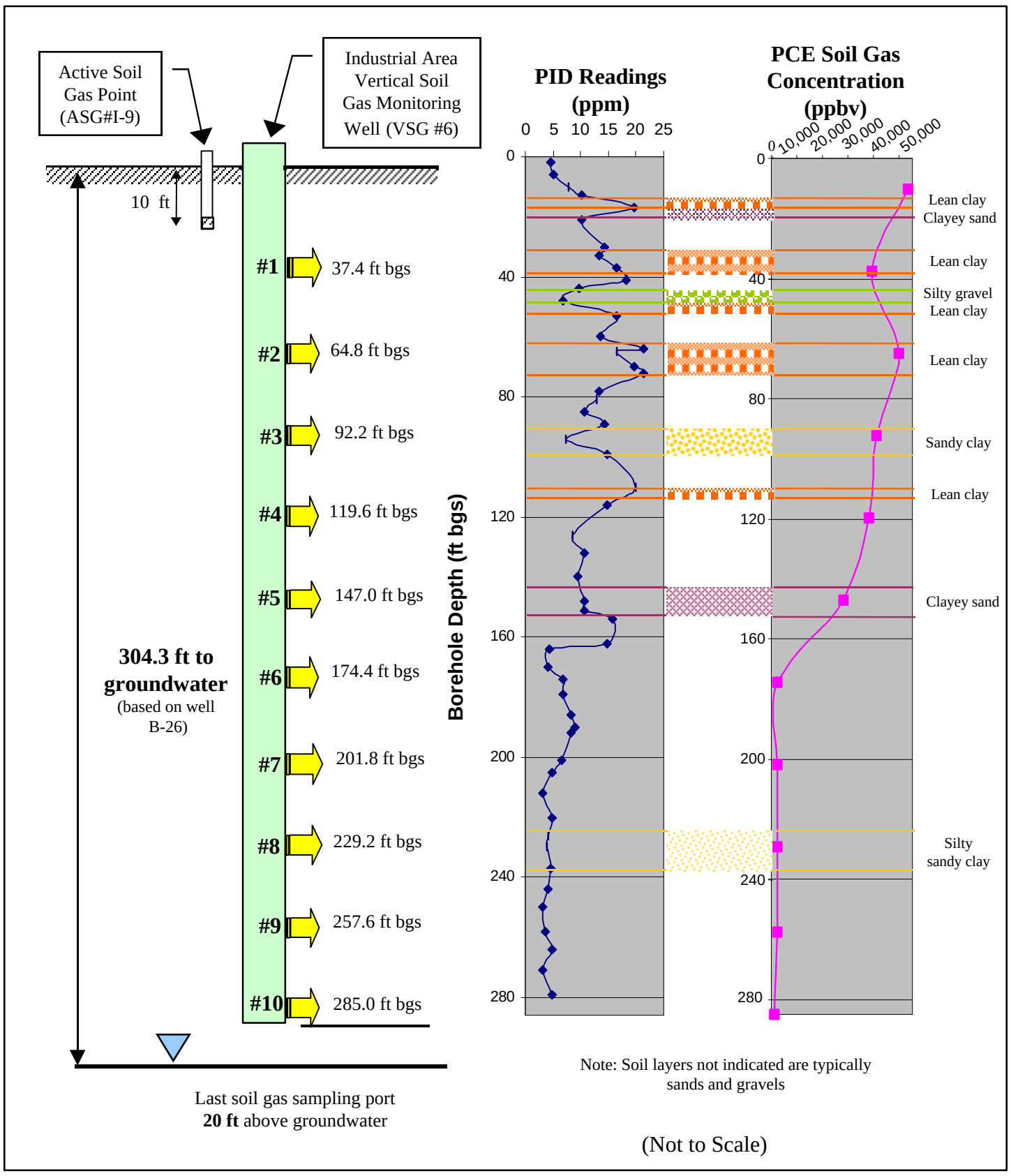
KLEINFELDER

Project Number - 23-9000-46.A08/3510R270

Industrial Area Vertical Soil Gas Monitoring Well (VSG#5)
Schematic Drawing
Industrial Area
Tooele Army Depot, Utah April 4, 2002

FIGURE
C-3a

(1 of 1)



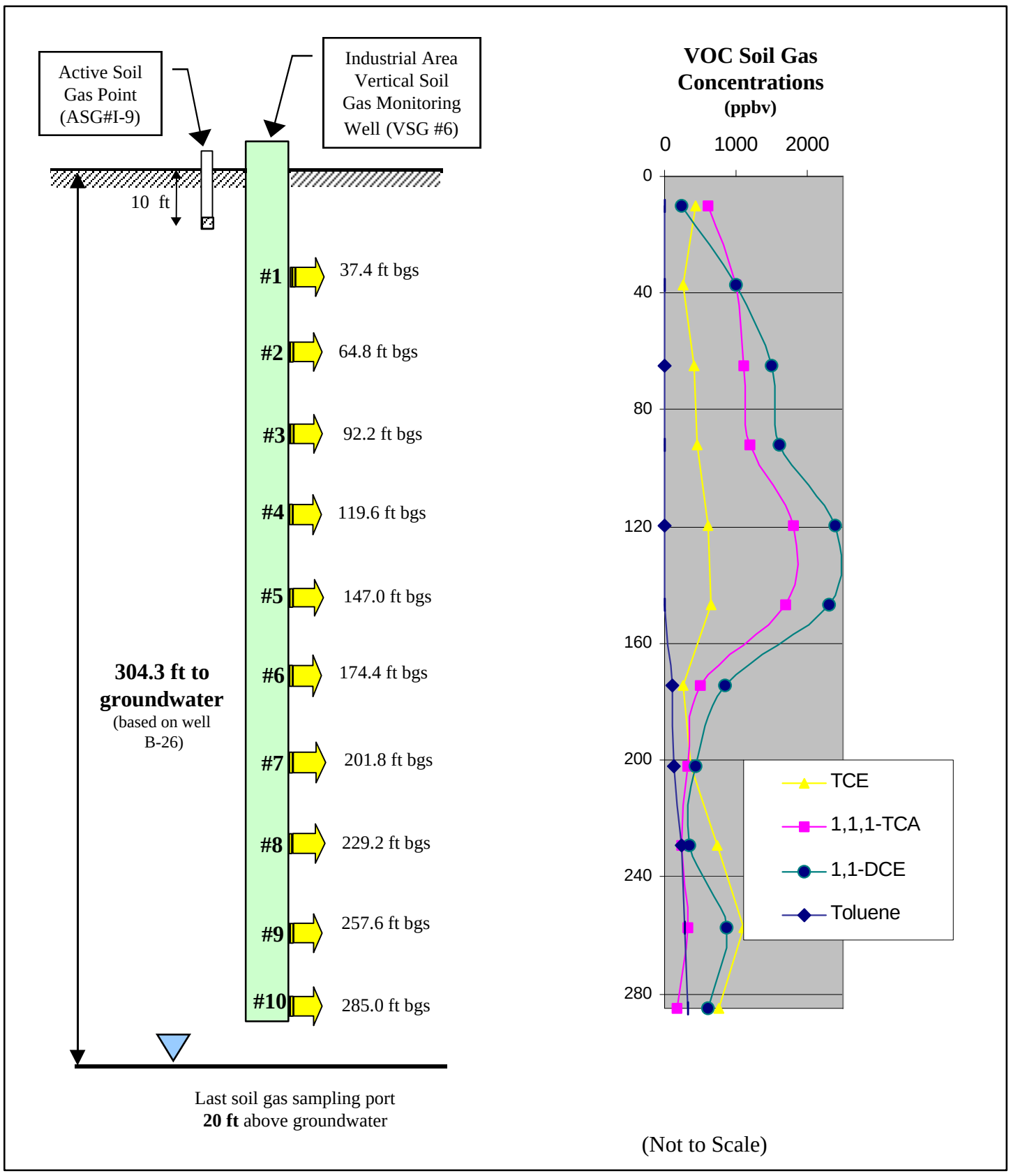
#1 SOIL GAS SAMPLING LOCATION AND NUMBER

KLEINFELDER

Project Number - 23-9000-46.A08/3510R270

Industrial Area Vertical Soil Gas Monitoring Well (VSG#6)
Schematic Drawing
Industrial Area
Tooele Army Depot, Utah April 4, 2002

FIGURE
C-4a
(1 of 2)



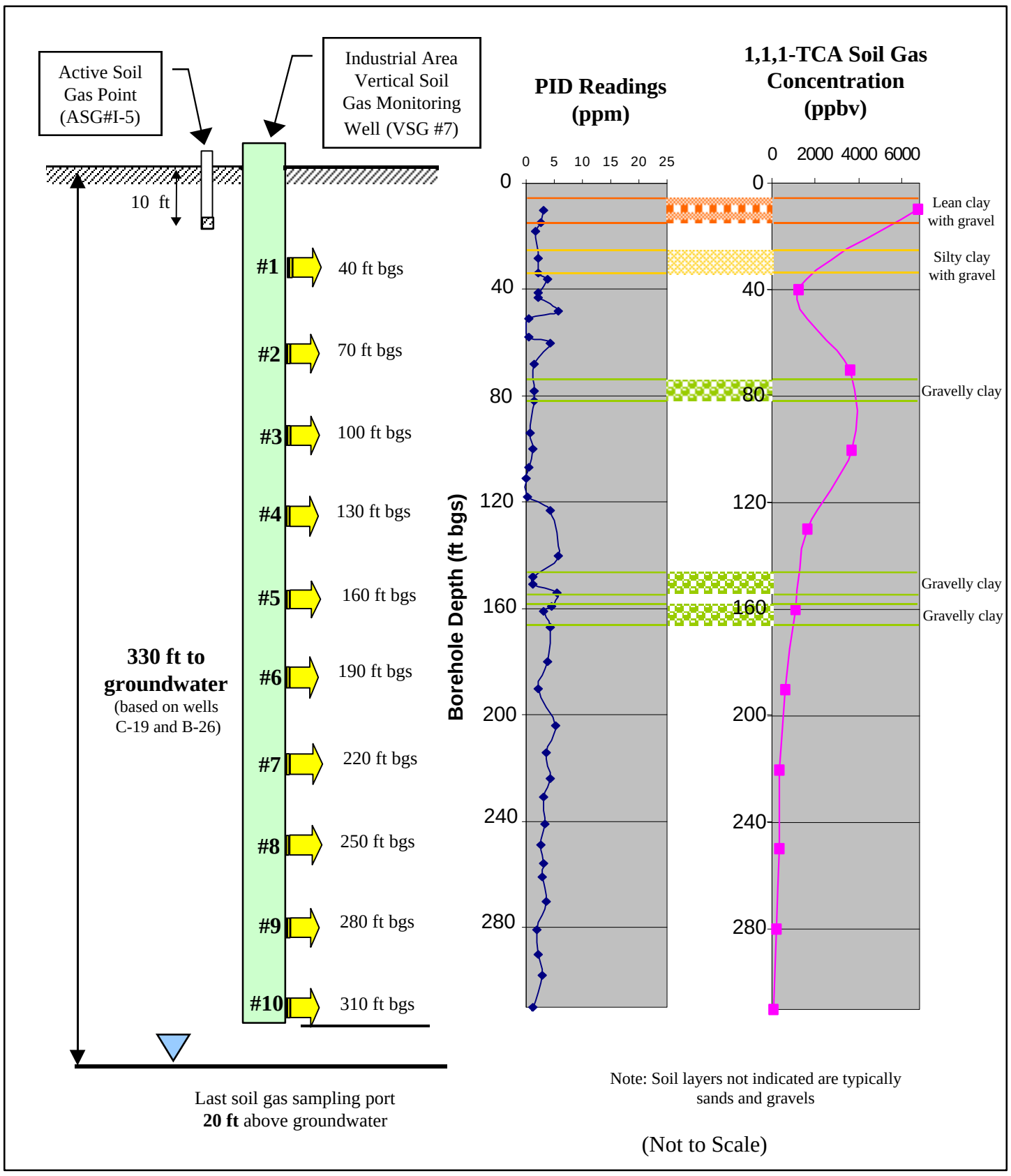
#1 SOIL GAS SAMPLING LOCATION AND NUMBER

KLEINFELDER

Project Number - 23-9000-46.A08/3510R270

Industrial Area Vertical Soil Gas Monitoring Well (VSG#6)
Schematic Drawing
Industrial Area
Tooele Army Depot, Utah April 4, 2002

FIGURE
C-4b
(2 of 2)



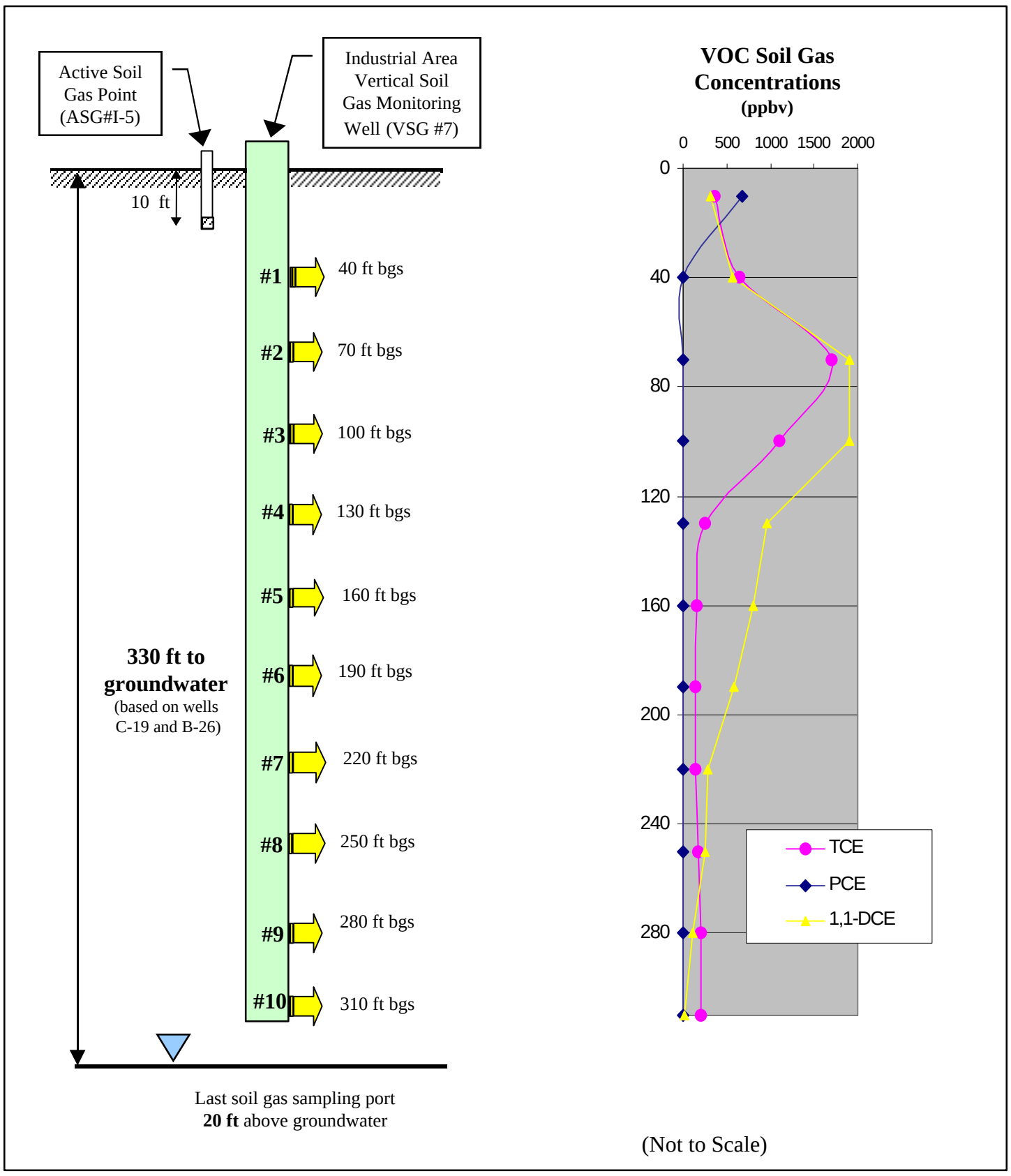
#1 SOIL GAS SAMPLING LOCATION AND NUMBER

KLEINFELDER

Project Number - 23-9000-46.A08/3510R270

Industrial Area Vertical Soil Gas Monitoring Well (VSG#7)
Schematic Drawing
Industrial Area
Tooele Army Depot, Utah April 4, 2002

FIGURE
C-5a
(1 of 2)



#1 SOIL GAS SAMPLING LOCATION AND NUMBER

KLEINFELDER

Project Number - 23-9000-46.A08/3510R270

Industrial Area Vertical Soil Gas Monitoring Well (VSG#7)
Schematic Drawing
Industrial Area
Tooele Army Depot, Utah April 4, 2002

FIGURE
C-5b
(2 of 2)

Appendix D—Deleted in its entirety in the Final Report

APPENDIX E—QUALITY CONTROL SUMMARY REPORT (QCSR)

E.0.0.1 This appendix contains the QCSR for the cumulative analytical data collected during the Phase I RFI. This report outlines the process employed by Kleinfelder to verify usability of the data generated during this project for the intended purposes. Attachments to this appendix contain laboratory analytical data reports for the passive soil gas surveys, active soil gas survey, vertical soil gas monitoring station sampling, groundwater monitoring well installation and sampling, and investigative-derived waste profiling.

