Final

NAPL Area 1 Completion Report

In Situ Thermal Remediation
(Electrical Resistance Heating)
East Gate Disposal Yard
Ft. Lewis, Washington
DACA67-02-C-0218

US Army Corps of Engineers

THERMAL REMEDIATION services inc.

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Abbreviations and Acronyms

ASILs	acceptable source impact levels
bgs	below grade surface
CAS	Columbia Analytical Services, Inc.
CCAL	calibration check
COC	constituents of concern
CVOC	Chlorinated volatile organic compound
DC/DQC	daily chemical data quality control
DCE	dichloroethylene
DMP	Data Management Plan
DQI	data quality indicators
DQO	data quality objectives
DQR	data quality review
EGDY	East Gate Disposal Yard
E	electrode
ERH	electrical resistance heating
ft	feet
Ft. Lewis PW	Ft. Lewis Public Works
FIR	Final Investigation Report
FPA	Field Portable Analytical, Inc.
gpm	gallons per minute
GSA	Gary Struthers Associates
HCW	hydraulic control well
Hg	mercury
hp	Horse power
ICV	initial calibration verification
IDW	installation derived waste
in.	inches
kW-hr	Kilowatt-hours
LWMS	Liquid Waste Management Systems
MB	method blank
MSL	Mean Sea Level
MPE	Multiphase Extraction
MS	matrix spike
MSD	matrix spike duplicate

Abbreviations and Acronyms

MW	monitoring well
NAPL	nonaqueous phase liquid
NARS	Nonaqueous residual solids
ND	non-detect
OSHA	Occupational Safety and Health Administration
PAM	perimeter air monitoring
PCE	tetrachloroethylene
PCU	power control unit
PDR	preliminary data review
PE	performance evaluation
PMOM	Process Monitoring, Operations and Maintenance Plan
PSCAA	Puget Sound Clean Air Agency
RAMP	Remedial Action Management Plan
QAPP	Quality Assurance Project Plan
QC	Quality control
Qvr	Vashon Recessional Outwash
Qvt	Vashon Till and Ice Contact
RRF	Relative response factor
RPD	relative percent difference
SAP	Sampling Analysis Plan
SIM	selective ion monitoring
SSHP	Site Safety and Health Plan
TCA	1,1,1-trichloroethane
TCE	trichloroethylene
TMP	temperature monitoring point
TPH	total petroleum hydrocarbons
TRS	Thermal Remediation Services, Inc.
UIC	underground injection control
µg/L	Micrograms per liter
USACE	U.S. Army Corps of Engineers
VLS	Vapor liquid separator
VOC	Volatile organic compound

EXECUTIVE SUMMARY

An Electrical Resistance Heating (ERH) remediation project was conducted at NAPL Area 1 of the East Gate Disposal Yard (EGDY) by the Thermal Remediation Services, Inc. (TRS) project team (Contractor), in accordance with the August 2003 Final Remedial Action Management Plan (RAMP). This Completion Report has been prepared in accordance with the US Army Corps of Engineers, Seattle District (USACE) contract for In Situ Thermal Remediation (ERH) for the EGDY at Ft. Lewis, Washington, Contract No. DACA67-02-C-0218. The ERH remediation of NAPL Area 1 was conducted for USACE and Ft. Lewis Public Works (Ft. Lewis PW) under the aforementioned contract.

The October 2002 Field Investigation Report (FIR), prepared for USACE and Ft. Lewis PW, identifies the EGDY is the source area for widespread chlorinated, primarily trichloroethylene (TCE), and nonchlorinated hydrocarbon soil and groundwater contamination at the Fort Lewis Logistics Center. Prior to pursuing the EGDY in situ remediation project, a drum removal action was implemented at the EGDY in 2000 by USACE for Ft. Lewis PW.

The ERH system was constructed and designed, as detailed in the July 21, 2004 Final Installation Report for NAPL Area 1 and the RAMP, to cover approximately 25,400 square feet with a vertical treatment interval of two to 38 feet below grade surface (bgs). The physical lateral and vertical ERH treatment application resulted in an estimated treatment volume of 31,040 cubic yards. The ERH remediation system for NAPL Area 1 consisted of 20 groundwater monitoring wells (MWs), six hydraulic control wells (HCWs), 20 temperature monitoring points (TMPs), and 106 electrodes. The electrode design for NAPL Area 1 included a multi-phase extraction (MPE) component for removal of non-aqueous phase liquid (NAPL), dissolved-phase hydrocarbons, groundwater, and vapors. The ERH system was modified during construction to include one additional monitoring well location (MW-F11) and again during operations to include five auxiliary electrode locations and two additional HCWs.

System operations began on December 17, 2004, and were concluded 231 days later on August 4, 2004. The extended operations period was a result of unexpected site conditions including high hydraulic conductivity zones that lengthened the duration of treatment due to the flow of cool groundwater into the treatment volume. Site treatment was terminated at the direction of USACE based upon multiple lines of evidence indicating that treatment goals had been achieved within the confines of the original site plan.

Contract specification temperatures were obtained in 193 (86 percent) of the 224 thermocouples monitored in Area 1 and 213 (95 percent) of these thermocouples reached the boiling point of TCE at depth. On average, those thermocouples that reached contract specification temperatures

were maintained at temperature for 70 days and those that reached the boiling point of TCE at depth were maintained at temperature for 97 days.

1.0 INTRODUCTION

1.1 Purpose of the Report

This Completion Report provides a summary of the Electrical Resistance Heating (ERH) remediation system operations at NAPL Area 1 of the East Gate Disposal Yard (EGDY) by the Thermal Remediation Services, Inc. (TRS) project team (Contractor), in accordance with the Process Monitoring, Operations and Maintenance Plan (PMOM), the Sampling and Analysis Plan (SAP), and the Data Management Plan (DMP) of the August 2003 Final Remedial Action Management Plan (RAMP). The Completion Report has been prepared in accordance with the US Army Corps of Engineers, Seattle District (USACE) contract for In Situ Thermal Remediation (ERH) for the EGDY at Ft. Lewis, Washington, Contract No. DACA67-02-C-0218. The ERH remediation of NAPL Area 1 was conducted for USACE and Ft. Lewis Public Works (PW) under the aforementioned contract.

This Completion Report has been prepared in response to Contract Specification 01788 of the USACE Contract and presents a summation of the previously submitted documents and analytical results. The information presented in this report is an overall summary of the project operations and results. Due to the dynamic reporting process involved in this project, including the maintenance and operation of a 24-hour website throughout the duration of the project, all analytical results and data have been previously submitted and made available for review on a daily, weekly, and monthly reporting basis. In order to maintain brevity and conciseness, this report will not attempt to reproduce that material in another format, but rather provide it in its entirety on a compact disk (Appendix A).

1.2 Background Information

1.2.1 Site Location and Previous Actions

A detailed site description is provided in Section 2.1 of the August 2003 RAMP Work Plan. The Logistics Center occupies approximately 650 acres of the Fort Lewis Military Reservation and is located in Pierce County, Washington, approximately 11 miles south of Tacoma and 17 miles northeast of Olympia. The EGDY is located southeast of the Logistics Center in an otherwise undeveloped portion of Fort Lewis that was historically used for disposal activities and landfill trenching. The approximate portion of the EGDY where the ERH remediation was conducted is a previously fenced area of approximately 13.5 acres. An overview of the EGDY in relationship to Ft. Lewis is provided in Figure 1: Project Site.

According to the October 2002 Field Investigation Report (FIR), the EGDY is the source area for widespread chlorinated, primarily trichloroethylene (TCE), and nonchlorinated hydrocarbon soil and groundwater contamination at the Fort Lewis Logistics Center. Prior to pursuing an in situ

thermal treatment to remediate the free-phase product, a drum removal action was implemented at the EGDY in 2000 by USACE for Ft. Lewis PW.

1.2.2 In Situ Thermal Treatment Delineation for NAPL Area 1

After the drum removal was completed, the in situ thermal treatment area for NAPL Area 1 was delineated to cover approximately 25,400 square feet with a vertical treatment interval of two to 38 feet below grade surface (bgs). The physical lateral and vertical ERH treatment application resulted in an estimated treatment volume of 31,040 cubic yards. An estimated NAPL mass of 210,000 pounds was established for NAPL Area 1 in the FIR based on gross observations of soil and groundwater data developed for that report (URS October 2002). As shown on Figure 2: NAPL Area 1 and Site Plot Plan, the treatment area is covered with a 33,000 square foot asphalt cap which provides a ten-foot perimeter apron to ensure an adequate surface seal for the capture of ERH-produced vapors and steam.

Further details regarding the general site history of the EGDY and the NAPL treatment areas can be found in the October 2002 FIR. Details regarding the ERH treatment design are provided in the August 2003 RAMP Work Plan (Ft. Lewis Public Works August 2003).

1.3 Report Organization

In order to reduce the length and redundancy of this NAPL Area 1 Completion Report, the reader will be referred to previous materials when appropriate to minimize reiteration of information that has not changed from previous documents. The referenced documents provide, site history, overviews of regional and local geology and hydrogeology, general design information and theory regarding ERH technology, and Area 1 ERH system shutdown discussions. This report presents the overall results of the NAPL Area 1 ERH remediation in terms of the purpose of the report outlined in Section 1.1 and describes the operations of the ERH system and the management of site data throughout the operational period.

NAPL Area 1 ERH remediation application data results were maintained on a daily basis on the project website at http://nwsflora.nws.usace.army.mil/EastGate. All of the reports specified in the USACE contract for this project were maintained on the project website for the duration of operations and have been downloaded to a compact disk provided as Appendix A to this report. This includes all of the operational data, comprehensive temperature data, and laboratory analytical results, the charts and figures presentations, as well as the daily, weekly, and monthly reports. Closure documents submitted to USACE requesting systematic shutdown of the NAPL Area 1 ERH system based on supporting independent lines of evidence have been compiled and are presented in Appendix B.

2.0 NAPL AREA 1 ERH PROJECT OBJECTIVES AND INFORMATION

The project objectives, as established in the USACE contract and presented in the August 2003 RAMP Work Plan, specify that the in situ thermal system must meet the following temperature and treatment duration requirements for NAPL Treatment Area 1:

- 100 degrees Celsius (°C) in the saturated zone
- 90°C in the vadose zone soil
- Temperature specifications will be maintained for 60 days

Additional evaluation criteria and Data Quality Objectives were prepared and are presented in the August 2003 RAMP. The additional criteria, such as hydraulic control data, was evaluated by the project team under the auspices of the USACE Triad approach which employed a dynamic work plan process to determine necessary modifications to system monitoring or sampling. The ERH remediation system design included instrumentation and control systems that allowed for timely data acquisition, reporting, interpretation, and decision-making to verify that operational requirements were being met and to optimize each component of the remediation system. The instrumentation and website data management process ensured that the treatment progress was accurately tracked; the rate and volume of COCs removed were measured, and that system operations were in compliance with regulatory standards.

2.1 ERH System Construction and Installation

The ERH system at NAPL Area 1 was constructed and installed based on the system design presented in the August 2003 RAMP Work Plan. The construction and installation process for the NAPL Area 1 ERH system, which included a Liquid Waste Management System (LWMS) and a thermal oxidizer for on-site treatment of recovered vapors and groundwater, began on August 1, 2003, and was completed early December 2003. The system also provided for the recovery and temporary storage of non-aqueous phase liquid (NAPL) for removal and disposal by Ft. Lewis PW.

The details regarding the construction and installation procedures, as well as the lessons learned during the construction phase are presented in the July 2004 Final Installation Report (Ft. Lewis Public Works July 2004). The Installation Report also provides as-built forms for all subsurface components including electrodes, temperature monitoring points and groundwater wells, as well as plot plans for all surface components associated with the ERH treatment system.

2.1.1 ERH Remediation System Construction Modifications

The original ERH remediation system for NAPL Area 1 consisted of 20 groundwater monitoring wells (MWs), six hydraulic control wells (HCWs), 20 temperature monitoring points (TMPs),

and 106 electrodes. The electrode design for NAPL Area 1 included a multi-phase extraction (MPE) component for removal of NAPL, dissolved-phase hydrocarbons, and groundwater in the uppermost portion of the water table as well as vapor recovery (Ft. Public Work August 2003). The ERH system was modified during construction to include one additional monitoring well location (MW-F11). Details and as-built forms regarding the original ERH system installation for NAPL Area 1 are presented the July 2004 Final Installation Report (Ft. Lewis Public Works July 2004).

2.1.1.1 New Electrodes, Hydraulic Control Wells and a Second PCU

The ERH system at NAPL Area 1 was modified on several occasions during operations from the original design presented in the August 2003 Work Plan to counter unforeseen site conditions that were impacting the overall heating rate for the site. As shown on Figure 2, the modifications included the installation of two additional hydraulic control wells (HCW-07 and HCW-08) and five additional auxiliary electrodes (F03-AUX, G02-AUX, D04-AUX, E04-AUX, and E05-AUX) during the first week of April 2004. The ERH system was also modified midway into the operational period by adding a second Power Control Unit (PCU) to the site on April 9, 2004, to increase the power input to the treatment area. The modified process flow is presented in Figure 3: Process Flow/Piping and Instrumentation Diagram.

The new electrodes were designed to circumvent a suspected buried metal debris interval located approximately 15 feet bgs to near grade surface. By constructing these electrodes without conductive backfill in the upper 15 feet, electrode contact with buried metal debris is greatly reduced. Electrode contact with buried metal debris can create preferential circuits in the metal debris field and excessively high electrode amperage conditions. Due to the close proximity to existing electrodes, the auxiliary electrodes were not designed with an MPE component. The additional extraction wells, HCW07 and HCW08, were installed to supplement HCW01 in order to curb the influence of the cooler groundwater entering the site from the north which was adversely impacting the ability to effectively heat the subsurface below the water table in that region. The tables below present the construction details for the additional hydraulic control wells and electrodes.

Table 1: Hydraulic Control Well Construction Details

Monitoring Well Location	Northing	Easting	Top of Casing Elevation (MSL)	Well Screen (0.020 Slot) Interval (ft. bgs)		Casing Diameter	Total Borehole Depth (ft. bgs)	Borehole Diameter (inches)
				Top	Bottom			
Groundwater Monitoring Wells								
HCW-07	652095	1497305	280.11	9.75	29.75	6-inch	30	8
HCW-08	652078	1497244	278.43	9.50	29.50	6-inch	30	8

Note: State Plane Coordinate System NAD88; MSL = Mean Sea Level

The five additional auxiliary electrodes (F03-AUX, G02-AUX, D04-AUX, E04-AUX, and E05-AUX) were installed within five feet of their main electrode counterparts. As such, the northing and easting differences are negligible from the northing and easting values for electrodes F03, G02, D06, E04, and E05 shown on Figure 2. Table 2, below, provides construction details for these auxiliary electrodes.

Table 2: Auxiliary Electrode Construction Details

MPE Well/ Electrode Location	Northing	Easting	Top of Casing (MSL)	Conductive Backfill Interval (ft. bgs)		Electrode Screen/Steam Vent Interval (ft. bgs)		Total Borehole Depth (ft. bgs)	Borehole Diameter (inches)
				Top	Bottom	Top	Bottom		
MPE-DO6 aux	651986	1497244	278.16	15.5	38	NA	NA	38	10
MPE-E04 aux	652028	1497259	278.35	15.5	39	NA	NA	39	10
MPE-E05 aux	652012	1497258	278.37	16	38	NA	NA	38	10
MPE-F03 aux	652037	1497274	278.42	16	39	NA	NA	39	10
MPE-G02 aux	652045	1497289	278.41	16	38.5	NA	NA	38.5	10

Notes: Electrode/Steam Vents are 4-inch casing with 0.020-inch slot.
State Plane Coordinate System NAD88

The as-built forms and field logs for the electrode and extraction well installations listed in Tables 1 and 2 are provided in Appendix C of this document.

2.1.1.2 LWMS and Infiltration Gallery Modifications

As groundwater extraction rates increased as a result of modifications to the hydraulic control system, the LWMS became more prone to system shutdowns due to high liquid level alarms associated with the inability of the infiltration trench to accept the design volume of approximately 120 gallons per minute (gpm) of treated groundwater. Inspection of the northeast infiltration gallery in March 2004 revealed that the drainage rock around the six-inch perforated piping was undersized and plugging the slots of the screen. Consequently, an additional infiltration trench measuring three-feet wide, four-feet deep by 100-feet long was installed on March 19, 2004, to supplement the existing gallery in an effort to resolve the capacity issues. The drainage rock was upgraded in size and a geotextile wrap was incorporated to eliminate potential plugging of the new screen and to minimize any potential bio-fouling that could occur if native backfill material came into contact with the infiltration piping. An as-built form for the new infiltration trench is presented as Figure 4: Supplemental Infiltration Gallery Detail.

The addition of the new hydraulic control wells, HCW07 and HCW08, compounded the LWMS discharge capacity problems. Further modifications to the LWMS were necessary to enable the system to properly treat the increased volume without shutting the system down due to high liquid level conditions. As shown on Figure 3, 1½ horse power (hp) pumps were added to Sparge Tanks 002, 003 and 004 in May 2004 to increase the flow rate through the system. The

modifications enabled the LWMS to operate at design capacity for the remainder of the NAPL Area 1 treatment period.

2.1.2 Site-Specific Geology

This Completion Report provides detailed information regarding site geology and hydrogeology based on a comprehensive review of NAPL Area 1 lithologic borings and the impacts of hydraulic conductivity at the site on hydraulic control. It should be noted that the majority of the NAPL Area 1 borings did not exceed a depth of 40 feet bgs, or 239.0 feet above Mean Sea Level (MSL). Borings F10, F11, F12, G09, and G10 were drilled to a depth of 45 feet bgs (234 feet MSL) to determine if NAPL was present below 245 feet MSL (details provided in the July 2004 Installation Report).

As shown on Figure 5: NAPL Area 1 Cross-Section Plot Plan, three cross-sections were developed to evaluate the stratigraphic detail beneath the site. Since the rotosonic drilling method, used for groundwater wells and selected perimeter electrodes, allowed for the logging of relatively undisturbed cores, the cross-sections were preferentially selected based on the location of the rotosonic boreholes. Cross-section A-A' (Figure 6) transects the site from north to south along the western border. Cross-section B-B' (Figure 7) transects the northern portion of the site from northwest to southeast and cross-section C-C' (Figure 8) transects the site from west to east in the southern region of the treatment area.

Cross-section A-A' illustrates the major stratigraphic features of NAPL Area 1. Two glacial units, the Vashon Recessional Outwash (Qvr) and the Vashon Till and Ice Contact Deposits (Qvt), were identified in the sediments that occur above 240 feet MSL. The glacial units are overlain by Holocene (recent) anthropomorphic deposits. The Anthropomorphic deposits include manmade fill consisting of bricks, metal debris, glass, lumber, roots, and charcoal from burned debris. These deposits were typically found less than five feet bgs; however, because trenching with a backhoe was employed as a means of disposal and subsequently as a method for the previous drum removal action, some disturbed soil and debris were encountered as deep as 12 feet bgs (the depth of the seasonal low for the groundwater table) or greater.

Differentiation of the anthropomorphic deposits is complicated due to the historic disturbance of the near surface soils. However, a distinct unit of black sand (discolored due to hydrocarbon staining) with little or no silt is present in the northern portion of the site (B-B') and along the northern portion of the western edge of the site. Where present, this unit varies in thickness from 9 to 12 feet. The bottom of this unit is located at approximately 261 feet MSL with a near surface expression identified in electrode (E) boring G03 at two feet bgs. The presence of metal or other debris was not noted in the boring logs that encountered this unit and a sharp contact with surrounding soil was noted. This unit may be the result of a high volume disposal of contaminated sand and is less likely a native formation that was subsequently contaminated. A

key distinction of this unit is the strong aged hydrocarbon odor (rather than an aged solvent odor) and absence of construction and metal debris. Additionally, a similar description of this material was documented as occurring in pockets in the walls of exploratory trenches during the previous drum removal action at the EGDY (USACE December 2001).

The Qvr deposits, the result of deposition of sand, gravel, and silts into braided streams, were encountered beneath the anthropomorphic deposits to depths of approximately 245 feet MSL. This unit is found throughout NAPL Area 1 and consists of loose, brown to gray sandy gravels with variable percentages of silts and cobbles. Although the Qvr is below the anthropomorphic deposits in NAPL Area 1, its surface expression can be observed in the topography of the local area surrounding the site. Minor, discontinuous inter-beds of sand with silt and gravel, although difficult to discern, were identified throughout the site including in the in the northeastern portion of the site (B-B'), the southern boundary (C-C'), and in borings I04, J03, and K03. In other instances, this unit contains a high percentage of cobbles. The cobbles exhibit a very limited lateral continuity; however, significant cobble percentages were noted at variable depths along the west central border of the site (Borings F-12, F-13 and F-14; cross-section A-A') and in borings N08 and N10 in the southeastern corner of the site.

Vashon Till and Ice Contact deposits encountered at the site consisted of loose (ice contact) to dense (till), gray to brown silty sandy gravel and gravelly sandy silt. The uppermost surface of the Qvt deposits was encountered at an approximate elevation of 245 feet MSL and ranged in thickness from two- feet to greater than 10 feet (the bottom of the unit not encountered at a depth of drilling or 240 feet MSL). The Qvt appears to thin along the west central border of the site (cross-section A-A' borings F10, F1, F12, and F13) and is not present in the area just outside the southwest corner of the site (Flux well LC-215).

3.0 NAPL AREA 1 ERH STARTUP AND OPERATIONS

The following sections discuss ERH operations activities and present a summary of the temperature and analytical data collected from operational monitoring. All operations-related activities specific to the ERH system, including systems monitoring, maintenance, and repair were conducted by site operations personnel. The operations personnel responsible for the daily activities under the direction of the TRS site manager, included project team staff from AMEC Earth & Environmental, Inc., CDM, and Garry Struthers Associates (GSA)

3.1 System Start Up and Interlock Testing

Power for the ERH system components, including the electrodes, condenser, vacuum blower, LWMS, and thermal oxidizer, was supplied via the overhead lines and the available 13.8 kilovolt (kV) electrical line, which was connected directly to the PCU (Ft. Lewis Public Works July 2004). Prior to applying power to the subsurface, TRS site operations personnel completed an ERH Startup Checklist (Appendix D of this document) as part of the TRS health and safety program. The startup testing, which included current and voltage surveys, was performed to ensure the safety of those working around the ERH equipment, and to verify the proper operation of the ERH system safety interlocks and emergency shutdown control systems. Details regarding the ERH safety interlocks are provided in the August 2003 RAMP Process Monitoring, Operations and Maintenance Plan (Ft. Lewis Public Works August 2003).

3.1.1 ERH Component and Interlock Testing

After power was connected to the PCU and the ancillary ERH system components, each system component was function tested as much as practical to ensure operations would proceed as designed. During this function test, minor adjustments or modifications to individual components were completed as required.

In addition to component testing, interlock testing was also performed. The objective of system interlocks is to ensure that if any component of the treatment system is not operating within specification, the entire ERH treatment process will perform an orderly and controlled shutdown to prevent unwanted operational conditions which could result in unsafe conditions or an uncontrolled release of untreated vapors or waters to the environment. The August 2003 RAMP provides information regarding the various alarm conditions and the automated ERH system response to those alarms (Ft. Lewis Public Works 2003). Interlock testing was performed through simulation of alarm conditions either by the actual manual positioning of a system component, such as a moving a liquid level switch, or through software manipulation. Minor adjustments or modifications to the interlock system were performed until the desired control effect was achieved.

3.1.2 Voltage Surveys

Voltage surveys ("Step and Step" and "Step and Touch") were routinely conducted during startup testing, as well as during regular operations, at locations identified as potential points for possible surface voltage contact. In addition, several random locations were selected depending on changes in operating conditions (e.g., increased power application to the subsurface) to verify that surface voltages were either non-existent or within TRS safety standards. As indicated in the August 2003 RAMP Site Safety and Health Plan (SSHP), the Occupational Safety and Health Administration (OSHA) limit for voltage contact is 50 volts, however, to ensure a margin of safety, the standard TRS limit is a more stringent 30 volts for the "Step and Step" and 15 volts for the "Step and Touch" components of the voltage survey (Ft. Lewis Public Works August 2003).

An occurrence of unusual ground voltage was documented in the January 23rd and 30th Weekly Reports (see Appendix A). The ground voltage was determined to be caused by a loose filter housing door on the PCU that was intermittently contacting the output bus bar on the PCU. Once the voltage issue was resolved, operations personnel continued to conduct daily voltage surveys for the remainder of the operations. Additional gravel was ordered and spread around various locations of the site trailer where rain water would pool to increase the insulation barrier and further minimize the potential for future stray voltage contacts.

3.2 ERH Operations at NAPL Area 1

The operations phase of the NAPL Area 1 ERH Remediation Project officially began on December 17, 2003, and was officially completed on August 4, 2004, resulting in an operational period of 231 days. The cumulative energy consumption for the project totaled 8,387,050 kilowatt hours (kW-hr). This value includes not only energy applied to the subsurface at NAPL Area 1 but also all the vapor treatment equipment, lights and other electrical equipment on site. A total of 7,913,000 kW-hrs of electrical energy was applied to the subsurface at NAPL Area 1. During ERH operations, the application of energy to the subsurface treatment volume is tightly controlled and monitored. As a result of evaluating this application of energy, adjustments to the rate of energy application (power) are made. At NAPL Area 1, data quickly indicated that a higher rate of energy application was both possible and likely necessary to achieve the desired project objectives. The cumulative energy input of 7,913,000 KW-hrs represents a 47% increase from the 5,382,847 KW-hrs estimated to heat the NAPL Area 1 to contract specifications. The increase in cumulative energy was the result of increased duration of operations that was directly tied to the unexpected hydrogeologic conditions at the site. Power input was incrementally increased and stabilized approximately 40 days after the official start of operations at an average of 1,700 kilowatts through April 8, 2004. The stable application of energy during the application of ERH is highly dependent upon the frequency and duration of process upsets and the resulting

shutdown. One significant shutdown occurred from January 3 through January 14 due to a non-typical freezing weather event over the period. The system shut down due to a nuisance liquid level alarm and was extended due to the onset of freezing conditions in early January 2004. The shutdown period was also complicated with the buildup of solids in the system conveyance piping and strainers (see Section 3.2.4).

Further review of the available site data indicated that an additional increase in the rate of energy application would be required to meet project goals. The energy application rate to the treatment area was significantly increased in mid-April with the addition of a second PCU, which operated in conjunction with the existing PCU for the remainder of the NAPL Area 1treatment. The second PCU allowed power input to the treatment area to be increased to an average of 2,682 kilowatts from late April through late July 2004. This increase in energy application rate provided a direct benefit by increasing the subsurface temperatures in areas of the site, which had been below the specified target temperature. As specific areas of NAPL Area 1 were removed from the application of energy, the remainder of the site continued to be treated at a high rate of energy until the ERH operations ceased on August 4, 2004.

3.2.1 Vapor Recovery Testing and Operations

The vapor recovery system was operational on December 9, 2003, prior to the official start of ERH power input. The system, which included the MPE components, was started to establish a zone of vapor recovery influence and enhance the hydraulic control system prior to initial power input to the subsurface.

Vacuum influence was achieved with a 40-horse power (hp) blower and a15-hp blower. As shown on Figure 9: General Vapor Recovery Contours Operational Results, the system exerted a sufficient influence (the treatment area was under vacuum as shown by the pressure contours) to ensure recovery of the ERH-produced vapors and steam (the separate vapor contour figures are also presented in Appendix A with greater clarity). The decrease in vapor contours presented on April 9, 2004, can be attributed to the site construction and installation activities, which included the installation of a second PCU. As documented in the April 9th Weekly Report, power input was regularly terminated to the field during that week as a health and safety precaution to facilitate site construction activities (refer to Appendix A for the complete report).

Vapor pressure data was collected on a weekly basis from 40 co-located vapor recovery/MPE locations, as well as at the six MPE region locations (refer to Figure 3c in the August 2003 RAMP for details regarding the MPE regions). Some of the vacuum piezometers were apparently clogged early in the operation that affected the data readings, however, site personnel promptly corrected the issue once the nature of the problem was ascertained. The errant values collected from several locations during the early portions of the operating period did not affect the overall performance of the vapor recovery system. The data was documented in the raw data

tables stored on the project website and used for calculations and development of Table 5 and Figure 4 on the website (refer to Appendix A for a complete listing of the vapor pressure results for the duration of ERH operations).

3.2.2 Multiphase Extraction System and NAPL Residual Solids

The active MPE locations were varied throughout the course of operations to assist in the enhancement of hydraulic control. The overall rate of MPE was monitored and adjusted throughout the remediation since it was determined that a rate, greater than 30 gpm removed too much site energy and resulted in a decrease of the overall heating rate for that portion of the site. Adjusting MPE extraction rates was further complicated by the change in the groundwater flow regime at the site due to seasonal variations. These seasonal variations exceeded the design parameter used for the hydraulic control system, which were based on groundwater flow direction and hydraulic conductivity at various subsurface intervals determined by in previous area wide studies. The weekly MPE average flow rate was presented daily on Figure 1 on the project website and is available in Appendix A of this report.

Shortly after the start of operations in December 2003, a substance resembling "axle grease" began accumulating in the conveyance piping from the MPE regions as well as the y-strainers at the Vapor Liquid Separator (VLS). Operations personnel made several modifications to the field maintenance protocols to minimize the accumulation of NAPL residual solids. The accumulation of the NAPL residual solids and visual observation of its presence decreased from late January through March 2004 as subsurface temperatures increased. The collected material, which appeared to emanate predominantly from the southeast MPE region, was stored in eight 55-gallon drums for removal and final disposition by Ft. Lewis PW (an additional three drums were also removed by Ft. Lewis PW that contained disposed piping and MPE sample collection jars associated with the NAPL residual solids).

3.2.3 Anomalous Temperature Rise Post ERH Energy Input

During operations, the ERH system uniformly applied energy to the treatment area, however, the various intervals across the site heated at varying rates depending on lithology and groundwater movement. During the latter portion of operations in August 2004, an anomalous temperature increase was observed at TMP04 as indicated in the Table 3. The data was continuously collected by the thermocouples and monitored by site personnel for any apparent vapor leaks at the location. The temperature increase was not directly associated with ERH system and it was speculated that an exothermic chemical reaction was occurring at the location.

Table 3: Temperature Anomaly at TMPE04

Date & Time	278(1')	272(6')	267(11')	262(16')	257(21')	252(26')	247(31')	245(33')
8/4/04 16:01	56	118	98	70	101	111	102	101
8/6/04 8:01	54	165	97	66	96	110	100	98
8/8/04 0:01	51	255	94	62	86	108	96	95
8/10/04 8:01	56	341	337	304	339	333	337	338
8/10/04 16:01	67	337	343	312	329	334	331	344
8/27/04 13:27	47.2	263	261.4	261	254	68.2	66.5	67.7
8/29/04 0:02	50.7	246.3	244.4	244.4	239.6	66.1	64.7	66.2
9/2/04 16:02	49.3	199.7	198.2	198.6	196.6	60.6	60.1	61.8
9/3/04 0:02	50.4	197.2	195.7	196	194	60.4	59.8	61.5
9/3/04 8:02	49.7	194.6	193.1	193.4	191.5	60	59.3	61

USACE continues to monitor the location (temperatures continue to decrease) and is weighing the option to proceed with a test pit at the location for potential visual observation of the cause for the anomalous temperature spike.

3.2.4 Nitric Acid (Potential) Observation at Electrode G03

During late July 2004, site personnel observed a small volume of yellow (transparent) condensate (approximately 5 to 10 milliliters) on the oversleeve of Electrode G03. The condensate was collecting at the juncture of a recently repaired surface seal (see the Daily and Weekly Reports for July in Appendix A). Due to high temperatures of the condensate, as well as the subsurface and the atmosphere, the condensate evaporated rapidly. Furthermore, no additional generation of the condensate was observed. The condensate had an acid smell and field testing indicated that the liquid had a pH of 1. Further observation of the surface seal after evaporation indicated that some etching of the cement seal had occurred. Research of existing documents regarding the previous drum removal action indicated that amber bottles of yellow liquid (Nitric Acid) were removed from areas at EGDY, specifically within the region of Electrode G03. Activities in the vicinity of the electrode were restricted for health and safety reasons until the scenario could be further evaluated.

3.2.5 ERH System Shutdown Periods

Overall, the ERH system ran well during NAPL Area 1 Operations. The second PCU was installed in April 2004 which resulted in a temporary system shutdown on April 14 and April 15, 2004, to complete the necessary electrical connections. The system was also shutdown several times to complete system maintenance, but the occurrence of system interlock shutdowns (i.e., alarm conditions installed for health and safety purposes and to ensure proper system operations) were minimal considering the nature and scope of operations at the site.

Unplanned shutdown events occasionally occurred during operations and site personnel responded to each situation to minimize the impact to the site remediation operations. The

shutdown events were usually attributed to an interlock alarm which signaled occurrences such as high liquid level alarms often associated with capacity issues experienced by the LWMS. During the initial start of ERH operations, a system shutdown was compounded by inclement weather which resulted in frozen conveyance piping. The following table has been prepared to mark the shutdown events that lasted approximately one day or greater before site personnel were able to resolve the situation and return the system to operating conditions.

Table 4: ERH System Shutdown Events (One Day or Greater)

Date	General Reason for ERH System Shutdown
01/13/04	Global Oxidizer (thermocouple)
01/13/04	Overnight shutdown NARS
01/14/04	Overnight shutdown NARS
01/16/04-01/19/04	Temperature rise at MPEG03 (high current draws northeast region)
02/15/04	Frequent interlock shutdowns faulty fuse and detached float – high liquid level alarms
03/23/04	Oxidizer –failed propane actuator valve
04/14/04 – 04/15/04	System shutdown to complete electrical connections 2nd PCU and oxidizer problems 04/15 and 04/17 (adjustment of dilution air volume - required inlet and outlet temperatures)
05/26 and 05/27/04	Scrubber buildup (carbonate) and air leak in the manifold between the oxidizer and scrubber
06/18/04	High temperatures in second condenser attributed to high ambient temperatures at site

The events listed in the table are detailed in the Daily and Weekly Reports presented in Appendix A. There were other events that occurred on site that resulted in minor shutdown periods of the ERH system (e.g., buildup of NARS in conveyance piping), but those events were usually resolved in during the daily operations activities at the site.

3.2.6 Health and Safety Report

The ERH remediation of NAPL Area 1 operated without incident with regards to health and safety. Daily tailgate meetings documented in the Daily Quality Control Reports (see Appendix A) covered hazards and risks associated with each day's activities.

A formal health and safety incident report was filed with USACE during the construction phase of NAPL Area 1. The incident involved a subcontractor for drilling operations. The individual was wearing the appropriate personal protective equipment which provided the necessary protection and prevented serious injury when a drill rod bounced out of place and struck the driller. Operations personnel responded rapidly and in accordance to the Health and Safety Plan protocols of the RAMP. The individual was taken to Madigan Army Medical Center for observation (no observable contusions or abrasions and the individual remained conscious and cognizant of his surroundings). The driller returned to work after a voluntary day's rest without

any further incident. The issues regarding the accident were resolved through modifications to the drill rig apparatus. The incident was not recorded as time lost and the paperwork is on file with USACE and maintained at the site. Copies of the various forms regarding the incident are included as Appendix E of this document.

3.3 Hydraulic Control

As presented in the August 2003 RAMP, the objective of the hydraulic control system was to lower the groundwater surface elevation inside the treatment area (as measured in the internal wells) relative to the groundwater surface elevation surrounding the treatment area (as measured in the perimeter wells). This was to be accomplished by reducing the head on the up-gradient side of the treatment area in order to level the gradient within the treatment area. Acting on this leveled gradient, the MPE wells further enhance hydraulic control by forming a depression in the upper portion of the water table within the treatment area.

Groundwater removed by the HCWs and MPE wells was treated in the LWMS and discharged either to down gradient non-pumping hydraulic control wells (injection wells) or to the infiltration trench system northwest of the treatment area. Discharging treated water to the down gradient HCWs served to raise the head down gradient of the site thereby working with the up gradient pumping hydraulic control wells to flatten the gradient within the treatment area . Because the MPE wells created a number of small cones of depressions internal to the treatment area boundary, the hydraulic gradient measured in internal monitoring wells exhibited an inward gradient from the site boundaries towards the nearest active MPE well(s). The location and radius of influence of the MPE wells was also dependent on the permeability of the Qvr stratigraphy (see Section 2.1.2 for site-specific geology details) in the vicinity of each well. The perimeter monitoring wells were less affected by the hydraulic control system and were used to determine the overall local direction of groundwater movement.

The hydraulic control scenario was reviewed on a daily basis and modified to best maintain a level gradient across the treatment area. Modifications included altering extraction rates at individual HCWs; changing which wells were being utilized for extraction and injection; installing two additional HCWs in the Northeast portion of the site to target groundwater removal from the high permeability zone at approximately 262 feet MSL; and installing additional MPE wells to increase extraction points at site boundaries. In general at least one component of the hydraulic control system, extraction or injection at the HCWs or MPE, was functioning throughout the duration of NAPL Area 1 Operations. On those occasions that the vapor recovery system shut-down due to system alarms, the hydraulic control system extraction/injection components remained in operation.

The hydraulic control system began operation on December 9, 2003 and ceased operation on August 26, 2004. Hydraulic control wells utilized for extraction during the course of ERH

operations at NAPL Area 1 included HCW01, 02, 03, 04, 07, and 08 while HCW05 and HCW06 were only utilized for injection. The days of operation, the maximum sustained yield (based on field performance of the wells rather than any specific pump tests) and total volumes extracted from each Hydraulic Control Well utilized during NAPL Area 1 Operations are presented below in Table 1. Information regarding the location of the wells as well as pertinent construction details (i.e., screen elevations, etc.) was submitted to USACE for inclusion in a memorandum to Ft. Lewis Log Center for the Underground Injection Control (UIC) Program. A copy of the memorandum is included in Appendix F.

Table 5: Hydraulic Control Well Operations Duration and Yield

Details	HCW01	HCW02	HCW03	HCW04	HCW07	HCW08
Total Days of Operation	173	243	80	58	43	39
Maximum Sustained Yield[(a)] (gpm)	36	15	32	20	40	20
Total Volume Extracted (gallons)	6,680,446	4,117,258	4,632,087	1,608,288	2,463,905	1,033,542

Notes: a: Maximum sustained yield is based on field measurements of wells performance. Wells were pumped at variable rates at or below the sustained yield rate (see Daily Reports in Appendix A).

The yield from the hydraulic control wells, while within the specification for discharge from the LWMS, briefly exceeded the capacity of the system during the spring of 2004 to adequately process influent. Consequently, effluent from HCW07 and HCW08 bypassed the LWMS (with USACE approval) for a short period of time during late April and early May 2004 (see Daily and Weekly Reports in Appendix A during that period for further details). The combined flow rate from the wells, detailed in the Daily and Weekly Reports, ranged from approximately 40 to 70 gallons per minute. Analytical results of the effluent from HCW07 and HCW08 (collected and analyzed daily) indicated that the groundwater concentrations were below maximum contaminant levels and, therefore, within compliance levels for discharge directly to the infiltration galleries. The issue regarding the LWMS was resolved by installing pumps in the sparge tanks to assist the processing of water through the treatment system.

A complete record of the hydraulic control for NAPL Area 1 is provided in Appendix A.

3.3.1 Groundwater Contours and Pressure Transducers

Groundwater contours were posted daily on the project website to display hydraulic control from a water elevation perspective. A snapshot of the changes in the hydraulic control contours over the duration of the operational period is provided in Figure 10: General Hydraulic Control Contours (the separate groundwater contour figures are also presented in Appendix A with greater clarity).

Water levels in wells located outside the treatment area were obtained with a handheld water level indicator. Groundwater elevation data from within the treatment area was primarily obtained from vibrating-wire transducers. Before the treatment area reached temperature, water levels recorded by the vibrating wire transducers were also verified with a handheld water level meter. The water elevation verification activity was implemented since the contract specified vibrating wire transducers either did not respond or often produced suspect data at a number of locations. Once the subsurface had reached temperature, the casings containing the transducers were sealed and verification of transducer output with handheld meters became impossible.

The difficulties associated with vibrating-wire transducers included calibration issues and errant readings (i.e., readings differed from water level measurements obtained by hand). In addition, the vibrating-wire transducers required modification of the wellhead configuration (presented in the July 2004 Final Installation Report) to maintain the transducer desiccant chamber above the water line. The original design specifications from the vendor did not require a modified desiccant chamber. The vendor and a USACE representative worked with site operations personnel to attempt to resolve some of the issues with the product, however, by the start of operations, only 15 out of 20 vibrating-wire transducers were operable and two more subsequently failed to provide further data output midway through the operational period. Over the course of NAPL Area 1 treatment, two additional vibrating-wire transducers failed to provide reliable data (i.e., high fluctuation margin in data output or no data output at all). Two of the failed vibrating-wire transducer locations were replaced with non-contract specified pressure transducers that performed adequately for the operational period.

3.3.2 Site-Specific Hydrogeology and ERH System Impacts

For the purpose of this discussion the definitions of the terms “aquifer” (materials that are of relatively high permeability) and “aquitard” (confining bed that retards but does not prevent the flow of water to an adjacent aquifer) are adapted from the conceptual site model in the October 2002 FIR. Within NAPL Area 1, the Qvt acts as an aquitard, retarding the migration of groundwater and contaminants from the Qvr, which acts as an aquifer (refer to Section 2.1.2 for detailed, site-specific information concerning the local geology). Additionally, the Qvt is an intermediate aquitard that separates the upper and lower units of the Qvr. The Qvt is somewhat laterally continuous with a lower boundary at approximately 239 feet MSL and an upper boundary at approximately 245 feet MSL.

Conclusions based on previous pumping tests, slug tests, laboratory and tracer tests, report the likely Qvr horizontal hydraulic conductivity to range from 10 to more that 1,000 ft/day and vertical hydraulic conductivity values that range from 0.004 to 30 ft/day. Additional tracer tests performed in the vicinity of NAPL Area 3 in June of 2004 yielded horizontal hydraulic conductively values of 15 to 24.2 ft/day (Tamzen, K. Sorensen July 13, 2004).

Observations during drilling (including well logs, observations of drill stem and casing advancement, and the volume of water generated from the boring at different depth intervals) confirmed that the stratigraphy of the Qvr is heterogenic with variable amounts of silts, sands, gravels, and cobbles. In general, beds containing large amounts of sands, gravels and cobbles exhibit hydraulic conductivity within the high range while beds with increased silt content exhibit hydraulic conductivity in the lower part of the range stated in the previous paragraph. Although the stratigraphy in NAPL Area 1 is heterogenic even between adjacent boreholes, more gravels and cobbles, and hence higher hydraulic conductivities are present in the 257 to 262 feet MSL interval in the northeastern and southwestern corner of the site.

Whether dense (till) or loose (ice contact), the Qvt is a unit of low-permeability. In most boring locations NAPL was not observed below the upper surface of the Qvt. Slug tests performed on the ice contact and till deposits during the FIR reported a hydraulic conductivity range produced flow rates of between 2 to 20 ft/day. Laboratory permeability measurements from the same study yielded permeability measurements ranging from 0.0097 to 0.9 ft/day (FIR October 2002).

3.3.2.1 Groundwater Flow Gradient

The majority of the groundwater flow data collected in NAPL Area 1 was obtained during system operation. Consequently, the local shallow groundwater flow was affected by the hydraulic control system, which eventually included eight HCWs surrounding the site and variable MPE locations located within the treatment area.

Based on studies accomplished in the site vicinity, regional groundwater flow within the Qvr is generally toward the northwest; however, the local gradient at NAPL Area 1 was found to deviate from the regional gradient based on a number of factors. On November 20, 2003 (prior to start-up of any NAPL Area 1 operations, including the hydraulic control system) a baseline groundwater measurement was accomplished. Groundwater was determined to flow to the northwest with a hydraulic gradient of 0.003 ft/ft. The average groundwater surface elevation was just below 270 feet MSL (approximately 269.8 feet MSL) and was rising as a result of influence from winter precipitation.

Upon start up of the hydraulic control system, the direction of groundwater flow measured in perimeter wells transitioned to the southwest with the rise in the elevation of the water table. Subsequent water level elevations obtained from the perimeter wells indicated the groundwater surface continued to rise to a high of approximately 271.1 feet MSL on February 6, 2004, and maintain a southwest direction with a hydraulic gradient of 0.001 ft/ft. The groundwater surface elevation then began to decrease as the region experienced lower than normal spring precipitation.

The local groundwater gradient maintained a southwest direction until the week of June 8, 2004 when the gradient measured in perimeter wells decreased to near 0 and the direction of groundwater flow became stagnant. The gradient and flow direction remained in transition until early July when the flow direction began to shift to the northwest. On July 7, 2004 the flow was to the northwest with a hydraulic gradient of 0.001 ft/ft. This flow direction and gradient continued through the end of operations in the first week of August 2004. The seasonal transition of the local flow direction observed at the site occurred at groundwater elevations of approximately 269.8 feet MSL in the northern portion of the site and 269.2 in the southern portion of the site.

In addition to the heterogeneity of the Qvr and the immediate response of the aquifer to rainfall, the seasonal transition of the groundwater flow direction may be affected by surface water features in the vicinity of the site. Murray Creek, a permanent stream with its headwaters located at a spring southwest of NAPL Area 1, has been determined to be a gaining stream in the vicinity of NAPL Area 1 under certain conditions. The upper spring area may periodically be flooded by rain events and/or high groundwater (FIR October 2002). The invert of this surface water feature is very close to an elevation of 269.5 feet MSL. When the groundwater table is below this elevation Murray Creek ceases to exist in the vicinity of NAPL Area 1. Although some impact to ground water flow at NAPL Area 1 is likely in a low water table condition, the extent of these impacts are unknown. When the groundwater intersects or rises above the invert of this surface water feature, the creek could act as a drain southwest of the site resulting in a southwest flow direction at NAPL Area 1.

The high permeability units, especially at the 257 to 262 feet MSL interval, created difficult subsurface heating scenarios with the variable flow direction and high hydraulic conductivity. The hydraulic control system presented adequate control of the general upper water table elevations, but the thermal signatures from the ERH application revealed the highly permeable subsurface intervals where cooler groundwater flow exceeded the system design for hydraulic control. Consequently, the influx of the cooler groundwater to the site, which was variable throughout the operations, served to cool the treatment boundaries at various subsurface intervals, ultimately impacting the overall heating rate and site temperature averages (see Appendix A for temperature contours that were developed during operations).

3.3.2.2 Hydraulic Control and Thermal Signatures

In addition to the information presented in the previous sections, the dynamics regarding the hydrogeology and the impacts on the ERH system were also monitored by the subsurface thermocouples. The data from the TMPS assisted in pinpointing the highly transmissive intervals that allowed for the migration of cooler groundwater into the treatment area beyond the zone of influence of the hydraulic control wells. This detail of information is present in Appendix A in the temperature contour diagrams.

The information from the TMPs also allowed for tracking of the migration of heated groundwater out of the treatment area which was evidence by the increased subsurface temperatures at several monitoring well locations located outside of NAPL Area 1. Several external monitoring well locations along the eastern boundary of NAPL Area 1 (MWJ01, MWP07, and MWN02) experienced acute temperature increases during the summer months. Temperature changes in these wells were as high as 30°C per day and gave a strong indication of seasonal ground water flow direction changes. Each of these external temperature increases were successfully countered with changes in the hydraulic control configuration.. The increased temperatures, though, did not directly correlate to the migration of site contaminants. Continued sampling of the monitoring well locations (including the deep interior wells within the treatment area) indicated that there was not a significant increase, if any, of groundwater contaminant concentrations at locations outside of the ERH treatment area (see Appendices A and D for details regarding analytical results).

4.0 SAMPLING AND MONITORING ACTIVITIES AND ANALYTICAL RESULTS

As previously stated, the NAPL Area 1 analytical data and monitoring results were posted to the project website on a daily and weekly basis; and summarized in weekly and monthly reports (also posted on the project website). This information has been compiled and is presented in Appendix A of this report on a compact disk. All sampling activities were conducted in accordance with the protocols detailed in the SAP of the August 2003 RAMP. Modifications to the SAP were addressed in weekly conference calls with the project team and USACE as part of a dynamic work plan process. Since an on-site laboratory was employed for most of the duration of operations, the preliminary analytical results for a groundwater or air sampling event were usually available within 24 hours on the project website.

For the purposes of this report, summation tables have been created for temperature data and the results of groundwater, and vapor analyses. The tables provide a quick reference point for the baseline data, results from several midpoint markers, and the final operational data results. Due to the size of these tables, they have been included in this report as Appendix G. Comprehensive data and monitoring results are presented in Appendix A of this document.

4.1 Data Quality Review Methodology

Analytical data from the on-site laboratory, Field Portable Analytical, Inc. (FPA), and the off-site laboratory, Columbia Analytical Services, Inc. (CAS), were subjected to several iterations of data quality review. The initial, preliminary review of the FPA data was conducted on-site by the Field Chemical Quality Control (QC) Officer and was later reviewed in final format by the Project Chemist.

Air and water samples collected from the Fort Lewis EGDY between November 6, 2003, and August 4, 2004 were analyzed for volatile organic compound (VOC) and total petroleum hydrocarbon (TPH) by FPA while CAS provided analyses of split samples and select primary samples. Data quality review was performed on a monthly basis and documented in the form of Data Quality Review (DQR) Reports posted to the project website.