Kleinfelder, Inc., 2000

QUALITY CONTROL SUMMARY REPORT

PHASE I RCRA FACILITY INVESTIGATION REPORT
FOR SWMU 58
TOOELE ARMY DEPOT
TOOELE, UTAH

March 26, 2002

Kleinfelder, Inc. 2002

A Report Prepared for:

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Sacramento District
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QUALITY CONTROL SUMMARY REPORT
PHASE I RCRA FACILITY INVESTIGATION REPORT
FOR SWMU 58
TOOELE ARMY DEPOT
TOOELE, UTAH

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1.0 SUMMARY

1.0.0.1. This Quality Control Summary Report (QCSR) documents the review of analytical data associated with the vadose zone and groundwater investigations at the Industrial and Defense Reutilization Marketing Office (DRMO) areas at the Tooele Army Depot (TEAD) in Tooele, Utah. Soil gas samples were collected and analyzed as part of a passive soil gas study, active soil gas study, and installation of vertical soil gas monitoring stations. Soil and water investigative-derived waste (IDW) samples were collected and analyzed from the construction of the vertical soil gas monitoring stations. From previous investigations, soil and water samples associated with the installation and sampling of monitoring wells C-12 through C-27 were collected and analyzed. In the recent groundwater investigations at the DRMO and Industrial Areas, soil and water samples were collected and analyzed as part of the installation and sampling of monitoring wells C-28 through C-39 (analytical data for C-39 will be included in final report).

1.0.0.2. Samples were analyzed by W.L. Gore & Associates, Inc (Gore), Air Toxics, Limited (ATL), Agriculture & Priority Pollutant Laboratories, Inc. (APPL), Applied Physics & Chemistry Lab (APCL), Curtis & Thompkins, Limited (C&T), and Mountain States Analytical, Inc. (MSAI). Kleinfelder has verified 100 percent of the soil and water analytical data and reviewed 100 percent of the soil-gas data. Additionally, approximately fifty percent of the raw data was validated by an independent third party, Environmental Synectics (Synectics). The Synectics data verification report will be included as Appendix F to the final RFI Report (or will be provided when made available by the USACE).

1.0.0.3. Analytical data and other information contained within the data packages associated with this report have undergone review to evaluate the levels of accuracy, precision, and completeness. Unless otherwise noted, sample storage, preparation, analysis, reporting, and Quality Control (QC) measures were performed in accordance with project-specific Quality Assurance (QA) acceptance criteria and applicable analytical methodologies.

1.0.0.4. Based on the review, the overall quality for the laboratory work provided by the laboratories appears to be usable for their intended purpose.

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2.0 INTRODUCTION

2.1 OBJECTIVE

2.1.0.1. This Quality Control Summary Report is to document that Kleinfelder (KA) has examined data contained within the data packages for samples associated with the RCRA Facility Investigation (RFI) at TEAD. The data have been reviewed to check that the work performed met requirements of the USEPA SW-846, 3rd Edition (EPA, 1994c), the Quality Assurance Project Plan (QAPP) of the Master Work Plan (Kleinfelder, 1998a), and the Chemical Data Quality Management Plan (CDQMP) for TEAD (USACE, 1999).

2.2 APPROACH

2.2.0.1. Analytical data were reviewed and QC measures assessed according to the TEAD groundwater monitoring project specifications; prevalent EPA SW-846 analytical methods (EPA, 1994c); USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review, 1994 Revision (EPA, 1994b); and USEPA CLP National Functional Guidelines for Inorganic Data Review, 1994 Revision (EPA, 1994a).

2.2.0.2. Verification of data collected during the installation and sampling of monitoring wells C-12 through C-27 (with the exception of well C-25) has been provided in previous Kleinfelder reports (KA, 1998b, 1998c, 1997a, 1997b, 1997c). Monitoring well C-25 was installed by the USACE under a separate contractor and documentation is not available. Well C-28 was installed in August 1998 under the Eastern Boundary Groundwater Investigation, two months after the data verification summary report for that project was finalized. Therefore, the data for well C-28 are included in this verification report, along with the data collected during the construction and sampling of the monitoring wells installed as part of the Phase I RFI (C-29 through C-39).

2.2.0.3. Kleinfelder has verified one hundred percent of the analytical data associated with the installation and sampling of monitoring wells C-28 through C-38 (C-39 data pending). In addition, an independent third party, Synectics, has validated approximately ten percent of the raw data generated from C-28 through C-38. The Synectics data verification report will be included as Appendix F to the final RFI Report (or will be provided when made available by the USACE).

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2.2.0.4. Sampling plan information and QC data and criteria used to evaluate the analytical data collected from monitoring wells C-28 through C-38 are presented in Tables 1 through 7 of this report (data for C-39 pending). Table 1 is comprised of sample information, including laboratory name, location of sample collected, date sampled, and analytical requirements. Tables 2 through 5 include information on the surrogate samples, matrix spike samples, laboratory control samples, and field and laboratory blanks, respectively. Table 6 includes results for primary and duplicate samples. All qualified results with reasons for qualifications are tabulated in Table 7. Data qualification flags are employed in accordance with the *Kleinfelder's Flagging Conventions*, which are also included at the end of Table 7.

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3.0 FIELD QUALITY ASSURANCE AND QUALITY CONTROL SAMPLES

3.0.0.1. The following samples were collected and analyzed to ensure the measurement systems were maintained within prescribed limits and that results were of acceptable quality.

3.1 FIELD BLANK

3.1.0.1. A field blank is a sample from the lot of water used for final decontamination of the sampling equipment. If contaminants are detected above the method detection limit (MDL), associated primary sample results for these analytes are reported with qualifications. A field blank was not collected with the samples associated with the installation and sampling of monitoring wells C-28 to C-38 (C-39 data pending).

3.2 EQUIPMENT BLANKS

3.2.0.1. Rinseate blanks are collected from all non-disposable or non-dedicated sampling equipment after decontamination has been performed and is obtained with reagent-grade water determined to be free of the analyte of concern. If contaminants are detected above the MDL in the equipment pump blanks, associated primary sample results for these analytes are reported with qualifications. Chromium and barium were detected above the MDL in one of the four rinseate blanks collected with the samples associated with wells C-28 to C-39 (see Table 5). Additionally, arsenic was detected above the MDL in another rinseate blank.

3.3 TRIP BLANKS

3.3.0.1. Trip blanks are laboratory-prepared samples transported with all primary samples to be analyzed for volatile constituents. Six trip blanks with the C-28 to C-38 (C-39 data pending) samples were submitted with all aqueous sample shipments containing samples to be analyzed for VOCs. No VOCs were detected above the reporting limits, but various analytes were detected above the MDLs in six trip blanks (see Table 5). Therefore, associated primary sample results for the detected contaminants are reported with qualifications.

3.4 FIELD DUPLICATES / QA SAMPLES

3.4.0.1. Duplicate samples were collected in the field to provide precision information for the entire measurement system including sample acquisition, homogeneity, handling, shipping,

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storage, preparation, and analysis. Duplicate samples were submitted with the primary samples, and their identity was held blind to laboratory personnel. Duplicate samples were analyzed for the same parameters as the associated primary samples.

3.4.0.2. Split (QA) samples are replicate samples submitted to different (QA) laboratories, and subjected to the same environmental conditions and steps in the measurement process. They serve an oversight function in assessing the analytical portion of the measurement system.

3.4.0.3. One duplicate sample (well C-31) was collected and submitted to APCL for analyses. The primary/duplicate sample relative percent differences (RPDs) for the analytes detected were within the intra-laboratory control limit of 35%, except for the following:

> *The field duplicate RPD for total chromium was outside the acceptance criteria, therefore the results for total chromium in the associated primary samples are reported with qualifications. Dissolved arsenic was detected below the reporting limit and above the MDL (1.8 ug/L) in the primary sample, but was not detected above the MDL in the duplicate sample (see Table 6).*

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4.0 LABORATORY DATA VERIFICATION

4.0.0.1. One hundred percent of data generated for this project was evaluated through a systematic procedure in which method performance is compared to defined criteria. These criteria reflect the levels of precision, accuracy, reproducibility, completeness, comparability and sensitivity required for the purposes of this project. The level of detail to which data was examined is consistent with *National Functional Guidelines for Organic Data Review* and *National Functional Guidelines for Inorganic Data Review* to the extent possible. In addition to the technical review, data was screened for contract compliance.

4.1 DATA VERIFICATION METHOD

4.1.0.1. Data verification efforts focused on two aspects: data quality and contract compliance. Data quality for the DRMO/Industrial Area was determined by applying the QC acceptance criteria as defined in the Master Work Plan QAPP and using the technical approach described in the Functional Guidelines. Contract compliance was assessed relative to the requirements specified in the Master Work Plan.

4.1.0.2. Verification of the generated data included the following:

- Reviewing chains of custody forms
- Verifying holding time compliance
- Reviewing laboratory batch QC frequency
- Reviewing results of batch and field QC analyses
- Reviewing sample results influenced by out-of-control QC sample results
- Verifying the calibration or calibration check sample results for compliance with laboratory and project acceptance criteria
- Verifying that the laboratory batch QC samples were analyzed at the proper frequency and that results were within specifications
- Verifying that reporting units and quantitation limits are correct
- Verifying that the project and QC sample results were properly reported
- Determining the course of any corrective actions
- Checking for adherence to method-specific procedures and QC parameters
- Evaluating precision and accuracy of results
- Qualifying environmental sample results

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4.2 PASSIVE SHALLOW SOIL GAS SURVEY

4.2.0.1. A description of the sampling equipment, decontamination procedures, sample containers and laboratory analyses for the GORE-Sorber® Screening Modules can be found in Section 3.3.1 of the Phase I RFI Report. Kleinfelder reviewed 100 percent of the data generated from the passive shallow soil gas survey. A total of 937 GORE-Sorber® modules were installed and retrieved by Kleinfelder and shipped to Gore for volatile organic compound (VOC) analysis. Additionally, 26 trip blanks were shipped with the primary samples. The review of the passive soil-gas survey data indicates that the generated information is usable for screening purposes.

4.3 ACTIVE SHALLOW SOIL GAS SURVEY

4.3.0.1. A description of the active shallow soil gas survey at the DRMO/Industrial Area can be found in Section 3.3.2 of the Phase I RFI Report. The active soil gas survey was conducted at a selected number of the passive soil gas sites (those with the highest detections) to partially quantify and verify the passive soil gas results. Twenty-four probe locations were sampled and analyzed by ATL for VOCs using EPA modified Method TO-14. The analytical data generated from these samples were verified by Kleinfelder using the requirements listed in the Master Work Plan (KA, 1998a). There were no discrepancies noted in the analytical data generated from the active shallow soil gas survey.

4.4 VERTICAL SOIL GAS MONITORING STATION

4.4.0.1. A description of the installation and sampling of the vertical soil gas (VSG) stations at the DRMO/Industrial Area can be found in Section 3.3.3 of the Phase I RFI Report. Five soil gas monitoring stations were installed at the DRMO/Industrial Area with ten samples collected at different elevations at each station. The fifty samples were analyzed for VOCs using EPA modified Method TO-14 by ATL. Kleinfelder verified one hundred percent of the ATL data and no discrepancies were noted.

4.5 VSG MONITORING STATION

4.5.0.1. Samples of the soil cuttings generated during the construction and installation of the VSG wells and the groundwater monitoring wells were analyzed for VOCs using EPA SW846 Method 8260B and total organic carbon using EPA SW846 Method 9060 by APCL and APPL. Kleinfelder reviewed the analytical data for the IDW samples and none of the data were rejected. The analytical data are deemed acceptable and usable for waste disposal purposes.

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4.6 DRMO AND INDUSTRIAL AREA GROUNDWATER INVESTIGATION

4.6.0.1. To characterize the nature and extent of likely potential source(s) of the chlorinated solvent plume beneath TEAD, Kleinfelder performed the vadose zone surveys as discussed above. One of the tasks included the construction, installation and sampling of groundwater monitoring wells C-29 through C-39, (sampled between September 1998 and October 2000) in the DRMO and Industrial areas of TEAD.

4.6.0.2. APCL and MSAI analyzed the soil and water samples for VOCs, SVOCs, metals and general minerals. Kleinfelder verified one hundred percent of the analytical data generated and Synectics validated approximately ten percent of the raw data.

4.6.1 Sample Receipt and Holding Time

4.6.1.1. The issues of proper chain-of-custody documentation and technical hold-times were reviewed as a major component for completeness. All samples received by APCL and MSAI had proper chain-of-custody documentation and the temperatures of the sample coolers at the time of laboratory receipt were within QC acceptance criteria. All extraction and analytical holding times were met for the analyses performed.

4.6.2 Matrix Spike and Matrix Spike Duplicates

4.6.2.1. A matrix spike (MS) is a primary sample spiked with target compounds. Matrix spike/matrix spike duplicate (MS/MSD) analyses provide spike recovery percentages and relative percent differences (RPDs) between analyses of the same spiked sample. A number of analyte percent recoveries and MS/MSD RPDs were outside the project control limits, therefore associated primary samples results for these analytes are reported with qualifications (see Table 3).

4.6.3 Laboratory Control Samples

4.6.3.1. A laboratory control sample (LCS) is a laboratory-prepared blank matrix sample, spiked with target compounds. An LCS was included with all analytical batches and all LCS recoveries were within control limits except for the following (see Table 4):

> *In one LCS analyzed by SW846 8270A, the percent recoveries for five analytes were below the project control limits, therefore the results for these analytes in the associated primary samples are reported with qualifications.*

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4.6.4 Method (Preparatory) Blanks

4.6.4.1. A method blank is a laboratory-prepared blank matrix sample included in all preparation batches. An instrument blank is a laboratory blank sample analyzed with the primary samples.

4.6.4.2. A number of inorganic and organic analytes were detected above the MDL in sixteen method blanks analyzed for VOCs and metals (see Table 5). These analyte detections in the method blanks are an indication of possible contamination of the primary samples, therefore these analytes detected in the associated primary samples are reported with qualifications.

4.6.5 Surrogate Standards

4.6.5.1. A surrogate is a compound spiked into the sample that is uncommon in the environment, but is appropriate to the method being used. Surrogates were included with all samples analyzed for VOCs and SVOCs. The surrogate recovery of one of the six surrogates added in the SVOC analysis (8270A) in sample TEAD-C29-GW-01 was below the project control limits. Therefore the results for this sample are reported with qualifications. All other surrogate recoveries were within the project control limits (see Table 2).

4.6.6 Instrument Calibration

4.6.6.1. Instrument checks are performed to ensure that the instrument is capable of producing acceptable, identifiable, and quantifiable data. Instrument performance was reviewed based on initial and continuing calibration data and tuning information provided. There were no discrepancies notes with the calibration data that would required the qualification of associated sample results.

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5.0 QUALITY DATA ASSESSMENT

5.0.0.1. Based on our review of the field and laboratory QA/QC procedures, Kleinfelder concludes the following regarding the usability of the analytical data collected during the Phase I RFI:

- The majority of the data meets CDQMP requirements.
- A total of eighty-five analyses were requested on the forty-four primary samples submitted to the laboratories (well C-39 data pending). APCL and MSAI analyzed 100% of the analyses requested on the four-four primary samples.
- All the samples were analyzed within holding time, resulting in the holding time completeness of 100%.
- None of the data was qualified as rejected. Therefore analytical completeness is 100% for the data generated.
- Required detection limits were met according to CDQMP requirements, with a few exceptions due to high analyte concentration.
- The levels of precision and accuracy measured on the basis of the LCS and MS/MSD recoveries are satisfactory.
- A number of primary sample results have been qualified due to the contaminants detected in the method, rinseate, and trip blanks, resulting in the qualification of sample data.
- Although overall sample analyses quality is good, Kleinfelder has qualified the results for a number (16) of samples because of inconsistencies with QC protocol and procedures. Please see Table 7 for qualified sample results.
- The analytical data are deemed acceptable and usable for decision-making purposes, with noted qualifications.

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6.0 REFERENCES

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Table 1
Sample Information
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Name	Sample Location	Report Number	Sample ID	Date Sampled	Sample Analyses	Analysis Date	QC Batch Number
MSAI	**C-28**	**KAI188**	C28P-081998-01	08/19/1998	8260A	08/21/1998	23685
			C28P-081998-01	08/19/1998	8270A	08/28/1998	23685
		KAI189	C28P-0902-01	09/02/1998	8260A	09/15/1998	23877
			C28P-0902-02	09/02/1998	8270A	09/10/1998	23877
			C28P-0902-03	09/02/1998	6010A	09/10/1998	23877
			C28P-0902-03	09/02/1998	6010A	09/14/1998	23877
			C28P-0902-03	09/02/1998	7470A	09/25/1998	23877
			C28P-0902-04	09/02/1998	7470A	09/25/1998	23877
			C28P-0902-04	09/02/1998	6010A	09/10/1998	23877
			C28P-0902-04	09/02/1998	6010A	09/14/1998	23877
			C28P-0902-05	09/02/1998	310.1	09/08/1998	23877
			C28P-0902-05	09/02/1998	365.3	09/04/1998	23877
			C28P-0902-05	09/02/1998	D-596-83	08/18/1998	23877
			C28P-0902-05	09/02/1998	D-596-83	09/18/1998	23877
			C28P-0902-05	09/02/1998	300	09/04/1998	23877
MSAI	**C-29**	**KAI190**	TEAD-C29-Soil-01	09/03/1998	7471A	09/09/1998	23927
			TEAD-C29-Soil-01	09/03/1998	8260A	09/15/1998	23927
			TEAD-C29-Soil-01	09/03/1998	8270A	09/09/1998	23927
			TEAD-C29-Soil-01	09/03/1998	6010A	09/09/1998	23927
		KAI191	TEAD-C29-GW-01	09/16/1998	D-596-83	10/05/1998	24103
			TEAD-C29-GW-01	09/16/1998	6010A	09/24/1998	24103
			TEAD-C29-GW-01	09/16/1998	D-596-83	10/05/1998	24103
			TEAD-C29-GW-01	09/16/1998	310.1	09/29/1998	24103
			TEAD-C29-GW-01	09/16/1998	300	09/18/1998	24103
			TEAD-C29-GW-01	09/16/1998	6010A	09/24/1998	24103
			TEAD-C29-GW-01	09/16/1998	8270A	10/01/1998	24103
			TEAD-C29-GW01	09/16/1998	8260A	09/29/1998	24103
APCL	**C-30**	**987081**	TEAD-C30-SOIL-01	12/15/1998	EPA 7470	12/23/1998	98M2690N
			TEAD-C30-SOIL-01	12/15/1998	EPA 8260	12/24/1998	98G5117
			TEAD-C30-SOIL-01	12/15/1998	ASTM D 2216	12/23/1998	98W7166
			TEAD-C30-SOIL-01	12/15/1998	EPA 6010	12/24/1998	98M2688M
		991355	Tead-C30-GW-01	01/20/1999	EPA 7470	01/25/1999	99M1100N
			Tead-C30-GW-01	01/20/1999	EPA 8260	01/25/1999	99G1224
			Tead-C30-GW-01	01/20/1999	EPA 6010	01/25/1999	99M1099L
			Tead-C30-GW-01	01/20/1999	EPA 6010	01/25/1999	99M1099L
			Tead-C30-GW-01	01/20/1999	EPA 7470	01/25/1999	99M1100N
APCL	**C-31**	**991355**	Tead-C31-GW-01	01/20/1999	EPA 6010	01/25/1999	99M1099L

Table 1
Sample Information
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Name	Sample Location	Report Number	Sample ID	Date Sampled	Sample Analyses	Analysis Date	QC Batch Number
APCL	**C-31**	**991355**	Tead-C31-GW-01	01/20/1999	EPA 7470	01/25/1999	99M1100N
			Tead-C31-GW-01	01/20/1999	EPA 7470	01/25/1999	99M1100N
			Tead-C31-GW-01	01/20/1999	EPA 8260	01/25/1999	99G1224
			Tead-C31-GW-01	01/20/1999	EPA 6010	01/25/1999	99M1099L
	C-31 (field duplicate)		Tead-C99-GW-01	01/20/1999	EPA 7470	01/25/1999	99M1100N
			Tead-C99-GW-01	01/20/1999	EPA 8260	01/25/1999	99G1224
			Tead-C99-GW-01	01/20/1999	EPA 6010	01/25/1999	99M1099L
			Tead-C99-GW-01	01/20/1999	EPA 7470	01/25/1999	99M1100N
			Tead-C99-GW-01	01/20/1999	EPA 6010	01/25/1999	99M1099L
APCL	**C-32**	**997183**	TEAD-C32-370	12/02/1999	ASTM D 2216	12/09/1999	99W7890
			TEAD-C32-370	12/02/1999	EPA 8260	12/16/1999	99G5530
		997248	TEAD-C32-IDW	12/13/1999	ASTM D 2216	12/17/1999	99W8030
			TEAD-C32-IDW	12/13/1999	EPA 6010	12/21/1999	99M3043L
			TEAD-C32-IDW	12/13/1999	EPA 7471	12/22/1999	99M3054N
			TEAD-C32-IDW	12/13/1999	EPA 8260	12/17/1999	99G5554
		997352	TEAD-C32-01	12/20/1999	EPA 7470	12/23/1999	99M3064N
			TEAD-C32-01	12/20/1999	EPA 8260	12/24/1999	99G5648
			TEAD-C32-01	12/20/1999	EPA 7470	12/23/1999	99M3064N
			TEAD-C32-01	12/20/1999	EPA 6010	12/23/1999	99M3061L
			TEAD-C32-01	12/20/1999	EPA 6010	12/23/1999	99M3061L
MSAI	**C-33**	**KAI-195**	TEAD-C33-Soil-07	03/11/2000	SW9060	03/30/2000	0003187
			TEAD-C33-Soil-07	03/11/2000	SW8260B	03/21/2000	0003187
			TEAD-C33-Soil-08	03/11/2000	SW8260B	03/21/2000	0003187
		KAI-197	Tead-C33-H2O-01	03/30/2000	SW8260B	04/04/2000	0003351
			Tead-C33-H2O-01	03/30/2000	PH-CHK	04/03/2000	0003351
		KAI-198	Tead-C33-H2O-01	03/30/2000	SW7470A	04/11/2000	0003354
			Tead-C33-H2O-01	03/30/2000	SW6010B	04/04/2000	0003354
			Tead-C33-H2O-01	03/30/2000	SW6010B	04/04/2000	0003354
			Tead-C33-H2O-01	03/30/2000	SW6010B	04/11/2000	0003354
			Tead-C33-H2O-01	03/30/2000	SW6010B	04/11/2000	0003354
			Tead-C33-H2O-01	03/30/2000	SW7470A	04/11/2000	0003354
		KAI-203	TEAD-C33-H20-02	04/17/2000	PH-CHK	04/25/2000	0004181
			TEAD-C33-H20-02	04/17/2000	SW8260B	04/26/2000	0004181
MSAI	**C-34**	**KAI-196**	TEAD-C34-Soil-02	03/17/2000	SW8260B	03/28/2000	0003267
			TEAD-C34-Soil-04	03/17/2000	SW8260B	03/28/2000	0003267
		KAI-201	TEAD-C34-H2O-01	04/10/2000	SW7470A	04/11/2000	0004110

Table 1
Sample Information
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Name	Sample Location	Report Number	Sample ID	Date Sampled	Sample Analyses	Analysis Date	QC Batch Number
MSAI	**C-34**	**KAI-201**	TEAD-C34-H2O-01	04/10/2000	SW7470A	04/11/2000	0004110
			TEAD-C34-H2O-01	04/10/2000	SW6010B	04/17/2000	0004110
			TEAD-C34-H2O-01	04/10/2000	SW6010B	04/17/2000	0004110
			TEAD-C34-H2O-01	04/10/2000	PH-CHK	04/24/2000	0004110
			TEAD-C34-H2O-01	04/10/2000	SW8260B	04/24/2000	0004110
MSAI	**C-35**	**KAI-199**	Tead-C35-Soil-02	03/24/2000	SW8260B	04/07/2000	0003366
		KAI-203	Tead-C35-H20-01	04/17/2000	SW8260B	04/28/2000	0004180
MSAI	**C-36**	**KAI-202**	TEAD-C36-Soil-04	04/10/2000	SW8260B	04/18/2000	0004149
			TEAD-C36-Soil-05	04/11/2000	SW8260B	04/18/2000	0004149
		KAI-206	TEAD-C36-H2O-01	05/11/2000	SW7470A	05/16/2000	0005128
			TEAD-C36-H2O-01	05/11/2000	SW7470A	05/16/2000	0005128
			TEAD-C36-H2O-01	05/11/2000	SW6010B	05/18/2000	0005128
			TEAD-C36-H2O-01	05/11/2000	SW6010B	05/18/2000	0005128
			TEAD-C36-H2O-01	05/11/2000	PH-CHK	05/25/2000	0005128
			TEAD-C36-H2O-01	05/11/2000	SW8260B	05/25/2000	0005128
MSAI	**C-37**	**KAI-205**	Tead-C37-Soil-08	04/20/2000	SW8260B	04/25/2000	4245
			TEAD-C37-Soil-37	04/20/2000	SW8260B	05/04/2000	4245
		KAI-208	TEAD-C37-H20-01	04/21/2000	SW6010B	06/08/2000	6067
			TEAD-C37-H20-01	04/21/2000	SW7470A	06/20/2000	6067
			TEAD-C37-H20-01	04/21/2000	SW7470A	06/20/2000	6067
			TEAD-C37-H20-01	04/21/2000	SW6010B	06/08/2000	6067
			TEAD-C37-H20-01	04/21/2000	SW8260B	06/08/2000	6067
MSAI	**C-38**	**KAI-207**	TEAD-C38-Soil-02	05/08/2000	SW8260B	05/17/2000	5129
			TEAD-C38-Soil-03	05/11/2000	SW8260B	05/17/2000	5129
		KAI-210	TEAD-C38-H2O-01	06/12/2000	SW6010B	06/16/2000	6187
			TEAD-C38-H2O-01	06/12/2000	SW8260B	06/23/2000	6187
			TEAD-C38-H2O-01	06/12/2000	SW7470A	06/20/2000	6187
			TEAD-C38-H2O-01	06/12/2000	SW7470A	06/20/2000	6187
			TEAD-C38-H2O-01	06/12/2000	SW6010B	06/16/2000	6187
			TEAD-C38-H2O-01	06/12/2000	PH-CHK	06/23/2000	6187
APCL	**Rinseate Blank**	**991355**	Tead-Rinseate-01	01/20/1999	EPA 7470	01/25/1999	99M1100N
			Tead-Rinseate-01	01/20/1999	EPA 8260	01/25/1999	99G1224
			Tead-Rinseate-01	01/20/1999	EPA 6010	01/25/1999	99M1099L
			Tead-Rinseate-02	01/20/1999	EPA 7470	01/25/1999	99M1100N
			Tead-Rinseate-02	01/20/1999	EPA 8260	01/25/1999	99G1224
			Tead-Rinseate-02	01/20/1999	EPA 6010	01/25/1999	99M1099L

Table 1
Sample Information
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Name	Sample Location	Report Number	Sample ID	Date Sampled	Sample Analyses	Analysis Date	QC Batch Number
MSAI	**EQPBLK**	**KAI189**	C28R-0902-01	09/02/1998	8270A	09/10/1998	23877
		KAI191	TEAD-C29-RB-01	09/16/1998	8270A	10/01/1998	24103
MSAI	**Trip Bank**	**KAI188**	Trip-081998	08/19/1998	8260A	08/25/1998	23685
		KAI189	Trip Blank	09/02/1998	8260A	09/15/1998	23877
		KAI190	Trip-090498	09/03/1998	8260A	09/15/1998	8260BLK
		KAI191	TRIP91798	09/15/1998	8260A	09/29/1998	24103
APCL		**991355**	Trip Blank	01/20/1999	EPA 8260	01/25/1999	99G1224
		997352	Trip Blank-C32	12/20/1999	EPA 8260	12/24/1999	99G5648
MSAI		**KAI-197**	Trip	03/30/2000	PH-CHK	04/03/2000	0003351
			Trip	03/30/2000	SW8260B	04/03/2000	0003351
		KAI-201	TEAD-C34-Trip Blank	04/10/2000	PH-CHK	04/24/2000	0004110
			TEAD-C34-Trip Blank	04/10/2000	SW8260B	04/24/2000	0004110
		KAI-203	Tead-C35-Trip	04/15/2000	SW8260B	04/27/2000	0004180
		KAI-208	Tead-C37-Trip	04/20/2000	SW8260B	06/08/2000	6067
		KAI-206	Trip-C36-01	05/11/2000	SW8260B	05/25/2000	0005128
			Trip-C36-01	05/11/2000	PH-CHK	05/25/2000	0005128
		KAI-210	Trip-C38-01	05/12/2000	SW8260B	06/23/2000	6187
			Trip-C38-01	05/12/2000	PH-CHK	06/23/2000	6187

Table 2
Surrogate Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report Number	Laboratory Batch	Analysis Method	Analysis Date	Sample ID	Surrogate Name	Surrogate % Recovery	Recovery Range	Within Acceptable Range
987081	98G5117	EPA 8260	12/24/1998	TEAD-C-30-SOIL-01	1,2-Dichloroethane-d4	88	70-130	YES
				TEAD-C-30-SOIL-01	Bromofluorobenzene	91	70-130	YES
				TEAD-C-30-SOIL-01	Dibromofluoromethane	85	70-130	YES
				TEAD-C-30-SOIL-01	Toluene-d8	104	70-130	YES
991355	99G1224	EPA 8260	01/25/1999	TEAD-C30-GW-01	1,2-Dichloroethane-d4	114	70-130	YES
				TEAD-C30-GW-01	Bromofluorobenzene	92	70-130	YES
				TEAD-C30-GW-01	Dibromofluoromethane	99	70-130	YES
				TEAD-C30-GW-01	Toluene-d8	102	70-130	YES
				TEAD-C31-GW-01	1,2-Dichloroethane-d4	114	70-130	YES
				TEAD-C31-GW-01	Bromofluorobenzene	93	70-130	YES
				TEAD-C31-GW-01	Dibromofluoromethane	98	70-130	YES
				TEAD-C31-GW-01	Toluene-d8	101	70-130	YES
				TEAD-C99-GW-01	1,2-Dichloroethane-d4	114	70-130	YES
				TEAD-C99-GW-01	Bromofluorobenzene	92	70-130	YES
				TEAD-C99-GW-01	Dibromofluoromethane	100	70-130	YES
				TEAD-C99-GW-01	Toluene-d8	100	70-130	YES
				TEAD-RINSATE-01	1,2-Dichloroethane-d4	115	70-130	YES
				TEAD-RINSATE-01	Bromofluorobenzene	92	70-130	YES
				TEAD-RINSATE-01	Dibromofluoromethane	98	70-130	YES
				TEAD-RINSATE-01	Toluene-d8	101	70-130	YES
				TEAD-RINSATE-02	1,2-Dichloroethane-d4	117	70-130	YES
				TEAD-RINSATE-02	Bromofluorobenzene	93	70-130	YES
				TEAD-RINSATE-02	Dibromofluoromethane	101	70-130	YES
				TEAD-RINSATE-02	Toluene-d8	100	70-130	YES
				TRIP BLANK	1,2-Dichloroethane-d4	118	70-130	YES
				TRIP BLANK	Bromofluorobenzene	94	70-130	YES

Table 2
Surrogate Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report Number	Laboratory Batch	Analysis Method	Analysis Date	Sample ID	Surrogate Name	Surrogate % Recovery	Recovery Range	Within Acceptable Range
991355	99G1224	EPA 8260	01/25/1999	TRIP BLANK	Dibromofluoromethane	98	70-130	YES
				TRIP BLANK	Toluene-d8	100	70-130	YES
997183	99G5530	EPA 8260	12/16/1999	TEAD-C32-370	1,2-Dichloroethane-d4	100	70-130	YES
				TEAD-C32-370	Bromofluorobenzene	88	70-130	YES
				TEAD-C32-370	Dibromofluoromethane	91	70-130	YES
				TEAD-C32-370	Toluene-d8	108	70-130	YES
997248	99G5554	EPA 8260	12/17/1999	TEAD-C32-IDW	1,2-Dichloroethane-d4	104	70-130	YES
				TEAD-C32-IDW	Bromofluorobenzene	97	70-130	YES
				TEAD-C32-IDW	Dibromofluoromethane	96	70-130	YES
				TEAD-C32-IDW	Toluene-d8	100	70-130	YES
997352	99G5648	EPA 8260	12/24/1999	TEAD-C32-01	1,2-Dichloroethane-d4	97	70-130	YES
				TEAD-C32-01	Bromofluorobenzene	85	70-130	YES
				TEAD-C32-01	Dibromofluoromethane	86	70-130	YES
				TEAD-C32-01	Toluene-d8	104	70-130	YES
				TRIP BLANK-C32	1,2-Dichloroethane-d4	99	70-130	YES
				TRIP BLANK-C32	Bromofluorobenzene	83	70-130	YES
				TRIP BLANK-C32	Dibromofluoromethane	86	70-130	YES
				TRIP BLANK-C32	Toluene-d8	105	70-130	YES
KAI188	23685	8260A	08/25/1998	TRIP BLANK	1,2-Dichloroethane-d4	99	70-130	YES
				TRIP BLANK	Bromofluorobenzene	98	70-130	YES
				TRIP BLANK	Toluene-d8	96	70-130	YES
KAI189	23877	8260A	09/15/1998	C28P-0902-01	1,2-Dichloroethane-d4	85	70-130	YES
				C28P-0902-01	Bromofluorobenzene	99	70-130	YES