The data quality reviews did not include review or validation of raw analytical data from FPA. The Field Chemical QC Officer generated Daily Chemical Data Quality Control (DC/DQC) Reports and Preliminary Data Review (PDR) Reports based on review of raw analytical data from FPA.

DQR Reports reference the guidance documents utilized for evaluation of the data and include project–specific requirements given in the USACE approved Quality Assurance Project Plan (QAPP) of the August 2003 RAMP. The data quality indicators (DQIs) of precision, accuracy,

representativeness, comparability and completeness were assessed by the following data QC parameters: daily calibration checks; method blanks, trip blank and purge blanks; surrogate spikes; matrix spikes and matrix spike duplicates (water samples only); laboratory and field duplicates; interlaboratory split samples; and performance evaluation samples.

Initial calibration and internal standard parameters were incorporated into the review of the data when comments on the DC/DQC Reports and/or PDR Reports warranted further investigation.

4.2 Data Quality Review for VOCs in Air and Water Samples Analyzed by the On-Site Laboratory (FPA) and the Off-Site Laboratory (CAS)

A total of 870 air samples and 858 water samples were submitted to FPA for analysis and a total of 58 air samples and 46 water samples were submitted to CAS for analysis. The samples were analyzed within the maximum recommended holding times of 3 days for air samples collected in Tedlar bags, 30 days for air samples collected in Summa canisters, and 14 days for water samples. The frequency of collection and analysis of field and laboratory QC samples met the QAPP requirements. While data quality reviews of the results generated by FPA were found to be generally useable for the intended purpose of the data, results for approximately 32 percent of the air samples collected in July were "J" qualified due to instrument calibration anomalies. No CAS data were qualified because of data quality issues. Data quality issues and their affect on the project DQIs are described below.

4.2.1 Initial Calibration

Initial calibration data from FPA was not routinely included in monthly data reviews. PDR Reports reference the calibration curve used to quantify each data set, and the accuracy of the calibration curve as percent recovery of a second source initial calibration verification standard (ICV).

Initial calibration data from CAS was not included as part of the monthly data reviews.

4.2.1.1 Initial Calibration for Air Sample Analysis

According to the DC/DQC Reports and PDR Reports, FPA's instrument calibrations appeared to be accurate and compliant with Method TO-15 during air sample analysis, except as described below.

- DC/DQC Reports documented that, due to instrument malfunction and time constraints, single-point calibrations were used to quantify samples analyzed June 30, 2004, July 9, 2004, and July 12, 2004. Single point calibration does not meet Method TO-15 requirements and is not sufficient to determine the linearity, sensitivity, and calibration range of the instrument.

Consequently, a "J" qualifier was assigned to all data associated with the analytical sequences quantified using single point calibration.

- During the analysis of air samples on July 21, 2004, FPA experienced instrumentation anomalies that warranted recalibration. However, due to time constraints, rather than generating a new five-point initial calibration, FPA elected to perform analyses using an imported 5-point calibration curve from July 12, 2004. The imported July 12, 2004 calibration was used to generate data for four analytical sequences ran July 21, 22, 23, and 26, 2004; a daily calibration check (CCAL) was analyzed with each sequence and a Performance Evaluation (PE) sample was analyzed July 23, 2004.

Acceptable CCAL and PE sample data were not adequate to equate the current instrument operating conditions with imported calibration data. Consequently, all data associated with the imported calibration curve (eight air samples collected in June and 89 air samples collected in July) were "J" qualified. Further detail is provided in the DQR Report for July/August, 2004 (see Appendix A). The Project Chemist recommends that the analytical results from these unacceptable initial calibrations should be considered estimated values.

4.2.1.2 Initial Calibration for Water Sample Analysis

According to the DC/DQC Reports, PDR Reports and communication with FPA, all water samples were analyzed under conditions of acceptable five-point calibration curve and not impacted by the single-point and imported calibration curves. However, in July 2004 there was a discrepancy noted regarding initial calibration documentation for water sample analysis. The discrepancy did not affect data quality and the DQR Report for July/August, 2004 in Appendix A provides further detail.

4.2.2 Daily Calibration Checks

Method TO-15 specifies that a check of the calibration curve be performed every 24 hours and that the percent difference between the relative response factors (RRFs) of the daily calibration check (CCAL) and the mean RRFs of the initial calibration must be less than 30 percent. Method 8260B specifies that a check of the calibration curve be performed every 12 hours and that the percent difference between the RRFs of the CCALs and the initial calibration mean RRFs must be less than 20 percent.

Because the raw data with response factors were not available for the data quality reviews, FPA's CCAL data was evaluated against recovery limits (70-130 percent for air analysis; 80-120 percent for water analysis, as specified in the Quality Assurance Project Plan [QAPP]). CCAL recoveries for all analytical sequences of air and water samples were generally acceptable with sporadic excursions that warranted only minor qualification (J) of the data.

The sole exception to this general statement involves TCE data from FPA's April 20, 2004 SIM analysis of water sample INJ02A1041904. This data was rejected due to high TCE recovery in both the opening (186 percent) and closing (171 percent) CCAL of the SIM analysis sequence. TCE data for this sample was available from the full-scan analysis, so there was no adverse impact on the overall data usability for the project.

CCAL data from CAS was not included as part of the monthly data reviews.

4.2.3 Method Blanks, Purge Blanks, and Trip Blanks

Method blanks are used to monitor for contamination introduced by the laboratory during sample preparation and analysis. Target analytes were generally not detected in the method blanks associated with the analysis of air and water samples by FPA and CAS.

Purge blanks are collected by drawing air through the sampling pumps into Tedlar bags and are used to monitor for potential contamination introduced during the sampling process. TCE was periodically detected in approximately 39 percent of the purge blank samples, analyzed by FPA, at concentrations less than 20 percent of the TCE concentrations in the associated field samples. Data usability was not adversely affected by the potential TCE carryover. CAS did not analyze purge blanks.

Trip blanks for water samples are aliquots of analyte-free water that are placed in the sample containers at the analytical laboratory and sent into the field with the containers used to collect field samples. Target analytes were detected in approximately two percent of the water trip blanks analyzed by FPA. No target analytes were detected in the water trip blanks analyzed by CAS.

Trip blanks for air samples are empty Summa canisters, which accompany the Summa canisters used to collect field samples from the laboratory, into the field, and then back to the laboratory for analysis. Target analytes were detected in one of the three, or approximately 33 percent, of the air trip blanks analyzed by CAS. FPA did not analyzed air trip blanks.

4.2.4 Internal Standards

Internal standard recoveries were not reported by FPA or CAS and could not be evaluated for potential effects on data usability. The following two anomalies related to internal standard recovery of samples were found in the data review process:

- FPA "J" qualified results for air sample MSTS01A1042704, analyzed on April 27, 2004, as having internal standard recovery outside of the 50 percent to 200 percent acceptance limits.

The DC/DQC Report for June 22, 2004, documents that the internal standard gas cylinder was changed in the middle of the analytical sequence of air samples analyzed by FPA, resulting in potential high bias of the data that did not warrant qualification. Since the on-site laboratory internal standard recovery data was not provided, the DC/DQC Reports for April and June reflect the laboratory's assessment of data qualification.

4.2.5 Surrogate Spikes

Surrogate spikes are used to evaluate accuracy and method performance in each individual sample. Surrogate recoveries in all air and water field samples, and most associated QC samples, were within the QAPP-specified acceptance limits.

FPA evaluated surrogate recovery in CCALs and method blanks (MB) for air and water against 70 to 130 percent acceptance limits rather than the QAPP-specified 80 to 120 percent acceptance limits. Because all excursions of surrogate recoveries for CCALs or MBs were within the 70 to130 percent limits, TO-15 and EPA 8260B do not have specific surrogate recovery criteria and, based on professional judgment, data usability is not adversely affected.

All surrogate recoveries reported by CAS were within the QAPP-specified acceptance limits.

4.2.6 Laboratory Duplicates

FPA analyzed air and water samples in duplicate with each analytical sequence sufficient to meet the QAPP-specified frequency of 10 percent. The relative percent differences (RPDs) between primary and duplicate results were generally within the QAPP specified limit of less than 25 percent, demonstrating adequate laboratory precision. Based on the professional judgment of the data review team and Project Chemist, the excursions that occurred for single analytes in laboratory duplicate samples OXSS01A1011504, MWH1501A1011304, INJ01A1050304, OXIN01A1060304, MPEC0701A1071504, MSTS01A1072104 and OXIN01A1072204 do not adversely affect data usability.

CAS analyzed three laboratory duplicates with 35 primary perimeter air monitoring (PAM) samples for an analytical frequency of approximately 8.5 percent. In all cases, RPDs between primary and duplicate concentrations met the QAPP-specified acceptance limit of less than 25 percent.

4.2.7 Matrix Spikes and Duplicates of Water Samples

Matrix spike (MS) recovery indicates a laboratory's ability to successfully recover analytes in a sample matrix. MS and matrix spike duplicate (MSD) recoveries and precision were within the QAPP-specified acceptance limits of 70 to 130 percent recovery and less than 30 percent RPD

with the exception of ten samples. Qualification of the data was not warranted for eight of the ten samples as detailed in the DC/DQC Reports.

Results of samples LC21001A1071504 and MWF1101A1072004 were qualified as described below.

- FPA performed matrix spikes on sample LC21001A1071504 on July 19, 2004. TCE recoveries were low at 54 percent in the MS and 62 percent in the MSD. The TCE result from this sample was "J" qualified because of a possible low bias in the analytical result.
- FPA performed matrix spikes on sample MWF1101A1072004 on July 22, 2004. TCE recoveries were low at 60 percent in the MS but acceptable at 77 percent in the MSD. Because the average recovery is below acceptance limits at 68.5 percent, the TCE result from this sample was "J" qualified because of a possible low bias in the analytical result.

MS/MSD recoveries and precision that did not require qualification demonstrate acceptable analytical precision and the absence of sample matrix interference.

4.2.8 Analytical Sensitivity

FPA and CAS were required to meet the following QAPP-specified sensitivity goals:

Table 6: Laboratory Sensitivity Goals

Analyte	Untreated Air and Mixed Vapor/Water (µg/m^3)	Treated Air (µg/m^3)	Perimeter Air Monitoring Samples (CAS only) (µg/m^3)	Untreated Groundwater (µg/L)	Treated Groundwater (µg/L)
1,1-Dichloroethene	24,000	1,000	67	70	7
cis-1,2-Dichloroethene	24,000	1,000	2,600	70	7
trans-1,2-Dichloroethene	24,000	1,000	2,600	70	7
Tetrachloroethene	24,000	1,000	1.1	5	0.5
1,1,1-Trichloroethane	24,000	1,000	6,400	200	20
Trichloroethene	24,000	1,000	0.59	5	0.5
Vinyl Chloride	24,000	1,000	0.012	2	0.2

Notes: µg/m^3 = micrograms per cubic meter

FPA was initially able to meet the 24,000 µg/m^3 sensitivity goal for untreated air and mixed vapor/water samples, with reporting limits ranging between 130 µg/m^3 and 340 µg/m^3 in undiluted analyses. Between June 22, 2004 and June 29, 2004, FPA's reporting limits changed to a range between 65,000 µg/m^3 and 170,000 µg/m^3 with detection limits ranging between 45,000 µg/m^3 and 120,000 µg/m^3. These detection and reporting limits were maintained through the end of July 2004, even in untreated air and mixed vapor/water samples without target analyte detections at these elevated detection and reporting limits.

CAS did not perform any analyses of untreated air samples.

FPA consistently met the 1,000 µg/m3 sensitivity goal for treated air samples, with reporting limits ranging between 130 µg/m^3 and 340 µg/m^3 in samples not requiring dilution because of elevated concentrations of target analytes.

CAS consistently met the 1,000 µg/m^3 sensitivity goal for treated air samples, with reporting limits of 1 µg/m^3 in samples not requiring dilution because of elevated concentrations of target analytes.

CAS met the primary sensitivity goal of method reporting limits less than the QAPP-specified sensitivity requirements for all analytes, except for vinyl chloride, in the PAM samples with reporting limits of approximately 0.030 µg/m^3 for all analytes except for vinyl chloride, with reporting limits ranging between 0.012 µg/m^3 and 0.018 µg/m^3. CAS was able to meet the secondary sensitivity goal of method detection limits less than the QAPP-specified sensitivity goal of 0.012 µg/m^3 for vinyl chloride with method detection limits ranging between 0.0072 µg/m^3 and 0.010 µg/m^3.

Both FPA and CAS were able to consistently meet sensitivity goals for treated and untreated groundwater samples.

4.2.9 Sampling and Analytical Precision

Field duplicate samples were collected to test both sampling and analytical precision, interlaboratory split samples were collected to test sampling precision, and laboratory duplicate samples were analyzed to test analytical precision.

4.2.9.1 Field Duplicates

Sixty-six field duplicate sets were collected with seven hundred fifty seven primary air samples and fifty-two field duplicate sets were collected seven hundred forty nine primary water samples, or 8.7 percent and 6.9 percent, respectively, meeting the QAPP-specified minimum frequency of 5 percent. RPDs between primary and field duplicate concentrations frequently exceeded the QAPP-specified limit of less than 25 percent RPD in air matrices for most target analytes. DC/DQC reports attribute the high RPDs to variability in sampling technique and the fluctuation of wellhead conditions during sample collection. For all analytes, RPDs between primary and field duplicate water samples were generally within the QAPP-specified limit of less than 30 percent for an aqueous matrix.

4.2.9.2 Interlaboratory Split Samples

FPA and CAS both analyzed nineteen water samples and six air samples as interlaboratory split samples between December 2003 and August 2004. A significant amount of RPD data is not

available due to CAS detecting analytes at concentrations below FPA's laboratory method reporting limits in both air and water sample matrices.

RPDs between concentrations of c-1, 2-DCE and TCE reported by FPA and CAS in OXIN01A1 air samples collected March 17, 2004 and May 10, 2004 exceeded the QAPP-specified acceptance limit of less than 30% RPD, ranging between 47 percent and 71 percent. RPDs between TCE concentrations reported by the laboratories in the OXSS01A1 samples were within the QAPP-specified acceptance limit. RPDs between concentrations of c-1, 2-dichloroethylene (DCE) and TCE reported by the laboratories in water samples collected between November, 2003 and March 10, 2004 averaged 37 percent and 31 percent, respectively.

A reason for the high RPDs was not apparent in the analytical data reviewed. At the request of the project team, both laboratories investigated possible causes, but no analytical anomalies were found. RPDs greater than 30 percent may be inherent in laboratory methodology differences between the on-site and offsite laboratories, and are also consistent with field duplicate variability. Results of interlaboratory split sample analyses by the laboratories were communicated to the USACE and not considered to compromise project DQIs.

4.2.9.3 Laboratory Duplicates

Both FPA and CAS analyzed air samples as laboratory duplicates but only FPA analyzed groundwater samples as laboratory duplicates. While field duplicates and interlaboratory split samples exhibited high RPDs, RPDs between laboratory duplicate samples were generally low, indicating good analytical precision.

4.2.10 Performance Evaluation Samples

Water PE samples and custom air standard PE samples were procured from independent sources and submitted to both on-site and offsite laboratories approximately monthly. Acceptance limits for the water PE samples are interlaboratory acceptance limits, derived from a nationwide interlaboratory program. TO-15 method-specified requirement of 70 percent to 130 percent recoveries for audit samples were used for the air PE sample acceptance limits. All reported concentrations were within acceptance limits for water and air PE samples analyzed by the offsite laboratory.

Water and air PE sample results obtained by FPA were generally within acceptance limits. January 2004 and February 2004 DQCRs detail corrective action taken by FPA for low vinyl chloride recoveries in the air PE samples. The March 2004 DQR report details corrective action taken by FPA for high 1,1,1-trichloroethane (TCA) recovery in the water PE sample. The April 2004 DQR details corrective actions taken by FPA for high tetrachloroethylene (PCE) and 1,1-dichloroethylene (1,1-DCE) recoveries in the water PE samples and low PCE recovery in the

air PE sample. The May 2004 DQR details corrective action taken by FPA for high TCA recovery and low trans-1,2-dichloroethylene (t-1,2-DCE) and cis-1,2-dichloroethylene (c-1,2-DCE) recoveries in water PE samples. The June 2004 DQR details corrective actions taken by FPA for high t-1,2-DCE and c-1,2-DCE recoveries in an air PE sample and low 1,1-DCE and t-1,2-DCE recoveries in water PE samples. Since FPA's PE sample recovery excursions were not exclusive to a particular analyte and did not exhibit trends (based on professional judgment and the intended use of the data), the exceedances do not adversely affect data usability.

Analyte recoveries were within acceptance limits in all PE samples analyzed by CAS.

4.2.11 Total Petroleum Hydrocarbon Analysis

TPH results in air samples analyzed by FPA were based on a daily single-point calibration using a diesel standard of approximately 3,600,000 $\mu g/m^3$, with an approximate carbon range of C_4 to C_{19}.. A "J" qualifier has been applied to all TPH results as estimated values because single-point calibration was used and TPH-specific QC was not prepared or analyzed. Additionally, because a diesel range standard was used, lighter gasoline range hydrocarbons and heavier oil range hydrocarbons may not have been identified as TPH in the samples. TPH results should be considered qualitative screening data rather than definitive and results should not be used quantitatively.

Air sample results reported as not detected (ND) for TPH reflect a qualitative assessment of the sample chromatogram by the analyst at the initial retention time of TPH elution. Sample analysis was stopped at this point if TPH response was not detected. Therefore ND results are reported without an associated method reporting limit and should be considered synonymous with TPH not analyzed (NA).

DC/DQC Reports state that due to shortened run times necessitated by instrumentation problems encountered June 30, 2004; and July 21-23, and 26, 2004, a TPH standard was not analyzed. The affected sample data is therefore designated NA (not analyzed) for TPH.

Analytical reports from FPA indicate show TPH as a target analyte for water samples and report ND results with no method reporting limit. Since FPA does not perform single-point TPH calibration in water, and analytical run time for water samples is not adequate to quantify TPH, it should not be reported as a target analyte for water samples.

4.2.12 Perimeter Air Monitoring Samples

PAM samples were collected seven times from six sampling locations between January 2004 and June 2004. PAM samples were analyzed by CAS rather than FPA due to the low reporting limits

required to meet Puget Sound Clean Air Agency (PSCAA) acceptable source impact levels (ASILs). All quality control criteria associated with the analysis of the PAM samples were met.

TCE and vinyl chloride concentrations exceeded PSCAA ASILs a total of five times each. The highest TCE concentration, 1.9 µg/m^3, was recorded at PAM06A1 on June 30, 2004, and the highest vinyl chloride concentration, 0.04 µg/m^3, was reported at PAM02A1 on April 30, 2004. Detected concentrations of all other target analytes were less than the PSCAA ASILs listed below:

Table 7: PSCAA ASILs

Analyte	PSCAA ASIL (µg/m^3)
1,1-Dichloroethene	67
cis-1,2-Dichloroethene	2,600
trans-1,2-Dichloroethene	2,600
Tetrachloroethene	1.1
1,1,1-Trichloroethane	6,400
Trichloroethene	0.59
Vinyl chloride	0.012

4.2.13 Completeness

Completeness is defined as the percentage of usable data out of the total amount of data generated. The QAPP-specified target goal for completeness as a whole is 98 percent for both field and analytical methods. Rejection of analytical data for the 757 primary air samples and 749 primary water samples was minimal and is described below. The 98 percent target goal for completeness was achieved.

- All air samples collected July 9, 2004, except OXIN01A1070904, are noted on the DC/ DQC Report as rejected due to a plugged sampling syringe during sample collection.
- Sample HCW0401A1072104, collected July 21, 2004, is noted on the DC/ DQC Report as rejected because the well was not operating during sample collection. This is a project operational issue, and is not reflective of laboratory procedures.

4.2.14 Conclusions and Recommendations

FPA's difficulty with initial calibrations and daily calibration checks exhibit one of the limitations of using an on-site laboratory. Since only a single instrument is available for analysis, any instrument malfunction can impede or shut down the analytical process, extending turn around times and affecting overall data quality. The trade off between data quality and faster turn-around times justifies using an off-site laboratory with a slightly longer turn-around-time (72 hours instead of 24 hours), instead of an on-site laboratory, in order to control uncertainty in data used for specific project decisions.

High RPDs between field duplicate results in the air samples along with low RPD between laboratory duplicates are indicative of sampling imprecision or a heterogeneous matrix. This may be overcome by collecting composite samples, using a flow controller, instead of collecting grab samples.

The data are generally useable for the intended purpose of determining the composition and mass of VOCs removed in order to assess the operating efficiency of the thermal remediation system with the exceptions noted in the previous section.

A summary of all analytical results and qualified analytical results may be found in Appendix H.

4.3 Contaminant Mass Removal Calculations

As indicated on the project website, the total mass collected during operations of the ERH remediation system was 2,576 kilograms (~8 55-gallon drums) of TCE, 405 kilograms (~2 55-gallon drums) of cis, 1-2 DCE and 40,171 kilograms (~214 55-gallon drums) of TPH. These totals consider mass recovered as vapors, dissolved phase, and NAPL process by the treatment system. In addition, approximately 11 55-gallon drums were eventually removed from the site and manifested by Ft. Lewis Public Works (hazardous waste manifests have been reproduced in Appendix I). Because the drum total included at least three containers of disposed piping and associated MPE sample collection jars clogged with NAPL residual solids, a determination or breakdown of the materials disposed of by Ft. Lewis has been approximated for the purposes of estimating the contaminant mass removed during operations.

An estimated mass of the NAPL residual solids, based on filling a 55-gallon drum to approximately 80 percent capacity (about 44 gallons), can be ascertained assuming the bulk weight of the NAPL residual solids is around eight pounds per gallon. The roughly estimated amount of NAPL residual solids (bulk) removed during operations at NAPL Area 1 in eight 55-gallon drums may be as high as 2,816 pounds or 1,277 kilograms, however, this estimate is based on field notes only.

The estimated mass at the site was established in the October 2002 FIR that was prepared to determine the extent of the contamination at the EGDY. The FIR did not discuss the uncertainties associated with the NAPL mass estimates based on the results of the investigation in great detail and should be considered an assumption of the true contaminant mass at the EGDY. Consequently, it is difficult to quantify the NAPL mass removed from NAPL Area 1 during the ERH in situ remediation project as a reduction value from the estimated NAPL mass presented by the October 2002 FIR. The uncertainties associated with the estimated mass in the FIR have been addressed in a summary prepared by USACE, which is included in this report in Appendix B.

The total mass removal quantity presented on the website was based on the analytical data and calculations used to derive a mass removal volume. The following subsections provide an overview of the collection points and calculations.

4.3.1 Contaminant Mass Removal Measurement

During operation of the ERH remediation system, soil gas, NAPL, water, and steam were extracted from an array of MPE wells and vent points. Upon extraction from the subsurface, the contaminants were separated into a condensate (water) stream and a soil gas (air) stream. Based on cumulative ERH and vapor recovery experience, more than 99 percent of the VOCs are recovered in the vapor phase with only minor VOC mass being recovered in the liquid (water) phase (with the exception of the recovery of pure NAPL). Since the bulk measurement of the NAPL residual solids is based on field notes and estimates only, it has not been added to the mass removed value shown on the project website.

4.3.2 Contaminant Removal in the Water Stream

The cumulative contaminant mass (i.e., CVOCs) removed in water totaled 2.078 kg as shown on Figure 1aa of the project website (see Appendix A for complete project website download). The mass of CVOCs removed from the hydraulic control well water as measured at sample point MSTINW totaled 0.288 kg. The mass of CVOCs removed from MPE water and vapor condensate as measured at the sample point NSTDW totaled 1.79 kg. The mass removed in water was tracked during operations based on daily and weekly sampling events and presented in Figures 1aa, 1f and 1c on the project website under the links for Mass; followed by subset Removal Rate by Media; followed by subset Raw Data for Vapor, Water, NAPL Removal Rate Figures. As shown in those figures, the amount of contaminant mass removed was negligible in comparison with the mass removed as vapor. The negligible amount of mass removed in water can be attributed to the elevated temperatures and high soil gas flow rates, which encourage partitioning of contaminants out of the dissolved phase and into the vapor phase (Henry's Law).

4.3.3 Contaminant Removal in the Soil Gas Stream

The majority of *measured* contaminants removed from the subsurface during the remediation process were contained in the effluent soil gas stream. Removal quantities were calculated by multiplying soil gas analytical mass concentrations by soil gas mass flow rates. The processes for collection of soil gas samples and soil gas mass flow rate parameters are described below in the following sections.

4.3.3.1 Soil Gas Sample Collection

Soil gas samples were collected using 1-liter, Tedlar bags. The Tedlar bags were filled at a single location identified as OXIN, which was immediately downstream of the condenser/heater

exchanger unit identified (refer to Figure 3). Typically, one sample was collected daily (Monday – Friday) during operations from December 10, 2003 through August 4, 2004.

4.3.3.2 Soil Gas Mass Flow Rate Data Collection

Soil gas mass flow parameters were collected at air stream locations identified as CCDA-1 and CDDA-2 (refer to Figure 3). Parameters used to calculate soil gas mass flow rate include absolute pressure, velocity head, temperature, relative humidity, barometric pressure, molecular weight of the soil gas, and cross sectional area of the pipe. Atmospheric pressure was assumed fixed at 30 inches (in.) mercury (Hg) and not measured. Relative humidity and gas molecular weight were also not measured (for calculation purposes, these values were considered constants). Sample point pressure was measured at CDDA locations and calculated with the 30-in. Hg value to obtain standard conditions. Cross-sectional area of the pipe is included in the "K" factor associated with the pitot tube used to determine velocity head. Soil gas mass flow rate parameters were measured daily each week (excluding holidays) from 12/9/03 until August 4, 2004. Sensors used to collect soil gas mass flow parameters included Magnehelic pressure gauges for pressures/vacuums, standard pitot tubes and averaging pitot tubes with a hand held thermocouple reader.

4.3.4 Summary of Limitations and Assumptions for Contaminant Removal Measurements and Calculations

The assumptions and limitations related to the analytical data are as follows:

- Acceptance limits for EPA laboratory method TO-15 are plus or minus 30 percent.
- Assume flow rates of the system are constant throughout each 24-hour sample period (one sample daily).
- Daily air samples versus 24-hour composite samples assumes that the chance of missing a spike in concentrations (thus underestimating the mass) is just as likely as the chance of collecting a spike in concentration (thus overestimating the mass). Figure 11: OXIN Concentrations for NAPL Area 1 Operations indicates a number of spikes in the data, which cannot be correlated to any specific field event (e.g., decreased or increased power input) and are consequently assumed to be related to highs and lows in daily concentrations.
- Variability in OXIN split samples between the on-site and offsite laboratories may be due to analytical error, by the onsite laboratory, cause by analyte carryover or the high dilution factors required, by the offsite laboratory, because of high analyte concentrations. The limited data set of 2 interlaboratory splits makes it impossible to determine the cause of the high analyte concentration variability.

The assumptions and limitations related to flow rate measurements are as follows:

- Assume gas is predominantly air.
- Assume the air stream was at water saturation since the velocity was measured between the condenser and the vapor recovery blower.
- Pitot tubes were installed perpendicular to the direction of flow. (Any deviation from perpendicular would yield lower than actual results.)
- Standard assumptions used in the Bernoulli equation and the perfect gas law are implied.
- Pitot tube data was used for the pipe cross sectional area (general pipe literature). It is also assumed that the cross sectional area remained constant (a calculation factor of 94 was used).

The estimated quantity of contaminants present in the subsurface prior to and during the ERH process should be considered speculative compared to the amount measured in the vapor stream since the amount of mass calculated to be present is based on assumptions in the October 2002 FIR. The original contaminants introduced to the subsurface could have been degraded, transformed, or removed through a variety of physical, chemical, and biological processes both prior to and during ERH application.

Calculations

$$\text{Removal}_x\left(\frac{\text{mass}_x}{\text{day}}\right) = \text{Contaminant Concentration}\left(\frac{\text{mass}_x}{\text{mass}_{gas}}\right) \times \text{Mass Flow Rate}\left(\frac{\text{mass}_{gas}}{\text{day}}\right)$$

$$\text{Removal}_x\left(\frac{\text{mass}_x}{\text{day}}\right) = \left(\text{ppbV} \times 10^{-9} \times \frac{MW_x}{MW_{gas}}\right) \times \left(\rho \times A \times v \times 86{,}400 \frac{\text{sec}}{\text{day}}\right)$$

where $\rho = 0.046 \times \frac{p_s \times MW_{gas}}{T}$

where $v = C_p \times 85.5 \times \sqrt{\frac{h_v \times T}{p_s \times MW_{gas}}}$

where $MW_{gas} = MW_{dry} \times (1 - B_{ws}) + 18 \times B_{ws}$

and $MW_{dry} = 0.44(\%CO_2) + 0.32(\%O_2) + 0.280(\%N_2 + \%CO)$

and $B_{ws} = \frac{RH \times P_{wsat}}{P_s} = \frac{\text{Partial press.water}}{\text{Abs.press.of air}} = \frac{\text{Volume water}}{\text{Total volume}} = \frac{\text{moles water}}{\text{moles total}}$

Nomenclature and Units Used in Calculations

A = cross sectional area of pipe at velocity measurement location $\left(ft^2\right)$

B_{ws} = Moisture content as volumetric fraction $\left(\frac{\text{volume water}}{\text{volume total}}\right)$

acfm = actual cubic feet per minute $\left(\frac{ft^3}{min}\right)$

C_p = pitot tube coefficient, dimensionless

h_v = average velocity head $\left(\text{in } H_2O\right)$

MW_x = molecular weight of contaminant x $\left(\frac{lbm_x}{pmole_x}\right)$

MW_{dry} = molecular weight of dry soil gas $\left(\frac{lbm_{dry}}{pmole_{dry}}\right)$

MW_{gas} = molecular weight of soil gas $\left(\frac{lbm_{gas}}{pmole_{gas}}\right)$

$mass_x$ = mass of contaminant x $\left(lbm\right)$

$mass_{gas}$ = mass of soil gas $\left(lbm\right)$

p_s = absolute static pressure at velocity measurement location $\left(\text{in Hg}\right)$

p_{wsat} = saturation water vapor pressure at the air dry bulb temperature (from sat. steam tables)

ppbV = parts per billion by volume $\left(\frac{moles_x}{moles_{gas}} \times 10^9\right)$

R_u = universal gas constant $= 1546 \frac{lbf \times ft}{pmole \times °R}$

RH = relative humidity (%) $= \frac{\text{water vapor pressure } (P_w)}{\text{saturation water vapor pressure at the air dry bulb temp } (P_{wsat})}$

scfm = standard cubic feet per minute $\left(\frac{ft^3}{min}\right)$ with standard conditions of 14.7 psia and 68 °F

T = temperature of soil gas stream at velocity measurement location $\left(°R = 460 + °F\right)$

v = velocity of the soil gas $\left(\frac{ft}{s}\right)$

ρ = density of soil gas $\left(\frac{lbm}{ft^3}\right)$

5.0 NAPL AREA 1 TERMINATION AND CONCLUSIONS

The unexpected site conditions presented in this report with regards to higher than anticipated groundwater flow at various subsurface intervals and locations, as well as the suspected buried metal debris in the northern region, led to a lengthier duration of system operations than originally planned and presented in the August 2003 RAMP.

Modifications were made to the system to enhance its effectiveness until significant portions of the site had obtained contract specification temperatures. While portions of the site still remained below contract-specification temperatures, the project team began looking at multiple lines of evidence to determine if heating in other portions of the treatment area that had apparently achieved contract specifications could be terminated to allow power to be redistributed to other areas.

Based upon review of all data collected concerning Area 1, it was determined that treatment in several portions of the area had reached a point of diminishing return and that power to these areas could be discontinued with out the risk of recontamination. The subsequent discontinuation of power at specific locations allowed TRS to focus energy input to locations that required higher power input to reach contract-specified temperatures or the boiling point of TCE at depth.

The following subsections provide a brief synopsis of the four treatment modifications that led to the eventual completion of ERH application at NAPL Area 1. The multiple lines of evidence used to evaluate the progress of treatment in NAPL Area 1 are supported by charts and tables that were compiled from data on the project website. The associated tables and charts are included with each referenced memorandum to USACE area presented in Appendix B of this report.

5.1 Summary of ERH Closure Plan

In mid June 2004, the project team established a plan for evaluating the need to continue power input at the electrodes surrounding specific TMP locations. The evaluation process was based on multiple independent lines of evidence. The original plan is contained in a memorandum dated June 17, 2004, which is presented in its entirety in Appendix B. The main components of the plan are listed below.

- Establish a list of all possible sources of site data that may be used to evaluate the extent and effectiveness of heating at given locations within the NAPL Area 1 subsurface.

- Determine which data already exists and present protocols for the collection and interpretation of data not currently being gathered by the project team.

- Organize the data into independent lines of evidence that may be used to determine whether or not particular locations of the NAPL Area 1 subsurface have been treated to the point of diminishing return.

- Use the independent lines of evidence to determine which, if any, NAPL Area 1 temperature monitoring locations can be deemed to have achieved the contract temperature specifications.

- Develop a plan to disconnect power to areas deemed to have achieved the contract temperature specifications and apply that power to portions of NAPL Area 1 that have not yet met specifications or to areas that need additional treatment.

Implementation of this process allowed TRS to more aggressively apply energy to those portions of NAPL Area 1 that had yet to reach contract temperature specifications. The plan also served as a basis for continuous evaluation of the remediation efforts in NAPL Area 1. The data for implementation of the plan was derived from the following sources:

- Soil screening data gathered from NAPL Area 1 prior to heating.
- Groundwater quality data from NAPL Area 1 gathered prior to heating.
- Groundwater quality data generated during heating of NAPL Area 1.
- Groundwater flow data collected before and during heating of NAPL Area 1.
- Vapor concentration data gathered from regional sampling locations.
- Vapor concentration data gathered from individual MPE wells.
- Subsurface temperature data generated throughout the heating process.

Based upon application of the independent lines of evidence, the following eight temperature locations were deemed as having met contract temperature specification:

- MWE07
- TE08
- TH05
- MWH06
- MWI07
- MWJ04
- TK04
- TK06

Electrodes surrounding these 10 TMPs were taken off-line in late June 2004. Consequently, TRS was able to focus site energy input into areas that had been historically below the contract temperature specifications due to high site hydraulic conductivity at discrete subsurface intervals (i.e., 257 to 262 feet MSL) and preferential groundwater flow pathways.

5.2 Additional Power Modifications

On July 15, 2004, TRS submitted a subsequent power modification memorandum to USACE outlining the four lines of evidence necessary for forming a basis for discontinuing power application at the electrodes surrounding an increasing number TMPs and for the eventual conclusion of ERH operations at NAPL Area 1.

The following table from the July 15, 2004 memorandum outlines the additional 14 temperature monitoring locations that TRS proposed as having satisfied the temperature specifications.

Table 8: July 11, 2004 Request for Consideration of Contract Specifications

Location	Temperature	Days at Temperature	Vapor Data (µg/m^3)	GW Data (µg/L)
TF05	All above Spec Temperatures	13 to 100 days	Peaked at 4,800,000 down to 1,100,000	NA
TH03	All but 262′ MSL above TCE Boiling Point	0 to 99 days	150,000 down to 49,000	NA
MWI08	All Above Spec Temperature	55 to 98 days	4,800,000 down to 2,400,000	22,000 down to 15,000
MWL07	All above Spec Temperature	36 to 102 days	7,500,00 down to 2,000,000	950,000 down to 9
MWL10	All above Spec Temp except 272′ MSL	0 to 119 days	26,000 to < 95,000	2,500 to <2
TM05	All above Spec Temperature	25 to 66 days	16,000,000 down to 120,000	NA
TK08	All above Spec Temp except 245′ MSL	0 to 98 days	7,500,000 down to 2,000,000	NA
TM08	All above TCE boiling temp	62 to 115 days	2,800,000 to 170,000	ND
TM10	All above Spec Temperature	13 to 142 days	26,000 to <95,000	NA
TH10	All above TCE boiling Temp	26 to 150 days	75M down to 2.8M	NA
TE04	All above TCE boiling temp except 262 and 245′ MSL	0 to 56 days	41,000 down to 12,000	NA
MWF03	All above TCE boiling temp except 262′ MSL	0 to 55 days	390,000 down to <95,000	52 µg/l
TG09	All above TCE boiling temp except 262′ MSL	0 to 110 days		
TG14	All above TCE boiling temp	2 to 102		

Notes**:** µg/m^3: micrograms per cubic meter; µg/L: micrograms per liter

The electrodes in close proximity to the TMPs and monitoring wells presented in Table 1 were subsequently disconnected from electrical service based on combined temperature data (sustained at contract specifications) and analytical results (decrease in concentrations). The actual number of electrodes removed from service was dependant upon electrode location in

conjunction with either the TMP or monitoring well location, as well as its location within the MPE region (e.g., if close to an underperforming region, an electrode may have continued on electrical service to assist subsurface temperature increase).

The July 2004 memorandum is presented in its entirety in Appendix B.

5.3 NAPL Area 1 Site Closure Plan and Cessation of Operations

TRS submitted a NAPL Area 1 Closure Plan Memorandum to USACE on August 2, 2004 (see Appendix B). The ERH application at NAPL Treatment Area 1 was terminated at USACE direction on August 4, 2004.

TRS submitted a NAPL Area 1 Treatment Summary to USACE on September 30, 2004 providing the documentation and data compilation necessary to validate the end of ERH treatment at the site. The following is a general summary of events that led to the cessation of NAPL Area 1 ERH operations:

- ERH treatment at 10 TMPs was deemed to be complete on June 17, 2004, based on independent lines of evidence and electrodes adjacent to those TMPs were taken off-line in order to redistribute higher power input to other locations of NAPL Area 1.
- ERH treatment at another five TMPs was deemed to be complete on July 20, 2004 and power input to electrodes surrounding those locations was redistributed to other regions of Area 1.
- On August 4, 2004, treatment at the remaining 17 TMPs was deemed to be complete and ERH treatment at Area 1 was stopped.
- The overall drop in mass removed versus power input (i.e., diminished returns) indicated by the analytical results and presented on various figures of the project website, including Figure 1.

5.3.1 Post ERH Site Temperatures and Groundwater Sampling

Subsurface temperatures at NAPL Area 1 will continue to return to ambient levels over and extended period of time post ERH- treatment. Some subsurface intervals may cool quicker than others depending on prevalent groundwater flow rates. The site temperatures are currently being tracked by USACE using a handheld meter and the existing thermocouples at NAPL Area 1. USACE personnel are also collecting groundwater samples on a sporadic basis to monitor the treatment area CVOC concentrations.

5.4 Conclusions

In general, the ERH remediation of NAPL Area 1was deemed to have satisfied the intent of the contract with USACE which specifies that that the Contractor shall design a remedy that maximizes NAPL recovery, minimizes time to implement the remedy, and meets the required temperatures and treatment duration for NAPL Treatment Area 1. Based on information presented in this report, certain modifications to the original RAMP Work Plan were implemented to counter the unexpected site conditions related to the dynamic groundwater flow rates and variations in direction. The modifications to the plan, based on the site groundwater conditions resulted in a longer duration than previously anticipated; however, the overall site was still able to meet the contract specifications with amendments for subsurface temperatures and durations of said temperatures. Based on a process of evaluation of multiple lines of evidence during the summer of 2004, the project team and USACE were able to conclude that the ERH treatment was successful and current operations could be terminated.

The ERH energy input was terminated on August 4, 2004. A conclusion memorandum was presented to USACE on September 30, 2004 and has been repeated in this report for continuity. The figures, analytical results tables and charts associated with that document are presented in Appendix B. Contract specification temperatures (90 degrees Celsius in the vadose zone and 100 degrees Celsius in the saturated zone for 60 days) were obtained in 193 (86 percent) of the 224 thermocouples monitored in Area 1 and 213 (95 percent) of these thermocouples reached the boiling point of TCE at depth. On average, thermocouples that reached design treatment temperature were maintained at that level for 70 days and those that reached the boiling point of TCE at depth were maintained at temperature for 97 days.

Hydraulic Control

It is now known that without substantial changes to the hydraulic control system it would have been difficult to achieve significant temperature increases along the south and southwestern boundaries of Area 1 even if the power density in those areas had been significantly increased. The presence of an undocumented interval at 262-257 feet MSL, approximately 15-20 feet bgs, that exhibited higher than anticipated hydraulic conductivity combined with an unexpected change in the direction of groundwater flow across the site, severely reduced the effectiveness of the hydraulic control system. Addressing these changed site conditions would have involved updating the hydraulic model for the site and re-installing a newly designed hydraulic control system based upon that model.

Subsurface Heating and NAPL Presence

Data collected at various stages of the project indicated that the central region of the Area 1 contained the most NAPL, followed by the southeast, southwest and north regions of the treatment area. In the northern half of Area 1, data indicated that the northeast corner was more

impacted by NAPL. In general, heating was most complete in the central, southeast, north, and southwest regions of Area 1, respectively. With the exception of the southwest boundary, those regions where the indications of NAPL presence were the greatest were also the areas that were heated the most efficiently and held at the boiling point of TCE longest.

While focused heating in the northeast corner of the site from late June through early August 2004 resulted in substantial increases in subsurface temperature, it did not result in the additional recovery of significant TCE mass. The data clearly indicated (see Appendix A and Appendix B) that continued heating in the northern half of Area 1 would not result in any additional NAPL removal from Area 1.

Vapor Concentration Trends

Vapor concentrations measured at the regional sampling ports and OXIN indicate that the recovery of vapor phase TCE across Area 1 peaked in early May 2000 and by mid July 2004 had reached asymptotic levels. Vapor recovery data is used as a principle criteria for determining the progress and the end point of the ERH treatment, the continuing decline in the reported mass removed in the vapor stream would appear to indicate remediation of the NAPL within the ERH treatment areas was complete and continued heating in any portion of Area 1 would not appear to result in any further, significant recovery of vapor phase TCE from the treatment volume.

Groundwater Data

Groundwater quality data shows that TCE concentrations in the treatment volume peaked as NAPL transitioned to the dissolved phase and then dropped to levels below starting concentrations. Prior to the start of ERH treatment, groundwater concentrations within the perimeter of NAPL Area 1 were as high as 2700 µg/L (see December 5, 2003 groundwater data in Appendix A). The July 30, 2004 groundwater data results indicate the highest concentration of TCE in a groundwater monitoring well (MWI08A1) within the treatment area is now 220 µg/L (duplicate sample results) and the average concentration is 57 µg/L. The groundwater data indicates an overall reduction in contaminant concentrations and the potential elimination of NAPL within the Area 1 treatment volume. Groundwater concentration summation tables are presented in Appendix G. The analytical data and representative charts and figures presented on the project website are available in Appendix A.

No Foreseeable Potential for Rebound

Vapor phase and groundwater data show that all sources of NAPL within Area 1 have been removed and that the goal of the ERH treatment effort appears to have been accomplished. Several portions of Area 1 that had been offline for over 40 days as of August 4, 2004, had not indicated an increase in contaminant concentrations during that "cooling down" period. Post ERH data has not been fully developed at this time, however, the early vapor and groundwater data (i.e., taken during operations in regions that had been removed from ERH input) results

suggest that the possibility for rebound of TCE concentrations in those regions is minimal to non-existent. Further post-ERH sampling will provide more information regarding the existence or the lack of potential rebound.

Cost Effectiveness of Continued Operations

Continued operations of the ERH treatment system would result in the consumption of significant quantities of natural resources, propane and electrical energy, and the expenditure of funds for the rental and maintenance of equipment, sampling and analyses, and general operations of the site in return for a comparably insignificant recovery of TCE mass. The return in TCE mass recovered in vapor was tracked throughout the project (see Appendix A; Mass; Remediation Rates; Figure 1) that showed the eventual decline of TCE recovery to 2 kg a day (and less at times). The decline in TCE vapor return was one of the criteria used to determine the success of the site remediation and to evaluate the cost effectiveness of continued operation.

5.5 Lessons Learned

The lessons learned during construction and installation, documented in the Final Installation Report, have been applied to the RAMP Work Plan Addendum for NAPL Area 2. The operational lessons learned are presented here and have also already been applied to the ERH Remediation Application of NAPL Area 2.

Hydraulic Control

As presented in this report, the dynamic hydrogeology at the EGDY can have an adverse impact on the ability of the ERH system to adequately heat the subsurface if a robust hydraulic control system is not instituted. Consequently, additional HCWs are proposed for NAPL Area 2 and the locations will be dependant on the lithologic and groundwater information developed during the installation process and early operations period. In contrast, the HCW locations for NAPL Area 1 were based solely on input from groundwater modeling. Based on thorough evaluation of the boring logs by the project geologists, seven extraction wells will be installed prior to the initial start of operations for NAPL Area 2. Additional extraction well locations will be installed as needed based on thermal signature flow patterns that can be determined during the first several weeks of operations. The HCW well's screened interval has also been modified to optimize the extraction or injection rates at each location.

Sample Frequency and Data Management

Based on the decision-making process employed for NAPL Area 1, it was determined that 24-hour sample analysis turnaround times were not necessary to evaluate and respond to the site data. The sampling frequency and total number of weekly air and water samples have been adjusted to reduce costs. A weekly total of combined air and water samples have been set at 26 samples, rather than the total of 15 air or water samples on a daily basis used at NAPL Area 1. In addition, the turnaround time for analysis has also been adjusted to 72 hours, which eliminates

the need for an on-site laboratory. It is expected that the change in the sampling frequency and turnaround times will also impact the time needed to maintain the project website.

The aforementioned adjustments for NAPL Area 2 operations will not have an impact on the Data Quality Objectives for the project since it was shown during NAPL Area 1 operations that daily analytical results did not result in changes to the system to achieve a successful outcome. The system monitoring process, such as the temperature and groundwater elevation data, which will continue on a daily basis, were more influential in determining adjustments to the treatment system on a daily and or weekly basis.

Pressure Transducers

TRS has requested the replacement of the contract-specified vibrating-wire transducer with a standard pressure transducer designed to withstand the site conditions.

The difficulties and time spent evaluating and correcting the numerous problems associated with vibrating-wire transducers have been detailed in Section 3.3.1 of this report as well as the weekly reports associated with operations and correspondence with USACE. A standard pressure transducer was evaluated during the NAPL Area 1 operations and was found to be reliable. In addition, the vendor is local which would expedite any need for corrective actions at the site during NAPL Area 2 operations.

Electrode Design

Based on the encounters with suspected buried metal debris at NAPL Area 1 and the resulting lower performance of the electrodes at approximately 15 feet bgs in the northern region of the site, the electrode design for NAPL Area 2 has been modified to address any possibility of buried metal debris in the shallow subsurface. A number of electrode pairs will be installed at NAPL Area 2 that consist of both shallow and deep electrode components which will allow for the circumvention of buried metal debris. TRS evaluated the geophysical surveys for NAPL Area 2 and, combined with the knowledge gained from NAPL Area 1 operations, selected a number of locations for the installation of the electrode pairs.

Monitoring Well Screen Interval

The monitoring well screen interval for NAPL Area 2 has been adjusted to incorporate the entire saturated interval from the top of the till (approximately 245 feet MSL) to the top of the saturated zone (approximately 270 feet MSL). The adjustment has been made per a recommendation from USACE to eliminate discrete sampling intervals for groundwater (NAPL Area 1) and to develop a better composite of the saturated zone concentration levels.

Infiltration Gallery Construction

During the operations of NAPL Area, there were several issues associated with discharge capacity from the LWMS. As a result, further observation of the existing infiltration gallery

indicated that the system was not performing to design specifications. Site personnel excavated the gallery and determined that the perforations were clogged with native material and the backfill (undersized at the time). A new infiltration gallery with appropriately sized backfill and a protective lining was installed to enhance the existing gallery. In addition, the issues with the existing gallery were addressed (increased the size of the backfill). The current infiltration galleries will be used for NAPL Area 2 operations.

Time-Integrated Average Air Sample Collection

Grab samples for air/vapor influent was the primary collection method for NAPL Area 1 operations. While the information was deemed adequate for the operational monitoring, time-integrated average air/vapor influent samples (an eight or ten-hour collection period) will be the primary collection method for NAPL Area 2 operations. The change in sample collection method should eliminate the variability in sample results that are more apparent with grab sample methods.

6.0 REFERENCES

Ft. Lewis Public Works. July 2004. Final Installation Report for NAPL Area 1, In Situ Thermal Remediation (Electrical Resistance Heating), East Gate Disposal Yard, Ft. Lewis Washington, Prepared by US Army Corps of Engineers, Seattle District in association with Thermal Remediation Services, et al.