Table 2
Surrogate Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report Number	Laboratory Batch	Analysis Method	Analysis Date	Sample ID	Surrogate Name	Surrogate % Recovery	Recovery Range	Within Acceptable Range
KAI189	23877	8260A	09/15/1998	C28P-0902-01	Toluene-d8	100	70-130	YES
				TRIP BLANK	1,2-Dichloroethane-d4	87	70-130	YES
				TRIP BLANK	Bromofluorobenzene	99	70-130	YES
				TRIP BLANK	Toluene-d8	101	70-130	YES
KAI189	23877	8270A	09/10/1998	C28P-0902-02	2,4,6-Tribromophenol	91	30-150	YES
				C28P-0902-02	2-Fluorobiphenyl	73	60-140	YES
				C28P-0902-02	2-Fluorophenol	56	30-150	YES
				C28P-0902-02	Nitrobenzene-d5	76	60-140	YES
				C28P-0902-02	Terphenyl-d14	94	60-140	YES
				C28R-0902-01	2,4,6-Tribromophenol	99	30-150	YES
				C28R-0902-01	2-Fluorobiphenyl	70	60-140	YES
				C28R-0902-01	2-Fluorophenol	64	30-150	YES
				C28R-0902-01	Nitrobenzene-d5	77	60-140	YES
				C28R-0902-01	Terphenyl-d14	102	60-140	YES
KAI190	8260BLK	8260A	09/15/1998	TRIP BLANK	1,2-Dichloroethane-d4	112	70-130	YES
				TRIP BLANK	Bromofluorobenzene	95	70-130	YES
				TRIP BLANK	Toluene-d8	100	70-130	YES
KAI191	24103	8260A	09/29/1998	TEAD-C29-GW-01 (1600)	1,2-Dichloroethane-d4	94	70-130	YES
				TEAD-C29-GW-01 (1600)	Bromofluorobenzene	98	70-130	YES
				TEAD-C29-GW-01 (1600)	Toluene-d8	98	70-130	YES
				TRIP BLANK	1,2-Dichloroethane-d4	94	70-130	YES
				TRIP BLANK	Bromofluorobenzene	99	70-130	YES
				TRIP BLANK	Toluene-d8	98	70-130	YES
KAI191	24103	8270A	10/01/1998	TEAD-C29-GW-01 (1600)	2,4,6-Tribromophenol	68	30-150	YES

Table 2
Surrogate Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report Number	Laboratory Batch	Analysis Method	Analysis Date	Sample ID	Surrogate Name	Surrogate % Recovery	Recovery Range	Within Acceptable Range
KAI191	24103	8270A	10/01/1998	TEAD-C29-GW-01 (1600)	2-Fluorobiphenyl	57	60-140	NO
				TEAD-C29-GW-01 (1600)	2-Fluorophenol	50	30-150	YES
				TEAD-C29-GW-01 (1600)	Nitrobenzene-d5	64	60-140	YES
				TEAD-C29-GW-01 (1600)	Terphenyl-d14	70	60-140	YES
				TEAD-C29-RB-01	2,4,6-Tribromophenol	68	30-150	YES
				TEAD-C29-RB-01	2-Fluorobiphenyl	60	60-140	YES
				TEAD-C29-RB-01	2-Fluorophenol	54	30-150	YES
				TEAD-C29-RB-01	Nitrobenzene-d5	67	60-140	YES
				TEAD-C29-RB-01	Terphenyl-d14	80	60-140	YES
KAI196	0003267	SW8260B	03/28/2000	TEAD-C34-SOIL-02	1,2-Dichloroethane-d4	127	70-130	YES
				TEAD-C34-SOIL-02	Bromofluorobenzene	128	70-130	YES
				TEAD-C34-SOIL-02	Toluene-d8	126	70-130	YES
				TEAD-C34-SOIL-04	1,2-Dichloroethane-d4	107	70-130	YES
				TEAD-C34-SOIL-04	Bromofluorobenzene	110	70-130	YES
				TEAD-C34-SOIL-04	Toluene-d8	112	70-130	YES
KAI197	0003351	SW8260B	04/04/2000	TEAD-C33-H2O-01	1,2-Dichloroethane-d4	97.5	70-130	YES
				TEAD-C33-H2O-01	Bromofluorobenzene	99.9	70-130	YES
				TEAD-C33-H2O-01	Toluene-d8	101	70-130	YES
			04/03/2000	TRIP BLANK	1,2-Dichloroethane-d4	106	70-130	YES
				TRIP BLANK	Bromofluorobenzene	95.6	70-130	YES
				TRIP BLANK	Toluene-d8	98.7	70-130	YES
KAI199	0003366	SW8260B	04/07/2000	TEAD-C35-SOIL-02	1,2-Dichloroethane-d4	94.3	70-130	YES
				TEAD-C35-SOIL-02	Bromofluorobenzene	103	70-130	YES
				TEAD-C35-SOIL-02	Toluene-d8	103	70-130	YES

Table 2
Surrogate Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report Number	Laboratory Batch	Analysis Method	Analysis Date	Sample ID	Surrogate Name	Surrogate % Recovery	Recovery Range	Within Acceptable Range
KAI201	0004110	SW8260B	04/24/2000	C34-TRIP BLANK	1,2-Dichloroethane-d4	102	70-130	YES
				C34-TRIP BLANK	Bromofluorobenzene	101	70-130	YES
				C34-TRIP BLANK	Toluene-d8	99.4	70-130	YES
				TEAD-C34-H20-01 (V)	1,2-Dichloroethane-d4	105	70-130	YES
				TEAD-C34-H20-01 (V)	Bromofluorobenzene	98.1	70-130	YES
				TEAD-C34-H20-01 (V)	Toluene-d8	97.6	70-130	YES
KAI202	0004149	SW8260B	04/18/2000	TEAD-C36-SOIL-04	1,2-Dichloroethane-d4	99.0	70-130	YES
				TEAD-C36-SOIL-04	Bromofluorobenzene	104	70-130	YES
				TEAD-C36-SOIL-04	Toluene-d8	106	70-130	YES
				TEAD-C36-SOIL-05	1,2-Dichloroethane-d4	87.4	70-130	YES
				TEAD-C36-SOIL-05	Bromofluorobenzene	85.6	70-130	YES
				TEAD-C36-SOIL-05	Toluene-d8	86.5	70-130	YES
KAI205	4245	SW8260B	05/04/2000	TEAD-C37-SOIL-07	1,2-Dichloroethane-d4	99.2	70-130	YES
				TEAD-C37-SOIL-07	Bromofluorobenzene	97.2	70-130	YES
				TEAD-C37-SOIL-07	Toluene-d8	99.9	70-130	YES
			04/25/2000	TEAD-C37-SOIL-08	1,2-Dichloroethane-d4	98.9	70-130	YES
				TEAD-C37-SOIL-08	Bromofluorobenzene	95.2	70-130	YES
				TEAD-C37-SOIL-08	Toluene-d8	94.6	70-130	YES
KAI206	0005128	SW8260B	05/25/2000	TEAD-C36-H20-01	1,2-Dichloroethane-d4	91.0	70-130	YES
				TEAD-C36-H20-01	Bromofluorobenzene	98.2	70-130	YES
				TEAD-C36-H20-01	Toluene-d8	101	70-130	YES
				TRIP-C36-01	1,2-Dichloroethane-d4	92.9	70-130	YES
				TRIP-C36-01	Bromofluorobenzene	98.8	70-130	YES
				TRIP-C36-01	Toluene-d8	101	70-130	YES

Table 2
Surrogate Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report Number	Laboratory Batch	Analysis Method	Analysis Date	Sample ID	Surrogate Name	Surrogate % Recovery	Recovery Range	Within Acceptable Range
KAI207	5129	SW8260B	05/17/2000	TEAD-C38-SOIL-02	1,2-Dichloroethane-d4	106	70-130	YES
				TEAD-C38-SOIL-02	Bromofluorobenzene	112	70-130	YES
				TEAD-C38-SOIL-02	Toluene-d8	110	70-130	YES
				TEAD-C38-SOIL-03	1,2-Dichloroethane-d4	104	70-130	YES
				TEAD-C38-SOIL-03	Bromofluorobenzene	108	70-130	YES
				TEAD-C38-SOIL-03	Toluene-d8	106	70-130	YES
KAI208	6067	SW8260B	06/08/2000	TEAD-C37-H20-01	1,2-Dichloroethane-d4	91.1	70-130	YES
				TEAD-C37-H20-01	Bromofluorobenzene	102	70-130	YES
				TEAD-C37-H20-01	Toluene-d8	98.7	70-130	YES
				TRIP BLANK	1,2-Dichloroethane-d4	92.8	70-130	YES
				TRIP BLANK	Bromofluorobenzene	102	70-130	YES
				TRIP BLANK	Toluene-d8	98.5	70-130	YES
KAI210	6187	SW8260B	06/23/2000	TEAD-C38-H2O-01 (TOTAL)	1,2-Dichloroethane-d4	99.4	70-130	YES
				TEAD-C38-H2O-01 (TOTAL)	Bromofluorobenzene	98.8	70-130	YES
				TEAD-C38-H2O-01 (TOTAL)	Toluene-d8	102	70-130	YES
				TRIP BLANK	1,2-Dichloroethane-d4	99.6	70-130	YES
				TRIP BLANK	Bromofluorobenzene	100	70-130	YES
				TRIP BLANK	Toluene-d8	102	70-130	YES

Table 3
Matrix Spike Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report	Parent Sample ID*	Analysis Method	Analysis Date	Compound	MS% Recovery	MSD% Recovery	Recovery Range (%)	RPD (%)	RPD Limit (%)	Comments
987081	MS	EPA 8260	12/23/1998	1,1-Dichloroethene	93	107	70-130	14.0	30.0	Within control limits
				Benzene	102	117	70-130	14.0	30.0	Within control limits
				Chlorobenzene	93	107	70-130	14.0	30.0	Within control limits
				Toluene	100	113	70-130	12.0	30.0	Within control limits
				Trichloroethene	89	102	70-130	14.0	30.0	Within control limits
991355	TEAD-C30-GW-01MS	EPA 6010	01/25/1999	Arsenic	105	106	80-120	1.0	20.0	Within control limits
				Barium	103	105	80-120	2.0	20.0	Within control limits
				Cadmium	104	104	80-120	0.0	20.0	Within control limits
				Chromium	101	103	80-120	2.0	20.0	Within control limits
				Lead	103	103	80-120	0.0	20.0	Within control limits
				Selenium	105	105	80-120	0.0	20.0	Within control limits
				Silver	103	105	80-120	2.0	20.0	Within control limits
		EPA 7470		Mercury	104	104	80-120	0.0	20.0	Within control limits
	MS	EPA 8260		1,1-Dichloroethene	100	93	70-130	7.0	30.0	Within control limits
				Benzene	94	94	70-130	0.0	30.0	Within control limits
				Chlorobenzene	88	88	70-130	0.0	30.0	Within control limits
				Toluene	87	86	70-130	1.0	30.0	Within control limits
				Trichloroethene	92	89	70-130	3.0	30.0	Within control limits
997183	MS	EPA 8260	12/15/1999	1,1-Dichloroethene	85	81	70-130	5.0	30.0	Within control limits
				Benzene	95	93	70-130	2.0	30.0	Within control limits
				Chlorobenzene	99	95	70-130	4.0	30.0	Within control limits
				Toluene	91	85	70-130	7.0	30.0	Within control limits
				Trichloroethene	93	90	70-130	3.0	30.0	Within control limits
997248	MS	EPA 8260	12/17/1999	1,1-Dichloroethene	93	93	70-130	0.0	30.0	Within control limits
				Benzene	102	102	70-130	0.0	30.0	Within control limits
				Chlorobenzene	104	101	70-130	3.0	30.0	Within control limits
				Toluene	101	101	70-130	0.0	30.0	Within control limits
				Trichloroethene	102	101	70-130	1.0	30.0	Within control limits

Notes:

*- MS indicates that MS/MSD analyses were performed on non-Kleinfelder samples.

Table 3
Matrix Spike Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report	Parent Sample ID*	Analysis Method	Analysis Date	Compound	MS% Recovery	MSD% Recovery	Recovery Range (%)	RPD (%)	RPD Limit (%)	Comments
997352	MS	EPA 6010	12/23/1999	Arsenic	108	108	80-120	0.0	20.0	Within control limits
				Cadmium	101	101	80-120	0.0	20.0	Within control limits
				Chromium	98	98	80-120	0.0	20.0	Within control limits
				Lead	102	102	80-120	0.0	20.0	Within control limits
				Nickel	101	102	80-120	1.0	20.0	Within control limits
				Thallium	101	100	80-120	1.0	20.0	Within control limits
				Zinc	102	103	80-120	1.0	20.0	Within control limits
		EPA 7470		Mercury	96	96	80-120	0.0	20.0	Within control limits
		EPA 8260	12/24/1999	1,1-Dichloroethene	85	88	75-125	3.0	30.0	Within control limits
				Benzene	97	101	75-125	4.0	30.0	Within control limits
				Chlorobenzene	98	102	75-125	4.0	30.0	Within control limits
				Toluene	90	94	75-125	4.0	30.0	Within control limits
				Trichloroethene	105	111	75-125	6.0	30.0	Within control limits
KAI-197	MS	SW8260B	04/03/2000	1,1-Dichloroethene	90.5	91.5	75-125	1.0	30.0	Within control limits
				Benzene	97.2	95.9	75-125	1.0	30.0	Within control limits
				Chlorobenzene	96.2	97.3	75-125	1.0	30.0	Within control limits
				Toluene	97.1	97.1	75-125	0.0	30.0	Within control limits
				Trichloroethene	102	99.1	75-125	3.0	30.0	Within control limits
			04/04/2000	1,1-Dichloroethene	99.9	99.6	75-125	0.0	30.0	Within control limits
				Benzene	95.3	93.5	75-125	2.0	30.0	Within control limits
				Chlorobenzene	95.3	94	75-125	1.0	30.0	Within control limits
				Toluene	95.3	94.5	75-125	1.0	30.0	Within control limits
				Trichloroethene	57.4	61.4	75-125	7.0	30.0	MS,MSD below limits
KAI-198	MS	SW6010B	04/03/2000	Aluminum	100	102	80-120	2.0	20.0	Within control limits
				Antimony	103	102	80-120	1.0	20.0	Within control limits
				Arsenic	105	104	80-120	1.0	20.0	Within control limits
				Barium	103	103	80-120	0.0	20.0	Within control limits
				Beryllium	101	99.5	80-120	1.0	20.0	Within control limits
				Cadmium	101	103	80-120	2.0	20.0	Within control limits

Notes:

*- MS indicates that MS/MSD analyses were performed on non-Kleinfelder samples.

Table 3
Matrix Spike Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report	Parent Sample ID*	Analysis Method	Analysis Date	Compound	MS% Recovery	MSD% Recovery	Recovery Range (%)	RPD (%)	RPD Limit (%)	Comments
KAI-198	MS	SW6010B	04/03/2000	Calcium	111	129	80-120	15.0	20.0	MSD over limits
				Chromium	105	101	80-120	4.0	20.0	Within control limits
				Cobalt	102	101	80-120	1.0	20.0	Within control limits
				Copper	101	105	80-120	4.0	20.0	Within control limits
				Iron	97.4	100	80-120	3.0	20.0	Within control limits
				Lead	101	99.7	80-120	1.0	20.0	Within control limits
				Magnesium	102	112	80-120	9.0	20.0	Within control limits
				Manganese	98.3	92.3	80-120	6.0	20.0	Within control limits
				Molybdenum	105	106	80-120	1.0	20.0	Within control limits
				Nickel	102	97.6	80-120	4.0	20.0	Within control limits
				Potassium	106	111	80-120	5.0	20.0	Within control limits
				Selenium	113	111	80-120	2.0	20.0	Within control limits
				Silver	106	112	80-120	6.0	20.0	Within control limits
				Sodium	-44.7	34.7	80-120	-1588.0	20.0	MS,MSD below limits
				Thallium	92.8	88.8	80-120	4.0	20.0	Within control limits
				Vanadium	105	104	80-120	1.0	20.0	Within control limits
				Zinc	100	103	80-120	3.0	20.0	Within control limits
			04/04/2000	Barium	104	104	80-120	0.0	20.0	Within control limits
				Silver	106	105	80-120	1.0	20.0	Within control limits
			04/11/2000	Arsenic	0	0	80-120	10000.0	20.0	MS,MSD below limits, RPD over limits
				Cadmium	0	0	80-120	10000.0	20.0	MS,MSD below limits, RPD over limits
				Chromium	0	0	80-120	10000.0	20.0	MS,MSD below limits, RPD over limits
				Lead	0	0	80-120	10000.0	20.0	MS,MSD below limits, RPD over limits
				Selenium	0	0	80-120	10000.0	20.0	MS,MSD below limits, RPD over limits
		SW7470A		Mercury	98.3	99	80-120	1.0	20.0	Within control limits
KAI-201	MS	SW6010B	04/14/2000	Aluminum	98.8	96.8	80-120	2.0	20.0	Within control limits
				Antimony	103	101	80-120	2.0	20.0	Within control limits
				Arsenic	105	103	80-120	2.0	20.0	Within control limits
				Barium	105	103	80-120	2.0	20.0	Within control limits

Notes:

*- MS indicates that MS/MSD analyses were performed on non-Kleinfelder samples.

Table 3
Matrix Spike Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report	Parent Sample ID*	Analysis Method	Analysis Date	Compound	MS% Recovery	MSD% Recovery	Recovery Range (%)	RPD (%)	RPD Limit (%)	Comments
KAI-201	MS	SW6010B	04/14/2000	Beryllium	99.3	97	80-120	2.0	20.0	Within control limits
				Cadmium	104	102	80-120	2.0	20.0	Within control limits
				Calcium	123	106	80-120	15.0	20.0	MS over limits
				Chromium	103	100	80-120	3.0	20.0	Within control limits
				Cobalt	101	98.7	80-120	2.0	20.0	Within control limits
				Copper	101	98.1	80-120	3.0	20.0	Within control limits
				Iron	109	104	80-120	5.0	20.0	Within control limits
				Lead	101	99.5	80-120	1.0	20.0	Within control limits
				Magnesium	121	105	80-120	14.0	20.0	MS over limits
				Manganese	100	97.4	80-120	3.0	20.0	Within control limits
				Molybdenum	106	104	80-120	2.0	20.0	Within control limits
				Nickel	99.4	97.6	80-120	2.0	20.0	Within control limits
				Potassium	106	105	80-120	1.0	20.0	Within control limits
				Selenium	109	106	80-120	3.0	20.0	Within control limits
				Silver	105	104	80-120	1.0	20.0	Within control limits
				Sodium	85.7	74.5	80-120	14.0	20.0	MSD below limits
				Thallium	98.3	96.9	80-120	1.0	20.0	Within control limits
				Vanadium	103	101	80-120	2.0	20.0	Within control limits
				Zinc	106	103	80-120	3.0	20.0	Within control limits
			04/17/2000	Arsenic	106	103	80-120	3.0	20.0	Within control limits
				Barium	104	102	80-120	2.0	20.0	Within control limits
				Cadmium	101	103	80-120	2.0	20.0	Within control limits
				Chromium	104	99.3	80-120	5.0	20.0	Within control limits
				Lead	102	99.3	80-120	3.0	20.0	Within control limits
				Selenium	109	108	80-120	1.0	20.0	Within control limits
				Silver	103	103	80-120	0.0	20.0	Within control limits
		SW7470A	04/11/2000	Mercury	98.3	99	80-120	1.0	20.0	Within control limits
		SW8260B	04/24/2000	1,1-Dichloroethene	110	130	75-125	17.0	30.0	MSD over limits
				Benzene	102	107	75-125	5.0	30.0	Within control limits
				Chlorobenzene	103	107	75-125	4.0	30.0	Within control limits

Notes:

*- MS indicates that MS/MSD analyses were performed on non-Kleinfelder samples.

Table 3
Matrix Spike Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report	Parent Sample ID*	Analysis Method	Analysis Date	Compound	MS% Recovery	MSD% Recovery	Recovery Range (%)	RPD (%)	RPD Limit (%)	Comments
KAI-201	MS	SW8260B	04/24/2000	Toluene	104	109	75-125	5.0	30.0	Within control limits
				Trichloroethene	103	111	75-125	7.0	30.0	Within control limits
KAI-203	MS	SW8260B	04/25/2000	1,1-Dichloroethene	97.3	102	75-125	5.0	30.0	Within control limits
				Benzene	107	114	75-125	6.0	30.0	Within control limits
				Chlorobenzene	98.5	103	75-125	4.0	30.0	Within control limits
				Toluene	99.4	106	75-125	6.0	30.0	Within control limits
				Trichloroethene	94.6	99.4	75-125	5.0	30.0	Within control limits
KAI-206	MS	SW6010B	05/18/2000	Arsenic	102	103	80-120	1.0	20.0	Within control limits
				Barium	100	99.9	80-120	0.0	20.0	Within control limits
				Cadmium	96.9	97.3	80-120	0.0	20.0	Within control limits
				Chromium	102	99.6	80-120	2.0	20.0	Within control limits
				Lead	96.1	97.5	80-120	1.0	20.0	Within control limits
				Selenium	109	108	80-120	1.0	20.0	Within control limits
				Silver	102	104	80-120	2.0	20.0	Within control limits
		SW7470A	05/16/2000	Mercury	105	105	80-120	0.0	20.0	Within control limits
		SW8260B	05/25/2000	1,1-Dichloroethene	112	110	75-125	2.0	30.0	Within control limits
				Benzene	110	110	75-125	0.0	30.0	Within control limits
				Chlorobenzene	112	111	75-125	1.0	30.0	Within control limits
				Toluene	112	112	75-125	0.0	30.0	Within control limits
				Trichloroethene	118	118	75-125	0.0	30.0	Within control limits
KAI-208	MS	SW6010B	06/08/2000	Arsenic	103	104	80-120	1.0	20.0	Within control limits
				Barium	102	103	80-120	1.0	20.0	Within control limits
				Cadmium	101	98.5	80-120	3.0	20.0	Within control limits
				Chromium	98.3	101	80-120	3.0	20.0	Within control limits
				Lead	99.9	97.3	80-120	3.0	20.0	Within control limits
				Selenium	108	105	80-120	3.0	20.0	Within control limits
				Silver	103	101	80-120	2.0	20.0	Within control limits
		SW7470A	06/20/2000	Mercury	92.2	95.4	80-120	3.0	20.0	Within control limits
				Mercury	98.6	101	80-120	2.0	20.0	Within control limits

Notes:

*- MS indicates that MS/MSD analyses were performed on non-Kleinfelder samples.

Table 3
Matrix Spike Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report	Parent Sample ID*	Analysis Method	Analysis Date	Compound	MS% Recovery	MSD% Recovery	Recovery Range (%)	RPD (%)	RPD Limit (%)	Comments
KAI-208	MS	SW8260B	06/08/2000	1,1-Dichloroethene	95.6	91.7	75-125	4.0	30.0	Within control limits
				Benzene	99	98.2	75-125	1.0	30.0	Within control limits
				Chlorobenzene	94.8	96.6	75-125	2.0	30.0	Within control limits
				Toluene	96.7	98	75-125	1.0	30.0	Within control limits
				Trichloroethene	102	102	75-125	0.0	30.0	Within control limits
KAI-210	MS	SW6010B	06/16/2000	Arsenic	104	103	80-120	1.0	20.0	Within control limits
				Barium	101	102	80-120	1.0	20.0	Within control limits
				Beryllium	104	103	80-120	1.0	20.0	Within control limits
				Cadmium	104	104	80-120	0.0	20.0	Within control limits
				Calcium	106	115	80-120	8.0	20.0	Within control limits
				Chromium	96.3	97.3	80-120	1.0	20.0	Within control limits
				Cobalt	102	103	80-120	1.0	20.0	Within control limits
				Copper	103	101	80-120	2.0	20.0	Within control limits
				Iron	104	105	80-120	1.0	20.0	Within control limits
				Lead	102	102	80-120	0.0	20.0	Within control limits
				Magnesium	126	131	80-120	4.0	20.0	MS,MSD over limits
				Manganese	104	106	80-120	2.0	20.0	Within control limits
				Nickel	99.4	100	80-120	1.0	20.0	Within control limits
				Selenium	108	108	80-120	0.0	20.0	Within control limits
				Silver	102	101	80-120	1.0	20.0	Within control limits
				Vanadium	106	105	80-120	1.0	20.0	Within control limits
				Zinc	104	106	80-120	2.0	20.0	Within control limits
			06/19/2000	Potassium	120	114	80-120	5.0	20.0	Within control limits
				Sodium	255	211	80-120	19.0	20.0	MS,MSD over limits
		SW7470A	06/20/2000	Mercury	92.2	95.4	80-120	3.0	20.0	Within control limits
				Mercury	98.6	101	80-120	2.0	20.0	Within control limits
		SW8260B	06/23/2000	1,1-Dichloroethene	102	97	75-125	5.0	30.0	Within control limits
				Benzene	103	102	75-125	1.0	30.0	Within control limits
				Chlorobenzene	100	99	75-125	1.0	30.0	Within control limits

Notes:

*- MS indicates that MS/MSD analyses were performed on non-Kleinfelder samples.

Table 3
Matrix Spike Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report	Parent Sample ID*	Analysis Method	Analysis Date	Compound	MS% Recovery	MSD% Recovery	Recovery Range (%)	RPD (%)	RPD Limit (%)	Comments
KAI-210	MS	SW8260B	06/23/2000	Toluene	105	103	75-125	2.0	30.0	Within control limits
				Trichloroethene	102	99.8	75-125	2.0	30.0	Within control limits
KAI189	MS	6010A	09/10/1998	Arsenic	106.3	98.7	80-120	7.0	20.0	Within control limits
				Barium	103.7	96.8	80-120	7.0	20.0	Within control limits
				Cadmium	106.7	102.9	80-120	4.0	20.0	Within control limits
				Calcium	14.8	-120.6	80-120	-256.0	20.0	MS,MSD below limits
				Chromium	108.7	102.3	80-120	6.0	20.0	Within control limits
				Iron	114.2	99.2	80-120	14.0	20.0	Within control limits
				Lead	106.6	99	80-120	7.0	20.0	Within control limits
				Magnesium	80.1	32.2	80-120	85.0	20.0	MSD below limits, RPD over limits
				Potassium	102.1	98.8	80-120	3.0	20.0	Within control limits
				Selenium	105.5	99.3	80-120	6.0	20.0	Within control limits
				Sodium	76.2	37.3	80-120	69.0	20.0	MS,MSD below limits, RPD over limits
			09/14/1998	Silver	98.8	98.6	80-120	0.0	20.0	Within control limits
KAI191	TEAD-C29-GW-01 (1400)MS	6010A	09/24/1998	Arsenic	105.4	105.1	80-120	0.0	20.0	Within control limits
				Barium	104.7	104.7	80-120	0.0	20.0	Within control limits
				Cadmium	105.8	109.7	80-120	4.0	20.0	Within control limits
				Calcium	175.7	184.6	80-120	5.0	20.0	MS,MSD over limits
				Chromium	108	106.5	80-120	1.0	20.0	Within control limits
				Iron	109.6	116.7	80-120	6.0	20.0	Within control limits
				Lead	107.6	108.7	80-120	1.0	20.0	Within control limits
				Magnesium	126	129.5	80-120	3.0	20.0	MS,MSD over limits
				Potassium	103.3	102.9	80-120	0.0	20.0	Within control limits
				Selenium	106.5	106.6	80-120	0.0	20.0	Within control limits
				Silver	107	107.3	80-120	0.0	20.0	Within control limits
				Sodium	168.8	154.1	80-120	9.0	20.0	MS,MSD over limits

Notes:

*- MS indicates that MS/MSD analyses were performed on non-Kleinfelder samples.

Table 4
Laboratory Control Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report	Analysis Method	Analysis Date	Laboratory Batch Number	Compound	LCS% Recover	LCSD% Recovery	Recovery Range (%)	RPD (%)	RPD Limit (%)	Comments
987081	EPA 8260	12/23/1998	98G5117	1,1-Dichloroethene	102	NA	70-130	NA	30	LCS within control limits
				Benzene	109	NA	70-130	NA	30	LCS within control limits
				Chlorobenzene	99	NA	70-130	NA	30	LCS within control limits
				Toluene	103	NA	70-130	NA	30	LCS within control limits
				Trichloroethene	97	NA	70-130	NA	30	LCS within control limits
991355	EPA 6010	01/25/1999	99M1099L	Arsenic	105	NA	80-120	NA	20	LCS within control limits
				Barium	109	NA	80-120	NA	20	LCS within control limits
				Cadmium	104	NA	80-120	NA	20	LCS within control limits
				Chromium	106	NA	80-120	NA	20	LCS within control limits
				Lead	106	NA	80-120	NA	20	LCS within control limits
				Selenium	107	NA	80-120	NA	20	LCS within control limits
				Silver	105	NA	80-120	NA	20	LCS within control limits
	EPA 7470		99M1100N	Mercury	111	NA	80-120	NA	20	LCS within control limits
	EPA 8260		99G1224	1,1-Dichloroethene	103	NA	75-125	NA	30	LCS within control limits
				Benzene	96	NA	75-125	NA	30	LCS within control limits
				Chlorobenzene	88	NA	75-125	NA	30	LCS within control limits
				Toluene	85	NA	75-125	NA	30	LCS within control limits
				Trichloroethene	92	NA	75-125	NA	30	LCS within control limits
997183	EPA 8260	12/15/1999	99G5530	1,1-Dichloroethene	90	NA	70-130	NA	30	LCS within control limits
				Benzene	99	NA	70-130	NA	30	LCS within control limits
				Chlorobenzene	97	NA	70-130	NA	30	LCS within control limits
				Toluene	93	NA	70-130	NA	30	LCS within control limits
				Trichloroethene	94	NA	70-130	NA	30	LCS within control limits
997248	EPA 8260	12/17/1999	99G5554	1,1-Dichloroethene	94	NA	70-130	NA	30	LCS within control limits
				Benzene	104	NA	70-130	NA	30	LCS within control limits
				Chlorobenzene	104	NA	70-130	NA	30	LCS within control limits
				Toluene	100	NA	70-130	NA	30	LCS within control limits
				Trichloroethene	103	NA	70-130	NA	30	LCS within control limits
997352	EPA 6010	12/23/1999	99M3061L	Arsenic	104	NA	80-120	NA	20	LCS within control limits

Note:
NA - Not Analyzed

Table 4
Laboratory Control Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report	Analysis Method	Analysis Date	Laboratory Batch Number	Compound	LCS% Recover	LCSD% Recovery	Recovery Range (%)	RPD (%)	RPD Limit (%)	Comments
997352	EPA 6010	12/23/1999	99M3061L	Cadmium	98	NA	80-120	NA	20	LCS within control limits
				Chromium	97	NA	80-120	NA	20	LCS within control limits
				Lead	99	NA	80-120	NA	20	LCS within control limits
				Nickel	100	NA	80-120	NA	20	LCS within control limits
				Thallium	98	NA	80-120	NA	20	LCS within control limits
				Zinc	102	NA	80-120	NA	20	LCS within control limits
	EPA 7470		99M3064N	Mercury	102	NA	80-120	NA	20	LCS within control limits
	EPA 8260	12/24/1999	99G5648	1,1-Dichloroethene	86	NA	75-125	NA	30	LCS within control limits
				Benzene	97	NA	75-125	NA	30	LCS within control limits
				Chlorobenzene	98	NA	75-125	NA	30	LCS within control limits
				Toluene	89	NA	75-125	NA	30	LCS within control limits
				Trichloroethene	102	NA	75-125	NA	30	LCS within control limits
KAI-197	SW8260B	04/03/2000	0003351	1,1-Dichloroethene	90.6	NA	75-125	NA	30	LCS within control limits
				Benzene	96.1	NA	75-125	NA	30	LCS within control limits
				Chlorobenzene	96.8	NA	75-125	NA	30	LCS within control limits
				Toluene	95.4	NA	75-125	NA	30	LCS within control limits
				Trichloroethene	98.2	NA	75-125	NA	30	LCS within control limits
		04/04/2000		1,1-Dichloroethene	94.2	NA	75-125	NA	30	LCS within control limits
				Benzene	95.9	NA	75-125	NA	30	LCS within control limits
				Chlorobenzene	95.6	NA	75-125	NA	30	LCS within control limits
				Toluene	96.7	NA	75-125	NA	30	LCS within control limits
				Trichloroethene	93.2	NA	75-125	NA	30	LCS within control limits
KAI-198	SW6010B	04/03/2000	0003354	Aluminum	101	NA	80-120	NA	20	LCS within control limits
				Antimony	97.7	NA	80-120	NA	20	LCS within control limits
				Arsenic	97.6	NA	80-120	NA	20	LCS within control limits
				Barium	105	NA	80-120	NA	20	LCS within control limits
				Beryllium	100	NA	80-120	NA	20	LCS within control limits
				Cadmium	106	NA	80-120	NA	20	LCS within control limits
				Calcium	105	NA	80-120	NA	20	LCS within control limits

Note:
NA - Not Analyzed

Table 4
Laboratory Control Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report	Analysis Method	Analysis Date	Laboratory Batch Number	Compound	LCS% Recover	LCSD% Recovery	Recovery Range (%)	RPD (%)	RPD Limit (%)	Comments
KAI-198	SW6010B	04/03/2000	0003354	Chromium	102	NA	80-120	NA	20	LCS within control limits
				Cobalt	102	NA	80-120	NA	20	LCS within control limits
				Copper	103	NA	80-120	NA	20	LCS within control limits
				Iron	107	NA	80-120	NA	20	LCS within control limits
				Lead	102	NA	80-120	NA	20	LCS within control limits
				Magnesium	105	NA	80-120	NA	20	LCS within control limits
				Manganese	101	NA	80-120	NA	20	LCS within control limits
				Molybdenum	105	NA	80-120	NA	20	LCS within control limits
				Nickel	103	NA	80-120	NA	20	LCS within control limits
				Potassium	100	NA	80-120	NA	20	LCS within control limits
				Selenium	109	NA	80-120	NA	20	LCS within control limits
				Silver	110	NA	80-120	NA	20	LCS within control limits
				Sodium	98.1	NA	80-120	NA	20	LCS within control limits
				Thallium	94.4	NA	80-120	NA	20	LCS within control limits
				Vanadium	103	NA	80-120	NA	20	LCS within control limits
				Zinc	107	NA	80-120	NA	20	LCS within control limits
		04/04/2000		Barium	106	NA	80-120	NA	20	LCS within control limits
				Silver	105	NA	80-120	NA	20	LCS within control limits
		04/11/2000		Arsenic	0	NA	80-120	NA	20	LCS below control limits
				Cadmium	0	NA	80-120	NA	20	LCS below control limits
				Chromium	0	NA	80-120	NA	20	LCS below control limits
				Lead	0	NA	80-120	NA	20	LCS below control limits
				Selenium	0	NA	80-120	NA	20	LCS below control limits
	SW7470A			Mercury	101	NA	80-120	NA	20	LCS within control limits
KAI-201	SW7470A	04/11/2000	0004110	Mercury	101	NA	80-120	NA	20	LCS within control limits
	SW6010B	04/14/2000		Aluminum	110	NA	80-120	NA	20	LCS within control limits
				Antimony	111	NA	80-120	NA	20	LCS within control limits
				Arsenic	115	NA	80-120	NA	20	LCS within control limits
				Barium	118	NA	80-120	NA	20	LCS within control limits
				Beryllium	113	NA	80-120	NA	20	LCS within control limits