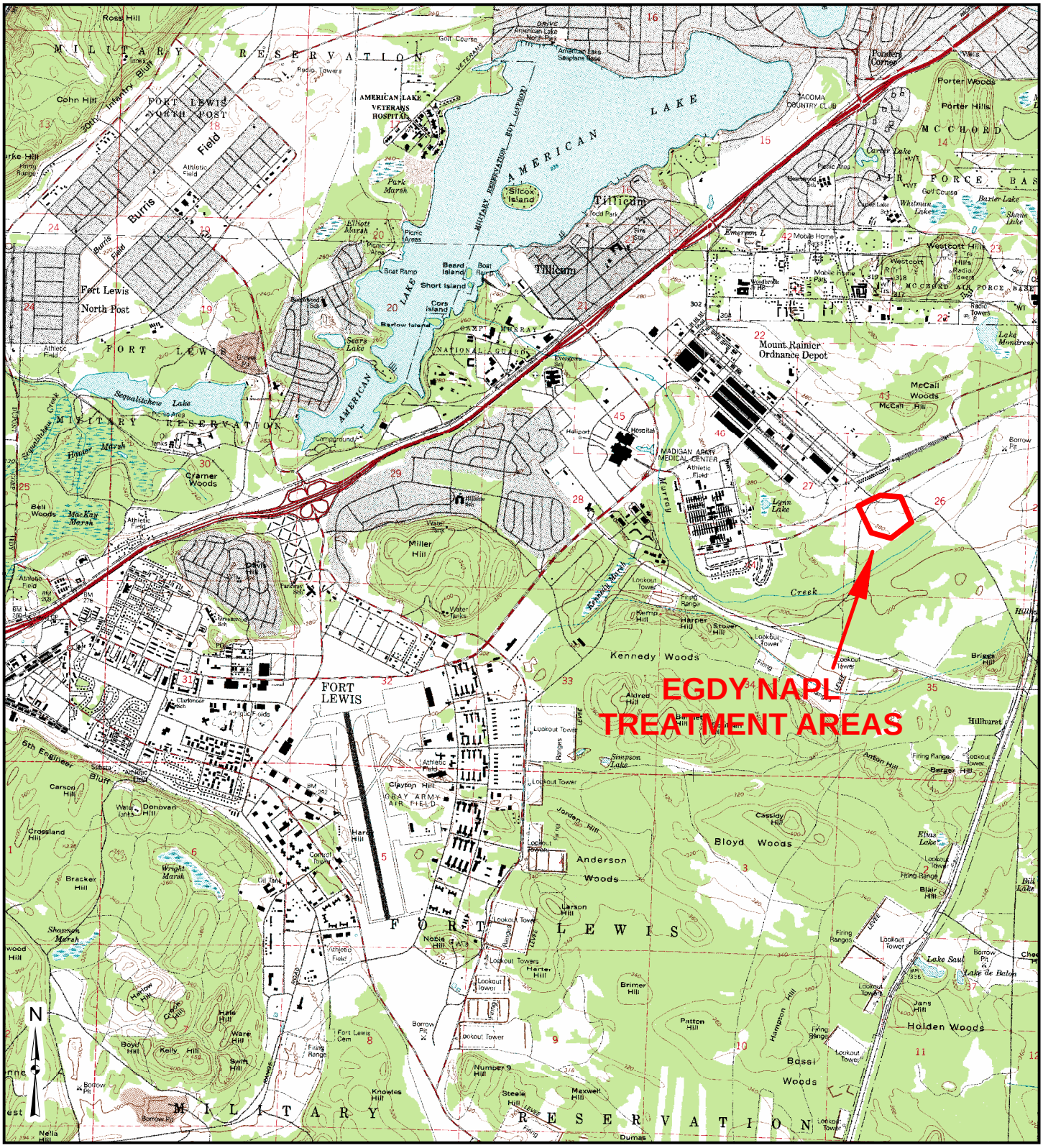
Ft. Lewis Public Works. August 2003. Remedial Action Management Plan, In Situ Thermal Remediation (Electrical Resistance Heating), East Gate Disposal Yard, Ft. Lewis Washington, Prepared by US Army Corps of Engineers, Seattle District in association with Thermal Remediation Services, et al.

FIR. October 2002. Field Investigation Report (FIR), Phase II Remedial Investigation, East Gate Disposal Yard, Ft. Lewis Washington, Prepared by US Army Corps of Engineers, Seattle District in association with URS Corporation.

Tamzen and K. Sorenson. July 13, 2004. Northwind memorandum, *ESTCP CU-0218, Phase I: Summary Of Ft. Lewis Tracer Study Activities And Results.*

US Army Corps of Engineers. December 2001. Final Closure Report for Trenching/Drum Removal East Gate Disposal Yard, Fort Lewis, Washington. Prepared by Garry Struthers Associates, Inc. for USACE.

FIGURES



0 2,000 4,000 8,000 Feet

1 inch equals 4,000 feet

USGS Quads
47122-A5 Ft. Lewis
47122-B5 Steilacoom

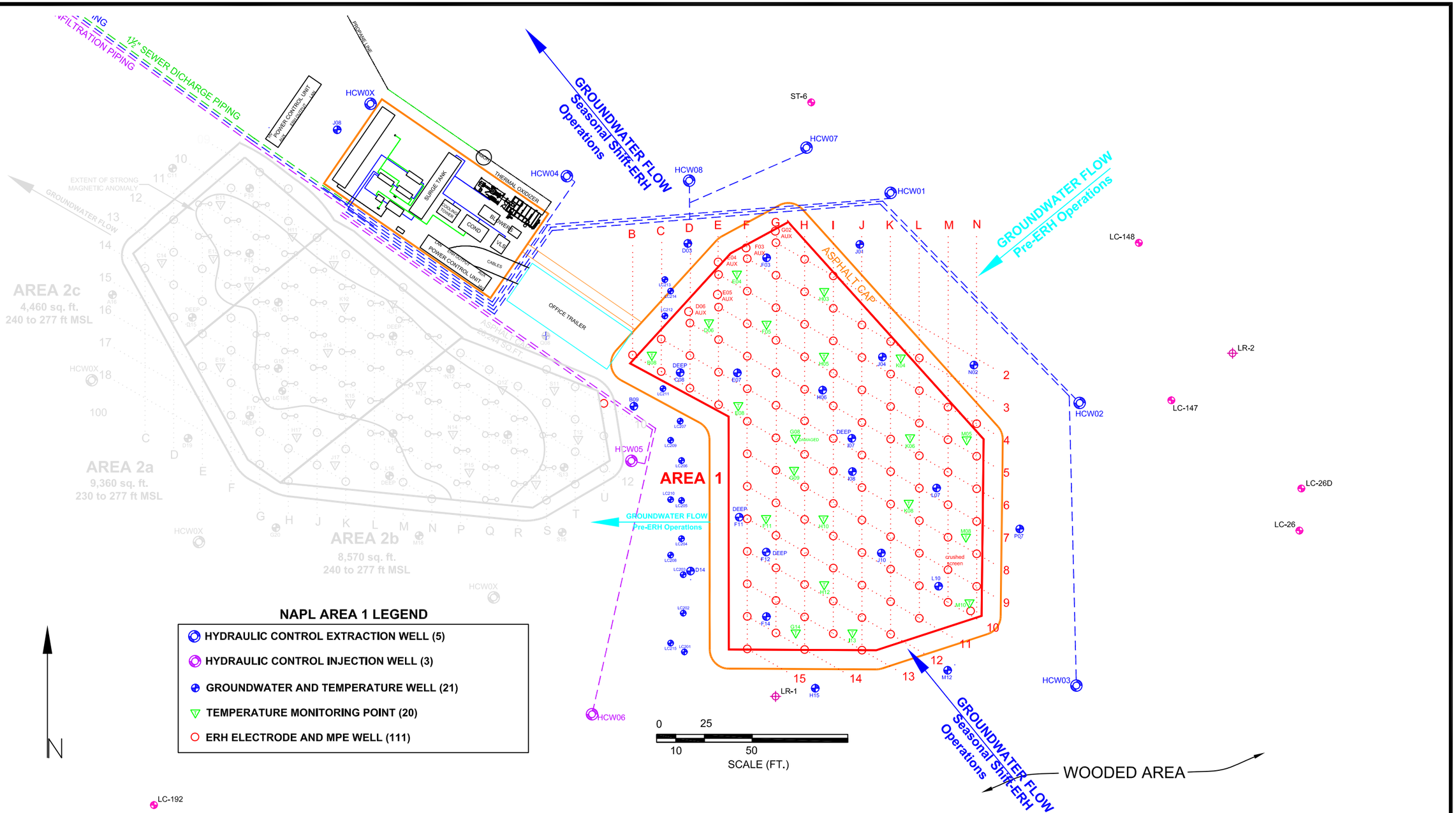
FIGURE 1

THERMAL REMEDIATION services inc.

amec CDM

EGDY LOCATION MAP - FORT LEWIS
TACOMA, WASHINGTON

PROJECT SITE



NO	DATE	REVISION	BY
1	021904	GENERAL AS-BUILT, ADD. OF FLUX WELLS	GB
2	040904	ADDITION OF HCW07 AND HCW08	TP
3	011605	ADDITION OF NORTH ARROW	PC

W.O.	TAC02
DESIGN	GB
DRAWN	GB
DATE	091304
SCALE	NONE

THERMAL REMEDIATION services inc.

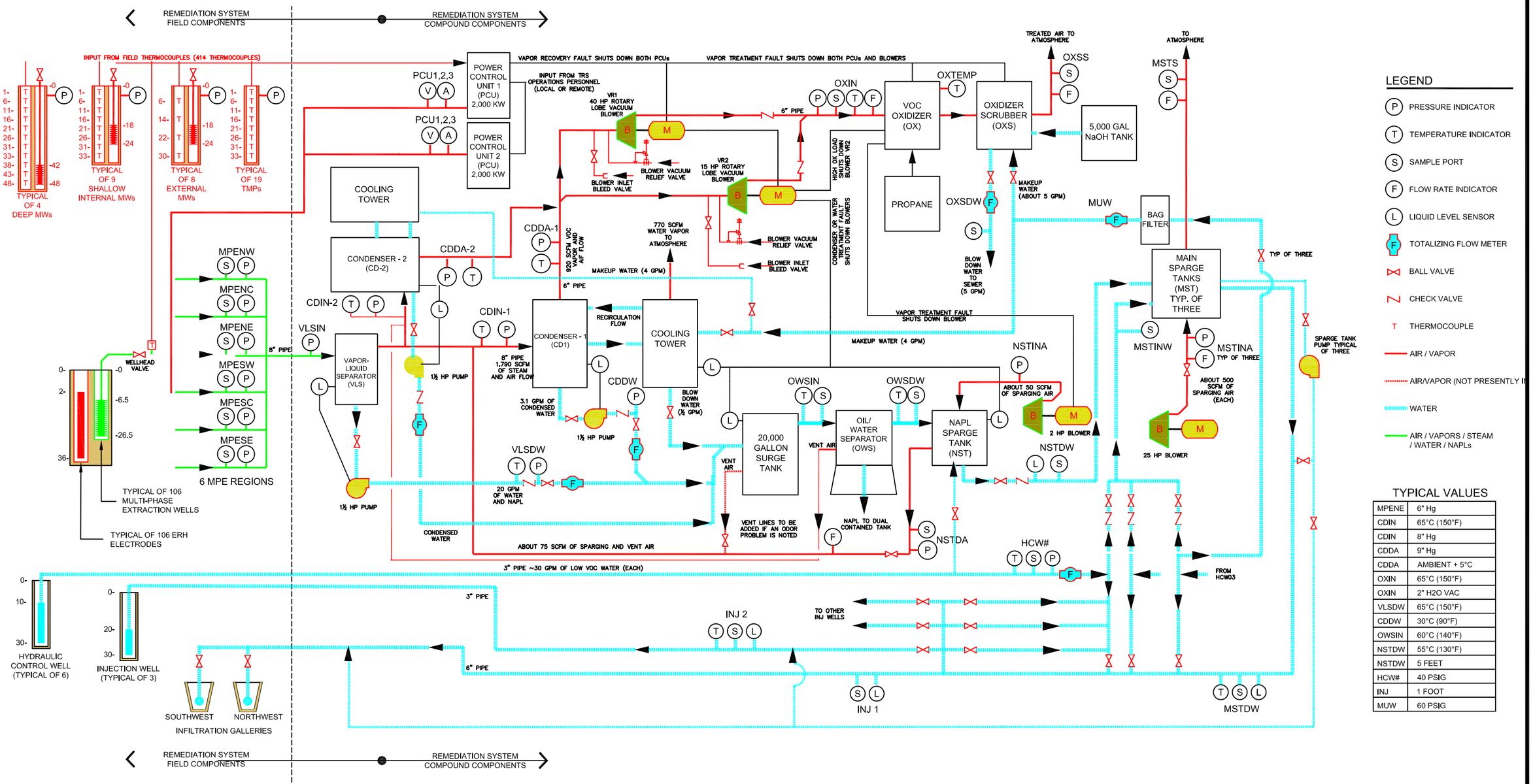
amec

CDM

EGDY SITE - FORT LEWIS
TACOMA, WASHINGTON

PLOT PLAN
FOR NAPL AREA 1

FIGURE
2



TYPICAL VALUES

MPENE	6" Hg
CDIN	65°C (150°F)
CDIN	8" Hg
CDDA	9" Hg
CDDA	AMBIENT + 5°C
OXIN	65°C (150°F)
OXIN	2" H2O VAC
VLSDW	65°C (150°F)
CDDW	30°C (90°F)
OWSIN	60°C (140°F)
NSTDW	55°C (130°F)
NSTDW	5 FEET
HCW#	40 PSIG
INJ	1 FOOT
MUW	60 PSIG

THERMAL REMEDIATION services inc.

amec

CDM

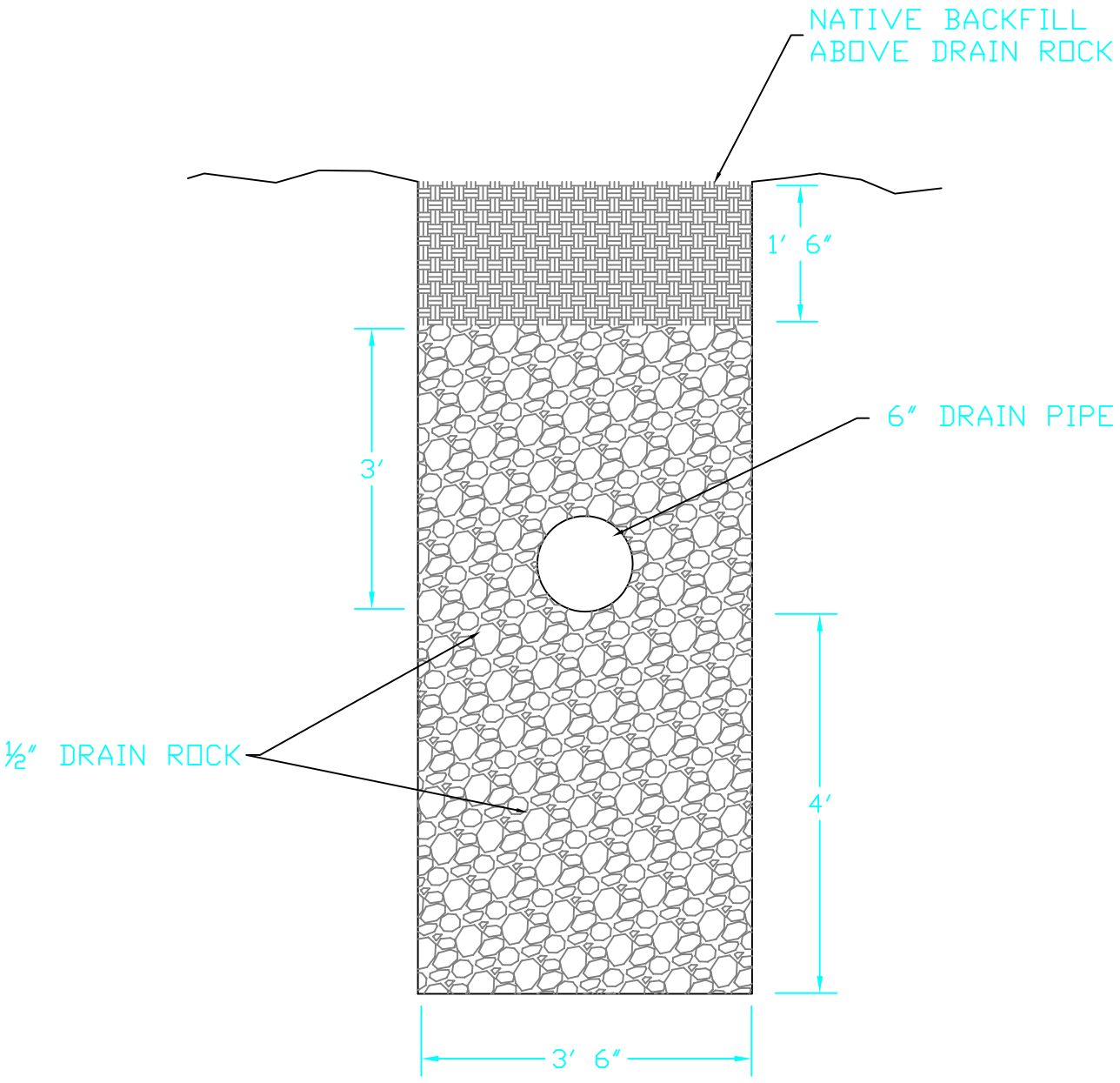
NO	DATE	REVISION	BY
3	03/17/04	AS-BUILT	TP
4	04/05/04	AS-BUILT	TP
5	05/21/04	AS-BUILT	TP
6	06/11/04	AS-BUILT	TP

W.O.	2-61M-11157-1
DESIGN	GB
DRAWN	GB
DATE	JAN. 2004
SCALE	NOT TO SCALE

EGDY SITE – FORT LEWIS TACOMA, WASHINGTON

PROCESS FLOW / PIPING AND INSTRUMENTATION DIAGRAM FOR NAPL AREA 1

FIGURE 3



NO.	DATE	BY	REVISIONS

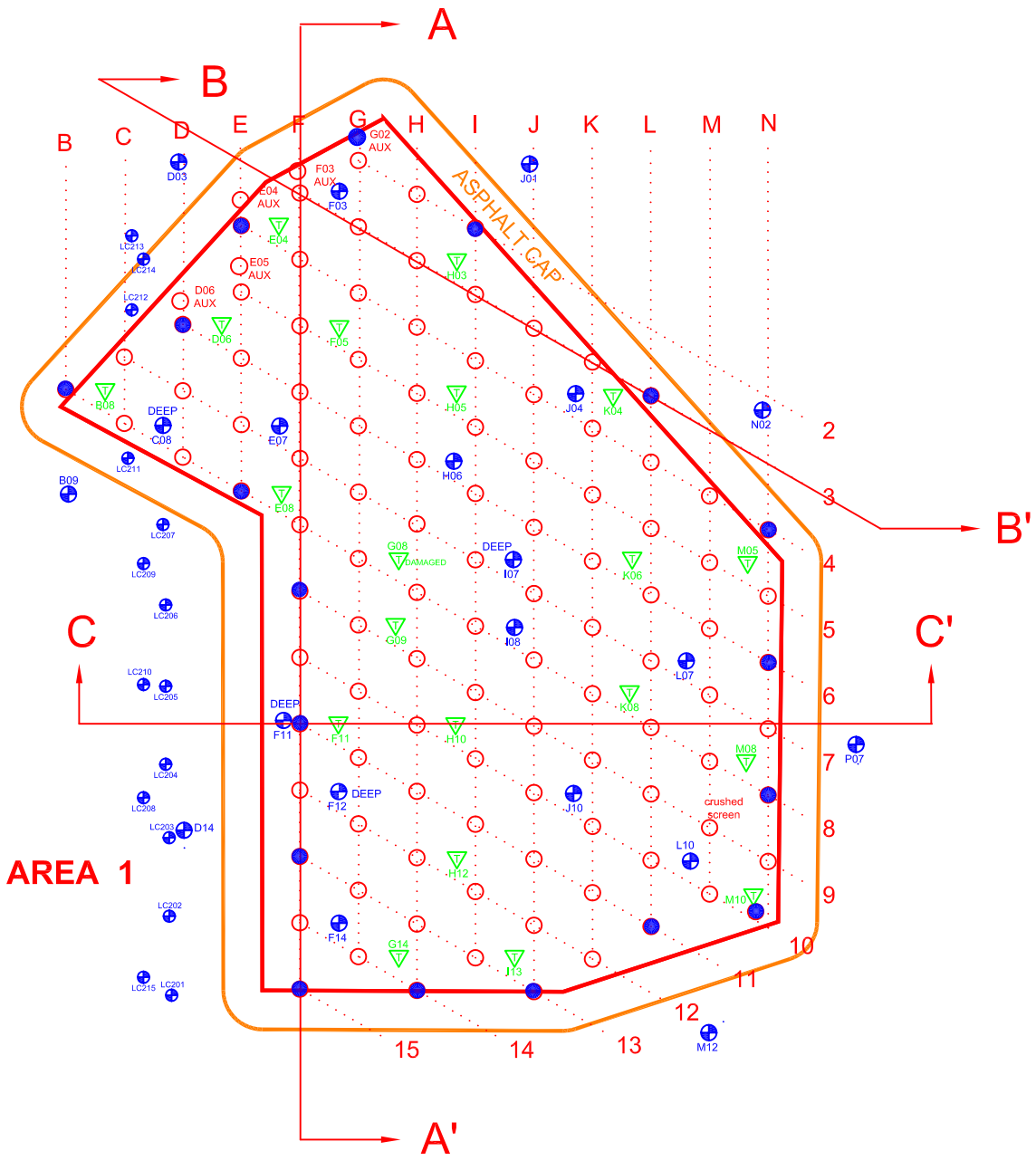
DESIGN BY:	GSA
DRAWN BY:	MS
CHECKED BY:	TP
PROJECT MANAGER:	PC
DATE:	O62304
SCALE:	NONE
FIGURE NUMBER:	4
PROJECT NUMBER:	TAC02
	TAC02 INFL 2 101104 acf

ENGINEER'S SEAL

SUPPLEMENTAL INFILTRATION GALLERY DETAIL

NAPL AREA 1
FT. LEWIS, WA

THERMAL REMEDIATION SERVICES, INC.



- Perimeter electrode installed with sonic drill rig
- Electrode installed with air rotary drill rig

THERMAL REMEDIATION services inc.

W.O.	TAC02
DESIGN	GB
DRAWN	GB
DATE	091304
SCALE	NONE

EGDY SITE - FORT LEWIS
TACOMA, WASHINGTON

CROSS SECTION PLOT PLAN
FOR NAPL AREA 1

FIGURE
5

A

A'

E-F03 E-F04 E-F05 E-F06 E-F07 E-F08 E-F09 E-F10 E-F11 E-F12 E-F13 E-F14 E-F15

278.4 278.5 278.5 278.5 278.5 278.5 278.5 278.5 279.1 279.3 279.3 279.5 279.7

HOLOCENE Anthropomorphic Deposits HOLOCENE Anthropomorphic Deposits

271.4 271.0 271.5 272.0 274.0 274.0 272.0 274.1 272.3 274.3 272.0 271.7 278.0

BLACK SAND GM SP

267.0 262.4 262.0 260.0 268.5 260.5 266.0 268.5 267.0

262.0 264.5 262.0

257.0 262.5 257.0

255.5

252.0 253.5 252.0

253.3

247.0 245.6 248.0 249.1 245.8 245.5 247.9 247.0

241.0 241.0 240.5 244.0 248.0 248.5 Qvt Qvt 246.6 242.8 Qvt Qvt Qvt

240.0 239.4 BB ELEV. 239.5 BB ELEV. 239.2 BB ELEV. 239.0 BB ELEV. 239.0 BB ELEV. 239.0 BB ELEV. 240.0 BB ELEV. 243.0 239.1 BB ELEV. 244.1 241.3 239.3 BB ELEV. 239.5 BB ELEV. 239.9 BB ELEV. 240.0

235.0 233.0 BB ELEV. 234.3 BB ELEV.

Qvr (GM) Qvr (GM) Qvr (GM)

NAPL COBBLES

Qvr Vashon Recessional Outwash Deposits

Qvt Vashon Till and Ice Contact Deposits

Holocene "Black Sand"

Holocene - Anthropomorphic Deposits

GM - Silty Gravel

SM - Well Graded Sand w/ Silt

ML - Silt

BB - Bottom of Bore Hole

GP - Poorly Graded Gravel

All Elevations are Feet Above Mean Sea Level

ENGINEER'S SEAL

NO.	DATE	BY	REVISIONS

DESIGN BY:	MM
DRAWN BY:	TP
CHECKED BY:	PC
PROJECT MANAGER:	PC
DATE:	100604
SCALE:	AS SHOWN
FIGURE NUMBER:	6
PROJECT NUMBER:	TAC02
FILE NAME:	Fig 6 NAPLA1 AA XS 100604 bcf

LITHOLOGICAL CROSS SECTION A-A'
NAPL AREA 1

EAST GATE DISPOSAL YARD
FT. LEWIS, WA

THERMAL REMEDIATION SERVICES, INC.

C

C'

E-F11

279.1

E-H10

279.2

E-J09

279.3

E-L08

278.6

E-N07

278.6

HOLOCENE

Anthropomorphic Deposits

275

274.1

275.7

275

265

Qvr (GM)

268.3

Qvr (GM)

265.6

265

?

?

sm

257.2

sm

255

?

254.7

sm

252.8

sm

?

253.2

255

250.8

248.4

249.1

249.6

Qvt

246.7

246.7

247.3

245

246.6

245

244.1

242.8

243.7

239.1

Qvt

242.1

242.1

239.1 BB Elev.

239.1 BB Elev.

239.8 BB Elev.

Qvr (GM)

239.8 BB Elev.

239.8 BB Elev.

235

?

?

?

NAPL

COBBLES

Qvr — Vashon Recessional Outwash Deposits

Qvt — Vashon Till and Ice Contact Deposits

Holocene "Black Sand"

Holocene - Anthropomorphic Deposits

GM - Silty Gravel

SM - Well Graded Sand w/ Silt

ML - Silt

GP - Poorly Graded Gravel

BB - Bottom of Bore Hole

All Elevations are Feet Above Mean Sea Level

ENGINEER'S SEAL

NO.	DATE	BY	REVISIONS

DESIGN BY:	MM
DRAWN BY:	TP
CHECKED BY:	PC
PROJECT MANAGER:	PC
DATE:	100604
SCALE:	AS SHOWN
FIGURE NUMBER:	8
PROJECT NUMBER:	TAC02
FILE NAME:	Fig 8 NAPLAI CC XS 100604 bcf

LITHOLOGICAL CROSS SECTION C - C'
NAPL AREA 1

EAST GATE DISPOSAL YARD
FT. LEWIS, WA

THERMAL REMEDIATION SERVICES, INC.

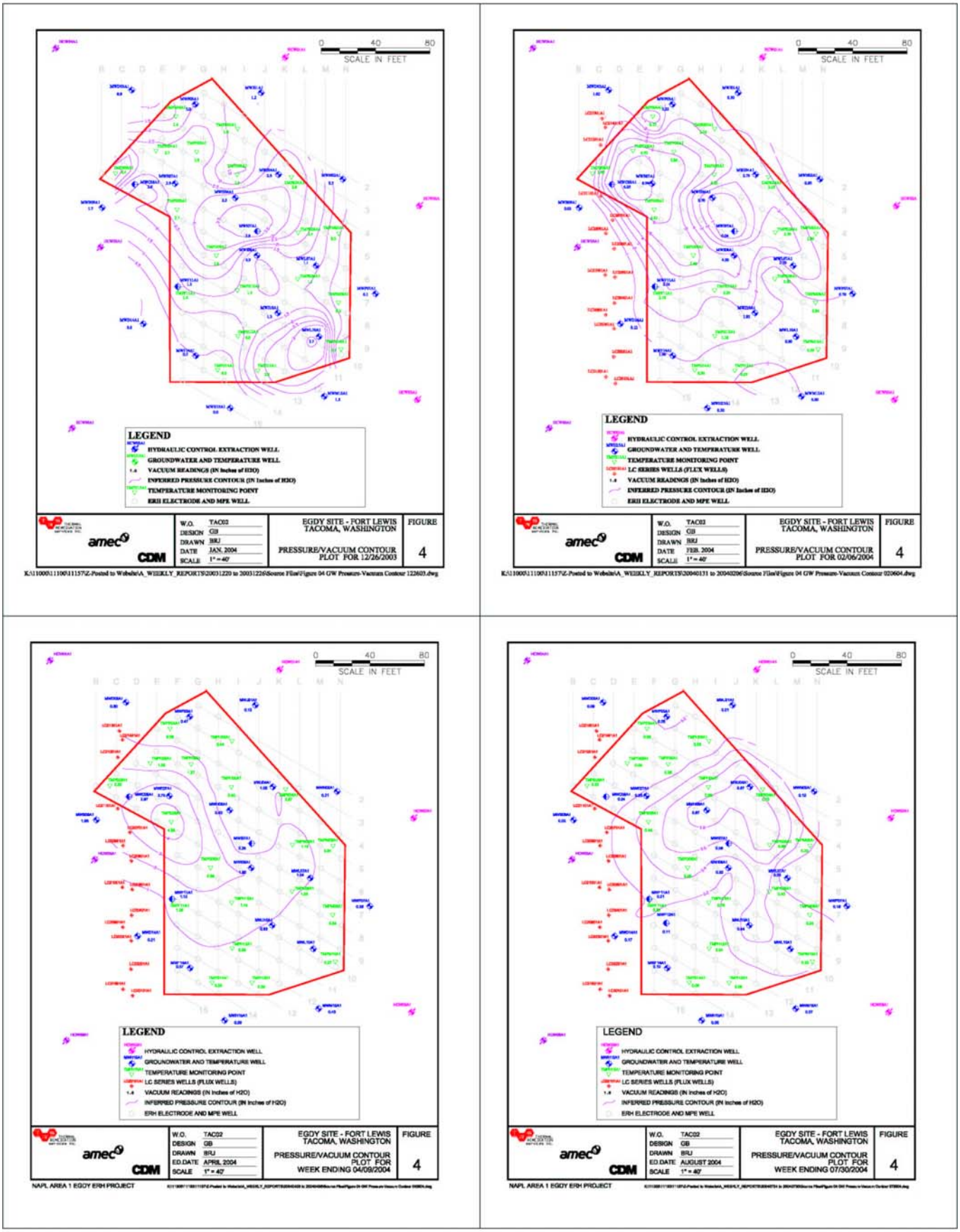


FIGURE 9: General Vapor Recovery Contours Operational Results from NAPL Area 1 for Weeks Ending in January, March, April and July 2004

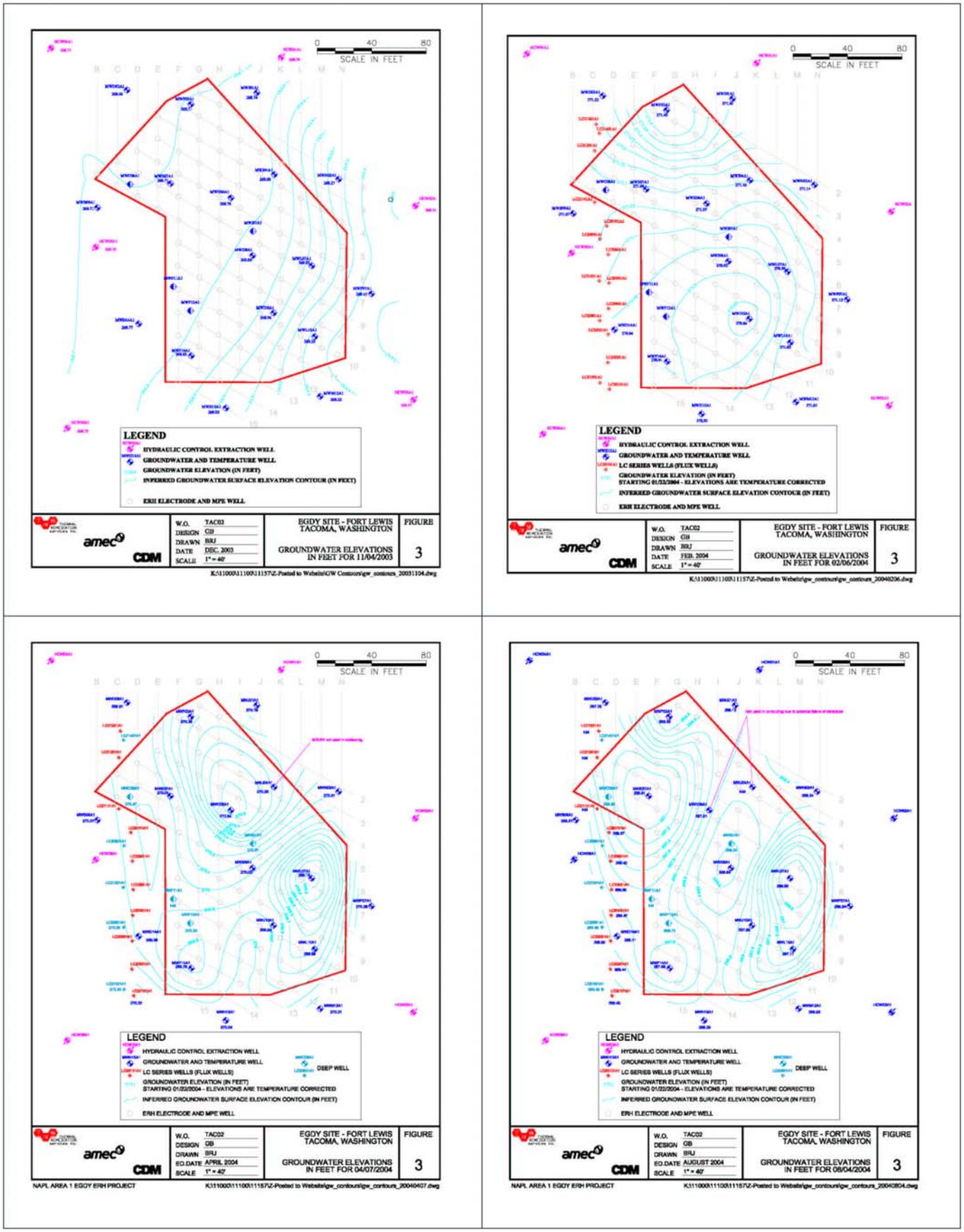


FIGURE 10: General Hydraulic Control Groundwater Contours from NAPL Area 1 One Day in November 2003 and February, April and August 2004

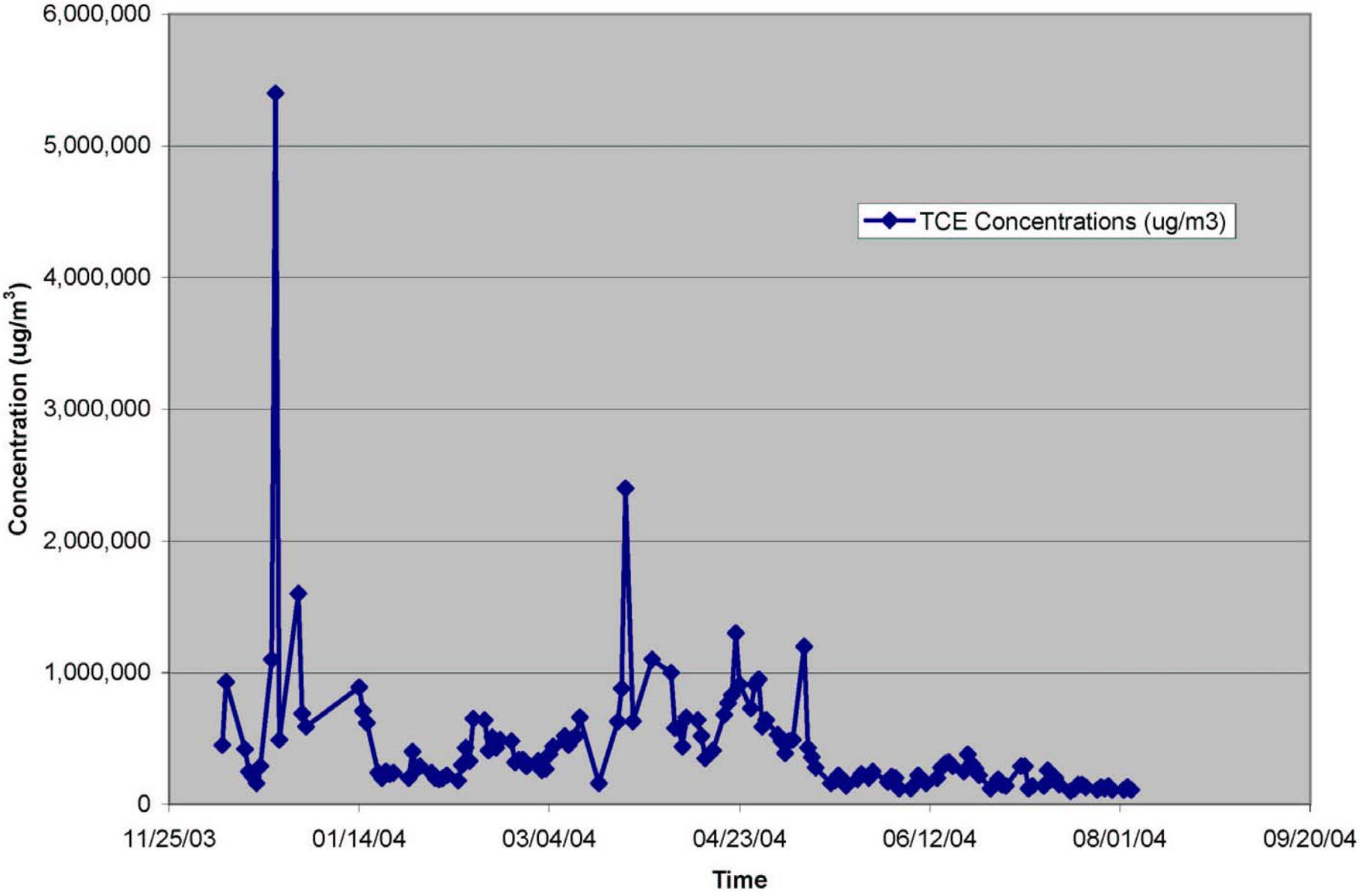


FIGURE 11: OXIN Concentrations for NAPL Area 1 Operations

APPENDIX A

Ft. Lewis NAPL Area 1 Website – Operations Data and Output Presented on Compact Disk

CD Table of Contents (Website Menu for Area 1)

Mass
- **Remediation Rates - Daily Averages**
  - Raw Data
- **Cumulative Mass Removal by Media**
  - Vapor
  - Water
  - NAPL
- **Removal Rate by Media**
  - Vapor
  - Water
  - NAPL
  - Raw Data for Vapor, Water, NAPL Removal Rate Figures
- **Pre-treatment Contaminant By Media**
  - Vapor
  - Water
  - NAPL
    - MPE Region Sampling Photos and Descriptions
    - Analytical Data
    - Accumulated During Maintenance
  - NARs
- **By Sub Area**

Temperature
- **Contour Plot**
- **Average Graph**
- **Exterior Subsurface Temperatures**
- **Subsurface Temperatures**
- **Raw Data**

Groundwater
- **Hydraulic Control**
  - Elevations
  - Elevation Contours
  - Extraction/Injection Rates
  - Raw Data
- **Analytical**
  - Plot of Groundwater Analytical Data
  - Average COC VOCs in Groundwater
  - Groundwater Analytical Data Tables
  - Perimeter Monitoring Well CVOC Graphs
  - HCW and LC Series CVOC Graphs
  - Raw Data
    - On-site
      - Preliminary Report
      - Preliminary Excel Report
      - Final
    - Off-site
      - Preliminary Report
      - Final

Air
- **Pneumatic**
  - Air Pressure Measurements
  - Air Pressure Contours
- **Analytical**
  - Qualitative VOC by MPE regions
  - Compound and Perimeter Air Monitoring
    - PAM Sample Locations Map
    - PAM Analysis
    - SUMMA Canister Cleaning Analyses 1
    - SUMMA Canister Cleaning Analyses 2

CD Table of Contents (Website Menu for Area 1)

Air Analytical Continued
- Raw Data
  - On-site
    - Preliminary Report
    - Preliminary Excel Report
    - Final
  - Off-site
    - Preliminary Excel Report
    - Final
- **Vapor (Well Head)**

Waste Management System
- **Emissions/Discharge Summaries**
  - Air Emissions
  - Infiltration Water
    - TCE
    - cis-1,2-DCE
    - Vinyl Chloride
    - PCE
    - TCA
  - Waste Water Analytical Data Tables
  - OXS Scrubber Discharge to Sewer
  - VOCs in MPE Headers 12/23/03
  - TPH in MPE Headers 01/29/04

Electrical Utilization
- **Cumulative and Daily Electrical Usage**

Reports
- **Daily Operations Reports**
  - Field Sampling Purge Values
- **Daily Chemical Quality Control Reports**
- **Daily Construction Quality Control Reports**
- **Daily Quality Assurance Reports**
- **Data Quality Review Reports**
- **PE Sample Results**
- **Weekly Summary**
- **Monthly Summary**
- **Statistical Summaries**

Well Logs
- **Wells Completed as of 15 September**
- **Abandoned Wells**
- **Hydraulic Control Wells**
- **Monitoring Wells**
  - Development Logs
- **Multi-Phase Extraction Wells**
- **Temperature Monitoring Point**

Miscellaneous
- **MPE Points Online**
- **NAPL Evidence Summary Map**
- **Cross Section**

APPENDIX B

NAPL Area 1 Closure Documents

APPENDIX B

June15, 2004 Memorandum

THERMAL REMEDIATION services inc.

2325 Hudson Street
Longview, Washington 98632
(360) 425-8121
fax: (360) 425-6674

June 15, 2004

To: Linnea Norby, USACE Project Manager

From: Michael Dodson, President, Thermal Remediation Services. Inc.

RE: Draft NAPL Area 1 Continued Operations Plan

This memo presents a draft plan for continued operations of the EGDY NAPL Area 1 ERH remediation system. The objectives of the plan are listed below:

- Establish a list of all possible sources of site data that may be used to evaluate the extent and effectiveness of heating at given locations within the NAPL Area 1 subsurface.
- Determine which data already exists and present protocols for the collection and interpretation of data not currently being gathered by the project team.
- Organize the data into independent lines of evidence that may be used to determine whether or not particular locations of the NAPL Area 1 subsurface have been treated to the point of diminishing return.
- Use the independent lines of evidence to determine which, if any, NAPL Area 1 temperature monitoring locations can be deemed to have achieved the contract temperature specifications.
- Develop a plan to disconnect power to areas deemed to have achieved the contract temperature specifications and apply that power to portions of NAPL Area 1 that have not yet met specifications or to areas that need additional treatment.

Implementation of this process will allow TRS to aggressively apply energy to those portions of NAPL Area 1 that have yet to reach the temperature specifications. The plan will also serve as a basis for continuous evaluation of the remediation efforts in NAPL Area 1.

I. Areas Under Consideration

Two separate sub-portions of Area 1 are advanced as Areas of Consideration where heating could be terminated so that the power being input to these areas may be redirected to other portions of Area 1.

The two areas under consideration are shown on Figure 1 (plot plan). Area Under Consideration No. 1 encompasses temperature monitoring points MWE07, TE08, TH05, MWH06, MWI07, MWJ04, TK04, and TK06. Area Under Consideration No. 2 contains temperature monitoring points TH12 and MWJ10.

II. Possible Sources of Data

- Soil screening data gathered from NAPL Area 1 prior to heating.
- Groundwater quality data from NAPL Area 1 gathered prior to heating.
- Groundwater quality data generated during heating of NAPL Area 1.
- Groundwater flow data generated before and during heating of NAPL Area 1.
- Vapor concentration data gathered from regional sampling locations.
- Vapor concentration data gathered from individual MPE wells.
- Subsurface temperature data generated throughout the heating process.

III. Does The Data Exist?

Existing Data:

- Pre-heating soil screening data (UV Fluorescence & Dye Screening).
- Pre-heating groundwater quality data within and outside Area 1.
- Groundwater quality data during heating, within and outside Area 1.
- Groundwater flow data before and during heating.
- Vapor concentration data from regional sampling points.
- Subsurface temperature data during heating including temperatures reached and time at temperature.

New Data Not Previously Collected:

- Vapor concentration data from individual MPE wellheads.

The individual MPE wellheads provide an opportunity to sample vapors from discrete subsurface locations across the treatment area. Regardless if a MPE well is being operated in slurping mode or vapor recovery only mode, steam, groundwater, and air will be present at the wellhead during vapor sampling. It can be assumed that these media are in equilibrium, and that Henry's Law determines the mass of VOCs in each media. Henry's law dictates that when these media are in equilibrium, TCE is found predominately in the vapor phase and that VOCs will further partition from water and steam to air as temperature increases. This is the case inside the ERH condenser, where 99.5% of the VOC mass entering and exiting the condenser is found in the vapor phase, verses the liquid or steam phases. At the elevated temperatures in the MPE wellheads, approximately 99.9% of the VOC mass will be found in the vapor phase. As long as the sampling protocol used at the MPE wellheads is consistent

from sampling event to sampling event, the data collected will allow trends in the concentration of VOCs in the area surrounding a given MPE well to be accurately tracked.

The individual MPE wellheads can be sampled for vapor concentrations using Tedlar bags for analyses by the on-site laboratory. To expedite analyses, samples will be run only for CVOCs. Because steam at the MPE wellhead sampling locations makes flow measurements impractical, vapor concentration data from the wellheads will be converted to kilograms of CVOCs recovered per day by dividing the flow measured at OXIN by the number of operating MPE wells.

In order to expedite this plan, TRS began collection and analysis of vapor samples from individual MPE wellheads within the central region of NAPL Area 1 on June 10, 2004 and has currently gathered over 40 samples. The locations chosen for this first round of MPE wellhead vapor sampling, and their analytical results are shown in Table 1 (Attachment A).

Data that can be updated to advance the decision making process:

- Groundwater quality data within and outside Area 1.
- Groundwater flow data during heating.
- Vapor concentration data from regional sampling points.
- Vapor concentration data from individual MPE wellheads.
- Temperature data during heating.

IV. Lines of Evidence and Supporting Data

Four lines of evidence have been established and the supporting data for each line of evidence are listed below:

Line of Evidence No. 1: **Is the temperature location in an area where VOC concentrations are known or suspected to be high or low?**

Supporting Data:
Pre-heating soil screening data.
Pre-heating groundwater quality data.
Groundwater quality data gathered during heating.
Regional vapor data gathered during heating.
Newly collected individual MPE vapor data.

Line of Evidence No. 2: **Has the temperature location reached an adequate temperature?**

Supporting Data:
Physical properties of TCE at various temperatures.
Subsurface temperature data generated during heating.

Line of Evidence No. 3: **Have VOC concentrations at the temperature location been reduced to the point of diminishing return?**

Supporting Data: Historical and current groundwater quality data.
Historical and current OXIN vapor data.
Historical regional vapor data.
Newly collected individual MPE vapor data.

Line of Evidence No. 4 **Are the temperature locations at risk for re-contamination if heating is stopped?**

Supporting Data: Physical properties of TCE at various temperatures.
Groundwater quality data from deep and external wells.
Current subsurface temperature data.
Historical cool-down data generated during operations.
Historical and current groundwater flow data.

V. Line of Evidence Discussions

Line of Evidence No. 1: Is the temperature location in an area where VOC concentrations are known or suspected to be high or low?

No soil samples were collected for laboratory analyses during installation of the Area 1 ERH system. However, during the construction of each Area 1 groundwater monitoring well, and of selected perimeter electrodes, soil samples were screened for the presence of NAPL using PID, Ultra Violet Fluorescence, and Dye testing. Results indicate that elevated PID readings (+1,000 ppm) correlated very well with positive readings from UV Fluorescence and Dye screening.

The locations and depth below grade where NAPL indicators were recorded during construction of the Area 1 groundwater monitoring wells and perimeter electrodes are shown in plan view on Figure 2 (File: NAPL-Evidence.pdf). Figure 2 also presents groundwater TCE concentration contours. NAPL indication data for groundwater monitoring well locations is also presented as a cut-away on Figure 3. The results of NAPL indicators screening on the perimeter electrodes is presented in Table 2 (Attachment A) and summarized on Figure 4 (plot plan).

Eighteen perimeter electrodes were screened for NAPL and positive indicators were seen in ten of these locations. With the exception of electrodes F11 (indications of NAPL from 35-40 feet bgs), F13 (37 to 40 feet bgs), and N6 (5 to 32.5 feet bgs) indications of NAPL were found only in the vadose zone (from 5 to 12 feet bgs) at the perimeter electrodes.

Four of the ten monitoring wells inside Area 1 showed indications of NAPL in the shallow/intermediate depth interval of approximately 5 -25 feet bgs (MWE07, MWC08, MWF03 and MWF14). The remaining six wells showed indications of NAPL in the intermediate/deep interval of approximately 10-30 feet bgs, with well MWJ04 showing NAPL indications to 40-feet bgs.

In general, the NAPL screening data indicates that the northern portion of the site has less NAPL, and at shallower intervals, than the southern portion of the site.

Historical groundwater quality data, from preheating to the most recent sampling event is presented in plan view on Figure 1 (plot plan). Pre-heating concentrations of TCE in groundwater were similar in both the northern and southern portions of the site. Groundwater quality data collected during heating indicates that the southern portion of the site had significantly more NAPL present below the water table than did the northern portion of the site.