Note:
NA - Not Analyzed

Table 4
Laboratory Control Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report	Analysis Method	Analysis Date	Laboratory Batch Number	Compound	LCS% Recover	LCSD% Recovery	Recovery Range (%)	RPD (%)	RPD Limit (%)	Comments
KAI-201	SW6010B	04/14/2000	0004110	Cadmium	118	NA	80-120	NA	20	LCS within control limits
				Calcium	117	NA	80-120	NA	20	LCS within control limits
				Chromium	115	NA	80-120	NA	20	LCS within control limits
				Cobalt	116	NA	80-120	NA	20	LCS within control limits
				Copper	114	NA	80-120	NA	20	LCS within control limits
				Iron	119	NA	80-120	NA	20	LCS within control limits
				Lead	116	NA	80-120	NA	20	LCS within control limits
				Magnesium	117	NA	80-120	NA	20	LCS within control limits
				Manganese	117	NA	80-120	NA	20	LCS within control limits
				Molybdenum	117	NA	80-120	NA	20	LCS within control limits
				Nickel	115	NA	80-120	NA	20	LCS within control limits
				Potassium	113	NA	80-120	NA	20	LCS within control limits
				Selenium	117	NA	80-120	NA	20	LCS within control limits
				Silver	117	NA	80-120	NA	20	LCS within control limits
				Sodium	112	NA	80-120	NA	20	LCS within control limits
				Thallium	115	NA	80-120	NA	20	LCS within control limits
				Vanadium	115	NA	80-120	NA	20	LCS within control limits
				Zinc	120	NA	80-120	NA	20	LCS within control limits
		04/17/2000		Arsenic	113	NA	80-120	NA	20	LCS within control limits
				Barium	116	NA	80-120	NA	20	LCS within control limits
				Cadmium	121	NA	80-120	NA	20	LCS above control limits
				Chromium	110	NA	80-120	NA	20	LCS within control limits
				Lead	114	NA	80-120	NA	20	LCS within control limits
				Selenium	122	NA	80-120	NA	20	LCS above control limits
				Silver	121	NA	80-120	NA	20	LCS above control limits
	SW8260B	04/24/2000		1,1-Dichloroethene	117	NA	75-125	NA	30	LCS within control limits
				Benzene	104	NA	75-125	NA	30	LCS within control limits
				Chlorobenzene	104	NA	75-125	NA	30	LCS within control limits
				Toluene	107	NA	75-125	NA	30	LCS within control limits
				Trichloroethene	107	NA	75-125	NA	30	LCS within control limits

Note:
NA - Not Analyzed

Table 4
Laboratory Control Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report	Analysis Method	Analysis Date	Laboratory Batch Number	Compound	LCS% Recover	LCSD% Recovery	Recovery Range (%)	RPD (%)	RPD Limit (%)	Comments
KAI-203	SW8260B	04/25/2000	0004181	1,1-Dichloroethene	99.1	NA	75-125	NA	30	LCS within control limits
				Benzene	106	NA	75-125	NA	30	LCS within control limits
				Chlorobenzene	99.9	NA	75-125	NA	30	LCS within control limits
				Toluene	102	NA	75-125	NA	30	LCS within control limits
				Trichloroethene	103	NA	75-125	NA	30	LCS within control limits
		04/27/2000	0004180	1,1-Dichloroethene	90.1	NA	75-125	NA	30	LCS within control limits
				Benzene	96.4	NA	75-125	NA	30	LCS within control limits
				Chlorobenzene	93.7	NA	75-125	NA	30	LCS within control limits
				Toluene	93.2	NA	75-125	NA	30	LCS within control limits
				Trichloroethene	95.2	NA	75-125	NA	30	LCS within control limits
KAI-206	SW7470A	05/16/2000	0005128	Mercury	106	NA	80-120	NA	20	LCS within control limits
	SW6010B	05/18/2000		Arsenic	98.9	NA	80-120	NA	20	LCS within control limits
				Barium	102	NA	80-120	NA	20	LCS within control limits
				Cadmium	98.2	NA	80-120	NA	20	LCS within control limits
				Chromium	102	NA	80-120	NA	20	LCS within control limits
				Lead	97	NA	80-120	NA	20	LCS within control limits
				Selenium	106	NA	80-120	NA	20	LCS within control limits
				Silver	100	NA	80-120	NA	20	LCS within control limits
	SW8260B	05/25/2000		1,1-Dichloroethene	95	NA	75-125	NA	30	LCS within control limits
				Benzene	94.9	NA	75-125	NA	30	LCS within control limits
				Chlorobenzene	95.7	NA	75-125	NA	30	LCS within control limits
				Toluene	96.3	NA	75-125	NA	30	LCS within control limits
				Trichloroethene	94.8	NA	75-125	NA	30	LCS within control limits
KAI-208	SW6010B	06/08/2000	6067	Arsenic	99.5	NA	80-120	NA	20	LCS within control limits
				Barium	103	NA	80-120	NA	20	LCS within control limits
				Cadmium	97	NA	80-120	NA	20	LCS within control limits
				Chromium	105	NA	80-120	NA	20	LCS within control limits
				Lead	93.9	NA	80-120	NA	20	LCS within control limits
				Selenium	101	NA	80-120	NA	20	LCS within control limits

Note:
NA - Not Analyzed

Table 4
Laboratory Control Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report	Analysis Method	Analysis Date	Laboratory Batch Number	Compound	LCS% Recover	LCSD% Recovery	Recovery Range (%)	RPD (%)	RPD Limit (%)	Comments
KAI-208	SW6010B	06/08/2000	6067	Silver	100	NA	80-120	NA	20	LCS within control limits
	SW8260B			1,1-Dichloroethene	102	NA	75-125	NA	30	LCS within control limits
				Benzene	96.6	NA	75-125	NA	30	LCS within control limits
				Chlorobenzene	94.3	NA	75-125	NA	30	LCS within control limits
				Toluene	95.9	NA	75-125	NA	30	LCS within control limits
				Trichloroethene	94.6	NA	75-125	NA	30	LCS within control limits
	SW7470A	06/20/2000		Mercury	101	NA	80-120	NA	20	LCS within control limits
				Mercury	104	NA	80-120	NA	20	LCS within control limits
KAI-210	SW6010B	06/16/2000	6187	Arsenic	102	NA	80-120	NA	20	LCS within control limits
				Barium	103	NA	80-120	NA	20	LCS within control limits
				Beryllium	100	NA	80-120	NA	20	LCS within control limits
				Cadmium	103	NA	80-120	NA	20	LCS within control limits
				Calcium	107	NA	80-120	NA	20	LCS within control limits
				Chromium	99.3	NA	80-120	NA	20	LCS within control limits
				Cobalt	104	NA	80-120	NA	20	LCS within control limits
				Copper	101	NA	80-120	NA	20	LCS within control limits
				Iron	102	NA	80-120	NA	20	LCS within control limits
				Lead	101	NA	80-120	NA	20	LCS within control limits
				Magnesium	107	NA	80-120	NA	20	LCS within control limits
				Manganese	102	NA	80-120	NA	20	LCS within control limits
				Nickel	102	NA	80-120	NA	20	LCS within control limits
				Selenium	106	NA	80-120	NA	20	LCS within control limits
				Silver	101	NA	80-120	NA	20	LCS within control limits
				Vanadium	103	NA	80-120	NA	20	LCS within control limits
				Zinc	105	NA	80-120	NA	20	LCS within control limits
		06/19/2000		Potassium	107	NA	80-120	NA	20	LCS within control limits
				Sodium	107	NA	80-120	NA	20	LCS within control limits
	SW7470A	06/20/2000		Mercury	104	NA	80-120	NA	20	LCS within control limits
				Mercury	101	NA	80-120	NA	20	LCS within control limits
	SW8260B	06/23/2000		1,1-Dichloroethene	93.5	NA	75-125	NA	30	LCS within control limits

Note:
NA - Not Analyzed

Table 4
Laboratory Control Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report	Analysis Method	Analysis Date	Laboratory Batch Number	Compound	LCS% Recover	LCSD% Recovery	Recovery Range (%)	RPD (%)	RPD Limit (%)	Comments
KAI-210	SW8260B	06/23/2000	6187	Benzene	95.5	NA	75-125	NA	30	LCS within control limits
				Chlorobenzene	95.9	NA	75-125	NA	30	LCS within control limits
				Toluene	99.3	NA	75-125	NA	30	LCS within control limits
				Trichloroethene	97.3	NA	75-125	NA	30	LCS within control limits
KAI189	6010A	09/10/1998	23877	Arsenic	99.1	NA	80-120	NA	20	LCS within control limits
				Barium	97.9	NA	80-120	NA	20	LCS within control limits
				Cadmium	104	NA	80-120	NA	20	LCS within control limits
				Calcium	109	NA	80-120	NA	20	LCS within control limits
				Chromium	107	NA	80-120	NA	20	LCS within control limits
				Iron	116	NA	80-120	NA	20	LCS within control limits
				Lead	107	NA	80-120	NA	20	LCS within control limits
				Magnesium	99.4	NA	80-120	NA	20	LCS within control limits
				Potassium	96.8	NA	80-120	NA	20	LCS within control limits
				Selenium	98.7	NA	80-120	NA	20	LCS within control limits
				Sodium	113	NA	80-120	NA	20	LCS within control limits
		09/14/1998		Silver	107	NA	80-120	NA	20	LCS within control limits
	8260A	09/15/1998		1,1-Dichloroethene	96	NA	75-125	NA	30	LCS within control limits
				Benzene	101	NA	75-125	NA	30	LCS within control limits
				Chlorobenzene	102	NA	75-125	NA	30	LCS within control limits
				Toluene	101	NA	75-125	NA	30	LCS within control limits
				Trichloroethene	100	NA	75-125	NA	30	LCS within control limits
	8270A			1,2,4-Trichlorobenzene	49	NA	60-140	NA	30	LCS below control limits
				1,4-Dichlorobenzene	49	NA	60-140	NA	30	LCS below control limits
				2,4-Dinitrotoluene	94	NA	45-140	NA	30	LCS within control limits
				2-Chlorophenol	83	NA	60-140	NA	30	LCS within control limits
				4-Chloro-3-Methylphenol	86	NA	60-140	NA	30	LCS within control limits
				4-Nitrophenol	40	NA	60-140	NA	30	LCS below control limits
				Acenaphthene	77	NA	60-140	NA	30	LCS within control limits
				Acenaphthylene	10	NA	60-140	NA	30	LCS below control limits
				N-Nitroso-Di-n-Propylamine	88	NA	45-140	NA	30	LCS within control limits

Note:
NA - Not Analyzed

Table 4
Laboratory Control Sample Data
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report	Analysis Method	Analysis Date	Laboratory Batch Number	Compound	LCS% Recover	LCSD% Recovery	Recovery Range (%)	RPD (%)	RPD Limit (%)	Comments
KAI189	8270A	09/15/1998	23877	Pentachlorophenol	84	NA	45-140	NA	30	LCS within control limits
				Phenol	43	NA	60-140	NA	30	LCS below control limits
				Pyrene	97	NA	60-140	NA	30	LCS within control limits
KAI190	8260A	09/15/1998	8260BLK	1,1-Dichloroethene	96	NA	75-125	NA	30	LCS within control limits
				Benzene	101	NA	75-125	NA	30	LCS within control limits
				Chlorobenzene	102	NA	75-125	NA	30	LCS within control limits
				Toluene	101	NA	75-125	NA	30	LCS within control limits
				Trichloroethene	100	NA	75-125	NA	30	LCS within control limits
KAI191	8260A	09/28/1998	24103	1,1-Dichloroethene	102	NA	75-125	NA	30	LCS within control limits
				Benzene	96	NA	75-125	NA	30	LCS within control limits
				Chlorobenzene	96	NA	75-125	NA	30	LCS within control limits
				Toluene	100	NA	75-125	NA	30	LCS within control limits
				Trichloroethene	98	NA	75-125	NA	30	LCS within control limits
	8270A	10/01/1998		1,2,4-Trichlorobenzene	41	NA	60-140	NA	30	LCS below control limits
				1,4-Dichlorobenzene	45	NA	60-140	NA	30	LCS below control limits
				2,4-Dinitrotoluene	88	NA	45-140	NA	30	LCS within control limits
				2-Chlorophenol	81	NA	60-140	NA	30	LCS within control limits
				4-Chloro-3-Methylphenol	81	NA	60-140	NA	30	LCS within control limits
				4-Nitrophenol	34	NA	60-140	NA	30	LCS below control limits
				Acenaphthene	75	NA	60-140	NA	30	LCS within control limits
				Acenaphthylene	1	NA	60-140	NA	30	LCS below control limits
				N-Nitroso-Di-n-Propylamine	91	NA	45-140	NA	30	LCS within control limits
				Pentachlorophenol	76	NA	45-140	NA	30	LCS within control limits
				Phenol	40	NA	60-140	NA	30	LCS below control limits
				Pyrene	88	NA	60-140	NA	30	LCS within control limits

Note:
NA - Not Analyzed

Table 5
Field and Laboratory Blank Data
Phase I RFI for SWMU 58
Tooele Army Depot

Lab Report #	Sample Date / Lab Batch	Field / Lab Sample ID	Method	Analysis Date	Detected Analytes	Result	Reporting Limit	Units
Field Blanks								
General Minerals								
KAI-197	03/30/2000	Trip Blank - 03/30/2000	PH-CHK	04/03/2000	All analytes below detection limits			
KAI-201	04/10/2000	Trip Blank - 04/10/2000	PH-CHK	04/24/2000	All analytes below detection limits			
KAI-206	05/11/2000	Trip Blank - 05/11/2000	PH-CHK	05/25/2000	All analytes below detection limits			
Metals								
991355	01/20/1999	Tead-Rinseate-01	EPA 6010	01/25/1999	Chromium	0.55(UJ)	5	ug/L
991355	01/20/1999	Tead-Rinseate-01	EPA 6010	01/25/1999	Barium	1.9(UJ)	10	ug/L
991355	01/20/1999	Tead-Rinseate-02	EPA 6010	01/25/1999	Arsenic	1.9(UJ)	5	ug/L
991355	01/20/1999	Tead-Rinseate-01	EPA 6010	01/25/1999	Other analytes below detection limits			
Semi-volatile Organics								
KAI189	09/02/1998	C28R-0902-01	8270A	09/10/1998	All analytes below detection limits			
KAI191	09/16/1998	TEAD-C29-RB-01	8270A	10/01/1998	All analytes below detection limits			
Volatile Organics								
KAI188	08/19/1998	Trip Blank - 08/19/1998	8260A	08/25/1998	All analytes below detection limits			
KAI189	09/02/1998	Trip Blank - 09/02/1998	8260A	09/15/1998	All analytes below detection limits			
KAI190	09/03/1998	Trip Blank - 09/03/1998	8260A	09/15/1998	All analytes below detection limits			
KAI191	09/15/1998	Trip Blank - 09/15/1998	8260A	09/29/1998	All analytes below detection limits			
991355	01/20/1999	Tead-Rinseate-01	EPA 8260	01/25/1999	All analytes below detection limits			
997352	12/20/1999	Trip Blank - 12/20/1999	EPA 8260	12/24/1999	All analytes below detection limits			
KAI-197	03/30/2000	Trip Blank - 03/30/2000	SW8260B	04/03/2000	Chloroethane	1.9(UJ)	10.00	ug/L
KAI-197	03/30/2000	Trip Blank - 03/30/2000	SW8260B	04/03/2000	Bromomethane	4.1(UJ)	10.00	ug/L
KAI-197	03/30/2000	Trip Blank - 03/30/2000	SW8260B	04/03/2000	Chloromethane	4.1(UJ)	10.00	ug/L
KAI-197	03/30/2000	Trip Blank - 03/30/2000	SW8260B	04/03/2000	Trichlorofluoromethane	1.8(UJ)	5.00	ug/L
KAI-197	03/30/2000	Trip Blank - 03/30/2000	SW8260B	04/03/2000	2-Butanone	12(UJ)	50.00	ug/L
KAI-197	03/30/2000	Trip Blank - 03/30/2000	SW8260B	04/03/2000	Vinyl Chloride	2.8(UJ)	10.00	ug/L
KAI-197	03/30/2000	Trip Blank - 03/30/2000	SW8260B	04/03/2000	Other analytes below detection limits			
KAI-201	04/10/2000	Trip Blank - 04/10/2000	SW8260B	04/24/2000	Chloroform	4.6(UJ)	5.00	ug/L
KAI-201	04/10/2000	Trip Blank - 04/10/2000	SW8260B	04/24/2000	Other analytes below detection limits			
KAI-203	04/15/2000	Trip Blank - 04/15/2000	SW8260B	04/27/2000	Methylene Chloride	1.75(UJ)	10.00	ug/L
KAI-203	04/15/2000	Trip Blank - 04/15/2000	SW8260B	04/27/2000	Other analytes below detection limits			
KAI-208	04/20/2000	Trip Blank - 04/20/2000	SW8260B	06/08/2000	Methylene Chloride	1.3(UJ)	10	ug/L

Table 5
Field and Laboratory Blank Data
Phase I RFI for SWMU 58
Tooele Army Depot

Lab Report #	Sample Date / Lab Batch	Field / Lab Sample ID	Method	Analysis Date	Detected Analytes	Result	Reporting Limit	Units
Field Blanks								
Volatile Organics								
KAI-208	04/20/2000	Trip Blank - 04/20/2000	SW8260B	06/08/2000	Toluene	0.49(UJ)	5	ug/L
KAI-208	04/20/2000	Trip Blank - 04/20/2000	SW8260B	06/08/2000	Other analytes below detection limits			
KAI-206	05/11/2000	Trip Blank - 05/11/2000	SW8260B	05/25/2000	Methylene Chloride	0.85(UJ)	10.00	ug/L
KAI-206	05/11/2000	Trip Blank - 05/11/2000	SW8260B	05/25/2000	Other analytes below detection limits			
KAI-210	05/12/2000	Trip Blank - 05/12/2000	SW8260B	06/23/2000	All analytes below detection limits			
Laboratory Blanks								
General Minerals								
KAI189	KAI189 BLK	85714	300	09/04/1998	Chloride	0.13(UJ)	0.3	mg/L
KAI189	KAI189 BLK	85714	310.1	09/08/1998	Other analytes below detection limits			
KAI191	KAI191 BLK	86655	300	09/18/1998	Chloride	0.18(UJ)	0.3	mg/L
KAI191	KAI191 BLK	86655	310.1	09/29/1998	Other analytes below detection limits			
Metals								
987081	2688G.K01	98M2688-MB-01	EPA 6010	12/24/1998	Arsenic	0.094(UJ)	5	mg/Kg
987081	2688G.K01	98M2688-MB-01	EPA 6010	12/24/1998	Other analytes below detection limits			
991355	G1099K01	99M1099-MB-01	EPA 6010	01/25/1999	Arsenic	2.1(UJ)	5	ug/L
991355	G1099K01	99M1099-MB-01	EPA 6010	01/25/1999	Other analytes below detection limits			
997248	G3043K01	99M3043-MB-01	EPA 6010	12/21/1999	Lead	0.085(UJ)	0.3	mg/Kg
997248	G3043K01	99M3043-MB-01	EPA 6010	12/21/1999	Other analytes below detection limits			
997352	G3061K01	99M3061-MB-01	EPA 6010	12/23/1999	Thallium	2.5(UJ)	10	ug/L
997352	G3061K01	99M3061-MB-01	EPA 6010	12/23/1999	Other analytes below detection limits			
KAI-198	2301	PBW-2301	SW6010B	04/03/2000	Other analytes below detection limits			
KAI-201	2386	PBW-2386	SW7470A	04/11/2000	Other analytes below detection limits			
KAI-203	2465	PBW-2465	SW7470A	04/19/2000	Other analytes below detection limits			
KAI-206	2735	PBW-2735	SW6010B	05/18/2000	Other analytes below detection limits			
KAI-208	2986	PBW-2986	SW6010B	06/08/2000	Other analytes below detection limits			
KAI-210	3064	PBW-3064	SW6010B	06/16/2000	Other analytes below detection limits			
KAI189	KAI189 BLK	85714	6010A	09/10/1998	Magnesium	0.06(UJ)	0.25	mg/L
KAI189	KAI189 BLK	85714	6010A	09/14/1998	Silver	0.006(UJ)	0.02	mg/L
KAI189	KAI189 BLK	85714	6010A	09/10/1998	Sodium	0.41(UJ)	0.75	mg/L
KAI189	KAI189 BLK	85714	6010A	09/10/1998	Other analytes below detection limits			

Table 5
Field and Laboratory Blank Data
Phase I RFI for SWMU 58
Tooele Army Depot

Lab Report #	Sample Date / Lab Batch	Field / Lab Sample ID	Method	Analysis Date	Detected Analytes	Result	Reporting Limit	Units
Laboratory Blanks								
Metals								
KAI190	KAI190 BLK	85908	7471A	09/09/1998	Other analytes below detection limits			
KAI191	KAI191 BLK	86655	6010A	09/24/1998	Sodium	0.3(UJ)	0.75	mg/L
KAI191	KAI191 BLK	86655	6010A	09/24/1998	Other analytes below detection limits			
Semi-volatile Organics								
KAI188	KAI188 BLK	85012	8270A	08/21/1998	All analytes below detection limits			
KAI189	KAI189 BLK	85714	8270A	09/15/1998	All analytes below detection limits			
KAI190	KAI190 BLK	85908	8270A	09/09/1998	All analytes below detection limits			
KAI191	KAI191 BLK	86655	8270A	10/01/1998	All analytes below detection limits			
Volatile Organics								
987081	G5117K01	98G5117-MB-01	EPA 8260	12/23/1998	All analytes below detection limits			
991355	G1224K01	99G1224-MB-01	EPA 8260	01/25/1999	All analytes below detection limits			
997183	G5530K01	99G5530-MB-01	EPA 8260	12/15/1999	trans-1,3-Dichloropropene	0.5(UJ)	5	ug/Kg
997183	G5530K01	99G5530-MB-01	EPA 8260	12/15/1999	Toluene	0.5(UJ)	5	ug/Kg
997183	G5530K01	99G5530-MB-01	EPA 8260	12/15/1999	Other analytes below detection limits			
997248	G5554K01	99G5554-MB-01	EPA 8260	12/17/1999	Other analytes below detection limits			
997352	G5648K01	99G5648-MB-01	EPA 8260	12/24/1999	Methylene Chloride	1(UJ)	5	ug/L
997352	G5648K01	99G5648-MB-01	EPA 8260	12/24/1999	Other analytes below detection limits			
KAI-195	R4647	000321sb	SW8260B	03/21/2000	Methylene Chloride	0.7(UJ)	10.00	ug/Kg
KAI-195	R4647	000321sb	SW8260B	03/21/2000	Naphthalene	1.4(UJ)	10.00	ug/Kg
KAI-195	R4647	000321sb	SW8260B	03/21/2000	Other analytes below detection limits			
KAI-196	R4668	000328sb	SW8260B	03/28/2000	Methylene Chloride	0.66(UJ)	10.00	ug/Kg
KAI-196	R4668	000328sb	SW8260B	03/28/2000	Naphthalene	1.5(UJ)	10.00	ug/Kg
KAI-196	R4668	000328sb	SW8260B	03/28/2000	Other analytes below detection limits			
KAI-197	R4423	000403wb	SW8260B	04/03/2000	Trichlorofluoromethane	1.9(UJ)	5.00	ug/L
KAI-197	R4423	000403wb	SW8260B	04/03/2000	Chloroethane	1.9(UJ)	10.00	ug/L
KAI-197	R4423	000403wb	SW8260B	04/03/2000	Chloromethane	3.9(UJ)	10.00	ug/L
KAI-197	R4423	000403wb	SW8260B	04/03/2000	Vinyl Chloride	2.7(UJ)	10.00	ug/L
KAI-197	R4423	000403wb	SW8260B	04/03/2000	Other analytes below detection limits			
KAI-199	R4671	000407sb	SW8260B	04/07/2000	Acetone	2.1(UJ)	20.00	ug/Kg
KAI-199	R4671	000407sb	SW8260B	04/07/2000	Methylene Chloride	0.63(UJ)	10.00	ug/Kg

Table 5
Field and Laboratory Blank Data
Phase I RFI for SWMU 58
Tooele Army Depot

Lab Report #	Sample Date / Lab Batch	Field / Lab Sample ID	Method	Analysis Date	Detected Analytes	Result	Reporting Limit	Units
Laboratory Blanks								
Volatile Organics								
KAI-199	R4671	000407sb	SW8260B	04/07/2000	Naphthalene	0.82(UJ)	10.00	ug/Kg
KAI-199	R4671	000407sb	SW8260B	04/07/2000	Other analytes below detection limits			
KAI-201	R4831	000424wb	SW8260B	04/24/2000	Other analytes below detection limits			
KAI-202	R4700	000418sb	SW8260B	04/18/2000	Naphthalene	1.4(UJ)	10.00	ug/Kg
KAI-202	R4700	000418sb	SW8260B	04/18/2000	Acetone	2.5(UJ)	20.00	ug/Kg
KAI-202	R4700	000418sb	SW8260B	04/18/2000	Other analytes below detection limits			
KAI-203	R4964	000428wb	SW8260B	04/28/2000	Acetone	5.2(UJ)	50.00	ug/L
KAI-203	R4875	000425wb	SW8260B	04/25/2000	Other analytes below detection limits			
KAI-205	R4868	000425sb	SW8260B	04/25/2000	1,2-Dichlorobenzene	0.47(UJ)	2	ug/Kg
KAI-205	R5055	000504sb	SW8260B	05/04/2000	Acetone	6.6(UJ)	20	ug/Kg
KAI-205	R5055	000504sb	SW8260B	05/04/2000	1,4-Dichlorobenzene	0.55(UJ)	2	ug/Kg
KAI-205	R5055	000504sb	SW8260B	05/04/2000	1,2-Dichlorobenzene	0.41(UJ)	2	ug/Kg
KAI-205	R4868	000425sb	SW8260B	04/25/2000	Other analytes below detection limits			
KAI-206	R5488	000525wb	SW8260B	05/25/2000	Methylene Chloride	1.5(UJ)	10.00	ug/L
KAI-206	R5488	000525wb	SW8260B	05/25/2000	Other analytes below detection limits			
KAI-207	R5314	000517SB	SW8260B	05/17/2000	Methylene Chloride	3.1(UJ)	10	ug/Kg
KAI-207	R5314	000517SB	SW8260B	05/17/2000	Naphthalene	1.2(UJ)	10	ug/Kg
KAI-207	R5314	000517SB	SW8260B	05/17/2000	Acetone	5(UJ)	20	ug/Kg
KAI-207	R5314	000517SB	SW8260B	05/17/2000	Other analytes below detection limits			
KAI-208	R5762	000608wb	SW8260B	06/08/2000	Other analytes below detection limits			
KAI-209	R5897	000616sb	SW8260B	06/16/2000	Naphthalene	0.48(UJ)	10.00	ug/Kg
KAI-209	R5896	000616sb	SW8260B	06/16/2000	Naphthalene	0.48(UJ)	5.00	ug/Kg
KAI-209	R5897	000616sb	SW8260B	06/16/2000	Other analytes below detection limits			
KAI-210	R6060	000623wb	SW8260B	06/23/2000	Other analytes below detection limits			
KAI188	KAI188 BLK	85012	8260A	08/21/1998	Methylene Chloride	4(UJ)	5	ug/Kg
KAI188	KAI188 BLK	85012	8260A	08/21/1998	Other analytes below detection limits			
KAI189	KAI189 BLK	85714	8260A	09/15/1998	Other analytes below detection limits			
KAI190	KAI190 BLK	85908	8260A	09/15/1998	Other analytes below detection limits			
KAI191	KAI191 BLK	86655	8260A	09/28/1998	Other analytes below detection limits			

Table 6
Primary and Duplicate Sample Results with Relative Percent Difference
Phase I RFI for SWMU 58
Tooele Army Depot

Constituent Name	Sample Date	Primary Results	Duplicate Result	Reporting Limit	Units	Duplicate RPD (%)	RPD Limit %	Comments
C-31								
EPA 6010								
	Sample ID	**Tead-C31-GW-01**	**TEAD-C99-GW-01**					
Arsenic	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Arsenic (dissolved)	01/20/1999	1.8	ND	5	UG/L	(1)	35	Within control limits
Barium	01/20/1999	87.4	87.4	10	UG/L	0	35	Within control limits
Barium (dissolved)	01/20/1999	84.2	86.2	10	UG/L	2	35	Within control limits
Cadmium	01/20/1999	ND	ND	2	UG/L	(1)	35	Within control limits
Cadmium (dissolved)	01/20/1999	ND	ND	2	UG/L	(1)	35	Within control limits
Chromium	01/20/1999	4.6	6.8	5	UG/L	39	35	Duplicate above RPD limit
Chromium (dissolved)	01/20/1999	2.6	2.8	5	UG/L	7	35	Within control limits
Lead	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Lead (dissolved)	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Selenium	01/20/1999	ND	ND	10	UG/L	(1)	35	Within control limits
Selenium (dissolved)	01/20/1999	ND	ND	10	UG/L	(1)	35	Within control limits
Silver	01/20/1999	ND	ND	10	UG/L	(1)	35	Within control limits
Silver (dissolved)	01/20/1999	ND	ND	10	UG/L	(1)	35	Within control limits
EPA 7470								
	Sample ID	**Tead-C31-GW-01**	**TEAD-C99-GW-01**					
Mercury	01/20/1999	ND	ND	0.5	UG/L	(1)	35	Within control limits
EPA 8260								
	Sample ID	**Tead-C31-GW-01**	**TEAD-C99-GW-01**					
1,1,1,2-Tetrachloroethane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,1,1-Trichloroethane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits

Notes:

RPD = Abs(X1-X2)/((X1+X2)/2) * 100, where X1 is primary result and X2 is duplicate sample result.

ND - Not detected above laboratory reporting limits.

(1) The RPD was not calculated when one or more of the values was ND.

Table 6
Primary and Duplicate Sample Results with Relative Percent Difference
Phase I RFI for SWMU 58
Tooele Army Depot

Constituent Name	Sample Date	Primary Results	Duplicate Result	Reporting Limit	Units	Duplicate RPD (%)	RPD Limit %	Comments
C-31								
EPA 8260								
	Sample ID	**Tead-C31-GW-01**	**TEAD-C99-GW-01**					
1,1,2,2-Tetrachloroethane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,1,2-Trichloroethane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,1-Dichloroethane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,1-Dichloroethene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,1-Dichloropropene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,2,3-Trichlorobenzene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,2,3-Trichloropropane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,2,4-Trichlorobenzene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,2,4-Trimethylbenzene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,2-Dibromo-3-Chloropropane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,2-Dibromoethane (Ethylene Dibromide)	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,2-Dichlorobenzene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,2-Dichloroethane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,2-Dichloropropane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,3,5-Trimethylbenzene (Mesitylene)	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,3-Dichlorobenzene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,3-Dichloropropane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,3-Dimethylbenzene (m-xylene)	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
1,4-Dichlorobenzene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
2,2-Dichloropropane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
2-Butanone	01/20/1999	ND	ND	100	UG/L	(1)	35	Within control limits
2-Chlorotoluene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
4-Chlorotoluene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
4-Methyl-2-Pentanone	01/20/1999	ND	ND	50	UG/L	(1)	35	Within control limits

Notes:

RPD = Abs(X1-X2)/((X1+X2)/2) * 100, where X1 is primary result and X2 is duplicate sample result.

ND - Not detected above laboratory reporting limits.

(1) The RPD was not calculated when one or more of the values was ND.

Table 6
Primary and Duplicate Sample Results with Relative Percent Difference
Phase I RFI for SWMU 58
Tooele Army Depot

Constituent Name	Sample Date	Primary Results	Duplicate Result	Reporting Limit	Units	Duplicate RPD (%)	RPD Limit %	Comments
C-31								
EPA 8260								
	Sample ID	**Tead-C31-GW-01**	**TEAD-C99-GW-01**					
Acetone	01/20/1999	ND	ND	100	UG/L	(1)	35	Within control limits
Benzene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Bromobenzene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Bromochloromethane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Bromodichloromethane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Bromoform	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Bromomethane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Carbon Disulfide	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Carbon Tetrachloride	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Chlorobenzene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Chloroethane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Chloroform	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Chloromethane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
cis-1,2-Dichloroethylene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
cis-1,3-Dichloropropene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Dibromochloromethane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Dibromomethane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Dichlorodifluoromethane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Ethylbenzene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Hexachlorobutadiene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Isopropylbenzene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Methylene Chloride	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
n-Butylbenzene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
n-Propylbenzene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits

Notes:

RPD = Abs(X1-X2)/((X1+X2)/2) * 100, where X1 is primary result and X2 is duplicate sample result.

ND - Not detected above laboratory reporting limits.

(1) The RPD was not calculated when one or more of the values was ND.

Table 6
Primary and Duplicate Sample Results with Relative Percent Difference
Phase I RFI for SWMU 58
Tooele Army Depot

Constituent Name	Sample Date	Primary Results	Duplicate Result	Reporting Limit	Units	Duplicate RPD (%)	RPD Limit %	Comments
C-31								
EPA 8260								
	Sample ID	**Tead-C31-GW-01**	**TEAD-C99-GW-01**					
Naphthalene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
o-Xylene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
p-Cymene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
sec-Butylbenzene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Styrene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
t-Butylbenzene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
tert-Butyl Methyl Ether	01/20/1999	ND	ND	10	UG/L	(1)	35	Within control limits
Tetrachloroethene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Toluene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
trans-1,2-Dichloroethene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
trans-1,3-Dichloropropene	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Trichloroethene	01/20/1999	8	8	5	UG/L	0	35	Within control limits
Trichlorofluoromethane	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits
Vinyl Chloride	01/20/1999	ND	ND	5	UG/L	(1)	35	Within control limits

Notes:

RPD = Abs(X1-X2)/((X1+X2)/2) * 100, where X1 is primary result and X2 is duplicate sample result.

ND - Not detected above laboratory reporting limits.

(1) The RPD was not calculated when one or more of the values was ND.