Vapor sampling results from the individual MPE wellheads is presented in Table 1 (Attachment A) and on Figure 4 (plot plan). The results of vapor concentrations taken from the regional sampling points are presented below:

Summary of Historical Vapor Sampling Results from Regional Sampling Locations (CVOCs Only)

	North Region			% From	South Region			% From	Total	North	South
Date	NW	NC	NE	North	SW	SC	SE	South	kg/day	kg/day	kg/day
12/19/03	4.3	7.1	0.4	12	2.4	4.3	81.5	88	12.0	1.4	10.6
12/26/03	1.2	1.2	0.2	3	2.5	1.2	93.8	98	20.0	0.5	19.5
1/23/04	11.2	24.0	3.8	39	19.0	8.1	33.8	61	6.0	2.3	3.7
2/13/04	25.2	38.3	4.2	68	5.3	9.2	17.6	32	22.0	14.9	7.1
2/27/04	8.0	21.9	2.8	33	3.6	13.8	49.9	67	16.0	5.2	10.8
3/26/04	13.2	8.1	3.1	24	4.9	51.5	19.1	76	22.0	5.4	16.6
4/23/04	22.0	16.2	2.9	41	10.0	35.8	13.2	59	23.0	9.5	13.6
5/4/04	15.9	23.5	11.3	51	9.9	27.3	12.1	49	12.0	6.1	5.9
5/28/04	16.7	14.6	12.3	44	13.7	23.2	19.5	56	5.3	2.3	3.0
4/6/04	11.3	12.5	12.1	36	20.0	33.0	11.3	64	1.9	0.7	1.2

Historically, the southern portion of the site has accounted for a larger percentage of recovered CVOCs than the northern portion. Currently, the vapor concentrations from the MPE wells in the northern portion of Area 1 are significantly lower than wells in the southern portion of the site. Only one MPE well in the northern portion of the site (H08) has TCE concentration over 1,000,000 $\mu g/m^3$ and H08 is located on the north/south dividing line. In contrast, there are three wells in the southern portion of the site (J08, N05, and N07) with vapor concentrations over 2,000,000 $\mu g/m^3$ and three wells (I09, K09, and L08) with vapor concentrations approaching 1,000,000 $\mu g/m^3$.

Line of Evidence No. 2: Has the temperature location reached an adequate temperature?

The boiling point of pure TCE in air is 87 °C but when immersed in water, pure TCE boils at 74 °C. This boiling point increases with depth below the water table. At 5-feet below the water table (15-feet below grade at NAPL Area 1) pure TCE boils at 77 °C and at 35-feet below grade pure TCE boils at 89 °C. The boiling points of pure TCE at various depths below the groundwater table are presented below:

Boiling Point of TCE Immersed in Water at Depth

Boiling Point In Air:	87 C
Boiling Point in Water Mix:	74 C

Depth Below GW Table	Depth Below Grade	Boiling Point
5 feet	15	77
10 feet	20	80
15 feet	25	83
20 feet	30	86
25 feet	35	89

While possible, it is unlikely that TCE exists in the subsurface as pure TCE. Rather, mixtures of TCE and TCE daughter products, mostly cis-1,2-DCE, are most likely present in the subsurface. The boiling point of a mixture of VOCs is strongly dominated by the VOC with the lower boiling point. A 50/50 mix of TCE and cis-DCE at the top of the water table will boil at approximately 61°C, while a mixture containing twice as much TCE as cis-DCE will boil at 64°C, and a 90% TCE mix will boil at 70°C. Thus, the boiling point of pure TCE in water should be higher than the boiling point of actual the TCE NAPL found in the NAPL Area 1 subsurface.

The locations and time intervals where subsurface temperatures have reached and been held at temperatures above the boiling point of TCE at depth is presented in tabular form in Table 3 (Attachment A), while current temperatures with depth for each monitoring location are presented on Figure 1 (plot plan).

Subsurface temperatures within the two Areas Under Consideration at depths of 272’ MSL (5-ft. bgs), 257’ MSL (21-ft. bgs) and 254’ MSL (33-ft. bgs) are presented below.

Subsurface Temperatures in Area Under Consideration No. 1

Monitoring Point	Temp at 272' (5-ft. bgs)	Temp at 257' (21-ft. bgs)	Temp at 254' (33-ft. bgs)
TE08	100	101	116
TH05	96	107	104
MWH06	102	108	114
MWI07	102	109	114
MWJ04	99	107	115
TK04	100	103	117
TK06	99	108	113

Subsurface Temperatures in Area Under Consideration No. 2

Monitoring Point	Temp at 272' (5-ft. Bgs)	Temp at 257' (21-ft. bgs)	Temp at 254' (33-ft. bgs)
MW108	100	104	115
TH10	102	86	113
TH12	100	108	114
MWJ10	100	108	109
TK08	101	108	80
MWL07	104	107	110
MWL10	99	97	111

Subsurface temperatures at all monitored depths within Areas Under Consideration 1 and 2 exceed the temperatures necessary to boil TCE at the given depths of interest.

Line of Evidence No. 3: Have VOC concentrations at the temperature location been reduced to the point of diminishing return?

Historical groundwater quality data for the shallow and deep wells inside Area 1 is presented in Table 4 (Attachment A) and current groundwater quality is shown on Figure 1 (plot plan). Concentrations of TCE in groundwater at the start of heating and at the most recent sampling event are presented below. The highest level of TCE recorded in each monitoring well (peak concentration) is also presented.

TCE Concentrations in Groundwater Over Time

	TCE Concentration (ppb)		
Well No.	Start	High	Current
MWE07	2,700	3,400	38
MWCO8 (Deep)			
MWI07 (Deep)	11	11	2
MWHO6	2,400	2,400	100
MWFO3	6	7	14
MWJO4	150	20,000	160
MWF11 (Deep)	430	980	72
MWF12 (Deep)	300	1,900	43
MWF14	95	560	24
MWI08	720	22,000	3,200
MWJ10	63	790	100
MWL07	1,500	950,000	89
MWL10	4	2,500	270

Historical groundwater quality data indicates that movement of TCE from the NAPL phase to the dissolved phase has been completed across the site. The remaining source of TCE mass to be removed should now be dissolved phase TCE.

Vapor concentrations at OXIN, and the corresponding kilograms of TCE removed per day, are shown on Figure 5 (Attachment A). The data indicates that the recovery of TCE in the vapor phase has declined significantly and is holding at a level that is nearing asymptotic.

This data is supported by the historical vapor concentrations measured at the regional vapor sampling locations.

Sampling from the individual MPE wellheads indicates that four to six wells of the 41 wells sampled account for over 80% TCE mass being removed from the subsurface. Recovery from the remaining wells is becoming insignificant.

Line of Evidence No. 4 Are the temperature locations at risk for re-contamination if heating is stopped?

The boiling point of TCE at depth below the water table indicates that once subsurface temperatures have reached 77 °C at the top of the water table and 89 °C at the deepest point of interest, TCE NAPL will transition to the vapor stage. Because heating during ERH is uniform (see subsurface temperature data on Figure 1) there are no condensate fronts generated by the process, which could reach a cool area and deposit pure TCE. Additionally, the depth interval where heating has been most difficult (262' – 252' MSL) has a heated region below it (247' – 245' MSL) that is at or above the boiling point of TCE. This should prevent any downward migration of TCE if an area of the site is allowed to cool at this time. The lack of downward TCE migration at the site is reinforced by the groundwater quality data from the deep monitoring wells.

If power is turned off to a specific portion of the site, the subsurface can be expected to cool at a rate of 0.2 – 1.3 °C per day. Thus, portions of the site at or above 100 °C will take as long as 20 days to reach a temperature where any TCE vapors might re-condense to liquid TCE. Current groundwater concentrations indicate that there is not a significant load of TCE in the dissolved phase at any location on site.

Current groundwater flow data indicates that groundwater is moving across Area 1 in a south to north direction. Thus, if Area Under Consideration No. 1 was allowed to cool, groundwater from this sub-area will flow into the northern portion of the site that will still be heated. Similarly, if Area Under Consideration No. 2 is allowed to cool, hot groundwater from the southern boundary, which will still be actively heated, will flow into the sub-area and groundwater leaving the sub-area will flow first into Area Under Consideration No. 1 and then into the actively heated northern end of the site.

VI. Plan for Re-allocation of Power Input to Subsurface

Based upon application of the four lines of evidence, TRS recommends that the following eight (8) temperature locations be deemed as having meet the temperature specification:

Area Under Consideration No. 1

MWE07	MWI07
TE08	MWJ04
TH05	MWJ04
MWH06	TK06

Area Under Consideration No. 2

TH12
MWJ10

This will allow TRS, at its discretion, to cease applying power to any the following 31 electrodes:

1. J3	12. L5	23. E8
2. K3	13. G6	24. F8
3. I4	14. H6	25. G8
4, J4	15. I6	26. H8
5. K4	16. J6	27. F9
6. L4	17. K6	28. J10
7. M4	18. F7	29. K10
8. H5	19. G7	30. I11
9. I5	20. H7	31. J11
10. J5	21. I7	
11. K5	22. J7	

If you have any questions regarding this plan for power input modification to NAPL Area 1, please feel free to contact me. You may also contact Tom Powell, Senior TRS Project Manager at (360) 693-6301; or Patrick Cossins, NAPL Area 1 Project Manager, at (512) 527-8041.

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Table 1. MPE Sample Locations and Results

NW Region							
E08	**F09**	**H08**	**G07**	**G07**	**C07**	**C07**	**C08**
28,000	29,000	1,100,000	83,000	130,000	6,500	6,600	53,000

NC Region										
L05	**G06**	**F05**	**I05**	**I05**	**J06**	**E06**	**E06**	**J05**	**E06**	**E06**
33,000	39,000	44,000	280,000	280,000	750,000	32,000	31,000	78,000	230,000	190,000

NE Region						
L04	**L04**	**I04**	**G03**	**K03**	**I02**	**E04**
16,000	16,000	210,000	30,000	110,000	39,000	41,000

SW Region				
G11	**G11**	**F13**	**F15**	**F11**
280,000	200,000	3,400	840	35,000

SC Region									
K10	**I11**	**I12**	**K09**	**J08**	**K12**	**I13**	**I13**	**I09**	**I09**
49,000	3,500	120,000	770,000	2,900,000	41,000	3,400	3,300	230,000	880,000

SE Region							
M05	**N07**	**N05**	**M08**	**M10**	**L08**	**L06**	**L07**
180,000	1,200,000	5,300,000	29,000	26,000	880,000	290,000	240,000

Results presented are CVOCs in ug/m3

10,000 = 0.001KG
100,000 = 0.008 KG
1,000,000 = 0.078KG
10,000,000 = 0.779KG

Table 2. Perimeter Electrode NAPL Screening Results					
Electrode Location	Sample Depth (ft. bgs)	PID Reading (ppm)	Ultra Violet Fluorescence	Dye Test	Sheen Present
B8	5	10.0	N	N	N
	7	130	N	N	N
	10	970+	Y	Y	Y
	12	1500+	Y	Y	Y
	15	29	N	N	N
	20	6.6	N	N	N
	25	20.2	N	N	N
	27	3.5	N	NA	NA
	30	4.8	N	N	N
	35	3.1	N	N	N
	40	2.1	N	N	N
D6	5	998	NA	N	N
	10	649	NA	NA	N
	12	1030	Y	Y	Y
	15	10.4	N	Y	N
	20	6.9	N	N	N
	25	6.8	N	N	N
	30	2.7	NA	N	N
	35	10.8	NA	N	N
	40	2.0	NA	N	N
E4	5	23	N	N	N
	10	1500+	Y	Y	Y
	15	1200+	Y	Y	Y
	20	95.1	N	Y	N
	25	7.4	N	N	N
	30	1.2	N	N	N
	35	1.8	N	N	N
	40	1.3	N	N	N

Table 2. Perimeter Electrode NAPL Screening Results					
Electrode Location	Sample Depth (ft. bgs)	PID Reading (ppm)	Ultra Violet Fluorescence	Dye Test	Sheen Present
E8	5	88.3	NA	N	N
	10	5.0	NA	N	N
	15	1.4	NA	N	N
	20	30	NA	N	N
	25	44	NA	N	N
	30	2.7	NA	N	N
	35	4.3	NA	N	N
	40	0	NA	N	N
F9	5	207	N	N	N
	10	6.8	N	N	N
	15	11.9	N	N	N
	20	3.8	N	N	N
	25	16.5	N	N	N
	30	NR	NR	NR	NR
	35	37.9	N	N	N
	40	4.3	N	N	N
F11	5	260	N	N	N
	10	26.6	N	N	N
	15	31.6	N	N	N
	20	4.1	N	N	N
	25	3.1	N	N	N
	27	24	N	NA	NA
	30	259	N	N	N
	32	909	N	N	N
	35	690	N	Y	N
	38	230	Y	Y	N
	40	230	N	Y	N

Table 2. Perimeter Electrode NAPL Screening Results					
Electrode Location	Sample Depth (ft. bgs)	PID Reading (ppm)	Ultra Violet Fluorescence	Dye Test	Sheen Present
F13	10	2.5	N	N	N
	15	2.3	N	N	N
	20	1.0	N	N	N
	25	1.1	N	N	N
	30	1.0	N	N	N
	35	0.5	N	N	N
	37	32.6	N	Y	N
	40	8.0	N	Y	N
F15	5	0.5	N	N	N
	10	1.0	N	N	N
	15	1.7	N	N	N
	20	2.0	N	N	N
	25	2.1	N	N	N
	30	0.8	N	N	N
	35	0.5	N	N	N
	40	0	N	N	N
G2	5	4	N	N	N
	10	838	Y	NA	Y
	15	1015	Y	Y	Y
	20	3.8	N	N	N
	25	5.5	N	N	N
	30	0.9	N	N	NA
	35	0.7	N	N	NA
	40	0.8	N	N	NA

Table 2. Perimeter Electrode NAPL Screening Results					
Electrode Location	Sample Depth (ft. bgs)	PID Reading (ppm)	Ultra Violet Fluorescence	Dye Test	Sheen Present
H14	5	8.5	N	NA	N
	10	1.8	N	N	N
	15	1.3	N	N	N
	20	1.1	N	N	N
	25	1.7	N	N	N
	30	0.6	N	N	N
	35	0.7	N	N	N
	38	0	N	N	N
I2	5	6.7	N	N	N
	10	3.3	N	N	N
	15	0.8	N	N	N
	20	1.3	N	N	N
	25	0.5	N	N	N
	30	0.0	N	N	NA
	35	0.0	N	N	N
	40	0.0	N	N	N
J13	5	43	N	N	N
	10	9.5	N	N	N
	15	20	N	N	N
	20	4.0	N	N	N
	25	4.0	N	N	N
	30	3.1	N	N	N
	35	3.0	N	N	N
	40	3.3	N	N	N

Table 2. Perimeter Electrode NAPL Screening Results					
Electrode Location	Sample Depth (ft. bgs)	PID Reading (ppm)	Ultra Violet Fluorescence	Dye Test	Sheen Present
L3	5	3.5	N	N	N
	10	3.3	N	N	N
	15	4.8	N	N	N
	20	13.9	N	N	N
	25	18.3	N	N	N
	30	4.5	N	N	N
	35	2.6	N	N	N
	40	0.5	N	N	N
L11	5	22.8	Y	N	N
	10	44.5	N	N	N
	15	4.8	N	N	N
	20	4.3	N	N	N
	25	5.4	N	N	N
	30	0.8	N	N	N
	35	1.3	N	N	N
	40	0.8	N	N	N
N4	5	8.6	N	N	N
	10	10.2	N	N	N
	15	0.6	N	N	N
	20	1.8	N	N	N
	25	0.0	N	N	N
	30	0.0	N	N	N
	35	0.0	N	N	N
	40	0.0	N	N	N

Table 2. Perimeter Electrode NAPL Screening Results					
Electrode Location	Sample Depth (ft. bgs)	PID Reading (ppm)	Ultra Violet Fluorescence	Dye Test	Sheen Present
N6	5	5000	Y	Y	N
	10	31.1	Y	Y	Y
	15	130	Y	Y	N
	20	130	Y	Y	N
	30	629	Y	N	N
	32.5	49	Y	Y	N
	35	4.0	N	NA	NA
	40	2.0	N	N	N
N8	5	0.6	Y	N	N
	10	1.8	N	N	N
	15	49.2	Y	N	Y
	20	8.0	N	N	N
	25	1.2	N	N	N
	30	0.0	N	N	N
	35	0.0	N	N	N
	40	0.0	N	N	N
N10	5	2.6	Y	N	N
	10	0.3	N	N	N
	15	0.8	N	N	N
	20	1.7	N	N	N
	25	1.1	N	N	N
	30	9.5	N	N	N
	35	1.0	N	N	N
	40	1.3	N	N	N

Notes:

- ft. bgs = feet below ground surface
- PID = Photo Ionization Detector
- ppm = Parts Per Million
- N = Negative result, no observable indication of change
- Y = Yes or positive result (observable change)
- NA = Not applicable/Not Analyzed
- NR = No Recovery
- Information for table developed from field boring logs in Appendix A.

Days at Temperature Above the Boilng Point of TCE in Water at Depth
NAPL Area 1, Ft. Lewis EGDY

Monitoring Well Locations

	MWC08A1							MWE07A1							MWF03A1							MWF11A1							MWF12A1							MWF14A1							MWH06A1						
Subsurface Temperature Intervals	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245
Days at Contract-Specified Temperature	73	61	0	16	50	55	52	120	79	48	53	78	83	77	14	33	0	0	0	0	0	39	93	35	0	0	0	23	50	99	51	0	0	0	0	33	88	28	0	16	11	10	61	80	69	76	93	101	97

	MWI07A1							MWI08A1							MWJ04A1							MWJ10A1							MWL07A1							MWL10A1						
Subsurface Temperature Intervals	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245
Days at Contract-Specified Temperature	61	89	79	82	88	87	81	82	98	83	56	84	84	71	49	58	53	58	86	92	89	72	87	79	79	67	41	32	64	76	58	65	91	90	85	0	41	45	33	10	70	97

Temperature Monitoring Point (TMP) Locations

	TB08A1							TD06A1							TE04A1							TE08A1							TF05A1							TF11A1							TG09A1						
Subsurface Temperature Intervals	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245
Days at Contract-Specified Temperature	19	48	0	0	77	95	95	60	52	0	2	28	31	28	0	34	0	0	0	0	0	65	90	45	36	55	69	61	45	97	39	63	82	81	79	50	94	59	0	0	55	84	57	89	71	0	13	30	27

	TG14A1							TH03A1							TH05A1							TH10A1							TH12A1							TI13A1							TK04A1						
Subsurface Temperature Intervals	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245
Days at Contract-Specified Temperature	23	80	17	0	0	0	0	75	52	0	0	13	50	54	60	58	30	32	49	53	51	59	102	89	31	67	74	72	53	96	80	52	67	39	34	39	92	46	0	0	0	0	49	57	66	89	97	105	104

	TK06A1							TK08A1							TM05A1							TM08A1							TM10A1						
Subsurface Temperature Intervals	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245	272	267	262	257	252	247	245
Days at Contract-Specified Temperature	76	103	81	77	87	82	61	79	87	77	71	71	41	5	41	33	9	35	41	69	79	46	46	41	72	93	92	83	5	22	92	117	128	129	125

Notes
1. Shaded Subsurface Temperature Interval (267) indicates top of saturated zone
2. Subsurface Temperature Interval presented in feet MSL (mean sea level)

Boiling Point Temperature in Degrees Celsius of TCE in Water at Specified Depth in feet

Depth (Feet)	272	267	262	257	252	247	245
	86.7	75	79	82	85	87	88

Note: The Boiling Point of TCE at 267 feet (Vadose Zone) is 86.7 degrees Celsius

Deep Wells

Reductions	Location	Date	TCE	c-DCE
MWF11A1	MWF11A1	11/18/2003	430	3.8
82% TCE	MWF11A1	11/18/2003	500	2.2
9% c-DCE	MWF11A1	12/18/2003	200	2.0
	MWF11A1	12/18/2003	160	2.0
	MWF11A1	2/11/2004	980	39.0
Reduction from peak	MWF11A1	2/11/2004	670	26.0
Concentration:	MWF11A1	1/4/2004	300	8.0
	MWF11A1	3/10/2004	81	2.0
82% TCE	MWF11A1	3/24/2004	41	2.0
95% c-DCE	MWF11A1	4/7/2004	43	2.0
	MWF11A1	4/21/2004	40	2.0
	MWF11A1	5/5/2004	34	2.0
	MWF11A2	5/20/2004	42	2.0
	MWF11A1	5/20/2004	42	2.0
	MWF11A1 (Dup)	5/20/2004	47	2.0
	MWF11	6/2/2004	72	2.0
	MWF11	6/16/2004	88	2.0
	MWF11 (dup)	6/16/2004	88	2.0
MWF12A1	MWF12A1	11/20/2003	300.0	3.2
90% TCE	MWF12A1	12/18/2003	1200.0	66.0
38% c-DCE	MWF12A1	1/13/2004	1900.0	160.0
	MWF12A1	1/13/2004	1200.0	120.0
Reduction from peak	MWF12A1	2/9/2004	990.0	15.0
Concentration:	MWF12A1	2/24/2004	500.0	15.0
	MWF12A1	3/10/2004	490.0	15.0
98% TCE	MWF12A1	3/23/2004	300.0	11.0
99% c-DCE	MWF12A1	4/7/2004	190.0	8.8
	MWF12A1	4/21/2004	150.0	6.6
	MWF12A1	5/5/2004	79.0	2.7
	MWF12A1	5/20/2004	58.0	2.0
	MWF12A1	6/2/2004	43.0	2.0
	MWF12A1	6/16/2004	31.0	2.0
	MWF12A1	6/16/2004	29.0	2.0
MWI07A1	MWI07A1	11/12/03	11	2
85% TCE	MWI07A1	11/12/03	13	0.93
0% c-DCE	MWI07A1	12/17/03	7.1	0.81
	MWI07A1	12/17/03	4.8	2
	MWI07A1	01/13/04	5.2	2
Reduction from peak	MWI07A1	02/10/04	7.3	0.53
Concentration:	MWI07A1	02/10/04	4.9	2
	MWI07A1	02/24/04	7.5	2
85% TCE	MWI07A1	03/11/04	8.1	2
0% c-DCE	MWI07A1	03/23/04	10	2
	MWI07A1	04/21/04	4.5	2
	MWI07A1	05/20/04	2	2
MWC08	MWC08A1	11/18/2003	4.6	2.0
	MWC08A1	12/2/2003	0.7	2.0
	MWC08A1	12/18/2003	3.2	2.0
	MWC08A1	1/13/2004	2.0	2.0
	MWC08A1	2/10/2004	2.0	2.0
	MWC08A1	2/23/2004	4.9	2.0
	MWC08A1	3/11/2004	2.0	2.0
	MWC08A1	3/24/2004	2.0	2.0
	MWC08A1	4/21/2004	2.0	2.0
	MWC08A1	6/161/2004	2.0	2.0

Shallow Wells

Reductions	Location	Date	TCE	c-DCE
MWE07A1	MWE07A1	11/19/03	2700	2100
100% TCE	MWE07A1	11/19/03	3400	3100
100% c-DCE	MWE07A1	12/18/03	610	550
	MWE07A1	12/18/03	450	490
Reduction from peak	MWE07A1	03/03/04	85	8
Concentration:	MWE07A1	03/11/04	74	7.8
	MWE07A1	04/07/04	3000	48
100% TCE	MWE07A1	04/29/04	440	25
100% c-DCE	MWE07A1	05/12/04	81	34
	MWE07A1	05/28/04	38	16
	MWE07A1	06/15/04	13	3.9
	MWE07A1 (DUP)	06/15/04	12	3.6
MWF03A1	MWF03A1	11/11/03	5.7	2.5
-198% TCE	MWF03A1	12/17/03	3.9	2
0% c-DCE	MWF03A1	03/03/04	3	2
	MWF03A1	04/16/04	2.7	2
	MWF03A1	04/29/04	2.6	2
	MWF03A1	05/11/04	2.9	2
	MWF03A1	05/28/04	6.7	2
	MWF03A1	06/08/04	14	2
	MWF03A1	06/15/04	17	2
MWF14A1				
61% TCE	MWF14A1	11/20/03	95	107
68% c-DCE	MWF14A1	12/18/03	230	310
	MWF14A1	03/02/04	560	730
Reduction from peak	MWF14A1	03/02/04	400	470
Concentration:	MWF14A1 (Dup)	03/02/04	410	480
93% TCE	MWF14A1	04/07/04	36	7.6
95% c-DCE	MWF14A1	04/29/04	15	2.5
	MWF14A1 (Dup)	04/29/04	14	2.7
	MWF14A1	05/11/04	43	31
	MWF14A1	05/28/04	20	12
	MWF14A1	06/08/04	24	21
	MWF14A1	06/15/04	37	34
MWH06A1				
95% TCE	MWH06A1	11/12/03	2400	80
91% c-DCE	MWH06A1	12/17/03	880	120
	MWH06A1 (Dup)	12/17/03	920	120
Reduction from peak	MWH06A1	03/02/04	82	5.4
Concentration:	MWH06A1	04/07/04	380	2.5
95% TCE	MWH06A1	04/30/04	34	6.2
93% c-DCE	MWH06A1	05/12/04	1200	72
	MWH06A1	06/08/04	110	6.1
	MWH06A1 (Dup)	06/08/04	100	6.9
	MWH06A1	06/15/04	110	9
MWI08A1				
-344% TCE	MWI08A1	11/12/03	720	220
66% c-DCE	MWI08A1	12/17/03	2100	2000
	MWI08A1	03/02/04	1500	1300
Reduction from peak	MWI08A1	04/07/04	22000	1400
Concentration:	MWI08A1	04/29/04	13000	240
85% TCE	MWI08A1	05/11/04	19000	260
96% c-DCE	MWI08A1	06/08/04	3200	74
MWJ04A1				
60% TCE	MWJ04A1	11/11/03	150	15
86% c-DCE	MWJ04A1	12/17/03	42	8.4
	MWJ04A1	03/03/04	51	3
	MWJ04A1	04/16/04	20000	310
Reduction from peak	MWJ04A1	04/29/04	590	80
Concentration:	MWJ04A1	05/12/04	87	2
100% TCE	MWJ04A1 (Dup)	05/12/04	33	2
99% c-DCE	MWJ04A1	05/28/04	33	2
	MWJ04A1	06/08/04	160	8.2
	MWJ04A1	06/15/04	60	2.1
MWJ10A1				
96% TCE	MWJ10A1	11/13/03	63	72
97% c-DCE	MWJ10A1	12/18/03	120	270
	MWJ10A1	03/02/04	220	30
Reduction from peak	MWJ10A1	04/07/04	790	20
Concentration:	MWJ10A1	04/29/04	120	20
100% TCE	MWJ10A1	05/12/04	100	2
99% c-DCE	MWJ10A1	06/15/04	2.7	2
MWL07A1				
33% TCE	MWL07A1	11/11/03	1500	37
88% c-DCE	MWL07A1	12/16/03	940	97
	MWL07A1	12/16/03	860	110
Reduction from peak	MWL07A1	03/02/04	15000	400
Concentration:	MWL07A1	04/07/04	950000	2000
100% TCE	MWL07A1	04/29/04	410	2
100% c-DCE	MWL07A1	05/12/04	2200	14
	MWL07A1	05/28/04	7600	140
	MWL07A1	06/08/04	88	8
	MWL07(dup)	06/08/04	89	2
	MWL07A1	06/15/04	1000	4.6
MWL10A1				
-116% TCE	MWL10A1	11/11/03	4.4	2
0% c-DCE	MWL10A1	12/02/03	16	2
	MWL10A1	12/16/03	12	9.8
Reduction from peak	MWL10A1 (Dup)	12/16/03	12	9
Concentration:	MWL10A1	03/02/04	2500	8
100% TCE	MWL10A1	04/05/04	250	8
80% c-DCE	MWL10A1	04/29/04	52	8
	MWL10A1	05/12/04	170	16
	MWL10A1	6/8/2004	270	16
	MWL10A1	6/15/2004	9.5	2

Off Site Wells

Reductions	Location	Date	TCE	c-DCE
MWB09A1	MWB09A1	11/18/03	2800	380
99% TCE	MWB09A1	12/23/03	170	37
61% c-DCE	MWB09A1	01/13/04	66	9.2
	MWB09A1	01/27/04	34	6.8
	MWB09A1	02/10/04	18	2
Reduction from peak	MWB09A1	02/23/04	18	2
Concentration:	MWB09A1	03/09/04	17	2.4
	MWB09A1	03/24/04	19	2
99% TCE	MWB09A1 (Dup)	03/24/04	20	2
61% c-DCE	MWB09A1	04/08/04	18	7.5
	MWB09A1	04/20/04	26	36
	MWB09A1	04/28/04	38	150
	MWB09A1 (Dup)	04/28/04	30	130
	MWB09A1	05/04/04	28	160
	MWB09A1	05/10/04	66	300
	MWB09A1	05/18/04	100	650
	MWB09A1	06/02/04	82	360
	MWB09A1 (Dup)	06/02/04	91	400
	MWB09A1	06/07/04	54	260
	MWB09A1	06/16/04	29	150
MWD03A1	MWD03A1	11/11/03	15	8.9
69% TCE	MWD03A1	12/23/03	8.7	3.1
78% c-DCE	MWD03A1	01/13/04	7.2	2
	MWD03A1	02/09/04	7.1	2
	MWD03A1	02/23/04	7.1	2
Reduction from peak	MWD03A1	03/10/04	7.4	2
Concentration:	MWD03A1	04/06/04	14	2
	MWD03A1	04/14/04	5.7	2
69% TCE	MWD03A1	04/19/04	5.3	2
78% c-DCE	MWD03A1	05/05/04	5	2
	MWD03A1	05/18/04	5.4	2
	MWD03A1	06/02/04	4.5	2
	MWD03A1	06/16/04	4.7	2
MWD14A1	MWD14A1	11/18/03	190	280
-111% TCE	MWD14A1	12/23/03	4500	1500
46% c-DCE	MWD14A1	01/13/04	6800	1700
	MWD14A1	01/26/04	3300	1000
	MWD14A1	02/10/04	1000	170
Reduction from peak	MWD14A1	02/23/04	930	240
Concentration:	MWD14A1	03/09/04	2500	1600
	MWD14A1	03/24/04	1200	930
94% TCE	MWD14A1	04/08/04	800	500
91% c-DCE	MWD14A1	04/20/04	690	240
	MWD14A1	04/28/04	730	570
	MWD14A1	05/04/04	520	200
	MWD14A1 (Dup)	05/04/04	550	220
	MWD14A1	05/10/04	480	460
	MWD14A1	05/18/04	610	280
	MWD14A1	06/02/04	340	140
	MWD14A1	06/07/04	300	110
	MWD14A1	06/16/04	400	150
MWH15A1	MWH15A1	11/13/03	3.4	2
3% TCE	MWH15A1	12/02/03	1.9	2
-450% c-DCE	MWH15A1	12/18/03	2.7	3.3
	MWH15A1	01/13/04	4.8	2.8
Reduction from peak	MWH15A1	02/11/04	4.7	2
Concentration:	MWH15A1 (Dup)	02/11/04	4.6	2
	MWH15A1	02/23/04	2.5	2
31% TCE	MWH15A1	03/10/04	2.2	2
-233% c-DCE	MWH15A1	03/23/04	2.4	2
	MWH15A1	04/08/04	2.8	2
	MWH15A1	04/20/04	2.5	2
	MWH15A1	04/28/04	2.9	2
	MWH15A1	05/04/04	3.6	2
	MWH15A1	05/10/04	2.7	2
	MWH15A1	05/19/04	4.4	2
	MWH15A1	06/02/04	4.7	2
	MWH15A1	06/07/04	3.6	2.3
	MWH15A1	06/16/04	3.3	11
MWJ01A1	MWJ01A1	11/10/03	5.4	2
28% TCE	MWJ01A1	12/15/03	2.9	2
-140% c-DCE	MWJ01A1	01/12/04	3.6	2
	MWJ01A1	01/26/04	3.6	2
	MWJ01A1	02/09/04	3.3	2
Reduction from peak	MWJ01A1	02/23/04	3.4	2
Concentration:	MWJ01A1 (Dup)	02/23/04	3.3	2
	MWJ01A1	03/10/04	3	2
72% TCE	MWJ01A1	04/06/04	8.7	2
73% c-DCE	MWJ01A1	04/14/04	2.8	2
	MWJ01A1	04/20/04	2	2
	MWJ01A1	05/05/04	2	2
	MWJ01A1	05/19/04	5.1	2
	MWJ01A1	06/02/04	14	18
	MWJ01A1	06/16/04	3.9	4.8
MWM12A1	MWM12A1	11/10/03	0.69	2
	MWM12A1	12/02/03	1.1	2
-494% TCE	MWM12A1	12/16/03	2	2
0% c-DCE	MWM12A1	01/13/04	7.4	7.7
	MWM12A1	02/09/04	2	2
Reduction from peak	MWM12A1	02/23/04	2.3	2
Concentration:	MWM12A1	03/10/04	2	2
	MWM12A1	04/08/04	2	2
45% TCE	MWM12A1	04/20/04	2	2
74% c-DCE	MWM12A1	05/04/04	2	2
	MWM12A1	05/19/04	2	2
	MWM12A1 (Dup)	05/19/04	2	2
	MWM12	06/02/04	2	2
	MWM12A1	06/16/04	4.1	2

	Location	Date	TCE	c-DCE
MWN02A1	MWN02A1	11/10/03	2	2
-2450% TCE	MWN02A1	12/02/03	2	2
-1700% c-DCE	MWN02A1	12/15/03	1.6	2
	MWN02A1	01/12/04	2.8	2
	MWN02A1	01/26/04	2	2
Reduction from peak	MWN02A1 (D	01/26/04	2	2
Concentration:	MWN02A1	02/09/04	2	2
	MWN02A1	02/23/04	2	2
-2450% TCE	MWN02A1	03/10/04	2.1	2
-1700% c-DCE	MWN02A1	04/08/04	2.6	2
	MWN02A1	04/20/04	2.3	2
	MWN02A1	05/05/04	2	2
	MWN02A1	05/19/04	8.7	17
	MWN02A1	06/02/04	3	2
	MWN02A1	06/08/04	20	22
	MWN02A1 (D	06/08/04	20	23
	MWN02A1	06/16/04	51	36
MWP07A1	MWP07A1	11/10/03	2.7	2
-2937% TCE	MWP07A1	12/02/03	2.4	2
0% c-DCE	MWP07A1	12/16/03	9.1	2
	MWP07A1	01/12/04	4.9	2
	MWP07A1 (D	01/12/04	4.4	2
Reduction from peak	MWP07A1	02/09/04	2.3	2
Concentration:	MWP07A1	02/23/04	2.4	2
	MWP07A1	03/10/04	2	2
-645% TCE	MWP07A1	04/08/04	2.5	2
82% c-DCE	MWP07A1	04/20/04	2	2
	MWP07A1	05/05/04	11	2.6
	MWP07A1 (D	05/05/04	10	2.4
	MWP07A1	05/19/04	2.5	11
	MWP07A1	6/2/2004	3.2	5.7
	MWP07A1	6/16/2004	82	2

INTERNAL DEEP MW
GROUND WATER CVOC
CONCENTRATIONS ug/l

MWF11

DATE	TCE	c-DCE
11/18/2003	430	3.8
11/18/2003	500	2.2
12/18/2003	200	2.0
12/18/2003	160	2.0
2/11/2004	980	39.0
2/11/2004	670	26.0
1/4/2004	300	8.0
3/10/2004	81	2.0
3/24/2004	41	2.0
4/7/2004	43	2.0
4/21/2004	40	2.0
5/5/2004	34	2.0
5/20/2004	42	2.0
5/20/2004	42	2.0
5/20/2004	47	2.0
6/2/2004	72	2.0

MWF12

DATE	TCE	c-DCE
11/20/2003	300.0	3.2
12/18/2003	1200.0	66.0
1/13/2004	1900.0	160.0
1/13/2004	1200.0	120.0
2/9/2004	990.0	15.0
2/24/2004	500.0	15.0
3/10/2004	490.0	15.0
3/23/2004	300.0	11.0
4/7/2004	190.0	8.8
4/21/2004	150.0	6.6
5/5/2004	79.0	2.7
5/20/2004	58.0	2.0
6/2/2004	43.0	2.0

MWI07

DATE	TCE	c-DCE
11/12/03	11	2
11/12/03	13	0.93
12/17/03	7.1	0.81
12/17/03	4.8	2
01/13/04	5.2	2
02/10/04	7.3	0.53
02/10/04	4.9	2
02/24/04	7.5	2
03/11/04	8.1	2
03/23/04	10	2
04/21/04	4.5	2
05/20/04	2	2

MWC08

DATE	TCE	c-DCE
11/18/03	4.6	2
12/02/03	0.72	2
12/18/03	3.2	2
01/13/04	2	2
02/10/04	2	2
02/23/04	4.9	2
03/11/04	2	2
03/24/04	2	2
04/21/04	2	2

INTERNAL SHALLOW MW
GROUND WATER CVOC
CONCENTRATIONS ug/l

MWE07

DATE	TCE	c-DCE
11/19/03	2700	2100
11/19/03	3400	3100
12/18/03	610	550
12/18/03	450	490
03/03/04	85	8
03/11/04	74	7.8
04/07/04	3000	48
04/29/04	440	25
05/12/04	81	34
05/28/04	38	16

MWF03

DATE	TCE	c-DCE
11/11/03	5.7	2.5
12/17/03	3.9	2
03/03/04	3	2
04/16/04	2.7	2
04/29/04	2.6	2
05/11/04	2.9	2
05/28/04	6.7	2
06/08/04	14	2

MWF14

DATE	TCE	c-DCE
11/20/03	95	107
12/18/03	230	310
03/02/04	550	730
03/02/04	400	470
03/02/04	410	480
04/07/04	36	7.6
04/29/04	15	2.5
04/29/04	14	2.7
05/11/04	43	31
05/28/04	20	12
06/08/04	24	21

MWH06

DATE	TCE	c-DCE
11/12/03	2400	80
12/17/03	880	120
12/17/03	920	120
03/02/04	82	5.4
04/07/04	380	2.5
04/30/04	34	6.2
05/12/04	1200	72
06/08/04	110	6.1
06/08/04	130	6.9

MWI08

DATE	TCE	c-DCE
11/12/03	720	220
12/17/03	2100	2000
03/02/04	1500	1300
04/07/04	22000	1400
04/29/04	13000	240
05/11/04	19000	260
06/08/04	3200	74

MWJ04

DATE	TCE	c-DCE
11/11/03	150	15
12/17/03	42	8.4
03/03/04	51	3
04/16/04	20000	310
04/29/04	590	80
05/12/04	87	2
05/12/04	33	2
05/28/04	33	2
06/08/04	150	8.2

MWJ10

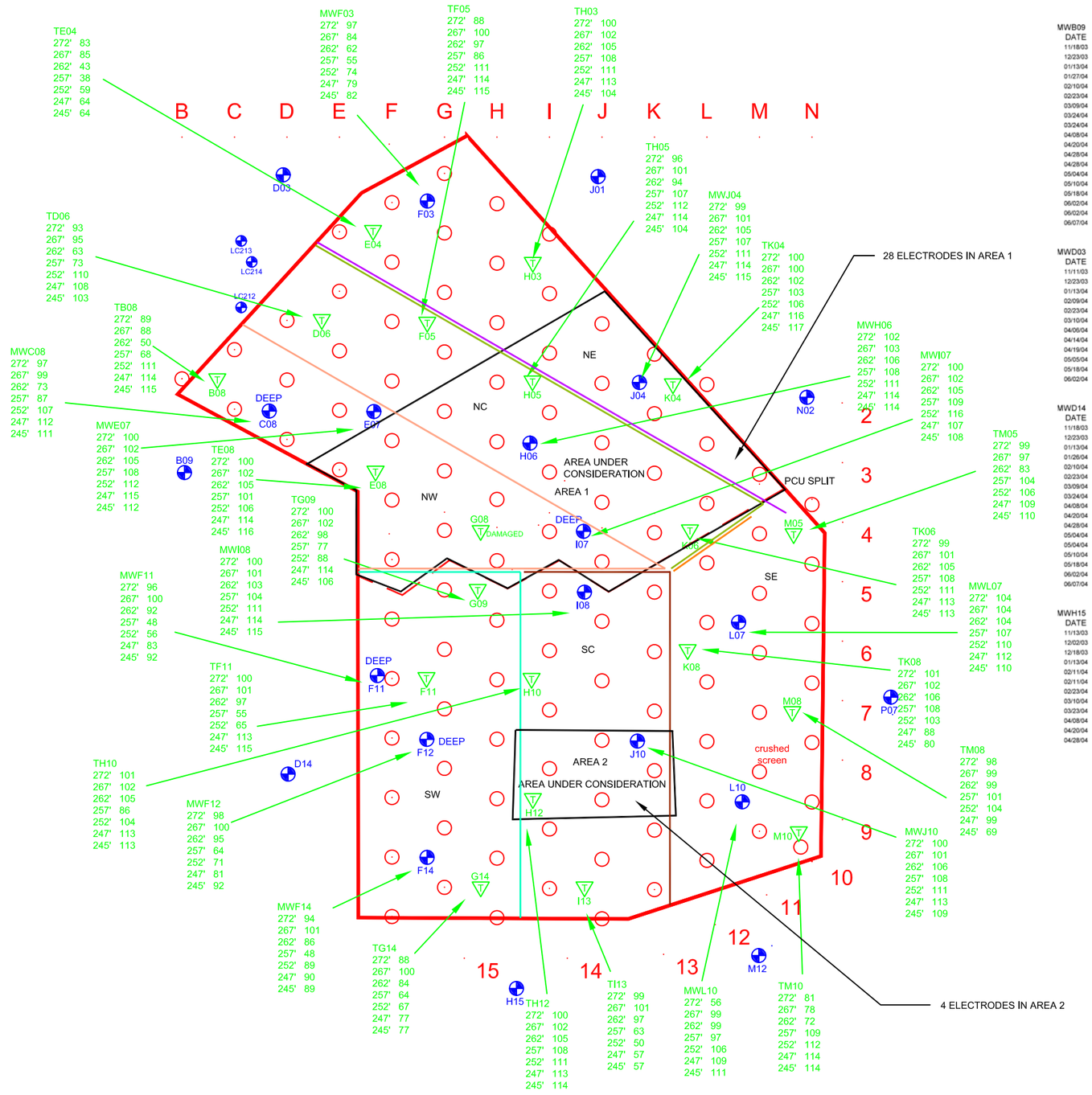
DATE	TCE	c-DCE
11/13/03	63	72
12/18/03	120	270
03/02/04	220	30
04/07/04	790	20
04/29/04	120	20
05/12/04	100	2

MWL07

DATE	TCE	c-DCE
11/11/03	1500	37
12/16/03	940	97
12/16/03	860	110
03/02/04	15000	400
04/07/04	950000	2000
04/29/04	410	2
05/12/04	2200	14
05/28/04	7600	140
06/08/04	88	8
06/08/04	89	2

MWL10

DATE	TCE	c-DCE
11/11/03	4.4	2
12/02/03	16	2
12/16/03	12	9.8
12/16/03	12	9
03/02/04	2500	8
04/05/04	250	8
04/29/04	52	8
05/12/04	170	16
06/08/04	270	16



TEMPERATURES AS OF
JUNE 10, 2003

TEMPERATURES
REPORTED IN DEGREES C

EXTERNAL MW
GROUND WATER CVOC
CONCENTRATIONS ug/l

MWB09

DATE	TCE	c-DCE
11/18/03	2800	380
12/23/03	170	37
01/13/04	66	9.2
01/27/04	34	6.8
02/10/04	18	2
02/23/04	18	2
03/09/04	17	2.4
03/24/04	19	2
03/24/04	20	2
04/08/04	18	7.5
04/20/04	26	36
04/28/04	38	150
04/28/04	30	130
05/04/04	28	160
05/10/04	66	300
05/18/04	100	650
06/02/04	82	360
06/02/04	91	400
06/07/04	54	260

MWD03

DATE	TCE	c-DCE
11/11/03	15	8.9
12/23/03	8.7	3.1
01/13/04	7.2	2
02/09/04	7.1	2
02/23/04	7.1	2
03/10/04	7.4	2
04/06/04	14	2
04/14/04	5.7	2
04/19/04	5.3	2
05/05/04	5	2
05/18/04	5.4	2
06/02/04	4.5	2

MWD14

DATE	TCE	c-DCE
11/18/03	190	280
12/23/03	4500	1500
01/13/04	6800	1700
01/26/04	3300	1000
02/10/04	1000	170
02/23/04	930	240
03/09/04	2500	1600
03/24/04	1200	930
04/08/04	800	500
04/20/04	690	240
04/28/04	730	570
05/04/04	520	200
05/04/04	550	220
05/10/04	480	460
05/18/04	610	280
06/02/04	340	140
06/07/04	300	110

MWH15

DATE	TCE	c-DCE
11/13/03	3.4	2
12/02/03	1.9	2
12/18/03	2.7	3.3
01/13/04	4.8	2.8
02/11/04	4.7	2
02/11/04	4.8	2
02/23/04	2.5	2
03/10/04	2.2	2
03/23/04	2.4	2
04/08/04	2.8	2
04/20/04	2.5	2
04/28/04	2.9	2

MWN02

DATE	TCE	c-DCE
11/10/03	2	2
12/02/03	2	2
12/15/03	1.6	2
01/12/04	2.8	2
01/26/04	2	2
01/26/04	2	2
02/09/04	2	2
02/23/04	2	2
03/10/04	2.1	2
04/08/04	2.6	2
04/20/04	2.3	2
05/05/04	2	2
05/19/04	8.7	17
06/02/04	3	2
06/08/04	20	22
06/08/04	20	23

MWP07

DATE	TCE	c-DCE
11/10/03	2.7	2
12/02/03	2.4	2
12/16/03	9.1	2
01/12/04	4.9	2
01/12/04	4.4	2
02/09/04	2.3	2
02/23/04	2.4	2
03/10/04	2	2
04/08/04	2.5	2
04/20/04	2	2
05/05/04	11	2.6
05/05/04	10	2.4
05/19/04	2.5	11
06/02/04	3.2	5.7

MWJ01

DATE	TCE	c-DCE
11/10/03	5.4	2
12/15/03	2.9	2
01/12/04	3.6	2
01/26/04	3.6	2
02/09/04	3.3	2
02/23/04	3.4	2
02/23/04	3.3	2
03/10/04	3	2
04/06/04	8.7	2
04/14/04	2.8	2
04/20/04	2	2
05/05/04	2	2
05/19/04	5.1	2
06/02/04	14	18

MWM12

DATE	TCE	c-DCE
11/10/03	0.69	2
12/02/03	1.1	2
12/16/03	2	2
01/13/04	7.4	7.7
02/09/04	2	2
02/23/04	2.3	2
03/10/04	2	2
04/08/04	2	2
04/20/04	2	2
05/04/04	2	2
05/19/04	2	2
05/19/04	2	2
06/02/04	2	2

FIGURE 1

ENGINEER'S SEAL

NO.	DATE	BY	REVISIONS

DESIGN BY:	XXX
DRAWN BY:	XXX
CHECKED BY:	XXX
PROJECT MANAGER:	XXX
DATE:	6/11/04
SCALE:	XXX
FIGURE NUMBER:	XXX
PROJECT NUMBER:	XXX
FILE NAME:	XXX

SUBSURFACE TEMPERATURES 6/10/04

EGDY NAPL AREA 1
FT LEWIS

THERMAL REMEDIATION SERVICES, INC.

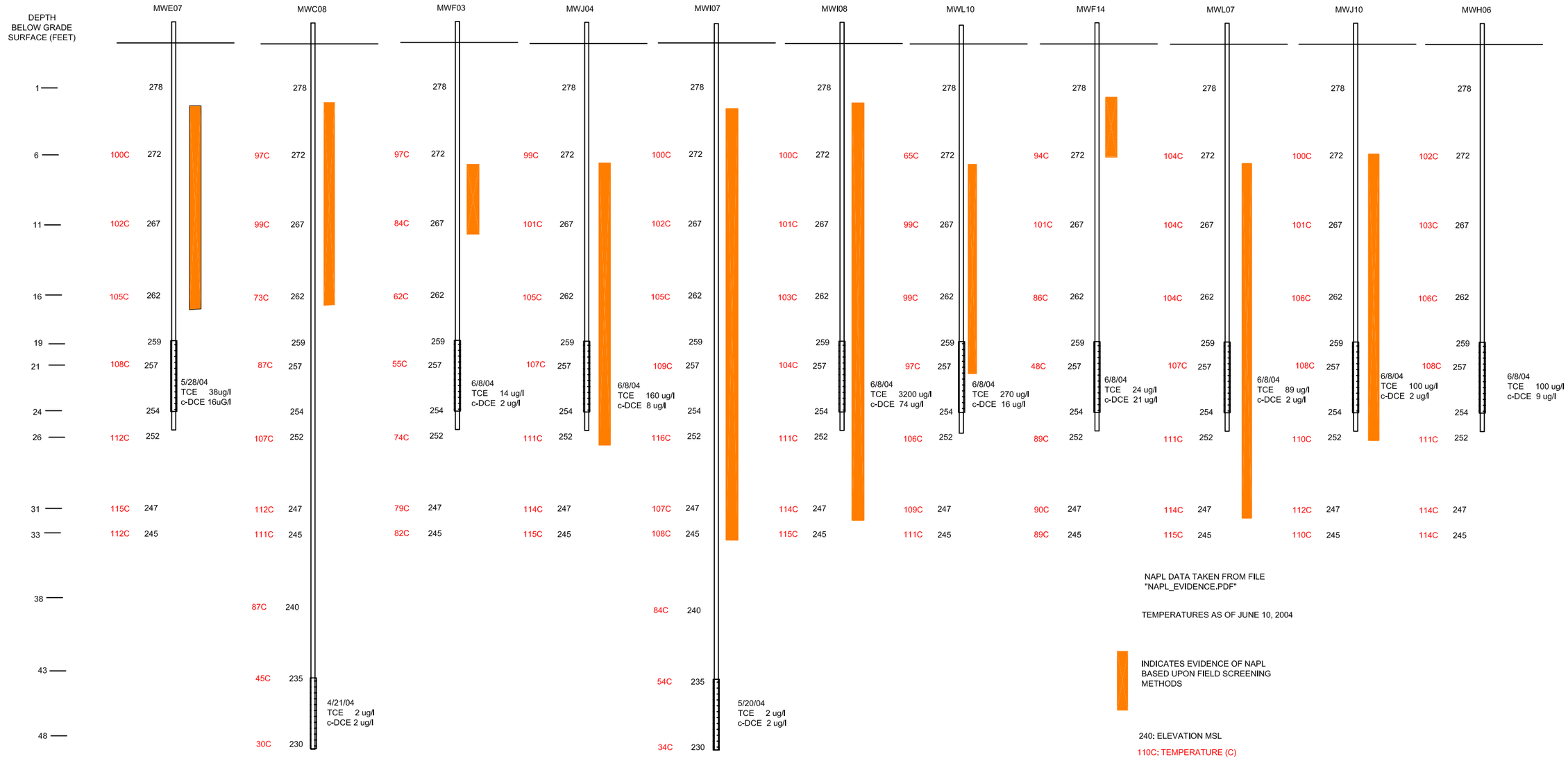


FIGURE 3

ENGINEER'S SEAL

NO.	DATE	BY	REVISIONS

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DRAWN BY:	TP
CHECKED BY:	XXX
PROJECT MANAGER:	XXX
DATE:	6/11/04
SCALE:	XXX
FIGURE NUMBER:	XXX
PROJECT NUMBER:	TAC02
FILE NAME:	XXX

MONITORING WELL NAPL EVIDENCE LOCATIONS NAPL AREA 1 EGDY FT LEWIS, WA

THERMAL REMEDIATION SERVICES, INC.