Table 7
Qualified Sample Results
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report #	Sample ID	Sample Date	Method	Analyte	Result	Detection Limit	Units	Qualifier	Reason
KAI189	C28P-0902-04	09/02/1998	6010A	Silver	0.005	0.02	mg/L	UJ	B
987081	TEAD-C-30-SOIL-01	12/15/1998	EPA 6010	Arsenic	ND	5.4		UJ	B
KAI191	TEAD-C29-GW-01	09/16/1998	6010A	Calcium	62.8	1.5	mg/L	J	M
		09/16/1998	6010A	Magnesium	19.7	0.25	mg/L	J	M
		09/16/1998	6010A	Sodium	79.3	0.75	mg/L	J	M
		09/16/1998	8270A	Bis(2-ethylhexyl)phthalate	16	10	ug/L	J	S
		09/16/1998	8270A	Di-n-Octyl Phthalate	3.5	10	ug/L	UJ	S
991355	TEAD-C30-GW-01	01/20/1999	EPA 6010	Arsenic	2.4	5	ug/L	UJ	B
		01/20/1999	EPA 6010	Arsenic (dissolved)	1.8	5	ug/L	UJ	B
		01/20/1999	EPA 6010	Barium	95.2	10	ug/L	J	P
		01/20/1999	EPA 6010	Barium (dissolved)	95.6	10	ug/L	J	P
		01/20/1999	EPA 6010	Chromium	11.1	5	ug/L	J	P
		01/20/1999	EPA 6010	Chromium (dissolved)	3.1	5	ug/L	UJ	P
	TEAD-C31-GW-01	01/20/1999	EPA 6010	Arsenic (dissolved)	1.8	5	ug/L	UJ	B,P
		01/20/1999	EPA 6010	Barium	87.4	10	ug/L	J	P
		01/20/1999	EPA 6010	Chromium	4.6	5	ug/L	UJ	P
KAI-198	TEAD-C33-H20-01 (total)	03/30/2000	SW6010B	Barium	0.0776	0.01	mg/L	J	D
		03/30/2000	SW6010B	Cadmium	0.015	0.01	mg/L	J	B
KAI-197	TEAD-C33-H2O-01	03/30/2000	SW8260B	Trichloroethene	1360	20	ug/L	J	M
KAI-203	TEAD-C35-H2O-01 (TOTAL)	04/17/2000	SW6010B	Arsenic	0.024	0.1	mg/L	UJ	B
		04/17/2000	SW6010B	Arsenic	0.024	0.1	mg/L	UJ	B
		04/17/2000	SW6010B	Cadmium	0.015	0.01	mg/L	J	B
		04/17/2000	SW6010B	Cadmium	0.015	0.01	mg/L	J	B
		04/17/2000	SW7470A	Mercury	0.15	0.5	ug/L	UJ	B
		04/17/2000	SW7470A	Mercury	0.15	0.5	ug/L	UJ	B
		04/17/2000	SW8260B	1,1,1-Trichloroethane	8.63	50	ug/L	UJ	B
		04/17/2000	SW8260B	1,1,1-Trichloroethane	8.63	50	ug/L	UJ	B
		04/17/2000	SW8260B	1,1-Dichloroethene	17.1	50	ug/L	UJ	B
		04/17/2000	SW8260B	1,1-Dichloroethene	17.1	50	ug/L	UJ	B
		04/17/2000	SW8260B	Benzene	19.4	50	ug/L	UJ	B
		04/17/2000	SW8260B	Benzene	19.4	50	ug/L	UJ	B
		04/17/2000	SW8260B	Methylene Chloride	100	100	ug/L	UJ	Z

Table 7
Qualified Sample Results
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report #	Sample ID	Sample Date	Method	Analyte	Result	Detection Limit	Units	Qualifier	Reason
KAI-203	TEAD-C35-H2O-01 (TOTAL)	04/17/2000	SW8260B	MTBE	13.3	100	ug/L	UJ	B
		04/17/2000	SW8260B	MTBE	13.3	100	ug/L	UJ	B
KAI-199	TEAD-C35-SOIL-02	03/24/2000	SW8260B	Acetone	2	20	ug/Kg	UJ	B
		03/24/2000	SW8260B	Acetone	2	20	ug/Kg	UJ	B
		03/24/2000	SW8260B	Methylene Chloride	0.913	10	ug/Kg	UJ	B
		03/24/2000	SW8260B	Methylene Chloride	0.913	10	ug/Kg	UJ	B
KAI-203	TEAD-C35-TRIP	04/15/2000	SW8260B	1,1,1-Trichloroethane	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,1,1-Trichloroethane	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,1,2,2-Tetrachloroethane	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,1,2,2-Tetrachloroethane	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,1,2-Trichloroethane	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,1,2-Trichloroethane	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,1-Dichloroethane	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,1-Dichloroethane	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,1-Dichloroethene	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,1-Dichloroethene	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,2,3-Trichloropropane	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,2,3-Trichloropropane	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,2-Dichlorobenzene	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,2-Dichlorobenzene	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,2-Dichloroethane	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,2-Dichloroethane	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,2-Dichloroethene	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,2-Dichloroethene	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,2-Dichloropropane	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,2-Dichloropropane	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,3-Dichlorobenzene	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,3-Dichlorobenzene	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,4-Dichlorobenzene	5	5	ug/L	J	B
		04/15/2000	SW8260B	1,4-Dichlorobenzene	5	5	ug/L	J	B
		04/15/2000	SW8260B	2-Butanone	50	50	ug/L	J	B
		04/15/2000	SW8260B	2-Butanone	50	50	ug/L	J	B

Table 7
Qualified Sample Results
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report #	Sample ID	Sample Date	Method	Analyte	Result	Detection Limit	Units	Qualifier	Reason
KAI-203	TEAD-C35-TRIP	04/15/2000	SW8260B	2-Hexanone	50	50	ug/L	J	B
		04/15/2000	SW8260B	2-Hexanone	50	50	ug/L	J	B
		04/15/2000	SW8260B	4-Methyl-2-Pentanone	50	50	ug/L	J	B
		04/15/2000	SW8260B	4-Methyl-2-Pentanone	50	50	ug/L	J	B
		04/15/2000	SW8260B	Acetone	50	50	ug/L	J	B
		04/15/2000	SW8260B	Acetone	50	50	ug/L	J	B
		04/15/2000	SW8260B	Benzene	5	5	ug/L	J	B
		04/15/2000	SW8260B	Benzene	5	5	ug/L	J	B
		04/15/2000	SW8260B	Bromodichloromethane	5	5	ug/L	J	B
		04/15/2000	SW8260B	Bromodichloromethane	5	5	ug/L	J	B
		04/15/2000	SW8260B	Bromoform	5	5	ug/L	J	B
		04/15/2000	SW8260B	Bromoform	5	5	ug/L	J	B
		04/15/2000	SW8260B	Bromomethane	10	10	ug/L	J	B
		04/15/2000	SW8260B	Bromomethane	10	10	ug/L	J	B
		04/15/2000	SW8260B	Carbon Disulfide	50	50	ug/L	J	B
		04/15/2000	SW8260B	Carbon Disulfide	50	50	ug/L	J	B
		04/15/2000	SW8260B	Carbon Tetrachloride	5	5	ug/L	J	B
		04/15/2000	SW8260B	Carbon Tetrachloride	5	5	ug/L	J	B
		04/15/2000	SW8260B	Chlorobenzene	5	5	ug/L	J	B
		04/15/2000	SW8260B	Chlorobenzene	5	5	ug/L	J	B
		04/15/2000	SW8260B	Chloroethane	10	10	ug/L	J	B
		04/15/2000	SW8260B	Chloroethane	10	10	ug/L	J	B
		04/15/2000	SW8260B	Chloroform	5	5	ug/L	J	B
		04/15/2000	SW8260B	Chloroform	5	5	ug/L	J	B
		04/15/2000	SW8260B	Chloromethane	10	10	ug/L	J	B
		04/15/2000	SW8260B	Chloromethane	10	10	ug/L	J	B
		04/15/2000	SW8260B	cis-1,2-Dichloroethene	5	5	ug/L	J	B
		04/15/2000	SW8260B	cis-1,2-Dichloroethene	5	5	ug/L	J	B
		04/15/2000	SW8260B	cis-1,3-Dichloropropene	5	5	ug/L	J	B
		04/15/2000	SW8260B	cis-1,3-Dichloropropene	5	5	ug/L	J	B
		04/15/2000	SW8260B	Dibromochloromethane	10	10	ug/L	J	B
		04/15/2000	SW8260B	Dibromochloromethane	10	10	ug/L	J	B

Table 7
Qualified Sample Results
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report #	Sample ID	Sample Date	Method	Analyte	Result	Detection Limit	Units	Qualifier	Reason
KAI-203	TEAD-C35-TRIP	04/15/2000	SW8260B	Dibromomethane	5	5	ug/L	J	B
		04/15/2000	SW8260B	Dibromomethane	5	5	ug/L	J	B
		04/15/2000	SW8260B	Ethylbenzene	5	5	ug/L	J	B
		04/15/2000	SW8260B	Ethylbenzene	5	5	ug/L	J	B
		04/15/2000	SW8260B	m+p-Xylene	5	5	ug/L	J	B
		04/15/2000	SW8260B	m+p-Xylene	5	5	ug/L	J	B
		04/15/2000	SW8260B	Methylene Chloride	1.75	10	ug/L	UJ	B
		04/15/2000	SW8260B	Methylene Chloride	1.75	10	ug/L	UJ	B
		04/15/2000	SW8260B	MTBE	10	10	ug/L	J	B
		04/15/2000	SW8260B	MTBE	10	10	ug/L	J	B
		04/15/2000	SW8260B	Naphthalene	10	10	ug/L	J	B
		04/15/2000	SW8260B	Naphthalene	10	10	ug/L	J	B
		04/15/2000	SW8260B	o-Xylene	5	5	ug/L	J	B
		04/15/2000	SW8260B	o-Xylene	5	5	ug/L	J	B
		04/15/2000	SW8260B	Styrene	5	5	ug/L	J	B
		04/15/2000	SW8260B	Styrene	5	5	ug/L	J	B
		04/15/2000	SW8260B	Tetrachloroethene	1	1	ug/L	J	B
		04/15/2000	SW8260B	Tetrachloroethene	1	1	ug/L	J	B
		04/15/2000	SW8260B	Toluene	5	5	ug/L	J	B
		04/15/2000	SW8260B	Toluene	5	5	ug/L	J	B
		04/15/2000	SW8260B	Total Xylenes	5	5	ug/L	J	B
		04/15/2000	SW8260B	Total Xylenes	5	5	ug/L	J	B
		04/15/2000	SW8260B	trans-1,2-Dichloroethene	5	5	ug/L	J	B
		04/15/2000	SW8260B	trans-1,2-Dichloroethene	5	5	ug/L	J	B
		04/15/2000	SW8260B	trans-1,3-Dichloropropene	5	5	ug/L	J	B
		04/15/2000	SW8260B	trans-1,3-Dichloropropene	5	5	ug/L	J	B
		04/15/2000	SW8260B	Trichloroethene	1	1	ug/L	J	B
		04/15/2000	SW8260B	Trichloroethene	1	1	ug/L	J	B
		04/15/2000	SW8260B	Trichlorofluoromethane	5	5	ug/L	J	B
		04/15/2000	SW8260B	Trichlorofluoromethane	5	5	ug/L	J	B
		04/15/2000	SW8260B	Vinyl Acetate	50	50	ug/L	J	B
		04/15/2000	SW8260B	Vinyl Acetate	50	50	ug/L	J	B

Table 7
Qualified Sample Results
Phase I RFI for SWMU 58
Tooele Army Depot

Laboratory Report #	Sample ID	Sample Date	Method	Analyte	Result	Detection Limit	Units	Qualifier	Reason
KAI-203	TEAD-C35-TRIP	04/15/2000	SW8260B	Vinyl Chloride	10	10	ug/L	J	B
		04/15/2000	SW8260B	Vinyl Chloride	10	10	ug/L	J	B
KAI-206	TEAD-C36-H20-01	05/11/2000	SW8260B	Methylene Chloride	0.842	10	ug/L	UJ	B,Z
KAI-201	TEAD-C36-H20-01 (total)	04/10/2000	SW6010B	Barium	0.0531	0.01	mg/L	J	B
		04/10/2000	SW6010B	Cadmium	0.015	0.01	mg/L	J	B
KAI-202	TEAD-C36-SOIL-04	04/10/2000	SW8260B	Acetone	12.4	100	ug/Kg	UJ	B
	TEAD-C36-SOIL-05	04/11/2000	SW8260B	Acetone	10.8	100	ug/Kg	UJ	B
KAI-205	TEAD-C37-SOIL-07	04/20/2000	SW8260B	Acetone	29.2	100	ug/Kg	UJ	B
KAI-210	TEAD-C38-H2O-01 (DISSOLVED)	06/12/2000	SW6010B	Cadmium	0.015	0.01	mg/L	J	B
	TEAD-C38-H2O-01 (TOTAL)	06/12/2000	SW6010B	Cadmium	0.015	0.01	mg/L	J	B
991355	TEAD-RINSATE-02	01/20/1999	EPA 6010	Arsenic	1.9	5	ug/L	UJ	B
991944	TRIP BLANK	02/18/1999	EPA 8260B	Carbon Tetrachloride	ND	0.5	ug/L	UJ	C
		02/18/1999	EPA 8260B	Carbon Tetrachloride	ND	0.5	ug/L	UJ	C
		02/18/1999	EPA 8260B	Carbon Tetrachloride	ND	0.5	ug/L	UJ	C
00-3484		06/15/2000	SW8260	Methylene Chloride	2	1	ug/L	J	G
		06/15/2000	SW8260	Methylene Chloride	2	1	ug/L	J	G
		06/15/2000	SW8260	Methylene Chloride	2	1	ug/L	J	G
KAI-197		03/30/2000	SW8260B	Chloroethane	1.9	10	ug/L	UJ	B
		03/30/2000	SW8260B	Chloroethane	1.9	10	ug/L	UJ	B
		03/30/2000	SW8260B	Chloroethane	1.9	10	ug/L	UJ	B
		03/30/2000	SW8260B	Chloroethane	1.9	10	ug/L	UJ	B
		03/30/2000	SW8260B	Chloroethane	1.9	10	ug/L	UJ	B
		03/30/2000	SW8260B	Chloroethane	1.9	10	ug/L	UJ	B
		03/30/2000	SW8260B	Chloromethane	4.1	10	ug/L	UJ	B
		03/30/2000	SW8260B	Chloromethane	4.1	10	ug/L	UJ	B
		03/30/2000	SW8260B	Chloromethane	4.1	10	ug/L	UJ	B
		03/30/2000	SW8260B	Chloromethane	4.1	10	ug/L	UJ	B
		03/30/2000	SW8260B	Chloromethane	4.1	10	ug/L	UJ	B
		03/30/2000	SW8260B	Chloromethane	4.1	10	ug/L	UJ	B
		03/30/2000	SW8260B	Trichlorofluoromethane	1.8	5	ug/L	UJ	B
		03/30/2000	SW8260B	Trichlorofluoromethane	1.8	5	ug/L	UJ	B
		03/30/2000	SW8260B	Trichlorofluoromethane	1.8	5	ug/L	UJ	B

Table 7
Qualified Sample Results
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Laboratory Report #	Sample ID	Sample Date	Method	Analyte	Result	Detection Limit	Units	Qualifier	Reason
KAI-197	TRIP BLANK	03/30/2000	SW8260B	Trichlorofluoromethane	1.8	5	ug/L	UJ	B
		03/30/2000	SW8260B	Trichlorofluoromethane	1.8	5	ug/L	UJ	B
		03/30/2000	SW8260B	Trichlorofluoromethane	1.8	5	ug/L	UJ	B
		03/30/2000	SW8260B	Vinyl Chloride	2.8	10	ug/L	UJ	B
		03/30/2000	SW8260B	Vinyl Chloride	2.8	10	ug/L	UJ	B
		03/30/2000	SW8260B	Vinyl Chloride	2.8	10	ug/L	UJ	B
		03/30/2000	SW8260B	Vinyl Chloride	2.8	10	ug/L	UJ	B
		03/30/2000	SW8260B	Vinyl Chloride	2.8	10	ug/L	UJ	B
		03/30/2000	SW8260B	Vinyl Chloride	2.8	10	ug/L	UJ	B
KAI-206	TRIP-C36-01	05/11/2000	SW8260B	Methylene Chloride	0.85	10	ug/L	UJ	B

Table 7
Legend for Qualifiers
Phase I RFI for SWMU 58
Tooele Army Depot

Qualifier	Definition
A	The reporting limit was increased to compensate for the background absorbances, matrix interferences or high analyte concentration.
E	The analyte concentration exceeds the linear range of the instrument; associated numerical value is approximate concentration in the sample.
J	The analyte was positively identified; associated numerical value is approximate concentration in the sample.
N	The analysis indicated the presence of an analyte for which there is presumptive evidence to make a "tentative indentification."
NJ	The analysis indicated the presence of an analyte that has been "tentatively indentified" and the associated value represents its approximate concentration.
Q	MS, LCS, or surrogate recovery was outside control limits.
R	The sample results are rejected due to serious deficiences in quality control.
U	The analyte was analyzed for, but was not detected above the reporting limit.
UJ	The analyte was not detected above the reporting limit; the associated numerical value is its approximate concentration in the sample.
Reasons for Qualifications	
B	Associated method blank contains analytes above the method detection limit (MDL) or method blank was not analyzed with the samples.
C	Calibration outside control limits.
D	Duplicate RPD outside control limit.
DO	Surrogate diluted out
F	Hydrocarbon pattern does not match hydrocarbon pattern in the standard.
G	Associated field blank contains analytes above the detection limit or field blank was not included with samples.
H	Holding time exceeded.
I	Internal standard recovery outside control limit.
K	Associated continuing calibration blank contains analytes above the MDL.
L	LCS outside the contol limits.
M	MS/MSD recovery and/or RPD oustide control limits.
P	Associated rinseate/equipment blank contains analytes above the MDL.
S	Surrogate recovery outside control limit.
T	Temperature outside acceptance criteria at the time of sample receipt.
W	Matrix interference or non-target analyte.
X	Analyte identified and quantified by TIC.
Y	High analyte concentration.
Z	Associated trip blank contains analytes above the MDL or a trip blank was not transported with samples