MWF03
272' 97
267' 84
262' 62
257' 55
252' 74
247' 79
245' 82

TF05
272' 88
267' 100
262' 97
257' 86
252' 111
247' 114
245' 115

TE04
272' 83
267' 85
262' 43
257' 38
252' 59
247' 64
245' 64

TB08
272' 89
267' 88
262' 50
257' 68
252' 111
247' 114
245' 115

TD06
272' 93
267' 95
262' 63
257' 73
252' 110
247' 108
245' 103

MWC08
272' 97
267' 99
262' 73
257' 87
252' 107
247' 112
245' 111

MWE07
272' 100
267' 102
262' 105
257' 108
252' 112
247' 115
245' 112

TE08
272' 100
267' 102
262' 105
257' 101
252' 106
247' 114
245' 116

TG09
272' 100
267' 102
262' 98
257' 77
252' 88
247' 114
245' 106

MWF11
272' 96
267' 100
262' 92
257' 48
252' 56
247' 83
245' 92

MWI08
272' 100
267' 101
262' 103
257' 104
252' 111
247' 114
245' 115

TF11
272' 100
267' 101
262' 97
257' 55
252' 65
247' 113
245' 115

TH10
272' 101
267' 102
262' 105
257' 86
252' 104
247' 113
245' 113

MWF12
272' 98
267' 100
262' 95
257' 64
252' 71
247' 81
245' 92

MWF14
272' 94
267' 101
262' 86
257' 48
252' 89
247' 90
245' 89

TG14
272' 88
267' 100
262' 84
257' 64
252' 67
247' 77
245' 77

TH12
272' 100
267' 102
262' 105
257' 108
252' 111
247' 113
245' 114

TI13
272' 99
267' 101
262' 97
257' 63
252' 50
247' 57
245' 57

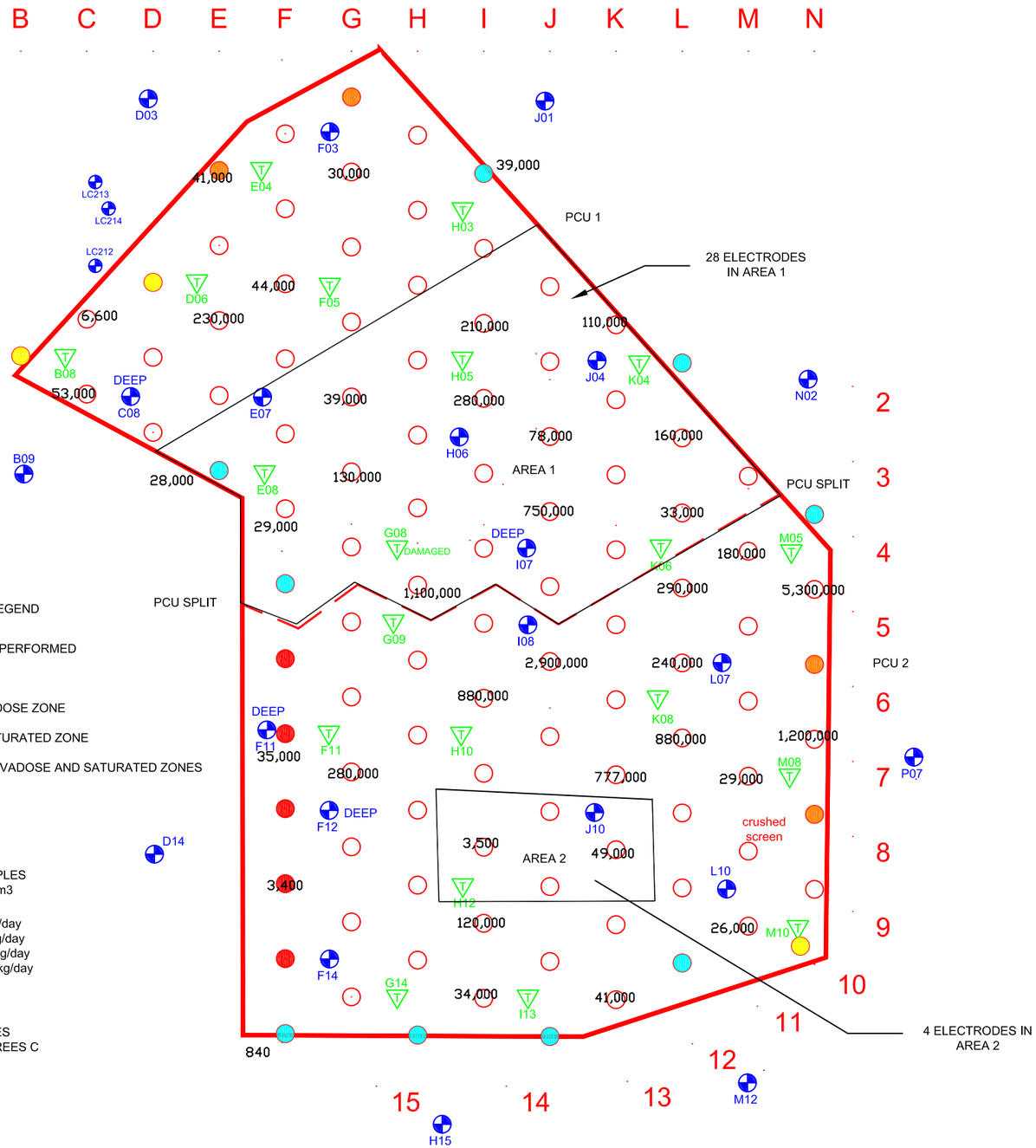
NAPL SCREENING LEGEND

- NAPL SCREEN NOT PERFORMED
- NAPL NOT FOUND
- NAPL FOUND IN VADOSE ZONE
- NAPL FOUND IN SATURATED ZONE
- NAPL FOUND BOTH VADOSE AND SATURATED ZONES

MPE VAPOR SAMPLES
REPORTED IN ug/m3

10,000 = 0.001 kg/day
100,000 = 0.008 kg/day
1,000,000 = 0.078 kg/day
10,000,000 = 0.779 kg/day

TEMPERATURES
REPORTED IN DEGREES C



TH03
272' 100
267' 102
262' 105
257' 108
252' 111
247' 113
245' 104

TH05
272' 96
267' 101
262' 94
257' 107
252' 112
247' 114
245' 104

MWJ04
272' 99
267' 101
262' 105
257' 107
252' 111
247' 114
245' 115

TK04
272' 100
267' 100
262' 102
257' 103
252' 106
247' 116
245' 117

MWH06
272' 102
267' 103
262' 106
257' 108
252' 111
247' 114
245' 114

MWI07
272' 100
267' 102
262' 105
257' 109
252' 116
247' 107
245' 108

TM05
272' 99
267' 97
262' 83
257' 104
252' 106
247' 109
245' 110

TK06
272' 99
267' 101
262' 105
257' 108
252' 111
247' 113
245' 113

MWL07
272' 104
267' 104
262' 104
257' 107
252' 110
247' 112
245' 110

TK08
272' 101
267' 102
262' 106
257' 108
252' 103
247' 88
245' 80

TM08
272' 98
267' 99
262' 99
257' 101
252' 104
247' 99
245' 69

MWJ10
272' 100
267' 101
262' 106
257' 108
252' 111
247' 113
245' 109

MWL10
272' 56
267' 99
262' 99
257' 97
252' 106
247' 109
245' 111

TM10
272' 81
267' 78
262' 72
257' 109
252' 112
247' 114
245' 114

FIGURE 4

ENGINEER'S SEAL

NO.	DATE	BY	REVISIONS

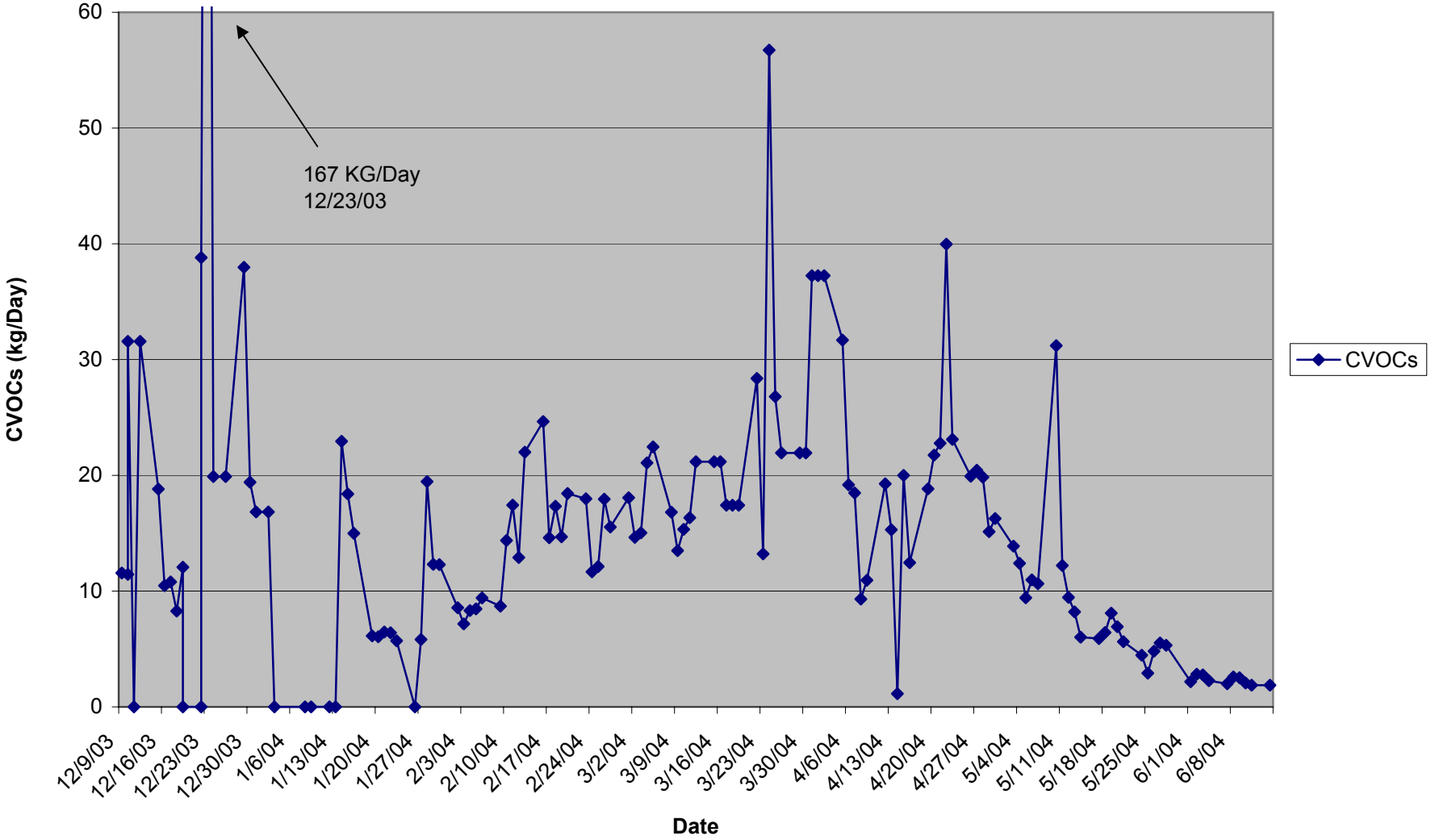
DESIGN BY:	XXX
DRAWN BY:	XXX
CHECKED BY:	XXX
PROJECT MANAGER:	XXX
DATE:	6/11/04
SCALE:	XXX
FIGURE NUMBER:	XXX
PROJECT NUMBER:	XXX
FILE NAME:	XXX

MPE VAPOR CONCENTRATIONS 6/10/04

EGDY NAPL AREA 1
FT LEWIS

THERMAL REMEDIATION SERVICES, INC.

Figure 5
Total CVOCs KG/Day



July 15, 2004 Memorandum

NAPL AREA1 DRAFT COMPLETION REPORT

APPENDIX B

THERMAL REMEDIATION services inc.

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Longview, Washington 98632
(360) 425-8121
fax: (360) 425-6674

July 15, 2004

To: Linnea Norby, USACE Project Manager

From: Michael Dodson, President, Thermal Remediation Services Inc.

RE: Draft July 15, 2004 Update: NAPL Area 1 Continued Operations Plan

This memo presents a review of the site data collected since the implementation of the Draft June 15, 2004 NAPL Area 1 Continued Operations Plan. Further, this document contributes to the process of forming a basis for discontinuing power application at an increasing number of electrodes and for the eventual conclusion of ERH operations at NAPL Area 1.

Since a significant portion of the center of NAPL Area 1 was de-energized in late June, two sub-treatment regions have been created. For this document, NAPL Area 1 has been divided into north and south regions. The southern region has been further split between east and west because these two areas appear to be quite different with respect to the amount of CVOCs originally present in the subsurface.

During NAPL pre-screening efforts, indications of NAPL were found in both the southeast and southwest portions of NAPL Area 1. However, vapor stream sampling throughout the ERH process has indicated that significantly more CVOC mass was present in the southeast portion of NAPL Area 1 than in the southwest portion.

I. Temperature Locations Previously Meeting Contract Specification

TRS and the USACE agreed on June 17, 2004 that ERH operations at several of the NAPL Area 1 temperature monitoring locations had effectively met contract specifications. As a result of this agreement, electrical energy was discontinued at electrodes surrounding the following ten (10) temperature monitoring locations:

Temperature Monitoring Locations Deemed To Have Met Contract Specifications on June 17, 2004

TE08	TK04
TH05	TK06
MWH06	TH12
MWI07	MWJ10
MWJ04	MWE07

By discontinuing energy to the locations listed above, TRS was able to increase the power density in the northern half of NAPL Area 1. However, the technical team decided not to reallocate a significant amount of energy in the southern portion of NAPL Area 1. Therefore, the southern portion of NAPL Area 1 has not benefited from the changes in power input outlined in the Draft June 15, 2005 NAPL Area 1 Continued Operations Plan to the same degree that the northern portion of NAPL Area 1 has.

II. Summary of Progress on the Northern Portion of NAPL Area 1

The northern half of NAPL Area 1 has benefited greatly from the redistribution of energy in late June. Table 1, located at the end of this text, presents subsurface temperatures as of July 8, 2004 and the most recent MPE wellhead vapor concentration data from this region. The table also includes subsurface temperature changes since June 10, 2004, the number of days at contract specification temperatures, and the number of days at the boiling point of TCE at depth.

Vapor concentrations in samples from the northern portion of NAPL Area 1 have ranged from 6,500 µg/m^3 (0.005 kg/day) to 24,000,000 µg/m^3 (1.9 kg/day) over the time period of June 10 through July 14, 2004. The three MPE wells in the northern portion of Area 1 with the highest vapor concentrations on July 14, 2004, MPECO8, MPEEO6, and MPEIO3 are recovering TCE at a rate of 0.6, 0.4 and 0.09 kg/day, respectively. It is important to note that MPE wellhead vapor samples have been collected from the MPEs under extremely variable conditions, making these data useful only as a qualitative measurement.

Considerable temperature gains have been realized in the northern portion of NAPL Area 1 since June 17. These temperature gains were made possible by removing selected portions of NAPL Area 1 from electrical service and increasing the power density in the northern target area. In general site data indicates that, with the exception of one area, increasing subsurface temperatures in the northern portion of NAPL Area 1 have not resulted in a large increase of TCE concentrations in vapors samples from the MPE wells in this region.

As subsurface temperatures increased in the northern portion of NAPL Area 1 a corresponding significant increase in TCE vapor concentrations was only observed in the northwest corner of the region. This corner encompasses TB08, MWC08 and TD06. Perimeter electrode NAPL pre-screening produced high PID readings at electrodes B08, D06 and E04, but indicated that the higher concentrations of VOCs were located primarily in the vadose zone from grade to 15-feet bgs.

Vapor concentrations in the vicinity of TB08 and MWC08, as measured at MPED07 and MPEC08, increased from 60,000 µg/m^3 (0.005 kg/day) and 53,000 µg/m^3 (0.004 kg/day), respectively on June 21, 2004 to 2,500,000 µg/m^3 (0.2 kg/day) on July 12 and 24,000,000 µg/m^3 (1.9 kg/day) on July 14, respectively. However, TCE concentrations at MPED07 and MPECO8 were <135,000 µg/m^3 (<0.01 kg/day) on July 14 and 7,900,000 µg/m^3 (0.6 kg/day) on July 15, 2004. This is an indication that vapor concentrations at these MPEs could be starting to decline to back to insignificant levels. Additionally, vapor concentrations at MPEC07, just north of TB08, have increased to only to 750,000 µg/m^3 (0.06 kg/day) as of July 14, 2004.

In the vicinity of TD06, vapor concentrations at MPEEO6 increased from 230,000 µg/m^3 (0.02 kg/day) on June 11 to 3,600,000 µg/m^3 (0.3 kg/day) on July 14 and 5,400,000 µg/m^3 (0.4 kg/day) on July 15, 2004.

The only other significant increase in MPE vapor concentrations in the northern portion of NAPL Area 1 occurred in the vicinity of TF05, which by June 26, 2004 had reached contract specification temperatures at all depth intervals. Vapor concentrations at MPEG05 were 190,000 µg/m^3 (0.015 kg/day) on June 17, 2004 and had increased to 4,800,000 µg/m^3 (0.4 kg/day) by June 21, 2004. The last sample from MPEG05, taken on July 9, 2004, indicated a vapor concentration of <95,000 µg/m^3 (<0.007 kg/day). This trend in vapor concentrations is to be expected from the complete heating of a region where CVOCs were present and a similar trend in vapor concentration data is expected from the MPE wells in the vicinity of TB08, MWC08 and TD06.

As shown in Table 1, other locations in the north end of NAPL Area 1 did not experience significant increases in vapor concentrations as a result of aggressive heating. For example, while temperature increases since June 17 were as high as 53°C (to 91°C) at TE04, TCE concentrations in vapor samples from the MPE wells in the vicinity of TEO4 have not increased with temperature. Temperature increases since late June at TH03 and MWF03 have also been significant, yet vapor samples from MPE wells adjacent to these points show only slight increases in TCE concentrations.

A very hydraulically conductive interval at 262’ to 257’ msl resulted in a reduction of heating efficiency in the northern portion of NAPL Area 1. This is clearly seen in the temperature data in Table 1 for locations TE04, MWF03 and TH03 where only a temperature of 70°C at the 262’ msl depth interval had been achieved as of July 8, 2004. Fortunately, indications of NAPL during pre-screening efforts in these areas were found predominately in the vadose zone, which has been thoroughly heated to well above the boiling point of TCE.

III. Summary of Progress on the Southern Portion of NAPL Area 1

The southern portion of NAPL Area 1 did not benefit as much from an increase in power density as only four electrodes in the southern half of NAPL Area 1 were removed from service. This small change in power application did not allow enough power to be redistributed to the rest of the southern portion of NAPL Area 1, most notably the southwest region, to accomplish significant subsurface heating during late June and early July.

In addition, a reversal of groundwater flow (from northerly to southerly) at the site rendered the pre-positioned hydraulic control wells ineffective at reducing the volume of cool water entering the southwestern boundary of NAPL Area 1. Temperature and vapor concentration data for the southwestern portion of NAPL Area 1 are shown in Table 2 located at the end of this text. Temperature and vapor concentration data for the southeastern portion of NAPL Area 1 are shown in Table 3, located at the end of this text.

Historically, MPE vapor sampling in the southeastern portion of NAPL Area 1 has indicated this area probably contained the majority of CVOCs in NAPL Area 1. The southeast portion of NAPL Area 1 is most accurately defined by the following six (6) temperature monitoring locations:

Temperature Monitoring Points Defining The Southeast Portion of NAPL Area 1

TH10	MWL07
MWI08	TM05
TK08	TM08

MPE vapor sampling results from the southern portion of NAPL Area 1 have been as high as 75,000,000µg/m^3 (5.8 kg/day) at MPEI09 during the period starting June 17. This is 3 times greater than the highest MPE vapor concentration, 24,000,000 µg/m^3 (1.9 kg/day), and 14 times greater than the second highest MPE vapor concentration, 5,400,000 µg/m^3 (0.4 kg/day), recorded in the northern portion of NAPL Area 1 over the same period.

Groundwater sampling has also indicated that the six temperature monitoring locations identified above probably contained the highest concentration of CVOCs found in NAPL Area 1. For example, CVOC concentrations in groundwater at MWL07 reached a high of 950,000 µg/l on April 7, 2004 as compared to the average CVOC groundwater concentration for shallow wells in NAPL Area 1 of 10,500 µg/l. These high dissolved phase CVOC concentrations at MWL07 correlate well with NAPL pre-screening results in the vicinity of MWL07. NAPL pre-screening at location N06 indicated elevated PID readings at all intervals evaluated down to 40 feet bgs and all soil samples from the N06 boring tested positive during the ultra violet and dye tests.

As stated above, large increases in power density in the southwest portion of NAPL Area 1 were not possible as only MWJ10 and TH12 were determined to have effectively met contract specifications and authorization was received to remove only four electrodes in the southern portion of NAPL Area 1 from electrical service.

However, the southeastern portion of NAPL Area 1, which was primarily at the contract specification temperatures of 90°C and 100°C on June 17, 2004, did benefit greatly from the continued application of electrical energy. As indicated in Table 3, a more thorough heating of all the intervals in this region was accomplished during this time period. Furthermore, sampling at the majority of MPE locations in the southeastern porting of NAPL Area 1 show TCE vapor concentrations have peaked in this area and are on a downward trend.

The following table provides MPE vapor trends in the southern portion of NAPL Area 1 and shows that substantial decreases in VOC vapor concentrations have been achieved from peak values in the majority of the sampling locations. For example vapor concentrations at LO7 have declined from a peak of 7,500,000 µg/m^3 (~0.6 kg/day) on July 2, 2004 to 2,000,000 µg/m^3 (0.16 kg/day) on July 14, 2004, while vapor concentrations at NO5 have declined from a peak of 16,000,000 µg/m^3 (1.25 kg/day) on June 17, 2004 to 120,000 µg/m^3 (0.009 kg/day) on July 14, 2004.

Vapor Concentration Trends for the Southern Portion of NAPL Area 1

Date	J08	L07	L08	M05	M08	N05	N07	I09	I10
6/10/04	2.9 M				29 K				
6/11/04		240 K	880 K	180 K		5.3 M	1.2 M	880 K	
6/17/04		760 K	1.7 M	43 K		16 M	2.8 M		
6/21/04	4.8 M	530 K	1.8 M				390 K	75 M	570 K
6/22/04				75 K	200 K	9.2 M			
6/30/04		7.2 M	3 M	30 K		1.6 M	170 K	49 M	2.9 M
7/2/04	2.8 M	7.5 M	2.8 M						
7/9/04									
7/12/04	2.0 M	2.0 M	390 K			120 K	<95 K	23 M	450 K

Notes:
Values are TCE reported in $\mu g/m^3$.
A concentration of 1,000,000 $\mu g/m^3$ is equivalent to 0.08 kg of TCE per day.

The MPE wellhead vapor data from the southern portion of NAPL Area 1 can also be compared to groundwater quality at MWI08, MWL07 and MWL10, which is presented below. TCE concentrations in groundwater at these monitoring wells have been significantly reduced from peak values.

Groundwater Analytical Data For The Southern Portion of NAPL Area 1

SAMPLING DATE	MWI08	MWL07	MWL10
11/12/03	720	1,500	4
12/2/04	No Results	No Results	16
12/17/03	2,100	940	12
3/2/04	1,500	1,5000	2,500
4/7/04	22,000	950,000	250
4/29/04	13,000	410	52
5/11/04	19,000	2,200	170
5/28/04	No Results	7,600	No Results
6/8/04	3,200	88	270
6/18/04	13,000	3	9
6/23/04	15,000	79	8
7/1/04	No Results	No Results	2
7/13/04	4,200	No Results	No Results

IV. Line of Evidence No. 1, Is the temperature location in an area where VOC concentrations are known or suspected to be high or low.

NAPL pre-screening data indicated that NAPL was present along the northwest and northeast corners of the northern portion of NAPL Area 1, and along the entire west and east boundaries of the southern portion of Area 1. Screening also indicated that NAPL was predominantly present in shallow soils in the northern portion of Area 1, but extended to deeper intervals in the southern portion of Area 1.

Historically, the southern portion of NAPL Area 1 has accounted for a larger percentage of recovered CVOCs than the northern portion. Currently, the vapor concentrations from the MPE wells in the northern portion of Area 1 are significantly lower than those from the MPE wells in the southern portion of Area 1. Only two MPE wells in the northern portion of the site (G05 and C08) have had significant peak TCE concentrations, 4,800,000 $\mu g/m^3$ (0.374 kg/day) and 24,000,000 $\mu g/m^3$, at MPEGO5 and MPECO8, respectively. In contrast, there are multiple MPE wells in the southern portion of the site (J08, N05, I09, K09, L08 and N07) that have had significant VOC vapor concentrations.

Vapor concentrations at both MPEG05 and MPECO8 have peaked and are now in a downward trend. TCE vapor concentrations at MPEGO5 was <95,000 $\mu g/m^3$ (<0.007 kg/day) as of July 14, while concentrations at MPEC08 is at 7,900,000 $\mu g/m^3$ (0.6 kg/day) as of July 15.

Historical groundwater data also indicates that the southern end of NAPL Area 1 contained a larger mass of CVOCs at the start of ERH remediation. Concentrations of CVOCs in groundwater have been highest in the monitoring wells located in the southeast portion of Area 1 and CVOC concentrations in these monitoring wells remained high for longer periods than CVOC concentrations in wells located in other regions of Area 1.

V. Line of Evidence No. 2, Has the temperature location reached an adequate Temperature?

Tables 1, 2 and 3 located at the end of this text present subsurface temperatures as of July 8, 2004 and the number of days a given temperature monitoring point has been at both contract specification temperatures and the boiling point of TCE at depth. Also included in these tables are the changes in temperatures between June 10, 2004 and July 8, 2004 at each monitoring point.

In the northern portion of NAPL Area 1 there are seven (7) temperature monitoring locations actively being heated containing 49 discreet temperature measurement points located at set depth intervals. As of July 8, 34 of those temperature measurement points have reached contract specification temperatures, while 43 have reached the boiling temperature of TCE at depth. Temperature monitoring location TF05 has achieved contract specification temperatures at all depth intervals. Locations TD06 and TH03 have met contract specification temperatures in all depth intervals except the highly hydraulically conductive 262 to 257 feet msl interval.

The following table displays the discrete temperature monitoring points in the northern portion of NAPL Area 1 which have not reached contract specification temperatures:

Monitoring Points In The Northern Portion of NAPL Area 1 Not At Contract Specification Temperatures

Location	Depth	Temperature	TCE Boiling Temp. at Depth
TB08	267	97	75
	262	62	79
	257	80	82
MWC08	262	84	79
	257	96	82
TD06	262	87	79
TE04	267	99	75
	262	69	79
	257	91	82
	247	88	87
	245	86	88
MWF03	267	98	75
	262	69	79
	257	89	82
TH03	262	70	79

Note: Temperatures indicated in black are below the boiling temperature of TCE at depth.

In the southern portion of NAPL Area 1, a number of temperature monitoring locations have been at contract specification temperatures for an extended period of time. There are fifteen (15) temperature monitoring locations being actively heated in the southern portion of NAPL Area 1. These fifteen locations contain a total of 105 discrete temperature measurement points located at set depth intervals. As of July 8, 71 of these temperature monitoring points have reached contract specification temperatures while 86 of the points have reached the boiling temperature of TCE at depth. This leaves 24 temperature monitoring points that have not achieved contract specification temperatures, nearly all of them along the southwest boundary of NAPL Area 1. Refer to Tables 2 and 3 for the days various locations within the southern portion of NAPL Area 1 have been at contract specification temperatures.

VI. Line of Evidence No.3, Have VOC Concentrations at the Temperature Location been Reduced to the Point of Diminishing Return?

Historical groundwater quality data indicates that movement of TCE from the NAPL phase to the dissolved phase has been completed across NAPL Area 1. The remaining source of TCE mass to be removed should now be dissolved phase TCE. Current groundwater quality data for NAPL Area 1 is presented below in tabular format.

Current Groundwater Quality Data for NAPL Area 1 (TCE in μg/L)

Well No.	Start	High	Current
MWC08 (Deep)	4.6	4.9	<2
MWF03	6	52	52
MWF11 (Deep)	430	980	73
MWF12 (Deep)	300	1,900	26
MWF14	95	560	42
MWI08	720	22,000	4,200
MWL07	1,500	950,000	79
MWL10	4	2,500	<2

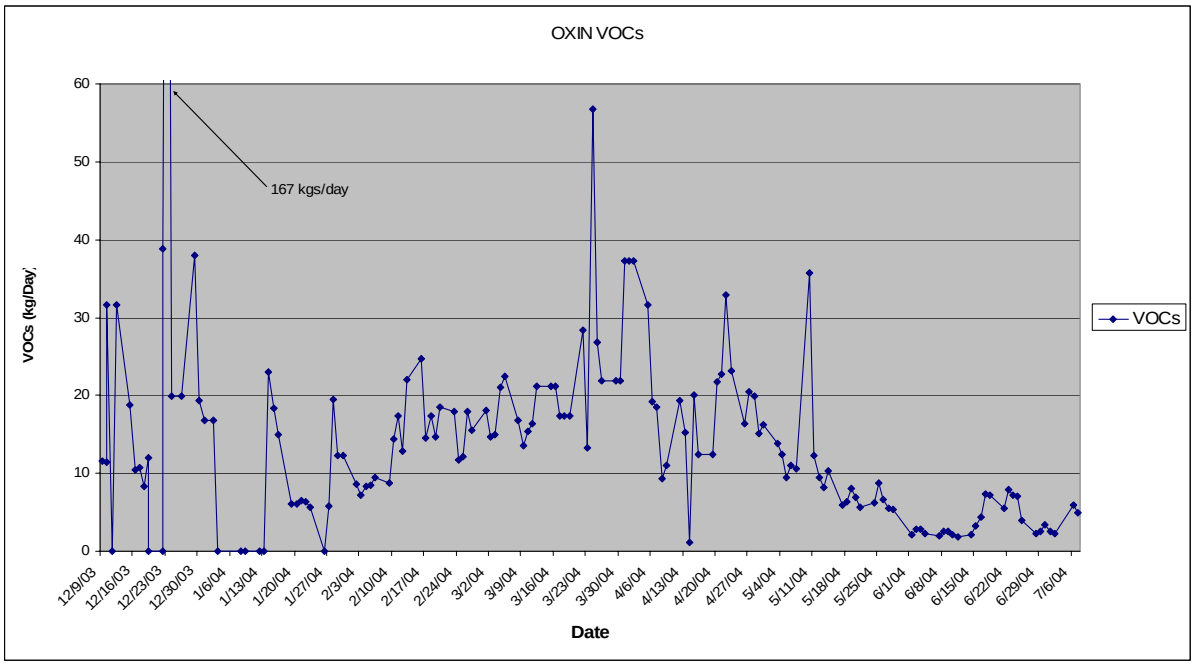
With the exception of MWF03, TCE concentrations in NAPL Area 1 groundwater have peaked and are now declining.

Vapor concentrations have recently increased in the area of TB08, MWC08 and TD06 as measured at MPEC07, 24,000,000 $\mu g/m^3$ (1.9 kg/day) and MPEE06, 3,600,000 $\mu g/m^3$ (0.3 kg/day). These areas have been heated to the boiling point of TCE at depth within the last two weeks and vapor concentrations at these locations are expected to decline in concentration quickly in the same manner as other MPEs in the northern portion of NAPL Area 1 have.

MPE vapor concentrations are declining in the well heated areas in the southern portion of NAPL Area 1. Sampling from the individual MPE wellheads indicates that four to six wells continue to account for over 80% TCE mass being removed from the subsurface and most of these wells are located in the southern portion of Area 1. Recovery from the remaining wells across NAPL Area 1 is becoming insignificant.

Vapor concentrations at OXIN, and the corresponding kilograms of TCE removed per day, are shown on Figure 1. The data indicates that the recovery of TCE in the vapor phase has declined significantly and is holding at a level that is nearing, or has reached asymptotic levels. This data is supported by the historical vapor concentrations measured at the regional vapor sampling locations.

Figure 1. OXIN VOC RECOVERY RATE (kg/Day)



VII. Line of Evidence No. 4, Are the temperature locations at risk for re-contamination if heating is stopped?

The boiling point of TCE at depth below the water table indicates that once subsurface temperatures have reached 77 °C at the top of the water table and 89 °C at the deepest point of interest, TCE NAPL will transition to the vapor stage. Because the ERH system is uniformly heating the subsurface at NAPL Area 1, there are no condensate fronts generated by the process that could reach a cool area and deposit pure TCE. Additionally, the depth interval where heating has been the slowest (262' to 252' MSL) has a heated region below it (247' to 245' MSL) that is at or above the boiling point of TCE. This should prevent any downward migration of TCE if a sub-section of Area 1 is allowed to cool at this time. The lack of downward TCE migration at the site is reinforced by the groundwater quality data from the deep monitoring wells, which shows no significant increases in VOC concentrations during the course of the project.

As expected, some locations, and more specifically, certain depth intervals have been cooling off quicker than other locations once power application to a specific portion of NAPL Area 1 has been discontinued. The following table provides actual cool-down data in those areas where active heating has been discontinued.

Temperature Changes in Areas Removed From Heating from June 17 to July 8, 2004

Depth	TE07	TE08	TH05	MWH06	MWJ04	TK04	MWI07	MWJ10	TK06
272	0	-1	2	-6	-32	-41	-8	-1	-1
267	-1	-2	-1	-2	-18	-20	-1	-1	-1
262	0	-12	-18	-4	-18	-29	-1	-2	-2
257	0	-24	-26	0	-12	-13	-1	-1	0
252	0	-26	-11	0	-8	-4	-4	0	0
247	-3	-26	-8	0	-11	-12	-4	-2	-3
242	-3	-25	-10	-1	-15	-16	-7	-5	-9

Note: Temperature changes displayed in degrees C

Cool-down rates at NAPL Area 1 boundary locations TE08 (northwest boundary) and MWJ04 and TK04 (north east boundary) are much greater than normal. Since these cool-down rates far exceed a typical rate expected from only heat transfer mechanisms, movement of water is the expected cause. Temperature location TH05 also cooled at a fast rate within the high flow interval at 262' to 257' msl. Since three of the locations removed from power are monitoring wells, we can compare the groundwater analytical data from each of these wells with respect to their cool-down temperatures. The following table displays groundwater data for the three monitoring well locations removed from power on June 17, 2004.

Groundwater Analytical Data In Areas Allowed To Cool In Mid June: TCE in µg/L

Location	Project Start	High Level	Mid June	Mid July
MWH06	2,400	2,400	100	ND
MWJ04	150	20,000	160	93
MWJ10	63	790	100	55

As of mid July, TCE concentrations in groundwater at the three monitoring wells are lower than measured in mid June when power input was terminated, even though subsurface temperatures at these locations have decreased.

Temperature Locations Meeting the Four Lines of Evidence

The following table summarizes the temperature locations which have satisfied the four lines of evidence and should be considered as having met the performance specification.

Summary of Locations Satisfying The Four Lines of Evidence

Location	Temperature	Days at Temperature	Vapor Data	GW data
TF05	All above Spec Temperature	13 to 100 days	Peaked at 4,800,000 down to 1,100,000	NA
TH03	All but 262 above TCE Boiling Point	0 to 99 days	150,000 down to 49,000	NA
MWI08	All Above Spec Temperature	55 to 98 days	4,800,000 down to 2,400,000	22,000 down to 15,000
MWL07	All above Spec Temperature	36 to 102 days	7,500,00 down to 2,000,000	950,000 down to 9
MWL10	All above Spec Temp except 272	0 to 119 days	26,000 to < 95,000	2,500 to <2
TM05	All above Spec Temperature	25 to 66 days	16,000,000 down to 120,000	NA
TK08	All above Spec Temp except 245	0 to 98 days	7,500,000 down to 2,000,000	NA
TM08	All above TCE boiling temp	62 to 115 days	2,800,000 to 170,000	ND
TM10	All above Spec Temperature	13 to 142 days	26,000 to <95,000	NA
TH10	All above TCE boiling Temp	26 to 150 days	75M down to 2.8M	NA
TE04	All above TCE boiling temp except 262 and 245 msl	0 to 56 days	41,000 down to 12,000	NA
MWF03	All above TCE boiling temp except 262 msl	0 to 55 days	390,000 down to <95,000	52 µg/l
TG09	All above TCE boiling temp except 262 msl	0 to 110 days		
TG14	All above TCE boiling temp	2 to 102		

Base upon application of the four lines of evidence, TRS recommends that the following 14 temperature locations be deemed as having effectively achieved the intent of the contract temperature specification:

North End of NAPL Area 1:

MWF03
TE04
TF05
TH03

South End of NAPL Area 1:

MWL10
TM05
TK08
TM08
TM10
TH10
TG09
TG14
MWI08
MWL07

If you have any questions regarding this review of progress at NAPL Area 1, please feel free to contact me. You may also contact Tom Powell, Senior TRS Project Manager at (360) 693-6301; or Patrick Cossins, NAPL Area 1 Project Manager, at (512) 527-8041.

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cc: Greg Beyke, P.E., TRS
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Tom Powell, TRS
Mike Moore, P.G., TRS
Patrick Cossins, P.G., TRS

Table 1. Temperatures and Vapor Concentrations For The Northern Portion of NAPL Area 1

TB08						
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	C07	C08	
272	99	10	6/11/04	6,500	53,000	
267	97	8	6/21/04	260,000		
262	62	13	7/14/04	740,000	24,000,000	
257	80	12	7/15/04		7,900,000	
252	112	1				
247	114	-1				
245	115	0				

7/8/04 TB08		
Depth	Days at Spec Temp	Days at TCE Boiling Temp
272	12	41
267	0	69
262	0	0
257	0	0
252	77	98
247	109	116
245	110	117

6/17/04 TB08		
Depth	Days at Spec Temp	Days at TCE Boiling Temp
272	0	20
267	0	48
262	0	0
257	0	0
252	56	77
247	88	95
245	89	96

MWC08			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	D07	C08	
272	99	1	6/21/04	60,000	53,000	
267	100	2	7/12/04	2,500,000		
262	84	11	7/14/04	<135,000	24,000,000	
257	96	9	7/15/04		7,900,000	
252	113	6				
247	112	0				
245	110	-1				

MWC08		
Depth	Days at Spec Temp	Days at TCE Boiling Temp
272	83	94
267	7	84
262	0	13
257	0	39
252	53	72
247	61	77
245	59	74

MWC08		
Depth	Days at Spec Temp	Days at TCE Boiling Temp
272	62	73
267	0	63
262	0	0
257	0	18
252	32	51
247	40	56
245	38	53

TD06			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	E06		
272	99	6	6/10/04	31,000		
267	100	4	6/11/04	230,000		
262	87	25	7/14/04	3,600,000		
257	99	27	7/15/04	5,400,000		
252	110	0				
247	113	4				
245	112	9				

TD06		
	Days at Spec Temp	Days at TCE Boiling Temp
272	53	81
267	4	73
262	0	11
257	4	24
252	37	49
247	39	52
245	35	50

TD06		
	Days at Spec Temp	Days at TCE Boiling Temp
272	32	60
267	0	52
262	0	0
257	0	3
252	16	28
247	18	31
245	14	29

TE04			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	E04		
272	99	16	6/11/04	41,000		
267	99	14	6/22/04	12,000		
262	69	26				
257	91	53				
252	100	41				
247	88	24				
245	86	22				

TE04		
	Days at Spec Temp	Days at TCE Boiling Temp
272	17	18
267	0	56
262	0	0
257	0	5
252	0	7
247	0	1
245	0	0

TE04		
	Days at Spec Temp	Days at TCE Boiling Temp
272	0	1
267	0	35
262	0	0
257	0	0
252	0	0
247	0	0
245	0	0

MWF03			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	G03		
272	99	3	6/10/04	30,000		
267	98	15	6/22/04	390,000		
262	69	27	7/12/04	110,000		
257	89	34				
252	111	37				
247	114	35				
245	115	33				

MWF03		
	Days at Spec Temp	Days at TCE Boiling Temp
272	26	33
267	0	55
262	0	0
257	0	2
252	8	17
247	12	17
245	12	20

MWF03		
	Days at Spec Temp	Days at TCE Boiling Temp
272	9	14
267	0	34
262	0	0
257	0	0
252	0	0
247	0	0
245	0	0

TF05			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	F05	G04	G05
272	99	1	6/10/04	44,000		
267	100	0	6/17/05	550,000	130,000	190,000
262	103	6	6/21/04	330,000	110,000	4,800,000
257	106	20	6/29/04	370,000	48,000	350,000
252	110	-1	7/12/04		1,100,000	<95,000
247	113	-1				
245	114	-1				

TF05		
	Days at Spec Temp	Days at TCE Boiling Temp
272	58	67
267	41	120
262	13	60
257	16	85
252	100	103
247	95	103
245	92	100

TF05		
	Days at Spec Temp	Days at TCE Boiling Temp
272	37	46
267	20	99
262	1	39
257	4	64
252	79	82
247	74	82
245	71	79

TH03			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	H03	I02	I03
272	100	6	6/11/04		39,000	
267	98	-2	6/22/04		150,000	57,000
262	70	12	6/29/04	48,000	14,000	24,000
257	109	45	7/12/04		<95,000	1,200,000
252	112	24				
247	116	15				
245	115	12				

TH03		
	Days at Spec Temp	Days at TCE Boiling Temp
272	73	99
267	11	73
262	0	0
257	9	10
252	13	35
247	51	72
245	55	76

TH03		
	Days at Spec Temp	Days at TCE Boiling Temp
272	52	78
267	10	52
262	0	0
257	0	0
252	0	14
247	30	51
245	34	55

Table 2. Temperatures and Vapor Concentrations For The Southwest Portion of NAPL Area 1

TG09			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	G09	H09	
272	93	-7	7/14/04	<135,000	230,000	
267	100	-1				
262	99	1				
257	78	2				
252	100	12				
247	114	0				
245	109	4				

7/8/04 TG09		
	Days at Spec Temp	Days at TCE Boiling Temp
272	77	78
267	60	110
262	4	93
257	0	0
252	3	34
247	39	52
245	35	48

6/17/04 TG09		
	Days at Spec Temp	Days at TCE Boiling Temp
272	56	57
267	43	89
262	3	72
257	0	0
252	0	13
247	18	31
245	14	27

MWF11			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	F11	F12	
272	84	-12	6/11/04	35,000		
267	99	-1	7/12/04	<95,000		
262	94	1	7/14/04		<135,000	
257	51	4				
252	61	5				
247	87	4				
245	94	2				

MWF11		
	Days at Spec Temp	Days at TCE Boiling Temp
272	37	46
267	29	114
262	0	57
257	0	0
252	0	0
247	0	6
245	0	42

MWF11		
	Days at Spec Temp	Days at TCE Boiling Temp
272	35	40
267	27	93
262	0	36
257	0	0
252	0	0
247	0	0
245	0	25

TF11			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	F11	G10	G11
272	89	-11	6/11/04	35,000		280,001
267	100	-1	7/12/04	<95,000		<95,001
262	99	2	7/14/04		460,000	
257	58	3				
252	68	4				
247	114	0				
245	114	-1				

TF11		
	Days at Spec Temp	Days at TCE Boiling Temp
272	48	67
267	36	116
262	2	84
257	0	0
252	0	0
247	56	80
245	70	108

TF11		
	Days at Spec Temp	Days at TCE Boiling Temp
272	41	50
267	26	95
262	0	63
257	0	0
252	0	0
247	35	59
245	49	87

MWF12			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	F12	G11	G12
272	90	-8	6/11/04		280,001	
267	100	0	6/17/04		<95,001	
262	97	2	7/14/04	<135,000		<135,000
257	64	0				
252	74	3				
247	84	3				
245	84	3				

MWF12		
	Days at Spec Temp	Days at TCE Boiling Temp
272	71	71
267	28	121
262	0	73
257	0	0
252	0	0
247	0	0
245	0	0

MWF12		
	Days at Spec Temp	Days at TCE Boiling Temp
272	50	50
267	16	100
262	0	52
257	0	0
252	0	0
247	0	0
245	0	0

MWF14			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	F15	G14	
272	83	-11	6/11/04	840		
267	102	1	7/14/04		<135,000	
262	94	8				
257	57	8				
252	99	10				
247	101	11				
245	101	11				

MWF14		
	Days at Spec Temp	Days at TCE Boiling Temp
272	33	37
267	38	110
262	0	49
257	0	0
252	0	37
247	2	33
245	2	31

MWF14		
	Days at Spec Temp	Days at TCE Boiling Temp
272	32	34
267	19	89
262	0	28
257	0	0
252	0	16
247	0	12
245	0	10

TG14			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	G14	I13	
272	100	12	6/11/04		3,400	
267	102	2	7/14/04	<135,000	200,000	
262	93	9				
257	84	20				
252	86	19				
247	90	13				
245	90	13				

TG14		
	Days at Spec Temp	Days at TCE Boiling Temp
272	22	31
267	24	102
262	0	40
257	0	3
252	0	2
247	0	5
245	0	4

TG14		
	Days at Spec Temp	Days at TCE Boiling Temp
272	15	23
267	9	81
262	0	19
257	0	0
252	0	0
247	0	0
245	0	0

TI13			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	I13		
272	99	0	6/11/04	3,400		
267	101	0	7/14/04	200,000		
262	101	4				
257	77	15				
252	64	14				
247	66	9				
245	66	9				

TI13		
	Days at Spec Temp	Days at TCE Boiling Temp
272	57	60
267	61	114
262	10	69
257	0	0
252	0	0
247	0	0
245	0	0

TI13		
	Days at Spec Temp	Days at TCE Boiling Temp
272	36	39
267	40	93
262	0	48
257	0	0
252	0	0
247	0	0
245	0	0

Table 3. Temperatures and Vapor Concentrations For The Southeast Portion of NAPL Area 1

MWI08			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	J08		
272	100	0	6/10/04	2,900,000		
267	101	0	6/21/04	4,800,000		
262	104	0	7/2/04	2,800,000		
257	107	2	7/12/04	2,400,000		
252	110	-1				
247	113	-1				
245	114	-1				

7/8/04 MWI08		
	Days at Spec Temp	Days at TCE Boiling Temp
272	98	104
267	82	119
262	74	105
257	55	78
252	79	106
247	81	105
245	70	93

6/17/04 MWI08		
	Days at Spec Temp	Days at TCE Boiling Temp
272	77	83
267	61	98
262	53	84
257	34	57
252	58	85
247	60	84
245	49	72

MWL07			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	L07		
272	103	-2	6/11/04	240,000		
267	103	-1	6/17/04	760,000		
262	104	0	6/21/04	530,000		
257	107	0	6/30/04	7,200,000		
252	109	-1	7/2/04	7,500,000		
247	111	-1	7/13/04	2,000,000		
245	113	3				

MWL07		
	Days at Spec Temp	Days at TCE Boiling Temp
272	84	85
267	53	99
262	36	79
257	70	86
252	97	113
247	102	111
245	95	107

MWL07		
	Days at Spec Temp	Days at TCE Boiling Temp
272	63	64
267	32	78
262	15	58
257	49	65
252	76	92
247	81	90
245	74	86

MWL10			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	M10		
272	84	19	6/11/04	26,000		
267	99	1	6/22/04	22,000		
262	101	1	7/12/04	<95,000		
257	104	8				
252	107	0				
247	109	1				
245	110	0				

MWL10		
	Days at Spec Temp	Days at TCE Boiling Temp
272	1	3
267	1	62
262	28	67
257	27	54
252	30	32
247	51	95
245	112	119

MWL10		
	Days at Spec Temp	Days at TCE Boiling Temp
272	0	0
267	1	41
262	7	46
257	6	33
252	9	11
247	30	74
245	91	98

TM05			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	M05	N05	
272	99	0	6/11/04	180,000	5,300,000	
267	100	3	6/17/04	43,000	16,000,000	
262	104	20	6/22/04	75,000	9,200,000	
257	107	4	6/29/04	30,000	1,600,000	
252	109	3				
247	115	6				
245	114	4				

TM05		
	Days at Spec Temp	Days at TCE Boiling Temp
272	62	62
267	26	55
262	25	30
257	53	56
252	56	62
247	66	92
245	52	101

TM05		
	Days at Spec Temp	Days at TCE Boiling Temp
272	41	41
267	5	34
262	4	9
257	32	35
252	35	41
247	45	71
245	31	80

TK08			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	L07	L08	
272	101	0	6/11/04	240,000	880,000	
267	102	1	6/17/04	760,000	1,700,000	
262	105	-1	6/21/04	530,000	1,800,000	
257	108	0	6/30/04	7,200,000	3,000,000	
252	111	8	7/2/04	7,500,000	2,800,000	
247	107	19	7/13/04	2,000,000	390,000	
245	99	19				

TK08		
	Days at Spec Temp	Days at TCE Boiling Temp
272	98	100
267	74	108
262	72	98
257	71	93
252	65	93
247	15	64
245	0	27

TK08		
	Days at Spec Temp	Days at TCE Boiling Temp
272	77	79
267	53	87
262	51	77
257	50	72
252	44	72
247	0	43
245	0	7

TM08			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	M08	N07	
272	99	0	6/11/04	29,000	1,200,000	
267	99	0	6/17/04		2,800,000	
262	102	3	6/21/04		390,000	
257	102	0	6/22/04	200,000		
252	104	0	6/29/04		170,000	
247	106	8	7/12/04		<95,000	
245	99	0				

TM08		
	Days at Spec Temp	Days at TCE Boiling Temp
272	67	67
267	0	67
262	27	62
257	76	93
252	102	115
247	73	113
245	5	104

TM08		
	Days at Spec Temp	Days at TCE Boiling Temp
272	46	46
267	0	46
262	6	41
257	55	72
252	81	94
247	52	92
245	5	83

TM10			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	M10		
272	99	36	6/11/04	26,000		
267	101	26	6/22/04	22,000		
262	101	29	7/12/04	<95,000		
257	109	0				
252	113	0				
247	113	0				
245	113	-1				

TM10		
	Days at Spec Temp	Days at TCE Boiling Temp
272	25	26
267	15	43
262	13	112
257	96	138
252	48	150
247	142	150
245	140	146

TM10		
	Days at Spec Temp	Days at TCE Boiling Temp
272	5	5
267	0	22
262	7	92
257	75	117
252	27	129
247	121	129
245	119	125

TH10			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/8/2004	Temp Change 6/10 to 7/9	Sample Date	H10	I10	I09
272	101	0	6/11/04	26,000		880,000
267	102	0	6/21/04	380,000	570,000	75,000,000
262	105	0	6/30/04		2,900,000	49,000,000
257	88	2	7/12/04		450,000	23,000,000
252	108	4				
247	114	1				
245	114	1				

TH10		
	Days at Spec Temp	Days at TCE Boiling Temp
272	79	80
267	80	124
262	69	111
257	0	53
252	67	90
247	74	95
245	74	94

TH10		
	Days at Spec Temp	Days at TCE Boiling Temp
272	58	59
267	59	103
262	48	90
257	0	32
252	46	69
247	53	74
245	53	73

APPENDIX B

August 2, 2004 Memorandum

THERMAL REMEDIATION services inc.

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August 2, 2004

To: Linnea Norby, USACE Project Manager

From: Michael Dodson, President, Thermal Remediation Services. Inc.

RE: **Draft NAPL Treatment Area 1 Shutdown Plan**

1 Introduction

This memo presents the basis for discontinuing operation of the NAPL Treatment Area 1 Electrical Resistance Heating (ERH) system. In formulating the basis for system shutdown, the same independent lines of evidence previously used to evaluate the extent and effectiveness of heating at individual temperature-monitoring points (TMPs) were used to evaluate the entire Area 1 treatment volume. Evaluation of these lines of evidence shows that the goal of applying ERH to remove NAPL from Area 1 has been accomplished and that subsurface treatment at Area 1 using ERH has reached the point of diminishing return.

The primary method for measuring the progress of ERH treatment at Area 1 has been temperature data from the 32 TMPs. However, additional forms of site data have been collected throughout the installation and operation of the ERH system. In mid June 2004, the extent and effectiveness of heating at selected TMPs was evaluated by organizing all site data into the following four independent lines of evidence:

1. Is the TMP in an area where VOC concentrations are suspected to be high or low?
2. Has the subsurface surrounding the TMP reached an adequate temperature?
3. Have VOC concentrations in the subsurface adjacent to the TMP been reduced to the point of diminishing return?
4. If heating is stopped, is there a risk that the area around the TMP could be re-contaminated?

Using these independent lines of evidence, treatment at 10 TMPs was deemed to be complete on June 17, 2004 and electrodes adjacent to those TMPs were taken off-line so that power could be redistributed to other parts of Area 1. Treatment at another 5 TMPs was deemed to be complete in on July 20, 2004 and power input to electrodes surrounding those TMPs was stopped and that power was also redistributed to other regions of Area 1.

2 TMPs Previously Meeting Contract Temperature Specification

A plot plan of NAPL Treatment Area 1 is shown as Figure 1 of Attachment A. For this document, Area 1 has been divided into north and south regions. The southern region has been further split between east and west because site date indicates that the two halves of the southern region are quite different with respect to the amount of CVOCs originally present in the subsurface.

TRS and the USACE agreed on June 17 and July 20, 2004 that ERH operations at several Area 1 TMPs had effectively met contract temperature specifications. As a result of these agreements, and on the dates indicated, application of electrical energy was discontinued to the electrodes surrounding the following 15 TMPs:

TMPs Deemed To Have Met Contract Temperature Specifications
(As of July 20, 2004)

Northern Half Of Area 1		Southern Half Of Area 1	
MWE07	(June 17th)	TH12	(June 17th)
TE08	(June 17th)	MWJ10	(June 17th)
TH05	(June 17th)	TM05	(July 20th)
MWH06	(June 17th)	TM08	(July 20th)
MWI07	(June 17th)	TM10	(July 20th)
MWJ04	(June 17th)	MWL07	(July 20th)
TK04	(June 17th)	MWL10	(July 20th)
TK06	(June 17th)		

By discontinuing energy application to the electrodes adjacent to 10 TMPs on June 17, 2004, TRS was able to increase the energy density being applied to the northern half of Area 1. With increased energy density, subsurface temperatures in the northern region were raised significantly between mid June and the end of July 2004.

During the mid June site evaluation, the technical team decided not to reallocate a significant amount of energy in the southern half of Area 1. Subsequently, subsurface temperatures in this region did not increase nearly as much as they did in the northern portion of Area 1 between June 20 and July 28, 2004. However, it is now known that the unexpected change in the direction of groundwater flow across the site would have made it difficult to achieve significant temperature increases along the south and southwestern boundaries of Area 1 even if the power density in the southern half of Area 1 had been increased.

3 Line of Evidence No. 1
Is the TMP in an area where VOC concentrations are suspected to be high or low?

Evidence for the presence of NAPL in the subsurface of Area 1 was gathered from the following sources:

- NAPL screening during installation of the ERH system,

- Vapor sampling at regional sampling points,
- Vapor sampling at individual multi-phase extraction (MPE) wellheads, and
- Sampling at groundwater monitoring wells.

The data generated from all four sources indicates that the southern half of Area 1 contained more NAPL than the northern half. Vapor and groundwater data further indicates that the south-central portion of Area 1 was the most heavily impacted portion of the treatment area.

The goal for ERH treatment in Area 1 was NAPL removal. With that goal in mind, the NAPL presence data indicates that heating should be as complete as possible in the south-central, southeastern, southwestern, and northern sections of Area 1 in that order. In the northern section of Area 1, heating should be as complete as possible in the northwest corner.

One unanswered question is how much, if any, NAPL was in the highly hydraulically conductive lens located at 262' msl (15-feet bgs) in the northern half and at 257' msl (20-feet bgs) in the southern half of Area 1. This interval consists of very permeable clean gravels, which are not an ideal media for the retention of downward migrating NAPL. Additionally, large volumes of groundwater have been flowing through this lens since NAPLs were originally deposited in Area 1. While no hard data exists to prove that NAPL was, or was not, present in this lens before ERH operations started, geologists logging this lens have stated that it appeared to be free of NAPL. Also, vapor data from the northern half of Area 1 indicates that this lens does not hold a large mass of CVOCs.

No soil samples were collected for laboratory analyses during installation of the Area 1 ERH system. However, during the construction of each Area 1 groundwater monitoring well, and of selected perimeter electrodes, soil samples were screened for the presence of NAPL using a PID, Ultra Violet Fluorescence examination, and Dye testing. Data from these screening methods correlated very well and showed that samples with elevated PID readings (+1,000 ppm) matched samples with positive readings from the UV Fluorescence and Dye tests.

The results of NAPL screening at the perimeter electrodes are contained in Table 1 of Attachment A and presented in plan view on Figure 2 (File: NAPL-Evidence.pdf). Also presented on Figure 2 are the results of NAPL screening at the groundwater monitoring wells and pre-heating concentration contours for TCE in groundwater.

NAPL indicator data generated during groundwater monitoring well installation is also presented as a cut-away on Figure 3 of Attachment A, which shows the relationship between screen intervals and positive NAPL screening results. Finally, data from NAPL screening at the perimeter electrodes is summarized in plan view on Figure 4 of Attachment A.

Twenty one (21) perimeter electrodes were screened for NAPL and positive indicators were seen at twelve (12) of these locations. With the exception of electrodes F11 (indications of NAPL from 35-40 feet bgs), F13 (37-40 feet bgs), and N6 (5-32.5 feet bgs), indications of NAPL were found only in the vadose zone (from 5-12 feet bgs) at the perimeter electrodes.

Four (4) of the 13 monitoring wells inside Area 1 showed indications of NAPL in the shallow/intermediate depth interval of approximately 3-17 feet bgs (MWE07, MWC08, MWF03, and MWF14). Six o f the remaining 9 wells showed indications of NAPL in the intermediate/deep interval of approximately 10-30 feet bgs, with well MWJ04 showing NAPL indications to 40-feet bgs.

NAPL Screening Results at Groundwater Monitoring Wells

MW Location	NAPL Present (Feet MSL)	NAPL Present (Feet bgs)
MWH06 (North Center)	No Indication of NAPL	No Indication of NAPL
MWI07 (Site Center)	276 to 244	(3 to 34 bgs)
MWI08 (Site Center)	276 to 246	(3 to 32 bgs)
MWF12 (Southwest)	277 to 244	(2 to 34 bgs)
MWL10 (Southeast)	271 to 255	(7 to 23 bgs)
MWJ10 (South Central)	272 to 252	(6 to 26 bgs)
MW L07 (Southeast)	271 to 246	(7 to 32 bgs)
MWJ04 (Northeast)	271 to 251	(7 to 27 bgs)
MWE07 (Northwest)	276 to 261	(3 to 17 bgs)
MWC08 (Northwest)	276 to 261	(3 to 17 bgs)
MWF03 (Northeast)	271 to 266	(7 to 12 bgs)
MWF14 (Southwest)	277 to 272	(2 to 5 bgs)
MWF11 (Southwest)	No Data Available	No Data Available

NAPL screening data indicates that there was less NAPL present in the northern portion of Area 1 at the start of ERH operations, and at shallower intervals, than in the southern portion of Area 1. The data indicates that NAPL was present in the northwest and northeast corners of the northern portion of Area 1, and along the entire west and east boundaries of the southern portion of Area 1.

Historical groundwater quality data, from pre-heating to the most recent sampling event is presented in Table 2 of Attachment A. Pre-heating concentrations of TCE in groundwater were similar in both the northern and southern portions of Area 1. However, as the saturated subsurface is heated, NAPL will transition into the dissolved phase and concentrations of CVOCs in groundwater monitoring wells adjacent to a NAPL source will increase, and remain at elevated levels, in direct relationship to the proximity and size of the NAPL source.

Groundwater quality data collected during heating indicates that the southern half of Area 1 contained a larger mass of CVOCs at the start of ERH remediation. Concentrations of CVOCs in groundwater reached significantly higher levels in the monitoring wells located in the south-central and southeast portions of Area 1 during heating and remained elevated for longer periods than in wells located in the northern portion of Area 1.

Vapor sampling results from the individual MPE wellheads is presented in Tables 3, 4 and 5 of Attachment A. The results of vapor concentrations taken from the regional sampling points are presented below:

Summary of Vapor Sampling Results from Regional Sampling Locations (CVOCs Only)

	North Regions (%)			% From	South Regions (%)			% From	Total	North	South
Date	NW	NC	NE	North	SW	SC	SE	South	kg/day	kg/day	kg/day
12/19/03	4.3	7.1	0.4	12	2.4	4.3	81.5	88	12.0	1.4	10.6
12/26/03	1.2	1.2	0.2	3	2.5	1.2	93.8	98	20.0	0.5	19.5
1/23/04	11.2	24.0	3.8	39	19.0	8.1	33.8	61	6.0	2.3	3.7
2/13/04	25.2	38.3	4.2	68	5.3	9.2	17.6	32	22.0	14.9	7.1
2/27/04	8.0	21.9	2.8	33	3.6	13.8	49.9	67	16.0	5.2	10.8
3/26/04	13.2	8.1	3.1	24	4.9	51.5	19.1	76	22.0	5.4	16.6
4/23/04	22.0	16.2	2.9	41	10.0	35.8	13.2	59	23.0	9.5	13.6
5/4/04	15.9	23.5	11.3	51	9.9	27.3	12.1	49	12.0	6.1	5.9
5/28/04	16.7	14.6	12.3	44	13.7	23.2	19.5	56	5.3	2.3	3.0
6/4/04	11.3	12.5	12.1	36	20.0	33.0	11.3	64	1.9	0.7	1.2
6/25/04	15.4	22.4	12.8	51	5.0	17.1	27.3	49	4.0	2.0	2.0
7/2/04	21.0	17.2	14.6	53	11.4	29.2	6.6	47	2.2	1.2	1.0
7/23/04	11.1	15.6	7.4	34	44.5	8.5	13.0	66	4.1	1.4	2.7
Totals									**151**	**53**	**98**

Almost twice as much CVOC mass has been recovered in the vapor phase from the southern portion of Area 1 than from the northern portion. From early June to late July 2004, vapor samples were collected from 20 MPE wellheads across the northern portion of Area 1. Only four of these MPE wells had significant peak TCE concentrations, defined as more than 0.2 kg of TCE recovered per day. These four MPE wells are grouped in the northwest corner of Area 1. Peak wellhead TCE concentrations at these four MPEs are shown below:

NORTH AREA 1: PEAK MPE WELLHEAD CONCENTRATIONS

MPE Well	TCE Concentraton (ug/m3)	kg/day
C08	24,000,000	1.8
D08	25,000,000	1.9
E06	12,000,000	0.9
G05	4,800,000	0.4

In contrast, there are multiple MPE wells in the southern portion of Area 1 that had significant peak TCE vapor concentrations during this same time period. It should be noted that data collected from the regional vapor sampling points and at the inlet to the thermal oxidizer (OXIN) indicate that vapor recovery rates in the southern half of Area 1 peaked in February through April 2004. If vapor samples had been taken at MPE wellheads located in the southern portion of Area 1 in the spring of 2004, TCE concentrations in those samples would have been significantly higher than those recorded in June and July 2004 and the contrast in CVOC vapor recovery rates between the northern and southern portions of Area 1 would have been even greater.

The highest MPE wellhead TCE concentration measured in Area 1 from June 11 through July 28, 2004 was at I09, which is located in the south-central portion of the treatment area. Peak MPE wellhead TCE concentrations in the southern portion of Area 1 during the period of June 11 through July 28, 2004 are shown below:

SOUTH AREA 1: PEAK MPE WELLHEAD CONCENTRATIONS

MPE Well	TCE Concentraton (ug/m3)	kg/day
I09	75,000,000	6.0
I10	2,900,000	0.2
J08	4,800,000	0.4
L07	7,500,000	0.6
L08	3,000,000	0.2
L10	3,000,000	0.2
N05	16,000,000	1.3
N07	2,800,000	0.2

4 Line of Evidence No. 2

Has the subsurface surrounding the TMP reached an adequate temperature?

Site data indicates that the south-central and southeast sections of Area 1 were the most heavily impacted portions of the treatment area. Heating in these two sections has been the most efficient and effective. Temperatures at all thermocouples in these regions have been above the boiling point of TCE at depth for extended periods of time and additional heating of these regions will not produce any additional NAPL removal from Area 1.

There are 11 thermocouples in the southwest section of Area 1 that have not reached the boiling point of TCE at depth. All 11 of these thermocouples are located in the hydraulically conductive interval at 257' to 252' msl. With the unexpected change in groundwater flow across the site, it will require the construction of new hydraulic control wells, significant redistribution of power input to the subsurface, and at least 30 days of ERH system operations to heat this interval. Given that other lines of evidence indicated that no additional NAPL will be removed from Area 1 if this interval is heated, the efforts required to further treat the interval should be considered excessive for the potential return.

Heating in the northern section of Area 1 was significantly increased when power input was redistributed in mid June 2004. Currently, there are only 3 thermocouples in the northern half of Area 1 that are below the boiling point of TCE at depth. These thermocouples are located in the hydraulically conductive interval at 262' msl. Continued heating in the northern end of Area 1 will not result in any additional NAPL removal from Area 1.

For effective NAPL removal at Area 1, the subsurface needs to be heated to the boiling point of TCE at depth. The boiling point of pure TCE in air is 87 °C, but when immersed in water, pure TCE boils at 74 °C. This boiling point increases with depth below the water table. At 5-feet below the water table (15-feet below grade at Area 1) pure TCE boils at 77 °C and at 35-feet below grade pure TCE boils at 89 °C. The boiling points of pure TCE at various depths below the groundwater table are presented below:

Boiling Point of TCE Immersed in Water at Depth

Boiling Point In Air: 87 °C
Boiling Point in Water Mix: 74 °C

Depth Below Grade		Depth Below GW Table		TCE Boiling Point
(feet)	(feet MSL)	(feet)	(feet MSL)	(°C)
15	262	5	262	77
20	257	10	257	80
25	252	15	252	83
30	247	20	247	86
35	242	25	242	89

While possible, it is unlikely that TCE exists in the subsurface as pure TCE. Rather, mixtures of TCE and TCE daughter products, predominately cis-1,2-DCE, are most likely present in the subsurface. The boiling point of a mixture of VOCs is strongly dominated by the VOC with the lower boiling point. A 50/50 mix of TCE and cis-1,2-DCE at the top of the water table will boil at approximately 61°C, while a mixture containing twice as much TCE as cis-1,2-DCE will boil at 64°C, and a 90% TCE mix will boil at 70°C. Thus, the boiling points of pure TCE in water at depth, as presented above, should be higher than the boiling point of actual the TCE NAPL found in the Area 1 subsurface.

There are a total of 32 TMPs across Area 1 and each TMP contains 7 thermocouples located at approximately 5, 10, 15, 20, 25, 30, and 35-feet bgs. This arrangement provides for 224 discrete subsurface temperature measurement points within the Area 1 treatment volume. As of July 28, 2004, the boiling point of TCE at depth had been reached at 210 of these points (94%) and contract specification temperatures, 90°C in the vadose zone and 100°C in the saturated zone, had been reached at 191 of these points (85%).

Subsurface temperatures as of July 28, 2004 and the number of days a given thermocouple has been at both contract specification temperatures and the boiling point of TCE at depth are presented in Tables 3, 4, and 5 of Attachment A for the northern, southeastern, and southwestern portions of Area 1, respectively. Also included in these tables are the changes in temperatures that occurred between June 10 and July 28, 2004 at each thermocouple.

There are a total of 15 TMPs in the northern portion of Area 1 containing 105 thermocouples. Eight (8) of these TMPs were deemed to have met contract temperature specifications in mid June 2004 and electrodes surrounding these TMPs were taken off-line. There are currently 7 TMPs located in the actively heated portion of the northern part of Area 1 containing 49 thermocouples. As of July 28, the boiling point of TCE at depth had been reached at 46 of these thermocouples and contract specification temperatures have been reached at 39.

The only depth where the boiling point of TCE has not been reached in the northern portion of the site is the most hydraulically conductive interval at 262' msl (15-feet bgs). Similarly, the only depths where contract specification temperatures have not been achieved are within the 262' to 257' msl interval.

The following table contains the thermocouple locations in the northern portion of NAPL Area 1 that have not reached contract specification temperatures and also presents those locations where subsurface temperatures are below the boiling point of TCE at depth.

Northern Portion of Area 1

Thermocouple Locations Not At Contract Specification Temperatures
As of July 28, 2004

Location	Depth (feet msl)	Depth (feet bgs)	Temperature (°C)	Boiling Point of TCE At Depth (°C)
TB08	267	11	98	75
	262	16	69	79
	257	21	86	82
MWC08	262	11	89	79
TD06	262	11	87	79
TE04	262	11	69	79
	245	33	98	88
MWF03	267	11	98	75
	262	16	78	79
TH03	262	11	89	79

Note: Temperatures indicated in red are below the boiling temperature of TCE at depth.

There are 17 TMPs in the southern portion of NAPL Area 1 containing 119 thermocouples. Nine (9) of these TMPs (containing 63 thermocouples) are located in the southwest and 8 TMPs (containing 56 thermocouples) are located in the southeast section of the southern portion of Area 1.

Temperatures at all 70 thermocouples in the southeast section have exceeded the boiling point of TCE at depth and at all but 2 thermocouple (97%) temperatures have reached contract specifications. On average, the thermocouples in the southeast section have been at contract temperatures for over 70 days and most of them have been at contract specification temperatures for over 100 days.

Of the 56 thermocouples in the southwest section, all but 11 (80%) are above the boiling point of TCE at depth. The hydraulically conductive interval in the southwest section of the site is located at the depth interval 257 to 252 msl (20-25 feet bgs), which is slightly deeper than it is located in the northern portion of Area 1. It is in this depth interval where temperatures in the southwest section have not reached the boiling point of TCE.

5 Summary of Progress since Mid June 2004.

5.1 Progress in the Northern Portion of Area 1

The northern half of Area 1 benefited greatly from the redistribution of energy in mid June. Table 3 of Attachment A presents subsurface temperatures as of July 28, 2004 and the most recent TCE concentrations in vapors from MPE wellheads in this region. The table also includes temperature changes since June 10, 2004 and the number of days that each thermocouple has been at contract specification temperatures and the boiling point of TCE.

A very hydraulically conductive interval at 262' to 257' msl (15-20 feet bgs) has reduced heating efficiency in the northern portion of Area 1. This is clearly seen in the data from TMPs TB08, TE04, and MWF03. At each of these TMPs, temperatures at the 262' msl depth interval (15-feet bgs) remain below the boiling point of TCE at depth (79°C), while the intervals immediately above and below 262' msl are well above the boiling point of TCE.

However, indications of NAPL during pre-screening efforts in these areas were found predominately in the vadose zone, which has been thoroughly heated to well above the boiling point of TCE.

Considerable temperature gains were realized in the northern portion of NAPL Area 1 between June 17, when power was redistributed in this area, and July 28, 2004. These temperature gains were made possible by removing selected portions of Area 1 from electrical service and increasing the power density in the northern target area. At the high hydraulic conductivity zone (262' msl), temperatures increased by 6 to 36°C from June 10 to July 28 with an average increase of 23°C. Assuming that most of the temperature increase was achieved during the 41 days from June 17 through July 28, temperatures at 262' msl increased on average 1/2°C per day.

In addition to increasing the power density, the apparent ground water flow direction changed from northerly to southerly. This change in flow direction assisted heating the northern end of NAPL Area 1 as hot water from the southern portion of Area 1, rather than cool water from outside of Area 1, begin moving into the northern section of the treatment volume.

However, site data indicates that, with the exception of the northwest corner, increasing subsurface temperatures in the northern portion of Area 1 did not produce significant increases in TCE vapor concentrations at MPE wells in the northern half of Area 1.

As subsurface temperatures increased in the northern half of Area 1, a corresponding significant increase in TCE vapor concentrations was only observed at MPEs C08, D08, E06, and G06, which are all located in the northwest corner of Area 1. Perimeter electrode NAPL pre-screening produced high PID readings at electrodes B08, D06 and E04, but indicated that the higher concentrations of VOCs were located primarily in the vadose zone from grade to 17-feet bgs (262' msl).

As shown in Table 3 of Attachment A, other locations in the northern end of Area 1 did not experience significant increases of TCE vapor concentrations as a result of aggressive heating. For example, while temperature increases since June 17 were as high as 26°C in the 262' msl depth interval at TE04, TCE concentrations in vapor samples from the MPE wells in the vicinity of TE04 did not increase appreciably with temperature. Temperature increases in the 262' msl depth interval since late June at TH03 and MWF03 have also been significant, yet vapor samples from MPE wells adjacent to these points show only slight increases in TCE concentrations.

The mass of TCE removed from the northern portion of Area 1 as measured by sampling MPE wellheads in the area prior to redistribution of power on June 17 was approximately 0.1 kg/day. As this area was heated more aggressively, mass removal from the MPE wellheads in the area increased to about 4 kg/day, which is well below levels expected if a NAPL source was being vaporized in the subsurface. The TCE recovery rate from MPE wellheads in the northern portion of Area 1 has dropped to approximately 1 kg/day as of July 28, 2004.

The data gathered from aggressive heating of the northern section of Area 1 from June 17 through July 28, 2004 indicates that heating the northwest corner of Area 1 did result in increased removal of TCE, but not enough to indicate that a source of NAPL was being volatilized. The data also indicates that continued heating in the north section of Area 1 will not produce a significant increase of TCE recovery from Area 1.

5.2 Southern Portion of Area 1

The southern portion of Area 1 did not benefit as much from an increase in power density as only four electrodes in this region were removed from service. This small change in power application did not allow enough power to be redistributed to the rest of the southern portion of Area 1, most notably the southwest region, to accomplish significant changes in the subsurface heating during late June and early July 2004.

In addition, an unexpected reversal of groundwater flow (from northerly to southerly) at the site rendered pre-positioned hydraulic control wells ineffective at reducing the volume of cool water entering the southwestern boundary of Area 1. Temperature and vapor concentration data for the southeastern and southwestern portions of Area 1 are shown in Tables 4 and 5 of Attachment A, respectively.

Historically, regional vapor and MPE wellhead vapor sampling in the southeast portion of Area 1 has indicated this area contained the majority of CVOCs in Area 1. The southeast portion of Area 1 is most accurately defined by the following 8 TMPs:

TMPs Defining The Southeast Portion of Area 1

TMP	Adjacent MPE Wells	MPE Wells With Significant TCE Vapor Concentrations
TH10	H10, I09, I10	I09
MWI08	J08	J08
TK08	L07, L08	L07, L08
MWL07	L07	L07
MWL10	M10	Insignificant
TM05	M05, N05	N05
TM08	M08, N07	Insignificant
TM10	M10	Insignificant

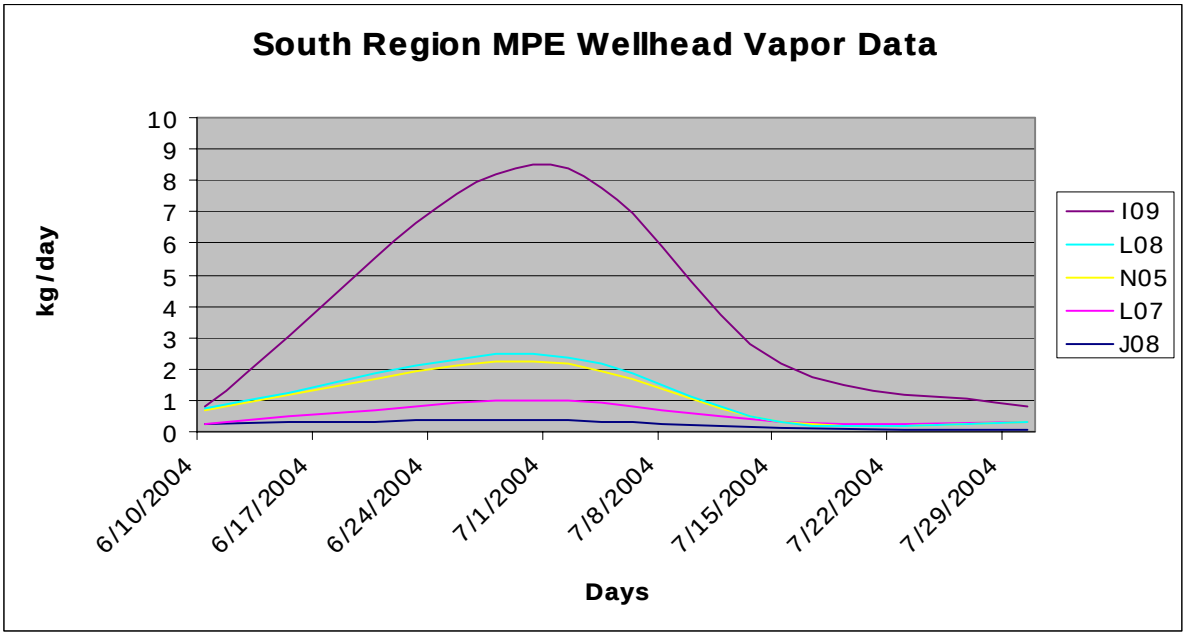
MPE vapor sampling results from the southeast portion of Area 1 were as high as 75,000,000 µg/m^3 (5.8 kg/day) at MPE I09 during the period of early June to July 28, 2004. This is 3 times greater than the highest MPE vapor concentration, 25,000,000 µg/m^3 (1.9 kg/day), recorded in the northern portion of Area 1 during the same time period.

Large increases in power density in the southwest portion of Area 1 were not possible during late June and July 2004 as only MWJ10 and TH12 were determined to have effectively met contract specifications and authorization was received to remove only four electrodes in the southern portion of Area 1 from electrical service.

However, with the exception of one vadose zone thermocouple, all thermocouples in the southeastern portion of Area 1 had been at the boiling point of TCE for extended periods of time. By June 17, 2004, most of the thermocouples in this region had been at the TCE boiling point for over 100 days, and on average thermocouples in this area had been at the TCE boiling point for over 47 days.

While subsurface temperatures in the southeast region did not increase greatly, the area did benefit from the continued application of electrical energy from June 17 through July 28, 2004. As indicated in Table 4 of Attachment A, a more thorough heating of all the depth intervals in this region was accomplished during this time period. Furthermore, sampling at the majority of MPE locations in the southeastern porting of Area 1 show TCE vapor concentrations in this area have peaked and are on a downward trend.

The following graph provides trends in TCE vapor concentrations at those MPEs in the southern portion of Area 1 having significant TCE concentrations and shows that substantial decreases in VOC vapor concentrations have been achieved from peak values in the majority of the sampling locations.



The MPE wellhead vapor data from the southern portion of NAPL Area 1 can also be compared to groundwater quality at MWI08, MWL07 and MWL10, which is presented below. TCE concentrations in groundwater at these monitoring wells have been significantly reduced from peak values.

Southern Portion Area 1
TCE Concentrations in Groundwater (µg/L)

SAMPLING DATE	MWI08	MWL07	MWL10
11/12/03	720	1,500	4.4
12/2/04	No Results	No Results	16
12/17/03	2,100	940	12
3/2/04	1,500	1,5000	2,500
4/7/04	22,000	950,000	250
4/29/04	13,000	410	52
5/11/04	19,000	2,200	170
5/28/04	No Results	7,600	No Results
6/8/04	3,200	88	270
6/18/04	13,000	3.2	9.5
6/23/04	15,000	79	7.7
6/29/04	2,600	23	9.6
7/7/04	4,200	38	8.2
7/15/04	3,800	7.8	No Results
7/20/04	1,500	17	2.4
7/27/04	220	120.4	8.7

6 Line of Evidence No.3

Have VOC concentrations in the subsurface adjacent to the TMP been reduced to the point of diminishing return?

Groundwater quality data indicates that movement of TCE from the NAPL phase to the dissolved phase has been completed across Area 1. The remaining source of TCE mass to be removed from the Area 1 subsurface is now dissolved phase TCE. Levels of dissolved phase TCE at the start of heating, at peak levels, and as of July 28, 2004 are presented below for the 9 shallow and 4 deep groundwater monitoring wells located inside Area 1.

Current Groundwater Quality Data for NAPL Area 1
(TCE in μg/l)

Monitoring Well No.	Starting Concentration	Peak Concentration	Current Concentration
MWC08 (Deep)	4.6	4.9	<2
MWE07	3,400	3,400	59
MWF03	5.7	350	42
MWF11 (Deep)	500	980	120
MWF12 (Deep)	300	1,900	18
MWF14	95	560	100
MWHO6	2,400	2,400	4.2
MWI08	720	22,000	220
MWI07 (Deep)	13	13	<2
MWJ04	150	20,000	41
MWJ10	63	790	6.3
MWL07	1,500	950,000	120
MWL10	4.4	2,500	8.7

TCE concentrations in groundwater across Area 1 have peaked and have now declined to levels below those measured at the start of heating.

MPE vapor concentrations are declining in all portions of Area 1. Sampling from the individual MPE wellheads indicates that historically four to six wells have accounted for over 80% TCE mass being removed from the subsurface. These wells are located in the south-central portion of Area 1, which is the portion of the treatment volume that has been heated most efficiently and effectively. Currently, recovery from all wells across Area 1 is becoming insignificant.

Vapor concentrations at OXIN, and the corresponding kilograms of CVOCs removed per day, are shown on Figure 1. The data indicates that the recovery of CVOCs in the vapor phase has declined significantly (to 2% of the highest peak concentration measured, 6% of the second highest peak concentration measured and 9 % of the third highest peak concentration measured) and is holding at a level that is nearing, or has reached asymptotic

levels. This data is supported by the historical vapor concentrations measured at the regional vapor sampling locations.

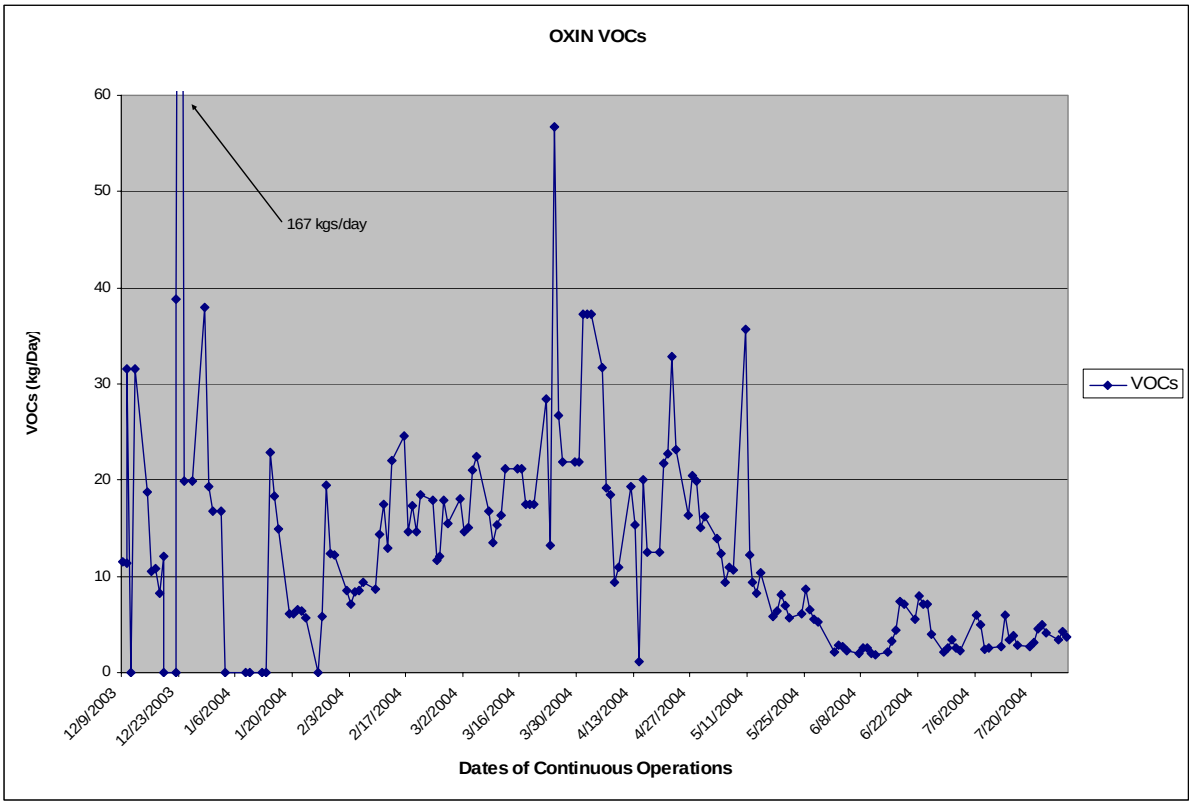


Figure 1, OXIN VOC RECOVERY RATE (kg/Day)

7 Line of Evidence No. 4

If heating is stopped, is there a risk that the area around the TMP could be re-contaminated?

The boiling point of TCE at depth below the water table indicates that once subsurface temperatures have reached 77 °C at the top of the water table and 89 °C at the deepest point of interest, TCE NAPL will transition to the vapor stage. Because the ERH system is uniformly heating the subsurface at NAPL Area 1, there are no condensate fronts generated by the process that could reach a cool area and deposit pure TCE.

Additionally, the 262’ to 252’MSL depth interval where heating has been the slowest has an interval below it (247’ to 245’ MSL) that is at, or above, the boiling point of TCE. This has prevented any downward migration of TCE as sub-sections of Area 1 are allowed to cool. The lack of downward TCE migration at the site is reinforced by the groundwater quality data from the deep monitoring wells, which shows no significant increases in VOC concentrations during the course of the project.

As expected, some locations, and more specifically, certain depth intervals have been cooling off quicker than other locations once power application to a specific portion of NAPL Area 1 has been discontinued. The following table provides actual cool down data in those areas where active heating has been discontinued.

Temperature Changes in Areas Removed From Heating from June 10 to July 28, 2004

Depth	TE07	TE08	TH05	MWH06	MWJ04	TK04	MWI07	MWJ10	TK06
272	0	-5	2	-3	-38	-50	-4	-3	-2
267	0	-2	-2	-2	-19	-22	-1	-1	-2
262	0	-14	-9	-1	-24	-37	-1	-1	-4
257	0	-25	-29	0	-23	-28	-1	0	-2
252	-2	-34	-22	-1	-23	-22	6	-1	-3
247	-8	-57	-18	-2	-27	-31	-16	-16	-12
242	-7	-33	-18	-4	-31	-34	-11	-11	-18

Note: Temperature changes displayed in degrees C

Cool-down rates at NAPL Area 1 boundary locations TE08 (northwest boundary) and MWJ04 and TK04 (north east boundary) are much greater than normal. Since these cool-down rates far exceed a typical rate expected from only heat transfer mechanisms, movement of water is the expected cause. Temperature location TH05 also cooled at a fast rate within the high flow interval at 262’ to 257’ msl. Since three of the locations removed from power are monitoring wells, we can compare the groundwater analytical data from each of these wells with respect to their cool-down temperatures. The following table displays groundwater data for the three monitoring well locations removed from power on June 17, 2004.

TCE Concentrations (μg/l) In Areas Allowed To Cool In Mid June

Location	Project Start	High Level	Mid June	End July
MWH06	2,400	2,400	100	4
MWJ04	150	20,000	160	41
MWJ10	63	790	100	6

As of mid July, TCE concentrations in groundwater at the three monitoring wells are lower than measured in mid June when power input was terminated, even though subsurface temperatures at these locations have decreased.

8 Post Shutdown Operations

Post shutdown operations must be considered as part of the shutdown process for Area 1. Any decisions applied to operations after termination of electrical energy to the subsurface should be based upon health and safety considerations for personnel accessing the East Gate Disposal Yard (EGDY). Health and safety concerns during the shutdown period will be similar to those found during active ERH operations with emphasis on avoiding contact with steam and hot water and minimizing the potential for exposure to fugitive VOC emissions.

The following aspects of operations should be considered for the shutdown period:

- Vapor treatment operation
- Hydraulic Control
- Temperature data collection
- Sampling
- Reporting

Vapor Treatment System

Once power application to the subsurface is turned off, steam production stops almost immediately. TRS recommends operating the vapor recover and treatment system for a period of two to five days following the termination of energy to the subsurface. Operating the vapor recovery and treatment system during this brief period will reduce the risk of contact with steam and or hot water and the potential for exposure to fugitive VOC emissions.

Once electrical energy input to the subsurface is stopped, steam development in the subsurface ceases almost instantly. Once the generation of steam stops, the driving force for generation of additional VOC vapors has been removed and VOC concentrations in the vapor stream subside. Experience from previous ERH sites indicates that the proposed vapor recovery operation period of two to five days is an adequate duration for extended treatment.

Temperature Data Collection

In addition to operating the vapor collection and treatment system for 2 to 5 days, TRS proposes to continue collecting subsurface temperatures during the cool-down process until the temperature collection equipment is needed for NAPL Area 2. The cool-down data may be useful to better understand the complex hydrological conditions that exist at EGDY and help determine a better performing hydraulic control system for NAPL Area 2 (i.e., quantity and location of extraction and or injection wells).

Hydraulic Control

The hydraulic control system was implemented to prevent NAPL that might be mobilized in Area 1 during heating from moving outside of the treatment volume. With NAPL removal from Area 1 complete, the need for hydraulic control no longer exists. TRS recommends operating the hydraulic control system only to provide water makeup during the 2-5 day shutdown period.

Sampling

The operational samples required during ERH operations should be reduced to the minimum required to satisfy the requirement of the air permit. Based upon the historical data for the LWMS, TRS does not see a need for continued monitoring of the system during the shutdown period. The shutdown sampling effort described in this plan can be accomplished with off-site analyses, and TRS recommends that the on-site lab be demobilized immediately upon termination of power input to the subsurface. While TRS acknowledges that additional

process samples may be of interest to the project, a contractual mechanism does not appear to be in place to fund this activity.

Reporting

It is assumed that Daily Quality Control Operations Reports will cease with termination of electricity input to the subsurface. Operational information gathered after shutdown will be conveyed within the appropriate weekly and monthly reports following termination of electrical input to the subsurface. Once the necessary information has been compiled and presented in the appropriate weekly and monthly reports, those tasks will also cease for Area 1.

If you have any questions regarding this plan for terminating ERH operations at NAPL Area 1, please feel free to contact me. You may also contact Tom Powell, Senior TRS Project Manager at (360) 693-6301; or Patrick Cossins, NAPL Area 1 Project Manager, at (512) 527-8041.

Michael Dodson
President, Thermal Remediation Services

Table 1 Perimeter Electrode NAPL Screening Results					
Electrode Location	Sample Depth (ft. bgs)	PID Reading (ppm)	Ultra Violet Fluorescence	Dye Test	Sheen Present
B8	5	10.0	N	N	N
	7	130	N	N	N
	10	970+	Y	Y	Y
	12	1500+	Y	Y	Y
	15	29	N	N	N
	20	6.6	N	N	N
	25	20.2	N	N	N
	27	3.5	N	NA	NA
	30	4.8	N	N	N
	35	3.1	N	N	N
	40	2.1	N	N	N
D6	5	998	NA	N	N
	10	649	NA	NA	N
	12	1030	Y	Y	Y
	15	10.4	N	Y	N
	20	6.9	N	N	N
	25	6.8	N	N	N
	30	2.7	NA	N	N
	35	10.8	NA	N	N
	40	2.0	NA	N	N
E4	5	23	N	N	N
	10	1500+	Y	Y	Y
	15	1200+	Y	Y	Y
	20	95.1	N	Y	N
	25	7.4	N	N	N
	30	1.2	N	N	N
	35	1.8	N	N	N
	40	1.3	N	N	N

Table 1 Perimeter Electrode NAPL Screening Results					
Electrode Location	Sample Depth (ft. bgs)	PID Reading (ppm)	Ultra Violet Fluorescence	Dye Test	Sheen Present
E8	5	88.3	NA	N	N
	10	5.0	NA	N	N
	15	1.4	NA	N	N
	20	30	NA	N	N
	25	44	NA	N	N
	30	2.7	NA	N	N
	35	4.3	NA	N	N
	40	0	NA	N	N
F9	5	207	N	N	N
	10	6.8	N	N	N
	15	11.9	N	N	N
	20	3.8	N	N	N
	25	16.5	N	N	N
	30	NR	NR	NR	NR
	35	37.9	N	N	N
	40	4.3	N	N	N
F11	5	260	N	N	N
	10	26.6	N	N	N
	15	31.6	N	N	N
	20	4.1	N	N	N
	25	3.1	N	N	N
	27	24	N	NA	NA
	30	259	N	N	N
	32	909	N	N	N
	35	690	N	Y	N
	38	230	Y	Y	N
	40	230	N	Y	N

Table 1 Perimeter Electrode NAPL Screening Results					
Electrode Location	Sample Depth (ft. bgs)	PID Reading (ppm)	Ultra Violet Fluorescence	Dye Test	Sheen Present
F13	10	2.5	N	N	N
	15	2.3	N	N	N
	20	1.0	N	N	N
	25	1.1	N	N	N
	30	1.0	N	N	N
	35	0.5	N	N	N
	37	32.6	N	Y	N
	40	8.0	N	Y	N
F15	5	0.5	N	N	N
	10	1.0	N	N	N
	15	1.7	N	N	N
	20	2.0	N	N	N
	25	2.1	N	N	N
	30	0.8	N	N	N
	35	0.5	N	N	N
	40	0	N	N	N
G2	5	4	N	N	N
	10	838	Y	NA	Y
	15	1015	Y	Y	Y
	20	3.8	N	N	N
	25	5.5	N	N	N
	30	0.9	N	N	NA
	35	0.7	N	N	NA
	40	0.8	N	N	NA

Table 1 Perimeter Electrode NAPL Screening Results					
Electrode Location	Sample Depth (ft. bgs)	PID Reading (ppm)	Ultra Violet Fluorescence	Dye Test	Sheen Present
H14	5	8.5	N	NA	N
	10	1.8	N	N	N
	15	1.3	N	N	N
	20	1.1	N	N	N
	25	1.7	N	N	N
	30	0.6	N	N	N
	35	0.7	N	N	N
	38	0	N	N	N
I2	5	6.7	N	N	N
	10	3.3	N	N	N
	15	0.8	N	N	N
	20	1.3	N	N	N
	25	0.5	N	N	N
	30	0.0	N	N	NA
	35	0.0	N	N	N
	40	0.0	N	N	N
J13	5	43	N	N	N
	10	9.5	N	N	N
	15	20	N	N	N
	20	4.0	N	N	N
	25	4.0	N	N	N
	30	3.1	N	N	N
	35	3.0	N	N	N
	40	3.3	N	N	N

Table 1 Perimeter Electrode NAPL Screening Results					
Electrode Location	Sample Depth (ft. bgs)	PID Reading (ppm)	Ultra Violet Fluorescence	Dye Test	Sheen Present
L3	5	3.5	N	N	N
	10	3.3	N	N	N
	15	4.8	N	N	N
	20	13.9	N	N	N
	25	18.3	N	N	N
	30	4.5	N	N	N
	35	2.6	N	N	N
	40	0.5	N	N	N
L11	5	22.8	Y	N	N
	10	44.5	N	N	N
	15	4.8	N	N	N
	20	4.3	N	N	N
	25	5.4	N	N	N
	30	0.8	N	N	N
	35	1.3	N	N	N
	40	0.8	N	N	N
N4	5	8.6	N	N	N
	10	10.2	N	N	N
	15	0.6	N	N	N
	20	1.8	N	N	N
	25	0.0	N	N	N
	30	0.0	N	N	N
	35	0.0	N	N	N
	40	0.0	N	N	N

Table 1 Perimeter Electrode NAPL Screening Results					
Electrode Location	Sample Depth (ft. bgs)	PID Reading (ppm)	Ultra Violet Fluorescence	Dye Test	Sheen Present
N6	5	5000	Y	Y	N
	10	31.1	Y	Y	Y
	15	130	Y	Y	N
	20	130	Y	Y	N
	30	629	Y	N	N
	32.5	49	Y	Y	N
	35	4.0	N	NA	NA
	40	2.0	N	N	N
N8	5	0.6	Y	N	N
	10	1.8	N	N	N
	15	49.2	Y	N	Y
	20	8.0	N	N	N
	25	1.2	N	N	N
	30	0.0	N	N	N
	35	0.0	N	N	N
	40	0.0	N	N	N
N10	5	2.6	Y	N	N
	10	0.3	N	N	N
	15	0.8	N	N	N
	20	1.7	N	N	N
	25	1.1	N	N	N
	30	9.5	N	N	N
	35	1.0	N	N	N
	40	1.3	N	N	N

Notes:

- ft. bgs = feet below ground surface
- PID = Photo Ionization Detector
- ppm = Parts Per Million
- N = Negative result, no observable indication of change
- Y = Yes or positive result (observable change)
- NA = Not applicable/Not Analyzed
- NR = No Recovery
- Information for table developed from field boring logs in Appendix A.

updated: 7/29/04

Deep Wells

Reductions	Location	Date	TCE	c-DCE
MWF11A1	MWF11A1	11/18/2003	430	3.8
76% TCE	MWF11A1	11/18/2003	500	2.2
9% c-DCE	MWF11A1	12/18/2003	200	2.0
	MWF11A1	12/18/2003	160	2.0
	MWF11A1	2/11/2004	980	39.0
Reduction from peak	MWF11A1	2/11/2004	670	26.0
Concentration:	MWF11A1	1/4/2004	300	8.0
	MWF11A1	3/10/2004	81	2.0
88% TCE	MWF11A1	3/24/2004	41	2.0
95% c-DCE	MWF11A1	4/7/2004	43	2.0
	MWF11A1	4/21/2004	40	2.0
	MWF11A1	5/5/2004	34	2.0
	MWF11A2	5/20/2004	42	2.0
	MWF11A1	5/20/2004	42	2.0
	MWF11A1 (Dup)	5/20/2004	47	2.0
	MWF11	6/2/2004	72	2.0
	MWF11	6/16/2004	88	2.0
	MWF11(Dup)	6/16/2004	88	2.0
	MWF11	6/29/2004	73	2.0
	MWF11(Dup)	6/29/2004	70	2.0
	MWF11	7/14/2004	97	2.0
	MWF11	7/20/2004	120	2.0
MWF12A1	MWF12A1	11/20/2003	300.0	3.2
94% TCE	MWF12A1	12/18/2003	1200.0	66.0
38% c-DCE	MWF12A1	1/13/2004	1900.0	160.0
	MWF12A1	1/13/2004	1200.0	120.0
Reduction from peak	MWF12A1	2/9/2004	990.0	15.0
Concentration:	MWF12A1	2/24/2004	500.0	15.0
	MWF12A1	3/10/2004	490.0	15.0
99% TCE	MWF12A1	3/23/2004	300.0	11.0
99% c-DCE	MWF12A1	4/7/2004	190.0	8.8
	MWF12A1	4/21/2004	150.0	6.6
	MWF12A1	5/5/2004	79.0	2.7
	MWF12A1	5/20/2004	58.0	2.0
	MWF12A1	6/2/2004	43.0	2.0
	MWF12A1	6/16/2004	31.0	2.0
	MWF12A1(Dup)	6/16/2004	29.0	2.0
	MWF12A1	6/29/2004	26.0	2.0
	MWF12A1	7/15/2004	14.0	2.0
	MWF12A1	7/20/2004	18.0	2.0
MWI07A1	MWI07A1	11/12/03	11	2
85% TCE	MWI07A1	11/12/03	13	0.93
0% c-DCE	MWI07A1	12/17/03	7.1	0.81
	MWI07A1	12/17/03	4.8	2
	MWI07A1	01/13/04	5.2	2
Reduction from peak	MWI07A1	02/10/04	7.3	0.53
Concentration:	MWI07A1	02/10/04	4.9	2
	MWI07A1	02/24/04	7.5	2
85% TCE	MWI07A1	03/11/04	8.1	2
0% c-DCE	MWI07A1	03/23/04	10	2
	MWI07A1	04/21/04	4.5	2
	MWI07A1	05/20/04	2	2
	MWI07A1	06/16/04	2	2
MWC08	MWC08A1	11/18/2003	4.6	2.0
57% TCE	MWC08A1	12/2/2003	0.7	2.0
0% c-DCE	MWC08A1	12/18/2003	3.2	2.0
	MWC08A1	1/13/2004	2.0	2.0
Reduction from peak	MWC08A1	2/10/2004	2.0	2.0
Concentration:	MWC08A1	2/23/2004	4.9	2.0
	MWC08A1	3/11/2004	2.0	2.0
59% TCE	MWC08A1	3/24/2004	2.0	2.0
0% c-DCE	MWC08A1	4/21/2004	2.0	2.0

Shallow Wells

Reductions	Location	Date	TCE	c-DCE
MWE07A1	MWE07A1	11/19/03	2700	2100
98% TCE	MWE07A1	11/19/03	3400	3100
100% c-DCE	MWE07A1	12/18/03	610	550
	MWE07A1	12/18/03	450	490
Reduction from peak	MWE07A1	03/03/04	85	8
Concentration:	MWE07A1	03/11/04	74	7.8
	MWE07A1	04/07/04	3000	48
95% TCE	MWE07A1	04/29/04	440	25
99% c-DCE	MWE07A1	05/12/04	81	34
	MWE07A1	05/28/04	38	16
	MWE07A1	06/15/04	13	3.9
	MWE07A1 (dup	06/15/04	12	3.6
	MWE07A1	06/23/04	140	39
	MWE07A1	06/29/04	35	13
	MWE07A1	07/07/04	24	3.6
	MWE07A1	07/13/04	160	16
	MWE07A1	07/20/04	59	11
MWF03A1	MWF03A1	11/11/03	5.7	2.5
-637% TCE	MWF03A1	12/17/03	3.9	2
20% c-DCE	MWF03A1	03/03/04	3	2
	MWF03A1	04/16/04	2.7	2
	MWF03A1	04/29/04	2.6	2
	MWF03A1	05/11/04	2.9	2
Reduction from peak	MWF03A1	05/28/04	6.7	2
Concentration:	MWF03A1	06/08/04	14	2
	MWF03A1	06/15/04	17	2
88% TCE	MWF03A1	06/23/04	24	2
20% c-DCE	MWF03A1	06/29/04	52	2
	MWF03A1	07/07/04	350	2
	MWF03A1	07/13/04	160	2
	MWF03A1	07/20/04	95	2
	MWF03A1	07/27/04	42	2
MWF14A1	MWF14A1	11/20/03	95	107
-5% TCE	MWF14A1	12/18/03	230	310
89% c-DCE	MWF14A1	03/02/04	560	730
	MWF14A1	03/02/04	400	470
Reduction from peak	MWF14A1 (Dup	03/02/04	410	480
Concentration:	MWF14A1	04/07/04	36	7.6
82% TCE	MWF14A1	04/29/04	15	2.5
98% c-DCE	MWF14A1 (Dup	04/29/04	14	2.7
	MWF14A1	05/11/04	43	31
	MWF14A1	05/28/04	20	12
	MWF14A1	06/08/04	24	21
	MWF14A1	06/15/04	37	34
	MWF14A1	06/23/04	33	23
	MWF14A1	06/29/04	42	32
	MWF14A1	07/07/04	22	15
	MWF14A1	07/14/04	44	19
	MWF14A1	7/20/2004	56.0	21.0
	MWF14A1	7/27/2004	100.0	12.0
MWH06A1	MWH06A1	11/12/03	2400	80
100% TCE	MWH06A1	12/17/03	880	120
95% c-DCE	MWH06A1 (Dup	12/17/03	920	120
	MWH06A1	03/02/04	82	5.4
Reduction from peak	MWH06A1	04/07/04	380	2.5
Concentration:	MWH06A1	04/30/04	34	6.2
100% TCE	MWH06A1	05/12/04	1200	72
96% c-DCE	MWH06A1	06/08/04	110	6.1
	MWH06A1 (Dup	06/08/04	100	6.9
	MWH06	06/15/04	110	9
	MWH06	06/23/04	3.9	5.1
	MWH06	06/29/04	4.9	3.1
	MWH06	07/07/04	2	2
	MWH06	07/13/04	2	7.5
	MWH06	07/20/04	2	2
	MWH06	07/27/04	4.2	4.3
MWI08A1	MWI08A1	11/12/03	720	220
69% TCE	MWI08A1	12/17/03	2100	2000
99% c-DCE	MWI08A1	03/02/04	1500	1300
	MWI08A1	04/07/04	22000	1400
Reduction from peak	MWI08A1	04/29/04	13000	240
Concentration:	MWI08A1	05/11/04	19000	260
99% TCE	MWI08A1	06/08/04	3200	74
100% c-DCE	MWI08A1	06/18/04	13000	160
	MWI08A1 (dup)	06/18/04	12000	140
	MWI08A1	06/23/04	15000	140
	MWI08	6/29/2004	2600	100
	MWI08	7/7/2004	4200	86
	MWI08	07/15/04	3800	70
	MWI08A1	07/20/04	1500	48
	MWI08A1	07/27/04	220	2.9
MWJ04A1	MWJ04A1	11/11/03	150	15
73% TCE	MWJ04A1	12/17/03	42	8.4
-120% c-DCE	MWJ04A1	03/03/04	51	3
	MWJ04A1	04/16/04	20000	310
	MWJ04A1	04/29/04	590	80
Reduction from peak	MWJ04A1	05/12/04	87	2
Concentration:	MWJ04A1 (Dup	05/12/04	33	2
100% TCE	MWJ04A1	05/28/04	33	2
89% c-DCE	MWJ04A1	06/08/04	160	8.2
	MWJ04A1	06/15/04	60	2.1
	MWJ04A1	06/23/04	36	2.3
	MWJ04A1	06/29/04	78	13
	MWJ04A1	07/07/04	93	24
	MWJ04A1	07/13/04	86	31
	MWJ04A1	07/20/04	71	42
	MWJ04A1 (DUP	07/20/04	68	40
	MWJ04A1	07/27/04	41	33
MWJ10A1	MWJ10A1	11/13/03	63	72
90% TCE	MWJ10A1	12/18/03	120	270
97% c-DCE	MWJ10A1	03/02/04	220	30
	MWJ10A1	04/07/04	790	20
Reduction from peak	MWJ10A1	04/29/04	120	20
Concentration:	MWJ10A1	05/12/04	100	2
99% TCE	MWJ10A1	06/15/04	2.7	2
99% c-DCE	MWJ10A1	06/23/04	31	2
	MWJ10A1	06/29/04	230	2.8
	MWJ10A1	07/07/04	56	2
	MWJ10A1	07/13/04	9.7	2
	MWJ10A1	07/20/04	5.2	2
	MWJ10A1	07/27/04	6.3	2
MWL07A1	MWL07A1	11/11/03	1500	37
92% TCE	MWL07A1	12/16/03	940	97
91% c-DCE	MWL07A1	12/16/03	860	110
	MWL07A1	03/02/04	15000	400
Reduction from peak	MWL07A1	04/07/04	950000	2000
Concentration:	MWL07A1	04/29/04	410	2
100% TCE	MWL07A1	05/12/04	2200	14
100% c-DCE	MWL07A1	05/28/04	7600	140
	MWL07A1	06/08/04	88	8
	MWL07(dup)	06/08/04	89	2
	MWL07A1	06/15/04	3.2	4.6
	MWL07A1	06/23/04	79	8
	MWL07A1	06/29/04	23	8
	MWL07A1	07/07/04	38	2
	MWL07A1	07/14/04	7.8	2
	MWL07A1	07/20/04	17	2
	MWL07A1	07/27/04	120	3.2
MWL10A1	MWL10A1	11/11/03	4.4	2
-98% TCE	MWL10A1	12/02/03	16	2
0% c-DCE	MWL10A1	12/16/03	12	9.8
	MWL10A1 (Dup	12/16/03	12	9
Reduction from peak	MWL10A1	03/02/04	2500	8
Concentration:	MWL10A1	04/05/04	250	8
100% TCE	MWL10A1	04/29/04	52	8
88% c-DCE	MWL10A1	05/12/04	170	16
	MWL10A1	6/8/2004	270	16
	MWL10A1	6/15/2004	9.5	2
	MWL10A1	6/23/2004	7.7	2
	MWL10A1	6/29/2004	9.6	2
	MWL10A1	7/7/2004	8.2	2
	MWL10A1	7/14/2004	2	2
	MWL10A1	7/20/2004	2.4	2
	MWL10A1	7/27/2004	8.7	2

Off Site Wells

Reductions	Location	Date	TCE	c-DCE
MWB09A1	MWB09A1	11/18/03	2800	380
96% TCE	MWB09A1	12/23/03	170	37
58% c-DCE	MWB09A1	01/13/04	66	9.2
	MWB09A1	01/27/04	34	6.8
	MWB09A1	02/10/04	18	2
Reduction from peak	MWB09A1	02/23/04	18	2
Concentration:	MWB09A1	03/09/04	17	2.4
	MWB09A1	03/24/04	19	2
96% TCE	MWB09A1 (Dup)	03/24/04	20	2
75% c-DCE	MWB09A1	04/08/04	18	7.5
	MWB09A1	04/20/04	26	36
	MWB09A1	04/28/04	38	150
	MWB09A1 (Dup)	04/28/04	30	130
	MWB09A1	05/04/04	28	160
	MWB09A1	05/10/04	66	300
	MWB09A1	05/18/04	100	650
	MWB09A1	05/24/04	200	560
	MWB09A1	06/02/04	82	360
	MWB09A1 (Dup)	06/02/04	91	400
	MWB09A1	06/07/04	54	260
	MWB09A1	06/16/04	29	150
	MWB09A1	06/22/04	45	220
	MWB09A1 (Dup)	06/22/04	46	220
	MWB09A1	06/30/04	73	240
	MWB09A1 (Dup)	06/30/04	60	220
	MWB09A1	07/07/04	73	250
	MWB09A1 (Dup)	07/07/04	74	240
	MWB09A1	07/12/04	90	240
	MWB09A1	07/27/04	100	160
	MWB09A1 (Dup)	07/28/04	110	160
MWD03A1	MWD03A1	11/11/03	15	8.9
63% TCE	MWD03A1	12/23/03	8.7	3.1
-158% c-DCE	MWD03A1	01/13/04	7.2	2
	MWD03A1	02/09/04	7.1	2
	MWD03A1	02/23/04	7.1	2
Reduction from peak	MWD03A1	03/10/04	7.4	2
Concentration:	MWD03A1	04/06/04	14	2
	MWD03A1	04/14/04	5.7	2
63% TCE	MWD03A1	04/19/04	5.3	2
15% c-DCE	MWD03A1	05/05/04	5	2
	MWD03A1	05/18/04	5.4	2
	MWD03A1	06/02/04	4.5	2
	MWD03A1	06/16/04	4.7	2
	MWD03A1	06/29/04	5	3.8
	MWD03A1	07/12/04	6.3	27
	MWD03A1 (DUP)	07/12/04	5.5	23
MWD14A1	MWD14A1	11/18/03	190	280
-368% TCE	MWD14A1	12/23/03	4500	1500
73% c-DCE	MWD14A1	01/13/04	6800	1700
	MWD14A1	01/26/04	3300	1000
	MWD14A1	02/10/04	1000	170
Reduction from peak	MWD14A1	02/23/04	930	240
Concentration:	MWD14A1	03/09/04	2500	1600
	MWD14A1	03/24/04	1200	930
87% TCE	MWD14A1	04/08/04	800	500
96% c-DCE	MWD14A1	04/20/04	690	240
	MWD14A1	04/28/04	730	570
	MWD14A1	05/04/04	520	200
	MWD14A1 (Dup)	05/04/04	550	220
	MWD14A1	05/10/04	480	460
	MWD14A1	05/18/04	610	280
	MWD14A1	06/02/04	340	140
	MWD14A1	06/07/04	300	110
	MWD14A1	06/16/04	400	150
	MWD14A1	06/22/04	390	180
	MWD14A1 (Dup)	06/22/04	420	190
	MWD14A1	06/30/04	320	170
	MWD14A1	07/07/04	320	170
	MWD14A1	07/14/04	390	150
	MWD14A1	07/28/04	890	75
MWH15A1	MWH15A1	11/13/03	3.4	2
41% TCE	MWH15A1	12/02/03	1.9	2
-750% c-DCE	MWH15A1	12/18/03	2.7	3.3
	MWH15A1	01/13/04	4.8	2.8
Reduction from peak	MWH15A1	02/11/04	4.7	2
Concentration:	MWH15A1 (Dup)	02/11/04	4.6	2
	MWH15A1	02/23/04	2.5	2
58% TCE	MWH15A1	03/10/04	2.2	2
37% c-DCE	MWH15A1	03/23/04	2.4	2
	MWH15A1	04/08/04	2.8	2
	MWH15A1	04/20/04	2.5	2
	MWH15A1	04/28/04	2.9	2
	MWH15A1	05/04/04	3.6	2
	MWH15A1	05/10/04	2.7	2
	MWH15A1	05/19/04	4.4	2
	MWH15A1	06/02/04	4.7	2
	MWH15A1	06/07/04	3.6	2.3
	MWH15A1	06/16/04	3.3	11
	MWH15A1	06/22/04	2.7	15
	MWH15A1	06/30/04	4.3	25
	MWH15A1	07/06/04	2.3	27
	MWH15A1	07/14/04	2	17
MWJ01A1	MWJ01A1	11/10/03	5.4	2
-61% TCE	MWJ01A1	12/15/03	2.9	2
-850% c-DCE	MWJ01A1	01/12/04	3.6	2
	MWJ01A1	01/26/04	3.6	2
	MWJ01A1	02/09/04	3.3	2
Reduction from peak	MWJ01A1	02/23/04	3.4	2
Concentration:	MWJ01A1 (Dup)	02/23/04	3.3	2
	MWJ01A1	03/10/04	3	2
38% TCE	MWJ01A1	04/06/04	8.7	2
-6% c-DCE	MWJ01A1	04/14/04	2.8	2
	MWJ01A1	04/20/04	2	2
	MWJ01A1	05/05/04	2	2
	MWJ01A1	05/19/04	5.1	2
	MWJ01A1	06/02/04	14	18
	MWJ01A1	06/16/04	3.9	4.8
	MWJ01A1	06/22/04	3.4	4.9
	MWJ01A1	06/29/04	4.1	6.7
	MWJ01A1	07/06/04	7.3	16
	MWJ01A1 (Dup)	07/06/04	7.2	14
	MWJ01A1	07/12/04	8.7	19
	MWM12A1	11/10/03	0.69	2
MWM12A1	MWM12A1	12/02/03	1.1	2
-190% TCE	MWM12A1	12/16/03	2	2
0% c-DCE	MWM12A1	01/13/04	7.4	7.7
	MWM12A1	02/09/04	2	2
Reduction from peak	MWM12A1	02/23/04	2.3	2
Concentration:	MWM12A1	03/10/04	2	2
	MWM12A1	04/08/04	2	2
73% TCE	MWM12A1	04/20/04	2	2
74% c-DCE	MWM12A1	05/04/04	2	2
	MWM12A1	05/19/04	2	2
	MWM12A1 (Dup)	05/19/04	2	2
	MWM12A1	05/25/04	2	2
	MWM12	06/02/04	2	2
	MWM12	06/16/04	4.1	2
	MWM12	06/30/04	2	7
	MWM12	07/06/04	2	3.2
	MWM12	07/13/04	2	2
MWN02A1	MWN02A1	11/10/03	2	2
-270% TCE	MWN02A1	12/02/03	2	2
-2000% c-DCE	MWN02A1	12/15/03	1.6	2
	MWN02A1	01/12/04	2.8	2
	MWN02A1	01/26/04	2	2
Reduction from peak	MWN02A1 (Dup)	01/26/04	2	2
Concentration:	MWN02A1	02/09/04	2	2
	MWN02A1	02/23/04	2	2
85% TCE	MWN02A1	03/10/04	2.1	2
62% c-DCE	MWN02A1	04/08/04	2.6	2
	MWN02A1	04/20/04	2.3	2
	MWN02A1	05/05/04	2	2
	MWN02A1	05/19/04	8.7	17
	MWN02A1	06/02/04	3	2
	MWN02A1	06/08/04	20	22
	MWN02A1 (Dup)	06/08/04	20	23
	MWN02A1	06/16/04	51	36
	MWN02A1	06/22/04	22	41
	MWN02A1	06/30/04	16	110
	MWN02A1	07/06/04	12	73
	MWN02A1	07/12/04	7.4	42
MWP07A1	MWP07A1	11/10/03	2.7	2
-85% TCE	MWP07A1	12/02/03	2.4	2
-500% c-DCE	MWP07A1	12/16/03	9.1	2
	MWP07A1	01/12/04	4.9	2
	MWP07A1 (Dup)	01/12/04	4.4	2
Reduction from peak	MWP07A1	02/09/04	2.3	2
Concentration:	MWP07A1	02/23/04	2.4	2
	MWP07A1	03/10/04	2	2
94% TCE	MWP07A1	04/08/04	2.5	2
64% c-DCE	MWP07A1	04/20/04	2	2
	MWP07A1	05/05/04	11	2.6
	MWP07A1 (Dup)	05/05/04	10	2.4
	MWP07A1	05/19/04	2.5	11
	MWP07A1	6/2/2004	3.2	5.7
	MWP07A1	6/16/2004	82	22
	MWP07A1	6/30/2004	14	17
	MWP07A1	7/6/2004	15	26
	MWP07A1	7/13/2004	5	12

Table 3. Temperatures and TCE Vapor Concentrations For The Northern Portion of NAPL Area 1

TB08						
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	C07	C08	B08
272	99	10	6/11/04	6,500	53,000	
267	98	10	6/21/04	260,000		
262	69	19	7/14/04	740,000	24,000,000	
257	86	18	7/15/04	1,300,000	8,100,000	360,000
252	110	-2	7/16/04	250,000	19,000,000	280,000
247	112	-2	7/19/04	430,000	7,900,000	250,000
245	114	-1	7/20/04	980,000	7,700,000	190,000
			7/27/04	2,000,000	7,600,000	

7/28/04

TB08		
Depth	Days at Spec Temp	Days at TCE Boiling Temp
272	32	61
267	0	89
262	0	0
257	0	15
252	97	118
247	129	136
245	130	137

6/17/04

TB08		
Depth	Days at Spec Temp	Days at TCE Boiling Temp
272	0	20
267	0	48
262	0	0
257	0	0
252	56	77
247	88	95
245	89	96

MWC08			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	D07	C08	D08
272	98	1	6/21/04	60,000	53,000	
267	100	1	7/12/04	2,500,000		
262	89	17	7/14/04	<135,000	24,000,000	
257	99	12	7/15/04	<95,000	8,100,000	16,000,000
252	107	0	7/16/04		19,000,000	25,000,000
247	119	7	7/19/04		7,900,000	12,000,000
245	111	0	7/20/04		7,700,000	23,000,000
			7/22/04	1,100,000		
			7/27/04	<95,000	7,600,000	

MWC08		
Depth	Days at Spec Temp	Days at TCE Boiling Temp
272	103	114
267	26	104
262	0	33
257	1	59
252	73	92
247	81	97
245	75	94

MWC08		
Depth	Days at Spec Temp	Days at TCE Boiling Temp
272	62	73
267	0	63
262	0	0
257	0	18
252	32	51
247	40	56
245	38	53

TD06			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	E06	D06	E05
272	99	6	6/10/04	31,000		
267	100	4	6/11/04	230,000		
262	85	23	7/14/04	3,600,000		
257	100	28	7/15/04	5,400,000	<95,000	300,000
252	109	0	7/16/04	12,000,000		120,000
247	112	4	7/19/04	3,400,000		<95,000
245	112	9	7/20/04	4,300,000		290,000
			7/23/04	350,000		1,900,000

TD06		
	Days at Spec Temp	Days at TCE Boiling Temp
272	73	101
267	12	93
262	0	31
257	19	44
252	57	69
247	59	72
245	54	70

TD06		
	Days at Spec Temp	Days at TCE Boiling Temp
272	32	60
267	0	52
262	0	0
257	0	3
252	16	28
247	18	31
245	14	29

TE04			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	E04	F04	F03
272	99	16	6/11/04	41,000		
267	98	14	6/22/04	12,000		
262	69	26	7/15/04	100,000	450,000	<95,000
257	101	63	7/16/04	<95,000	240,000	
252	111	52	7/19/04	270,000	670,000	
247	99	36	7/20/04	430,000	580,000	
245	98	34	7/22/04			670,000
			7/23/04	97,000	220,000	150,000
			7/27/04	<95,000	570,000	<95,000

TE04		
	Days at Spec Temp	Days at TCE Boiling Temp
272	37	38
267	4	76
262	0	0
257	16	25
252	20	27
247	2	21
245	0	19

TE04		
	Days at Spec Temp	Days at TCE Boiling Temp
272	0	1
267	0	35
262	0	0
257	0	0
252	0	0
247	0	0
245	0	0

MWF03			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	G03	F03	G02
272	98	2	6/10/04	30,000		
267	98	15	6/22/04	390,000		
262	78	37	7/12/04	110,000		
257	105	51	7/15/04	<95,000	<95,000	<95,000
252	111	37	7/22/04	260,000	670,000	
247	114	35	7/23/04	<95,000	150,000	
245	114	33	7/27/04		<95,000	1,100,000

MWF03		
	Days at Spec Temp	Days at TCE Boiling Temp
272	46	53
267	0	75
262	0	0
257	10	22
252	28	37
247	32	37
245	32	40

MWF03		
	Days at Spec Temp	Days at TCE Boiling Temp
272	9	14
267	0	34
262	0	0
257	0	0
252	0	0
247	0	0
245	0	0

TF05			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	F05	G04	G05
272	99	1	6/10/04	44,000		
267	100	0	6/17/05	550,000	130,000	190,000
262	103	6	6/21/04	330,000	110,000	4,800,000
257	106	20	6/29/04	370,000	48,000	350,000
252	110	-1	7/12/04	<95,000	1,100,000	<95,000
247	112	-1	7/15/04	<95,000	1,100,000	
245	113	-2	7/16/04		1,900,000	
			7/19/04		2,100,000	
			7/20/04		2,100,000	
			7/22/04	<95,000		<95,000
			7/27/04		430,000	<95,000

TF05		
	Days at Spec Temp	Days at TCE Boiling Temp
272	78	87
267	61	140
262	33	80
257	36	105
252	120	123
247	115	123
245	112	120

TF05		
	Days at Spec Temp	Days at TCE Boiling Temp
272	37	46
267	20	99
262	1	39
257	4	64
252	79	82
247	74	82
245	71	79

TH03			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	H03	I02	I03
272	100	6	6/11/04		39,000	
267	99	0	6/22/04		150,000	57,000
262	89	31	6/29/04	48,000	14,000	24,000
257	109	45	7/12/04		<95,000	1,200,000
252	112	23	7/22/04	<95,000	<95,000	110,000
247	117	15	7/27/04	<95,000		170,000
245	117	14				

TH03		
	Days at Spec Temp	Days at TCE Boiling Temp
272	93	119
267	14	93
262	0	12
257	29	30
252	33	55
247	71	92
245	75	96

TH03		
	Days at Spec Temp	Days at TCE Boiling Temp
272	52	78
267	10	52
262	0	0
257	0	0
252	0	14
247	30	51
245	34	55

Table 4. Temperatures and TCE Vapor Concentrations For The Southeast Portion of NAPL Area 1

MWI08			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	J08		
272	100	0	6/10/04	2,900,000		
267	101	0	6/21/04	4,800,000		
262	105	1	7/2/04	2,800,000		
257	107	3	7/12/04	2,400,000		
252	110	-1	7/19/04	1,600,000		
247	113	-1	7/20/04	3,800,000		
245	114	-1	7/23/04	830,000		

7/28/2004

MWI08		
	Days at Spec Temp	Days at TCE Boiling Temp
272	118	124
267	102	139
262	94	125
257	75	98
252	99	126
247	101	125
245	90	113

6/17/2004

MWI08		
	Days at Spec Temp	Days at TCE Boiling Temp
272	77	83
267	61	98
262	53	84
257	34	57
252	58	85
247	60	84
245	49	72

MWL07 (OFF)			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	L07		
272	87	-18	6/11/04	240,000		
267	99	-5	6/17/04	760,000		
262	99	-5	6/21/04	530,000		
257	104	-3	6/30/04	7,200,000		
252	109	-1	7/2/04	7,500,000		
247	110	-2	7/13/04	2,000,000		
245	107	-3	7/19/04	1,000,000		
			7/20/04	1,700,000		
			7/23/04	2,800,000		

MWL07 (OFF)		
	Days at Spec Temp	Days at TCE Boiling Temp
272	100	105
267	71	119
262	55	99
257	90	106
252	117	133
247	122	131
245	115	127

MWL07		
	Days at Spec Temp	Days at TCE Boiling Temp
272	63	64
267	32	78
262	15	58
257	49	65
252	76	92
247	81	90
245	74	86

MWL10 (OFF)			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	M10		
272	51	-14	6/11/04	26,000		
267	76	-22	6/22/04	22,000		
262	98	-2	7/12/04	<95,000		
257	102	6				
252	105	-2				
247	108	-1				
245	109	-2				

MWL10 (OFF)		
	Days at Spec Temp	Days at TCE Boiling Temp
272	3	6
267	1	82
262	44	87
257	47	74
252	50	52
247	71	115
245	132	139

MWL10		
	Days at Spec Temp	Days at TCE Boiling Temp
272	0	0
267	1	41
262	7	46
257	6	33
252	9	11
247	30	74
245	91	98

TM05 (OFF)			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	M05	N05	
272	85	-15	6/11/04	180,000	5,300,000	
267	86	-12	6/17/04	43,000	16,000,000	
262	99	16	6/22/04	75,000	9,200,000	
257	105	2	6/29/04	30,000	1,600,000	
252	108	2	7/12/04		120,000	
247	108	-1				
245	107	-2				

TM05 (OFF)		
	Days at Spec Temp	Days at TCE Boiling Temp
272	80	81
267	40	75
262	45	50
257	73	76
252	76	82
247	86	112
245	72	121

TM05		
	Days at Spec Temp	Days at TCE Boiling Temp
272	41	41
267	5	34
262	4	9
257	32	35
252	35	41
247	45	71
245	31	80

TK08			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	L07	L08	
272	100	0	6/11/04	240,000	880,000	
267	101	-1	6/17/04	760,000	1,700,000	
262	105	-1	6/21/04	530,000	1,800,000	
257	108	0	6/30/04	7,200,000	3,000,000	
252	111	8	7/2/04	7,500,000	2,800,000	
247	108	20	7/13/04	2,000,000	390,000	
245	101	22	7/19/04	1,000,000	550,000	
			7/20/04	1,700,000	720,000	
			7/23/04	2,800,000	250,000	

TK08		
	Days at Spec Temp	Days at TCE Boiling Temp
272	118	120
267	94	128
262	92	118
257	91	113
252	85	113
247	35	84
245	17	47

TK08		
	Days at Spec Temp	Days at TCE Boiling Temp
272	77	79
267	53	87
262	51	77
257	50	72
252	44	72
247	0	43
245	0	7

TM08 (OFF)			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	M08	N07	
272	80	-18	6/11/04	29,000	1,200,000	
267	99	0	6/17/04		2,800,000	
262	100	1	6/21/04		390,000	
257	101	0	6/22/04	200,000		
252	103	-1	6/29/04		170,000	
247	106	7	7/12/04		<95,000	
245	98	-1				

TM08 (OFF)		
	Days at Spec Temp	Days at TCE Boiling Temp
272	85	85
267	0	87
262	47	82
257	96	113
252	122	135
247	93	133
245	5	124

TM08		
	Days at Spec Temp	Days at TCE Boiling Temp
272	46	46
267	0	46
262	6	41
257	55	72
252	81	94
247	52	92
245	5	83

TM10 (OFF)			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	M10		
272	58	-5	6/11/04	26,000		
267	67	-9	6/22/04	22,000		
262	65	-6	7/12/04	<95,000		
257	98	-11				
252	102	-11				
247	108	-6				
245	104	-9				

TM10 (OFF)		
	Days at Spec Temp	Days at TCE Boiling Temp
272	39	40
267	29	58
262	19	127
257	111	153
252	63	165
247	157	165
245	155	161

TM10		
	Days at Spec Temp	Days at TCE Boiling Temp
272	5	5
267	0	22
262	7	92
257	75	117
252	27	129
247	121	129
245	119	125

TH10			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	H10	I10	I09
272	101	0	6/11/04	26,000		880,000
267	102	-1	6/21/04	380,000	570,000	75,000,000
262	105	0	6/30/04		2,900,000	49,000,000
257	95	9	7/12/04		450,000	23,000,000
252	109	5	7/19/04			13,000,000
247	114	1	7/20/04			6,400,000
245	114	1	7/23/04		550,000	25,000,000

TH10		
	Days at Spec Temp	Days at TCE Boiling Temp
272	99	100
267	100	144
262	89	131
257	0	73
252	87	110
247	94	115
245	94	114

TH10		
	Days at Spec Temp	Days at TCE Boiling Temp
272	58	59
267	59	103
262	48	90
257	0	32
252	46	69
247	53	74
245	53	73

Table 5. Temperatures and TCE Vapor Concentrations For The Southwest Portion of NAPL Area 1

TG09			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	G09	H09	
272	96	-4	7/14/04	<135,000	230,000	
267	100	-2	7/21/04		<95,000	
262	98	-1	7/23/04	<95,000		
257	78	1				
252	101	13				
247	114	0				
245	109	4				

7/28/2004

TG09		
	Days at Spec Temp	Days at TCE Boiling Temp
272	97	98
267	80	130
262	4	113
257	0	0
252	16	54
247	59	72
245	55	68

6/17/2004

TG09		
	Days at Spec Temp	Days at TCE Boiling Temp
272	56	57
267	43	89
262	3	72
257	0	0
252	0	13
247	18	31
245	14	27

MWF11			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	F11	F12	
272	84	-12	6/11/04	35,000		
267	99	-1	7/12/04	<95,000		
262	100	8	7/14/04		<135,000	
257	56	9	7/21/04	<95,000	<95,000	
252	62	7				
247	86	3				
245	92	1				

MWF11		
	Days at Spec Temp	Days at TCE Boiling Temp
272	37	46
267	29	134
262	1	77
257	0	0
252	0	0
247	0	10
245	0	62

MWF11		
	Days at Spec Temp	Days at TCE Boiling Temp
272	35	40
267	27	93
262	0	36
257	0	0
252	0	0
247	0	0
245	0	25

TF11			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	F11	G10	G11
272	86	-14	6/11/04	35,000		280,000
267	100	0	7/12/04	<95,000		<95,000
262	102	4	7/14/04		460,000	
257	66	12	7/21/04	<95,000	900,000	<95,000
252	71	7				
247	113	0				
245	114	-1				

TF11		
	Days at Spec Temp	Days at TCE Boiling Temp
272	48	69
267	44	136
262	7	104
257	0	0
252	0	0
247	76	100
245	90	128

TF11		
	Days at Spec Temp	Days at TCE Boiling Temp
272	41	50
267	26	95
262	0	63
257	0	0
252	0	0
247	35	59
245	49	87

MWF12			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	F12	G11	G12
272	96	-2	6/11/04		280,000	
267	100	-1	6/17/04		<95,000	
262	99	4	7/14/04	<135,000		<135,000
257	72	8	7/21/04	<95,000	<95,000	<95,000
252	81	10				
247	90	10				
245	90	8				

MWF12		
	Days at Spec Temp	Days at TCE Boiling Temp
272	73	76
267	35	141
262	0	93
257	0	0
252	0	0
247	0	12
245	0	9

MWF12		
	Days at Spec Temp	Days at TCE Boiling Temp
272	50	50
267	16	100
262	0	52
257	0	0
252	0	0
247	0	0
245	0	0

MWF14			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	F15	G14	F14
272	96	3	6/11/04	840		
267	101	1	7/14/04		<135,000	
262	101	15	7/21/04	<95,000	<95,000	
257	64	16	7/23/04			<95,000
252	104	15				
247	106	16				
245	106	17				

MWF14		
	Days at Spec Temp	Days at TCE Boiling Temp
272	34	39
267	58	130
262	2	69
257	0	0
252	19	57
247	22	53
245	22	51

MWF14		
	Days at Spec Temp	Days at TCE Boiling Temp
272	32	34
267	19	89
262	0	28
257	0	0
252	0	16
247	0	12
245	0	10

TG14			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	G14	I13	G13
272	99	12	6/11/04		3,400	
267	101	1	7/14/04	<135,000	200,000	
262	97	13	7/21/04	<95,000	<95,000	
257	93	29	7/23/04			<95,000
252	92	25				
247	96	20				
245	96	20				

TG14		
	Days at Spec Temp	Days at TCE Boiling Temp
272	42	51
267	44	122
262	0	60
257	0	23
252	0	22
247	0	25
245	0	24

TG14		
	Days at Spec Temp	Days at TCE Boiling Temp
272	15	23
267	9	81
262	0	19
257	0	0
252	0	0
247	0	0
245	0	0

TI13			MPE Vapor Data (ug/m3)			
Depth	Temperature 7/28/2004	Temp Change 6/10 to 7/28	Sample Date	I13		
272	99	0	6/11/04	3,400		
267	101	0	7/14/04	200,000		
262	104	7	7/21/04	<95,000		
257	87	24				
252	69	19				
247	76	19				
245	75	19				

TI13		
	Days at Spec Temp	Days at TCE Boiling Temp
272	77	80
267	81	134
262	30	89
257	0	9
252	0	0
247	0	0
245	0	0

TI13		
	Days at Spec Temp	Days at TCE Boiling Temp
272	36	39
267	40	93
262	0	48
257	0	0
252	0	0
247	0	0
245	0	0

EXTERNAL MONITORING WELLS

MWB09

	DATE	TCE	c-DCE
START	11/18/03	2800	380
HIGH	11/18/03	2800	380
CURRENT	7/28/04	110	160

MWD03

	DATE	TCE	c-DCE
START	11/11/03	15	8.9
HIGH	11/18/03	15	8.9
CURRENT	7/12/04	5.5	23

MWD14

	DATE	TCE	c-DCE
START	11/18/03	190	280
HIGH	1/13/04	6800	1700
CURRENT	7/28/04	890	75

MWH15

	DATE	TCE	c-DCE
START	11/13/03	3.4	2
HIGH	1/13/04	4.8	2.8
CURRENT	7/14/04	2	17

MWJ01

	DATE	TCE	c-DCE
START	11/10/03	5.4	2
HIGH	6/2/04	14	18
CURRENT	7/12/04	8.7	19

MWM12

	DATE	TCE	c-DCE
START	11/10/03	0.69	2
HIGH	1/13/04	7.4	7.7
CURRENT	7/13/04	2	12

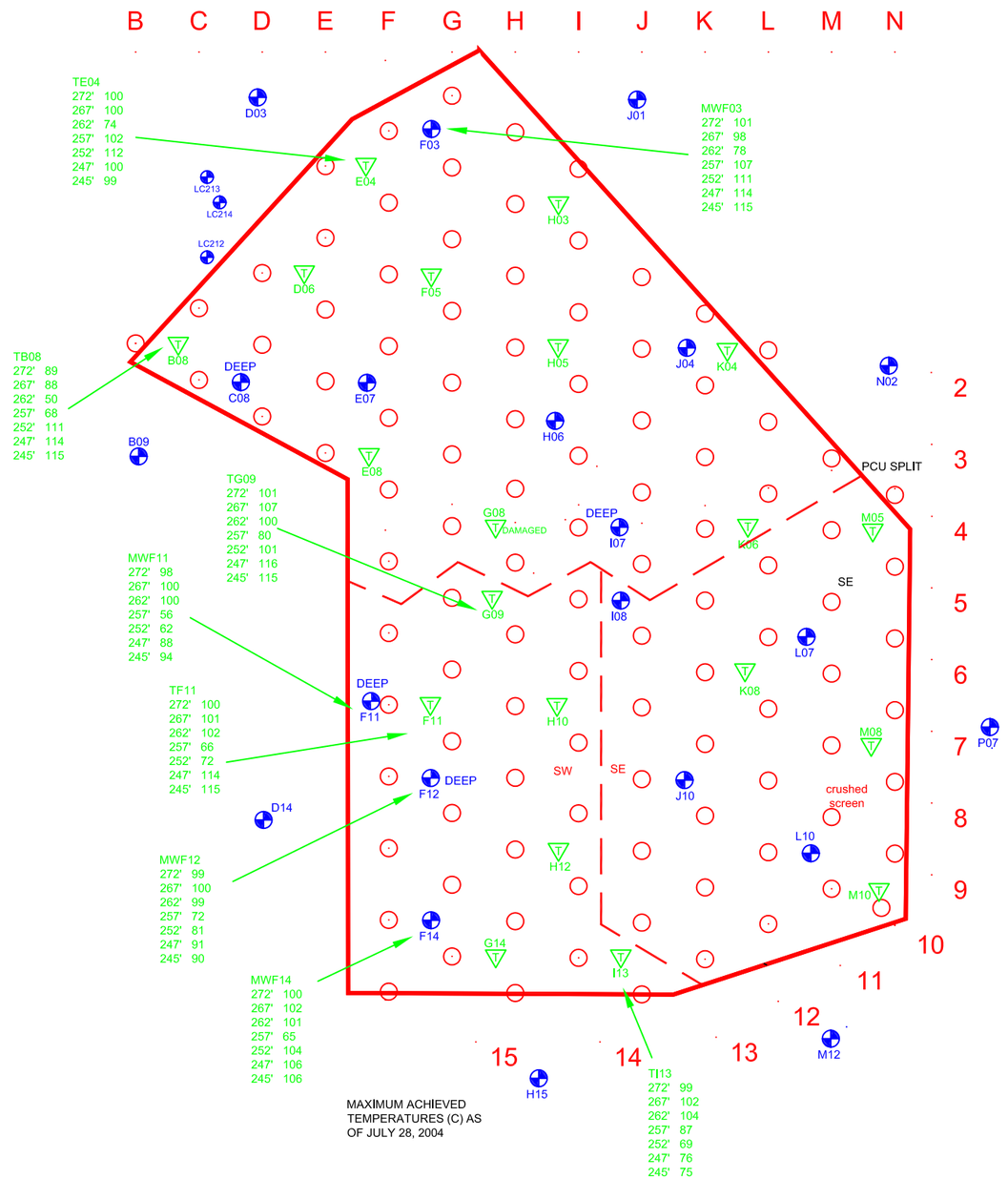
MWN02

	DATE	TCE	c-DCE
START	11/10/03	2	2
HIGH	6/16/04	51	36
CURRENT	7/12/04	7.4	42

MWP07

	DATE	TCE	c-DCE
START	11/10/03	2.7	2
HIGH	6/16/04	82	22
CURRENT	7/13/04	5	12

VOC CONCENTRATIONS
ARE ug/l



MAXIMUM ACHIEVED
TEMPERATURES (C) AS
OF JULY 28, 2004

SHALLOW MONITORING WELLS

MWE07

	DATE	TCE	c-DCE
START	11/19/03	3400	3100
HIGH	11/19/03	3400	3100
CURRENT	7/20/04	59	11

MWF03

	DATE	TCE	c-DCE
START	11/11/03	5.7	2.5
HIGH	7/7/04	350	2
CURRENT	7/27/04	42	2

MWF14

	DATE	TCE	c-DCE
START	11/20/03	95	107
HIGH	3/2/04	560	730
CURRENT	7/27/04	100	12

MWH06

	DATE	TCE	c-DCE
START	11/12/03	2400	80
HIGH	11/12/03	2400	80
CURRENT	7/27/04	4.2	4.3

MWI08

	DATE	TCE	c-DCE
START	11/12/03	720	220
HIGH	4/7/04	22,000	1400
CURRENT	7/27/04	220	2.9

MWJ04

	DATE	TCE	c-DCE
START	11/11/03	150	15
HIGH	4/16/04	20,000	310
CURRENT	7/27/04	41	33

MWJ10

	DATE	TCE	c-DCE
START	11/13/03	63	72
HIGH	4/7/04	790	20
CURRENT	7/27/04	6.3	2

MWL07

	DATE	TCE	c-DCE
START	11/11/03	1500	37
HIGH	4/7/04	950,000	2,000
CURRENT	7/27/04	120	3.2

MWL10

	DATE	TCE	c-DCE
START	11/11/03	4.4	2
HIGH	3/2/04	2,500	8
CURRENT	7/27/04	8.7	2

DEEP MONITORING WELLS

MWF11

	DATE	TCE	c-DCE
START	11/18/03	500	2.2
HIGH	2/11/04	980	39
CURRENT	7/20/04	120	2

MWF12

	DATE	TCE	c-DCE
START	11/20/03	300	3.2
HIGH	1/13/04	1900	160
CURRENT	7/20/04	18	2

MWI07

	DATE	TCE	c-DCE
START	11/12/03	13	2
HIGH	3/23/04	10	2
CURRENT	6/16/04	2	2

MWC08

	DATE	TCE	c-DCE
START	11/18/03	4.6	2
HIGH	2/23/04	4	9.2
CURRENT	4/21/04	2	2

FIGURE 1

ENGINEER'S SEAL

NO.	DATE	BY	REVISIONS

DESIGN BY:	GB
DRAWN BY:	TP
CHECKED BY:	MD
PROJECT MANAGER:	PC
DATE:	7/28/04
SCALE:	NA
FIGURE NUMBER:	FIG 1
PROJECT NUMBER:	TAC02
FILE NAME:	XXX

SUBSURFACE TEMPERATURES & GROUND WATER VOC DATA EGDY NAPL AREA 1 FT LEWIS

THERMAL REMEDIATION SERVICES, INC.

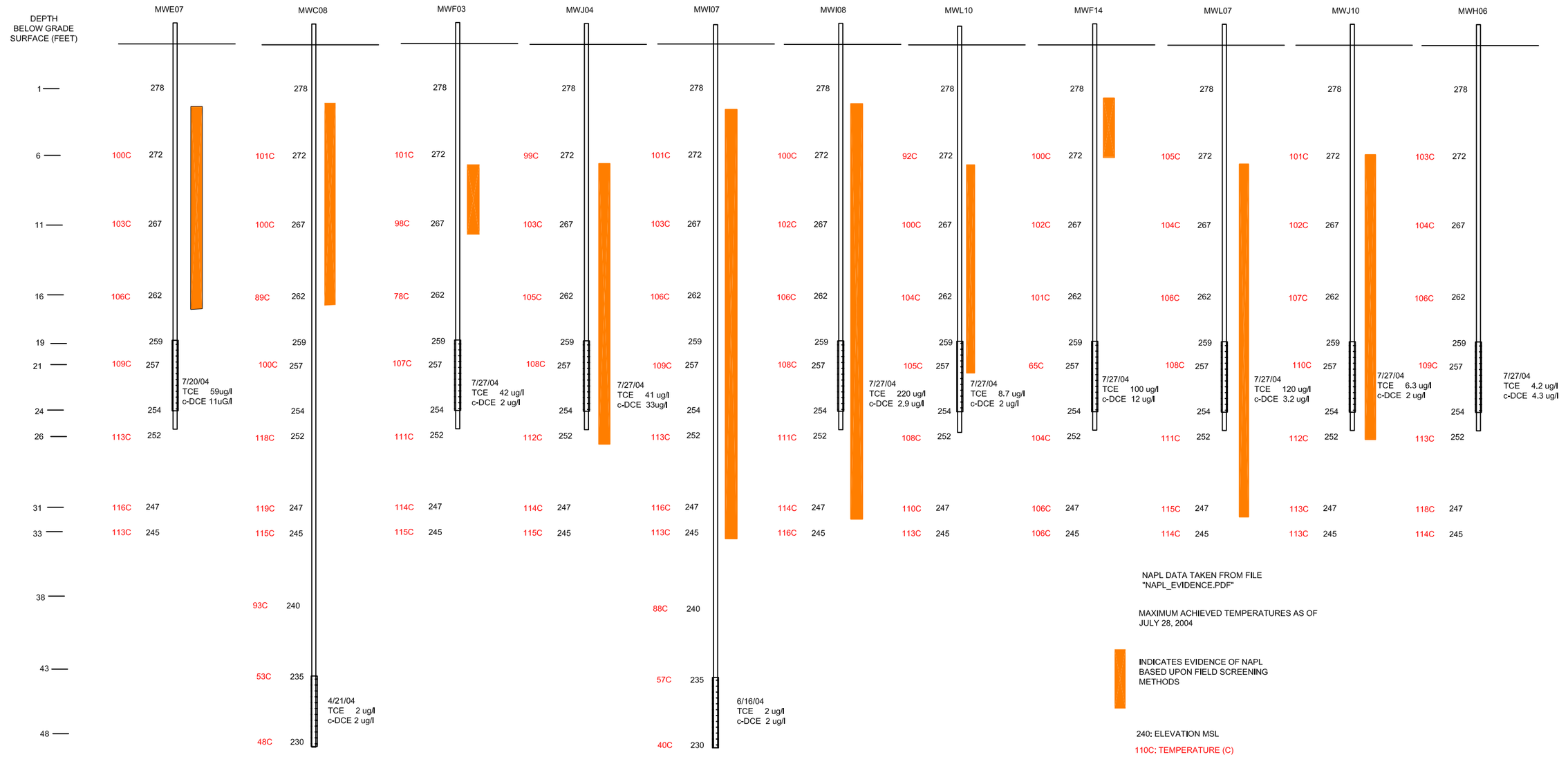


FIGURE 3

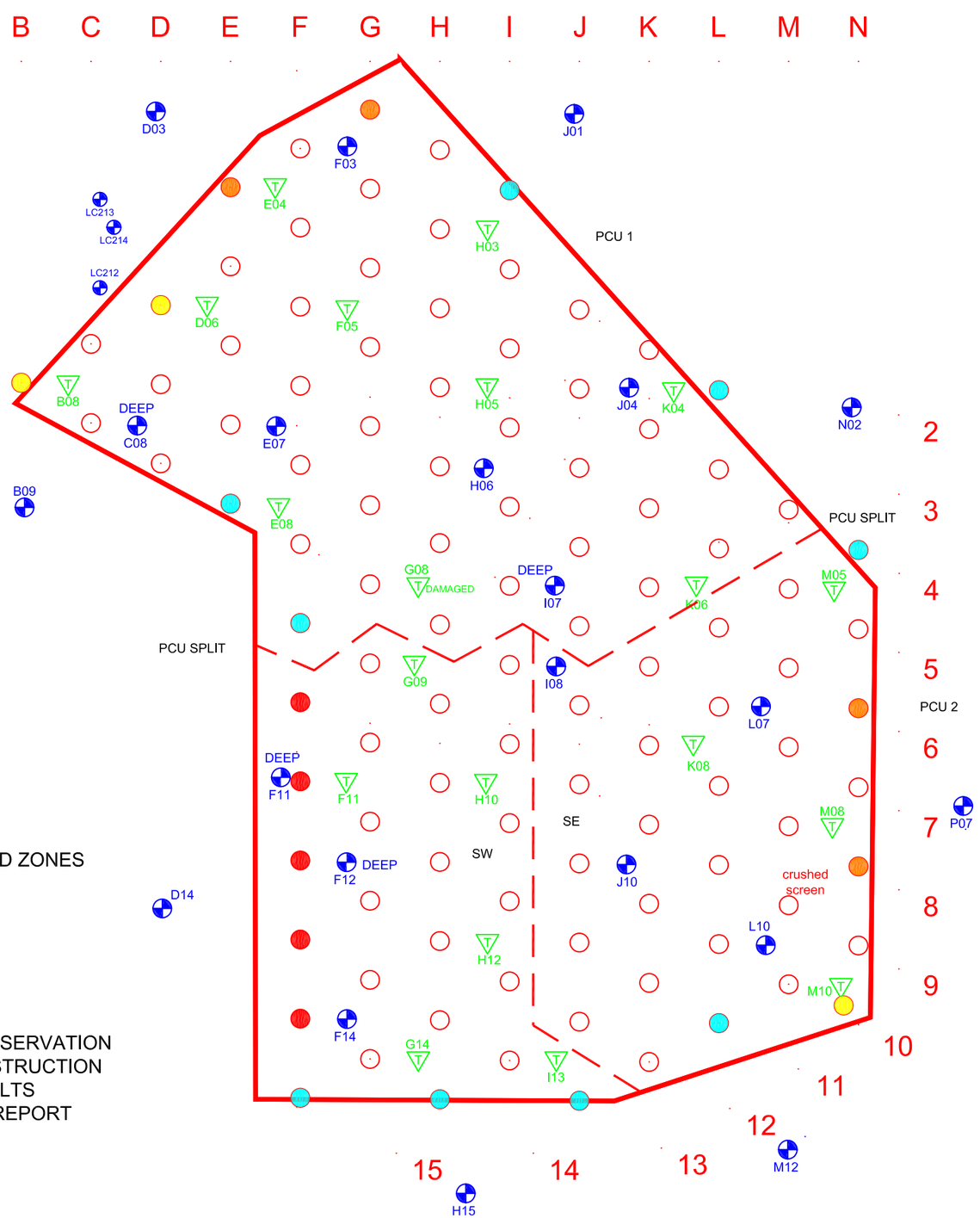
ENGINEER'S SEAL

NO.	DATE	BY	REVISIONS

DESIGN BY:	TP
DRAWN BY:	TP
CHECKED BY:	MD
PROJECT MANAGER:	PC
DATE:	7/28/04
SCALE:	NONE
FIGURE NUMBER:	3
PROJECT NUMBER:	TAC02
FILE NAME:	XXX

MONITORING WELL NAPL EVIDENCE LOCATIONS NAPL AREA 1 EGDY FT LEWIS, WA

THERMAL REMEDIATION SERVICES, INC.



NAPL SCREENING LEGEND

- NAPL SCREENING NOT PERFORMED
- NAPL NOT FOUND
- NAPL FOUND IN VADOSE ZONE
- NAPL FOUND IN SATURATED ZONE
- NAPL FOUND BOTH VADOSE AND SATURATED ZONES

NOTE

NAPL SCREENING INCLUDED THE FOLLOWING:
PID, UV FLUORESCENCE, DYE KIT AND SHEEN OBSERVATION
NAPL SCREENING ACCOMPLISHED DURING CONSTRUCTION
PERIMETER ELECTRODE NAPL SCREENING RESULTS
FROM APPENDIX B OF THE FINAL INSTALLATION REPORT

FIGURE 4

ENGINEER'S SEAL

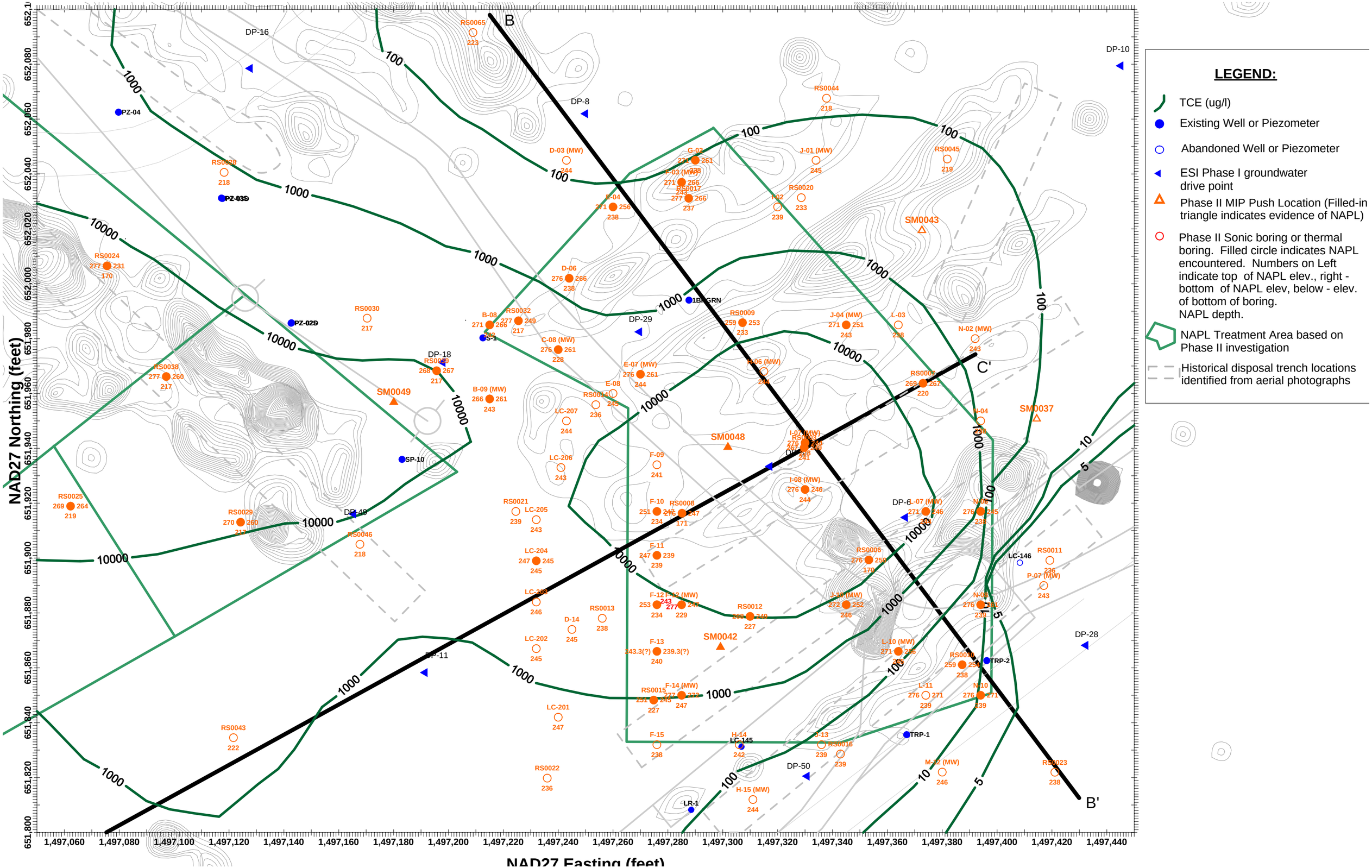
NO.	DATE	BY	REVISIONS

DESIGN BY:	GB
DRAWN BY:	TP
CHECKED BY:	MD
PROJECT MANAGER:	PC
DATE:	7/28/04
SCALE:	NONE
FIGURE NUMBER:	4
PROJECT NUMBER:	TAC02
FILE NAME:	XXX

NAPL EVIDENCE PLOT

EGDY NAPL AREA 1
FT LEWIS

THERMAL REMEDIATION SERVICES, INC.



LEGEND:

- TCE (ug/l)
- Existing Well or Piezometer
- Abandoned Well or Piezometer
- ESI Phase I groundwater drive point
- Phase II MIP Push Location (Filled-in triangle indicates evidence of NAPL)
- Phase II Sonic boring or thermal boring. Filled circle indicates NAPL encountered. Numbers on Left indicate top of NAPL elev., right - bottom of NAPL elev, below - elev. of bottom of boring. NAPL depth.
- NAPL Treatment Area based on Phase II investigation
- Historical disposal trench locations identified from aerial photographs

APPENDIX B

September 30, 2004 Memorandum

THERMAL REMEDIATION services inc.

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Longview, Washington 98632
(360) 425-8121
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September 30, 2004

To: Linnea Norby, USACE Project Manager

From: Michael Dodson, President, Thermal Remediation Services, Inc.

RE: NAPL Area 1 ERH Treatment Summary

1 Introduction

This memo presents the basis for asserting that the substantive goal of the Electrical Resistance Heating (ERH) treatment at NAPL Treatment Area 1 has been meet at all temperature monitoring points (TMPs). The same independent lines of evidence used previously to establish the interim progress of the ERH treatment were used to formulate the basis for evaluating if the project goals have been achieved across Area 1.

Evaluation of these lines of evidence shows that the goal of applying ERH to remove NAPL from Area 1 has been accomplished and that subsurface treatment at Area 1 using ERH had reached the point of diminishing return when treatment was terminated on August 4, 2004.

2 Independent Lines of Evidence

The primary method for measuring the progress of ERH treatment at NAPL Area 1 was temperature data from the 32 TMPs. However, additional forms of site data were collected during the installation and operation of the ERH system. In mid June 2004, the extent and effectiveness of heating at selected TMPs was evaluated by organizing all site data into the following four independent lines of evidence:

1. Is the TMP in an area where CVOC concentrations are suspected to be high?
2. Has the subsurface surrounding the TMP reached an adequate temperature?
3. Have CVOC concentrations in the subsurface adjacent to the TMP been reduced to the point of diminishing return?
4. If heating were stopped, is there a risk that the area around the TMP could be re-contaminated?

Using these independent lines of evidence, treatment at 10 TMPs was deemed to be complete on June 17, 2004 and electrodes adjacent to those TMPs were taken off-line so that power could be redistributed to other parts of Area 1. Treatment at another 5 TMPs was deemed to be complete on July 20, 2004 and power input to electrodes surrounding those TMPs was

redistributed to other regions of Area 1. On August 4, 2004 treatment at the remaining 17 TMPs was deemed to be complete and ERH treatment at Area 1 was stopped.

3 TMPs Previously Meeting Contract Temperature Specification

A plot plan of NAPL Treatment Area 1 is shown as Figure 1 of Attachment A. For this document, Area 1 is divided into north, central, and south regions. The southern region is further split between east and west as site data indicates that the two halves of the southern region differ with respect to the amount of CVOCs originally present in the subsurface.

The Technical Team agreed on June 17 and July 20, 2004 that ERH operations at 15 Area 1 TMPs had effectively met contract temperature specifications. As a result of these agreements, and on the dates indicated, application of electrical energy was discontinued to the electrodes surrounding the following TMPs:

TMPs Deemed To Have Meet Contract Temperature Specifications (As Of July 20, 2004)

North Region		Central Region		Southwest Region		Southeast Region	
MWEO7	17-Jun	MWIO7	17-Jun	TH12	17-Jun	MWJ10	17-Jun
TEO8	17-Jun	TKO6	17-Jun			MWL07	20-Jul
THO5	17-Jun					MWL10	20-Jul
MWHO6	17-Jun					TMO5	20-Jul
MWJO4	17-Jun					TMO8	20-Jul
TKO4	17-Jun					TM10	20-Jul

By discontinuing energy application to the electrodes adjacent to 10 TMPs in mid June 1004, it was possible to increase the energy density being applied to the northern half of Area 1. With increased energy density, subsurface temperatures in the northern region were raised significantly between mid June and the end of July 2004.

During the mid June 2004 site evaluation, the Technical Team decided not to reallocate a significant amount of energy in the southern half of Area 1. Subsequently, between mid June and early August 2004 subsurface temperatures in this region did not increase nearly as much as they did in the northern half of Area 1.

However, it is now known that without substantial changes to the hydraulic control system it would have been difficult to achieve significant temperature increases along the south and southwestern boundaries of Area 1 even if the power density in those areas had been increased. The presence of an undocumented hydraulically conductive interval at 162'-157' mean seal level (msl), approximately 15-20 feet below grade surface (bgs), combined with an unexpected change in the direction of groundwater flow across the site severely reduced the effectiveness of the hydraulic control system. Addressing these changed site conditions would have involved updating the hydraulic model for the site and re-installing a newly designed hydraulic control system based upon that model.

4 Line of Evidence No. 1
Is the TMP in an area where VOC concentrations are suspected to be high?

Evidence for the presence of NAPL in the subsurface of Area 1 was gathered from the following sources:

- NAPL screening during installation of the ERH system,
- Vapor sampling at regional sampling points,
- Vapor sampling at individual multi-phase extraction (MPE) wellheads, and
- Sampling at groundwater monitoring wells.

4.1 NAPL Screening During ERH System Installation

No soil samples were collected for laboratory analyses during installation of the Area 1 ERH system. However, soil samples from each Area 1 groundwater monitoring well and selected perimeter electrodes were screened for the presence of NAPL. A combination of photo ionization detector (PID) measurements, Ultra Violet Fluorescence examination, and Dye testing was used to evaluate the presence of NAPL. Data from the screening methods correlated very well and showed that samples with elevated PID readings (+1,000 ppm) matched samples with positive readings from the UV Fluorescence and Dye tests.

Perimeter electrode NAPL screening results are presented in plan view on Figure 2 and Figure 3 of Attachment A. Figure 2 also shows monitoring well NAPL screening results and contours for pre-heating dissolved phase trichloroethylene (TCE) concentrations. A site cut-away showing the relationship between monitoring well screen intervals and positive NAPL indications is presented as Figure 4 of Attachment A.

The results of NAPL screening at the selected perimeter electrodes are summarized below. Of the 21 electrode borings screened for NAPL, positive indicators were recorded at 13 locations. No NAPL was found in the two borings screened along the northeast boundary, while NAPL was identified in 4 of 5 borings along the northwest boundary. However, in the northern half of Area 1, no indications of NAPL were found deeper than 12-feet bgs, which is the approximate top of the groundwater table.

Similarly, no indications of NAPL were recorded in the four borings screened along the south boundary, while NAPL indicators were documented in 5 of the 6 borings screened on the southwest boundary and three of the four borings screened along the southeast boundary. In the five borings on the southwest boundary, NAPL indicators were generally found from approximately 30-40 feet bgs, while along the southeast boundary positive indicators were found at 5-feet bgs at one electrode, from 5-15 feet bgs in another and from 5-32 feet bgs in the third.

NAPL Screening Summary: Perimeter Electrodes

Electrode Number	Electrode Location	NAPL Indicators	Depth (Feet Bgs)
B8	NW Boundary	Yes	10, 12
D6	NW Boundary	Yes	12
E4	NW Boundary	Yes	10, 15
E8	NW Boundary	No	None
G2	NW Boundary	Yes	15
I2	NE Boundary	No	None
L3	NE Boundary	No	None
F9	SW Boundary	No	None
F10	SW Boundary	Yes	31, 36
F11	SW Boundary	Yes	35, 28, 40
F12	SW Boundary	Yes	26, 30, 35
F13	SW Boundary	Yes	37, 40
F14	SW Boundary	Yes	11, 15, 20
N4	SE Boundary	No	None
N6	SE Boundary	Yes	5, 10, 15, 20, 30, 32
N8	SE Boundary	Yes	5, 15
N19	SE Boundary	Yes	5
H14	South Boundary	No	None
J13	South Boundary	No	None
L11	South Boundary	No	None
F15	South Boundary	No	None

NAPL screening data was generated at 12 of the 13 monitoring wells inside Area 1. In general, NAPL indicators at the groundwater borings tended to start in the vadose zone and extend closer to the bottom of the boring than in the perimeter electrode borings. Results showed 1 location with no NAPL, 1 location with NAPL only in the vadose zone, 3 locations with indications of NAPL in the shallow to intermediate depth interval of approximately 2-17 feet bgs, and 6 locations with indications of NAPL in the shallow to deep interval of the vadose zone to 26 or 32 feet bgs. NAPL screening results from the groundwater monitoring wells are summarized by region below:

NAPL Screening Results at Groundwater Monitoring Wells

MW Location	NAPL Present (Feet msl)	NAPL Present (Feet bgs)
MWE07 (Northwest)	276 - 261	3 - 17
MWC08 (Northwest)	276 - 261	3 - 17
MWJ04 (Northeast)	271 - 251	7 - 27
MWF03 (Northeast)	271 - 266	7 - 12
MWH06 (North Center)	No Indication of NAPL	No Indication of NAPL
MWJ10 (South Center)	272 - 252	6 - 26
MWI07 (Site Center)	276 - 244	3 - 34
MWI08 (Site Center)	276 - 246	3 - 32
MWF12 (Southwest)	277 - 244	2 - 34
MWF14 (Southwest)	277 - 272	2 - 5
MWF11 (Southwest)	No Data Available	No Data Available
MWL10 (Southeast)	271 - 255	7 - 23
MW L07 (Southeast)	271 - 246	7 - 32

NAPL screening data indicates that there was less NAPL present in the northern portion of Area 1 at the start of ERH operations, and at shallower intervals, than in the southern portion of Area 1. The data indicates that NAPL was present below the water table in the north corner of the northern region, and along the entire west and east boundaries of the southern region.

One unanswered question is how much NAPL, if any, was in the highly hydraulically conductive lens located at 262' msl (15-feet bgs) in the northern half and at 257' msl (20-feet bgs) in the southern half of Area 1. This interval consists of very permeable clean gravels, which are not an ideal media for the retention of downward migrating NAPL. Additionally, large volumes of groundwater have been flowing through this lens since NAPLs were originally deposited in Area 1. While no hard data exists to prove that NAPL was, or was not, present in this lens before ERH operations started, geologists logging this lens have stated that it appeared to be free of NAPL. Also, vapor data from the northern half of Area 1 indicates that this lens did not hold a large mass of CVOCs.

4.2 Groundwater Quality

Pre-heating concentrations of TCE in groundwater were similar in both the northern and southern portions of Area 1. However, as the saturated subsurface is heated, NAPL transitions into the dissolved phase and concentrations of CVOCs in groundwater monitoring wells adjacent to a NAPL source will increase and remain at elevated levels in direct relationship to the proximity and size of the NAPL source.

Groundwater quality data collected during heating indicates that the southern half of Area 1 contained a larger mass of CVOCs at the start of ERH remediation. Concentrations of CVOCs in groundwater reached higher levels in the monitoring wells located toward the center and southeast regions of Area 1 during heating and remained elevated for longer periods than in wells located in the northern and southwestern regions of Area 1.

4.3 Vapor Concentrations

The results of vapor concentrations taken from the regional sampling points are presented below:

Vapor Recovery from Regional Sampling Locations (CVOCs Only)

Date	North (%)	South (%)	Total kg/day	North kg/day	South kg/day
12/19/03	12	88	12.0	1.4	10.6
12/26/03	3	98	20.0	0.5	19.5
1/23/04	39	61	6.0	2.3	3.7
2/13/04	68	32	22.0	14.9	7.1
2/27/04	33	67	16.0	5.2	10.8
3/26/04	24	76	22.0	5.4	16.6
4/23/04	41	59	23.0	9.5	13.6
5/4/04	51	49	12.0	6.1	5.9
5/28/04	44	56	5.3	2.3	3.0
6/4/04	36	64	1.9	0.7	1.2
6/25/04	51	49	4.0	2.0	2.0
7/2/04	53	47	2.2	1.2	1.0
7/23/04	34	66	4.1	1.4	2.7
Average	**37**	**63**			
Totals			**151**	**53**	**98**

Over the course of the ERH treatment, almost twice as much CVOC mass was recovered in the vapor phase from the southern half of Area 1 than from the northern half. From early June to late July 2004, vapor samples were collected from 20 MPE wellheads across the northern portion of Area 1. Only four of these MPE wells had significant peak TCE concentrations, defined as more than 0.2 kg of TCE recovered per day. These four MPE wells are grouped in the northwest corner of Area 1. Peak wellhead TCE concentrations at these four MPEs are shown below:

NORTH AREA 1: PEAK MPE WELLHEAD CONCENTRATIONS
(Early June to Late July 2004)

MPE Well	TCE Concentraton (ug/m3)	kg/day
C08	24,000,000	1.8
D08	25,000,000	1.9
E06	12,000,000	0.9
G05	4,800,000	0.4

In contrast, there were multiple MPE wells in the southern portion of Area 1 that had significant peak TCE vapor concentrations during this same time period. These MPE wells are identified below:

SOUTH AREA 1: PEAK MPE WELLHEAD CONCENTRATIONS
(Early June to Late July 2004)

MPE Well	TCE Concentraton (ug/m3)	kg/day
I09	75,000,000	6.0
I10	2,900,000	0.2
J08	4,800,000	0.4
L07	7,500,000	0.6
L08	3,000,000	0.2
L10	3,000,000	0.2
N05	16,000,000	1.3
N07	2,800,000	0.2

It should be noted that historical data collected from the regional vapor sampling points and at the inlet to the thermal oxidizer (OXIN) indicate that vapor recovery rates in the southern half of Area 1 peaked in late April or early May 2004. If vapor samples had been taken at MPE wellheads located in the southern portion of Area 1 in the spring of 2004, TCE concentrations in those samples would have been significantly higher than those recorded in June and July 2004 and the contrast in CVOC vapor recovery rates between the northern and southern portions of Area 1 would have been even greater.

4.4 Summary of NAPL Presence

The data generated from all four sources indicates that the southern half of Area 1 contained more NAPL than the northern half. Vapor and groundwater data further indicates that the central region of Area 1 was the most heavily impacted portion of the treatment area.

The goal for ERH treatment in Area 1 was NAPL removal. To achieve that goal, the NAPL presence data indicates that heating should be as complete as possible in the central, southeastern, southwestern, and northern regions of Area 1 in that order. In the northern half of Area 1, heating should be as complete as possible in the northwest corner.

5 Line of Evidence No. 2

Has the subsurface surrounding the TMP reached an adequate temperature?

For effective NAPL removal at Area 1, the subsurface needs to be heated to the boiling point of TCE at depth. The boiling point of pure TCE in air is 87°C, but when immersed in water, pure TCE boils at 74°C. The boiling points of pure TCE at various depths below the groundwater table at Area 1 are presented below:

Boiling Point of TCE At Depth Below The Water Table

Boiling Point In Air:	87 °C
Boiling Point in Water Mix:	74 °C

Depth Below Grade (feet)	Depth Below Grade (msl)	Depth Below GW Table (feet)	Depth Below GW Table (msl)	TCE Boiling Point (°C)
15	262	5	262	77
20	257	10	257	80
25	252	15	252	83
30	247	20	247	86
35	242	25	242	89

While possible, it is unlikely that TCE exists in the subsurface as pure TCE. Rather, mixtures of TCE and TCE daughter products, predominately cis-1,2-dichloroethylene (cis-1,2-DCE), are most likely present. The boiling point of a mixture of VOCs is strongly dominated by the VOC with the lower boiling point. A 50/50 mix of TCE and cis-1,2-DCE at the top of the water table will boil at approximately 61°C, while a mixture containing twice as much TCE as cis-1,2-DCE will boil at 64°C, and a 90% TCE mix will boil at 70°C. Thus, the boiling points of pure TCE in water at depth presented above should be higher than the boiling point of the actual TCE NAPL found in the Area 1 subsurface.

There are a total of 32 TMPs across Area 1 and each TMP contains 7 thermocouples located at approximately 5, 10, 15, 20, 25, 30, and 35-feet bgs. This arrangement provides for 224 discrete subsurface temperature measurement points within the Area 1 treatment volume. As of August 4, 2004, the boiling point of TCE at depth had been reached at 213 of these points (95%) and contract specification temperatures of 90°C in the vadose zone and 100°C in the saturated zone had been reached at 193 of these points (86%).

Subsurface temperatures as of August 4, 2004 and the number of days a given thermocouple had been at both contract specification temperatures and the boiling point of TCE at depth are presented in Tables 1, 2, 3, and 4 of Attachment A for the north, southeast, southwest, and central regions of Area 1, respectively.

5.1 North Region

The very hydraulically conductive interval at 262'-257' msl (15-20 feet bgs) reduced heating efficiency along the northwestern boundary of Area 1. This is clearly seen in the data from TMPs TB08, TE04, and MWF03. In early June 2004, temperatures in the 262' msl depth interval (15-feet bgs) at each of these TMPs were below the boiling point of TCE at depth (79°C), while the intervals immediately above and below 262' msl were well above the boiling point of TCE.

Heating in the northern section of Area 1 was significantly increased when power input was redistributed in mid June 2004. Additionally, the apparent direction of ground water flow reversed in May 2004 from a north to south direction to a south to north direction. The change in groundwater flow direction assisted heating of the northern end of Area 1 as hot water from the south, rather than cool water from outside of Area 1, begin moving into the north section of the treatment volume.

There are 13 TMPs in the northern portion of Area 1 containing 91 thermocouples. Only two thermocouples in the northern half of Area 1 had not reached the boiling point of TCE at depth by August 4, 2004 and only 9 had not meet contract specification temperatures. On average, thermocouples in the north region were at the boiling point of TCE for 91 days and at contract specification temperatures for 61 days.

The only depth where the boiling point of TCE was not reached in the northern region was the hydraulically conductive interval at 262' msl (15-feet bgs). Similarly, the only depths where contract specification temperatures were not achieved were 262' and 257' msl.

5.2 Central Region

Site data indicated that the central region was the most heavily impacted portion Area 1. Because chloride ion concentrations are typically elevated in the more impacted portions of a chlorinated hydrocarbon site, these regions tend to heat quicker and more efficiently then less impacted parts of the site. At Area 1, heating was most efficient in the center of the treatment volume.

There are 5 TMPs in the central region containing 35 thermocouples. Temperatures at all but one of these thermocouples reached contract specifications. That thermocouple, located in the hydraulically conductive interval of 257' msl at TH10, reached a final temperature of 98°C. Temperatures at the remaining 34 thermocouples were held at contract specifications for a minimum of 24 days, a maximum of 125 days, and an average of 99 days.

Temperatures at all the thermocouples within the central region exceeded the boiling point of TCE at depth. Thermocouples within the central region were held at the boiling point of TCE for a minimum of 52 days, a maximum of 151 days, and an average of 123 days.

5.3 Southeast Region

After the central region, the southeast region was the next most impacted portion of Area 1. Heating in the southeast region was almost as efficient as heating in the central region. There are 6 TMPs in the southeast region containing 42 thermocouples. Temperatures at all but 1 of these thermocouples reached contract specification temperature. That thermocouple, located in the 276' msl interval at TMO8, reached a final temperature of 99°C. Temperatures at the remaining 41 thermocouples were held at contract specifications for a minimum of 1 day, a maximum of 163 days, and an average of 79 days

Temperatures at all 42 thermocouples in the southeast region exceeded the boiling point of TCE at depth. Thermocouples within the southeast region were held at the boiling point of TCE for a minimum of 5 days, a maximum of 177 days, and an average of 109 days.

5.4 Southwest Region

There are 8 TMPs and 56 thermocouples in the southwest region. Temperatures at all but 21 of these thermocouples reached contract specification temperatures. Temperatures at the 56 thermocouples were held at contract specifications for a minimum of zero days, a maximum of 114 days, and an average of 34 days.

At the two TMPs in the center portion of the southwest region, contract specification temperatures were reached at all but one of 14 thermocouples. That one thermocouple is located in the hydraulically conductive interval of 257' msl at TG09. The remainder of the thermocouples in TGO9 and TH12 were at contract specifications for a minimum of 4 days, a maximum of 137 days, and an average of 72 days.

Temperatures in all but 9 of the 56 thermocouples in the southwest region reached the boiling point of TCE at depth and all but 2 of those thermocouples are located in the hydraulically conductive interval at 257' to 252' msl. Temperatures at the 56 thermocouples within the southwest region where held at the boiling point of TCE for a minimum of 3 days, a maximum of 148 days, and an average of 78 days.

5.5 Summary of Heating

A summary of the subsurface temperatures reached in each of the four sub-regions of Area 1 is provided below:

Summary of Area 1 Subsurface Temperatures

Parameter	North	Central	Southeast	Southwest
Number of TMPs	13	5	6	8
Number of Thermocouples	91	35	42	56
Thermocouples at Bp. Of TCE	89	35	42	46
Thermocouples at Contract Temp.	82	34	41	35
Average Days at Bp. Of TCE	91	123	109	78
Average Days at Contract Temp.	61	99	79	34

6 Line of Evidence No.3

Have VOC concentrations in the subsurface adjacent to the TMP been reduced to the point of diminishing return?

Groundwater quality data indicates that TCE in Area 1 has transitioned from the NAPL phase to the dissolved phase. Concentrations of dissolved phase TCE at the start of heating, at peak concentrations, and at the last sampling event on July 28, 2004 are presented below for the 9 shallow and 4 deep groundwater monitoring wells located inside Area 1.

NAPL Area 1: Historical Groundwater Quality
(TCE in μg/l)

Monitoring Well No.	Starting Concentration	Peak Concentration	7/28/04 Concentration
MWC08 (Deep)	4.6	4.9	<2
MWE07	3,400	3,400	59
MWF03	5.7	350	42
MWF11 (Deep)	500	980	120
MWF12 (Deep)	300	1,900	18
MWF14	95	560	100
MWHO6	2,400	2,400	4.2
MWI08	720	22,000	220
MWI07 (Deep)	13	13	<2
MWJ04	150	20,000	41
MWJ10	63	790	6.3
MWL07	1,500	950,000	120
MWL10	4.4	2,500	8.7

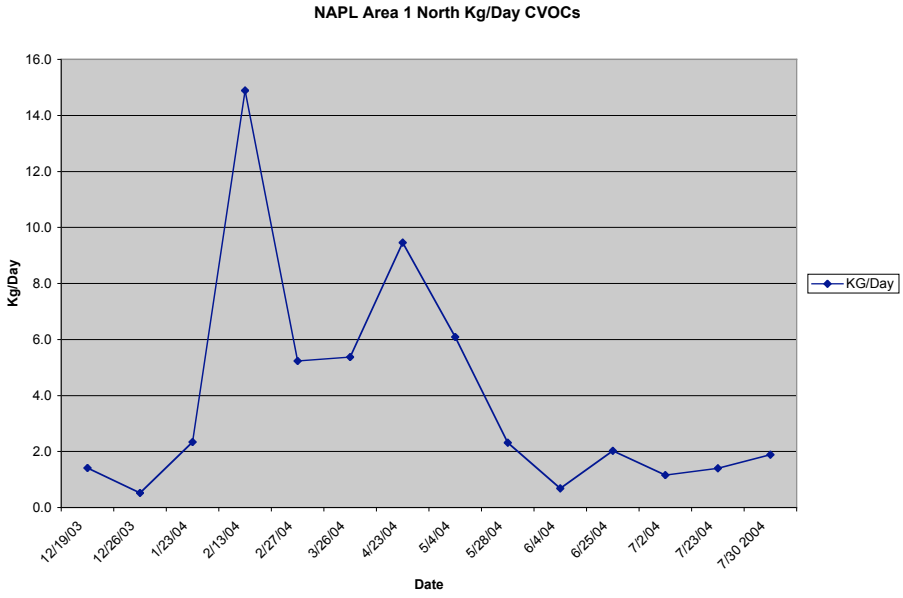
TCE concentrations in groundwater across Area 1 have peaked and at all but three wells have declined to levels below those measured at the start of heating. The three wells where TCE concentrations were higher on July 28, 2004 than at the start of heating contain TCE at concentrations of 100, 42, and 8.7 μg/l.

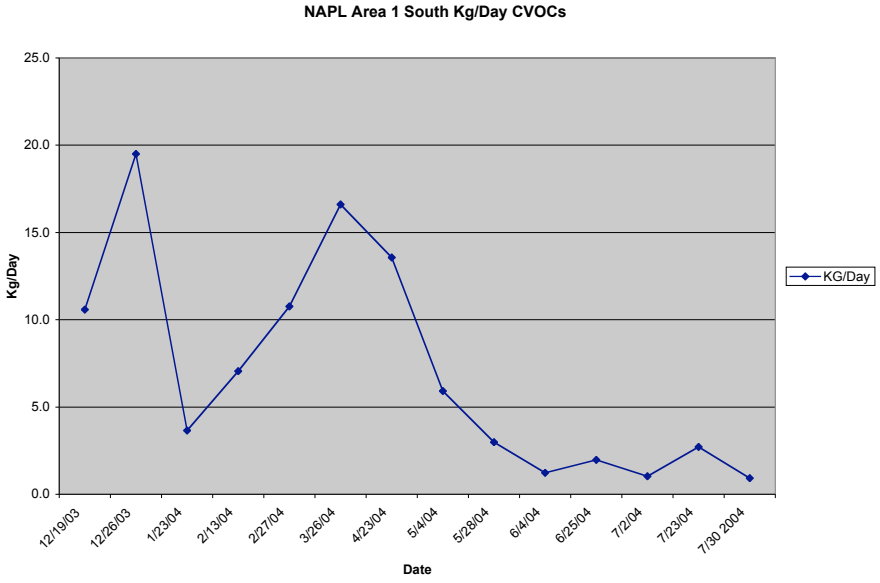
Vapor phase concentrations of TCE from all MPE wells across Area 1 had become insignificant by August 4, 2004. Sampling from the individual MPE wellheads indicates that historically four to six wells have accounted for over 80% TCE mass being removed from the subsurface. These wells are located in the south-central portion of Area 1, which is the portion of the treatment volume that has been heated most efficiently and effectively.

In early April 2004, a second ERH power control unit was mobilized to the site and power input to Area 1 was significantly increased. TCE removal in the vapor phase peaked in both the northern and southern halves of Area 1 by late April 2004. In late June 2004, power input to the subsurface was redistributed to areas with temperatures below contract specifications. These efforts were directed at the northeast and southwest portions of Area 1.
The following graphs show the mass of vapor phase CVOCs removed from the northern and southern halves of Area 1 over the course of the ERH treatment. The data was generated from samples collected at the regional header sampling ports. Because steam is present at

these sampling ports, quality flow measurements cannot be obtained. The calculation of mass in the following figures was made by dividing the total system flow measured at OXIN by the number of header sampling ports to arrive at an average flow rate for a sampling port.

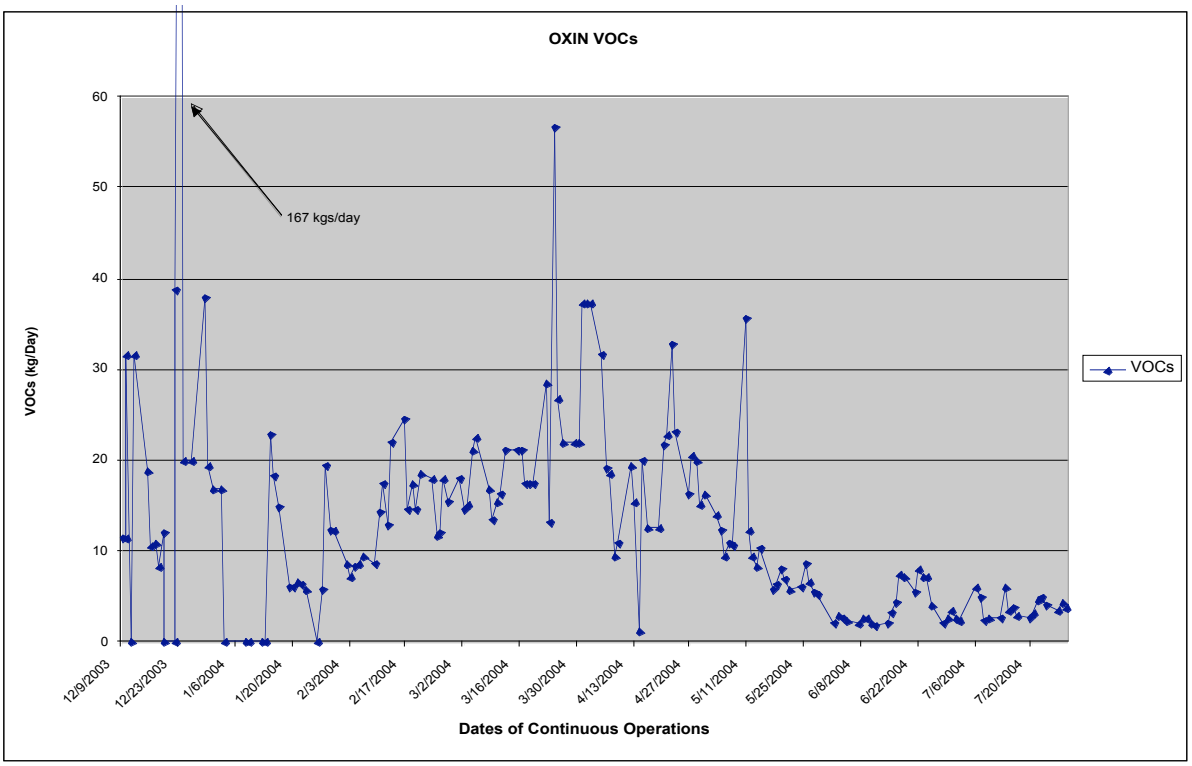
The graphs for both the north and south half of Area 1 show that increasing power input to selected portions of the site that were lagging in temperature in June and July 2004 had a very limited and short-lived effect on the rate of vapor phase TCE recovery from the subsurface. This is true even for the northwester section of Area 1, where focused heating in June and July 2004 was able to increase the temperature in the hydraulically conductive interval at 262' msl from below to above the boiling point of TCE at that depth.





Vapor concentrations at OXIN, and the corresponding kilograms of CVOCs removed per day, are shown on Figure 1. The data indicates that the recovery of CVOCs in the vapor phase had declined significantly by early June 2004 (to 2% of the highest peak concentration measured, 6% of the second highest peak concentration measured and 9 % of the third highest peak concentration measured) and had reached asymptotic levels by mid July 2004.

OXIN VOC Recovery Rate (kg/Day)



7 Line of Evidence No. 4

If heating is stopped, is there a risk that the area around the TMP could be re-contaminated?

The boiling point of TCE at depth below the water table indicates that once subsurface temperatures have reached 77°C at the top of the water table and 89°C at the deepest point of interest, TCE NAPL in Area 1 will transition to the vapor stage. Because the ERH system is uniformly heating the subsurface at Area 1, there are no condensate fronts generated by the process that could reach a cool area and deposit pure TCE.

Across Area 1, the 262'-252' msl depth interval where heating was slowest has an interval below it (247'-245' msl) that is at, or above, the boiling point of TCE. This will prevent any downward migration of TCE as sub-sections of Area 1 are allowed to cool. The lack of downward TCE migration at the site is reinforced by the groundwater quality data from the deep monitoring wells, which show no significant increases in VOC concentrations during the course of the project.

As expected, some locations, and more specifically, certain depth intervals have been cooling quicker than other locations once power application to a specific portion of Area 1 has been discontinued. The following table provides cool down data in those areas where active heating was discontinued.

Temperature Changes in Areas Removed From Heating from June 10 to July 28, 2004

Depth	TE07	TE08	TH05	MWH06	MWJ04	TK04	MWI07	MWJ10	TK06
272' msl	0	-5	2	-3	-38	-50	-4	-3	-2
267' msl	0	-2	-2	-2	-19	-22	-1	-1	-2
262' msl	0	-14	-9	-1	-24	-37	-1	-1	-4
257' msl	0	-25	-29	0	-23	-28	-1	0	-2
252' msl	-2	-34	-22	-1	-23	-22	6	-1	-3
247' msl	-8	-57	-18	-2	-27	-31	-16	-16	-12
242' msl	-7	-33	-18	-4	-31	-34	-11	-11	-18

Note: Temperature changes displayed in degrees C

Cool-down rates at Area 1 boundary locations TE08 (northwest boundary) and MWJ04 and TK04 (northeast boundary) are much greater than normally recorded at ERH sites. Since these cool-down rates far exceed a typical rate expected from only heat transfer mechanisms, movement of water is the expected cause. Temperature location TH05 also cooled at a fast rate within the high flow interval at 262'-257' msl. Since three of the locations removed from power are monitoring wells, the groundwater analytical data from each of these wells can be compared to their cool-down temperatures. The following table displays groundwater data for the three monitoring well locations removed from power on June 17, 2004.

TCE Concentrations (μg/l) In Areas Allowed To Cool In Mid June

Location	Project Start	High Level	Mid June	End July
MWH06	2,400	2,400	100	4
MWJ04	150	20,000	160	41
MWJ10	63	790	100	6

As of late July 2004, TCE concentrations in groundwater at the three monitoring wells were lower than measured in mid June when power input was terminated, even though subsurface temperatures at these locations had decreased significantly.

8 Changed Site Conditions

The groundwater flow models used to design the hydraulic control system were based on the hydrogeologic and physical parameters summarized in the October 2002 USACE Phase II Remedial Investigation report (RI) and in the Contract Document Technical Exhibits. Additional information about hydraulic conditions at Area 1 was provided by the USACE before and during the systematic planning and design process.

Hydraulic conductivity, specific yield, and storativity values were obtained from results of pumping inflow tests performed on wells LR-1, LR-2, LX-17, LX-18, and LX-19 by past consultants for USACE. Testing results from LR-1 and LR-2 were used in modeling of NAPL Areas 1 2.

Effective porosity values were obtained from physical testing results included as Technical Exhibit 6d. An effective porosity of 0.29 was calculated by averaging results from soil samples collected near NAPL Treatment Areas 1 and 2.

The groundwater flow direction and gradient were determined from groundwater elevations recorded in wells LC-26 (located east of Area 1) and LC-27 (located west of Area 2) from December 1999 to November 2000 and summarized in the RI and Technical Exhibit 2. Groundwater flow appeared to be westerly in direction in April and November of 2001 (RI Figures 5-17 and 5-18) with an average gradient of 0.0033 horizontal foot/foot.

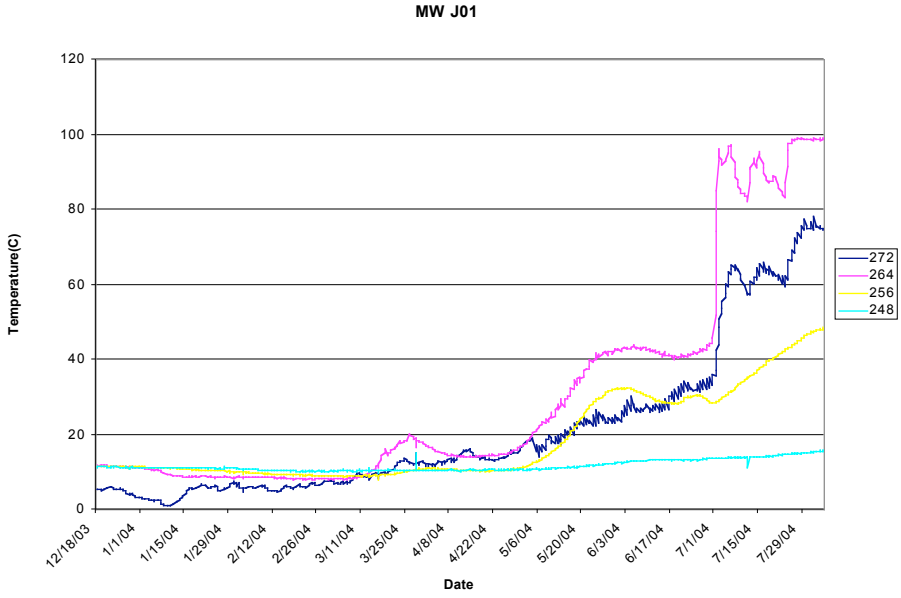
While site stratigraphy was known to be heterogenic during the hydraulic control system modeling efforts, the presence of micro layers of highly permeable materials were undocumented and did not become known until the movement of heated water across the site could be observed. Additionally, the shifts in groundwater direction during the course of ERH application at Area 1 were much more dramatic than any pre-modeling site data suggested.

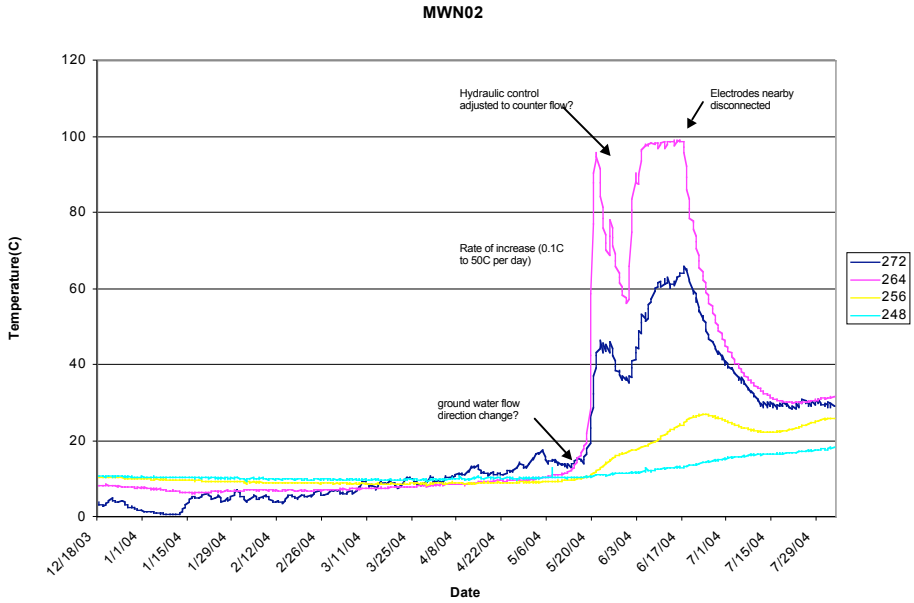
During placement of the subsurface portions of the ERH system more gravels and cobbles, and hence higher hydraulic conductivities, were found at the 262'-257' msl intervals in the northeastern and southwestern corners of Area 1. These are the same areas and depth intervals where subsurface heating was slowest. It is now suspected that a highly permeable paleochannel may run along the southwest boundary of Area 1 and encompass TMPs F11, F12 and F14. Based upon the effects this lens had on heating rates and the treatment area temperature signature, it is possible that the horizontal permeability of this lens may be an order of magnitude higher than the average permeability used to design the hydraulic control system.

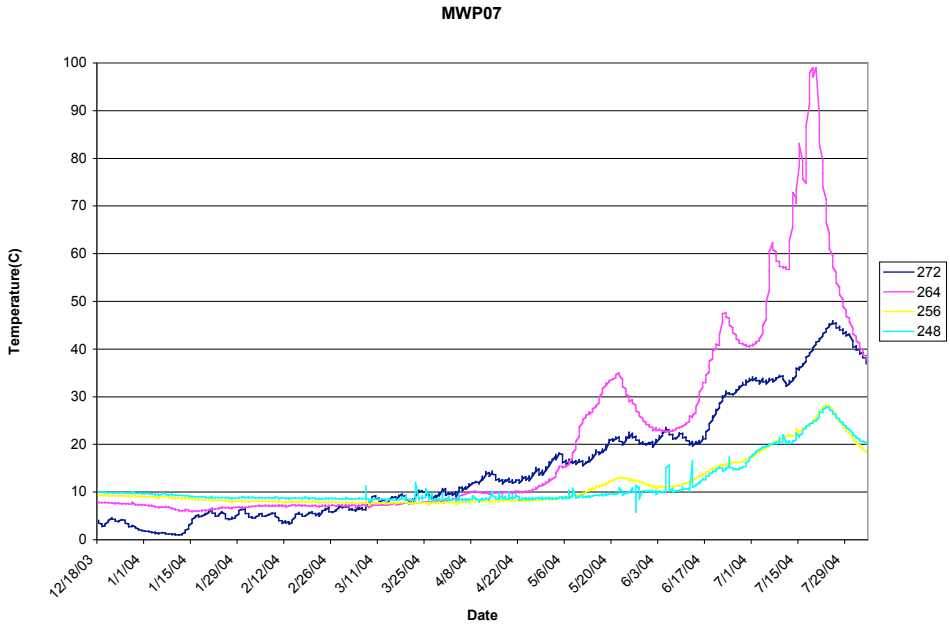
Adding to the variability of groundwater movement across Area 1 were the dramatic changes in the direction of flow. The influence of the hydraulic control system and the high conductivity materials at the 262'-257' msl make it difficult to evaluate groundwater flow across Area 1 using only groundwater elevations. Groundwater elevation data from perimeter wells indicates that at start-up of ERH operations, cold water was entering Area 1 from the northeast and exiting from the southwest. In February 2004, elevation data from perimeter wells indicated that the inflow of cold water was from the north/northeast. By May 2004, surface elevations data from the perimeter wells indicated that cold water was entering the treatment area from the southeast and exiting to the northwest.

Another source of data that indicates groundwater flow direction across Area 1 is the heat signature at depth below the water table. From December 2003 through early May 2004, temperatures at all depths in perimeter monitoring wells along the east side of the treatment area (MWJ01, MWN02, and MWP07) remained at ambient conditions. In early May 2004, sudden spikes in temperatures were observed in each of these wells.

Not unexpectedly, the spikes were most evident at the 264' msl interval. The changes in temperatures at these wells indicates that groundwater flow at the 264' msl interval had a very strong west to east component, and that heat was being removed from the southwest side of the site and replaced with cold water. The pre-positioned hydraulic control wells were not capable of overcoming the effects of this change in site conditions and heating along the southwest boundary of Area 1 became extremely slow. The following graphs show the changes in temperature at MWJ01, MWN02, and MWP07. The sudden drop in temperatures in early to mid July 2004 at MWN02 and MWP07 are due to electrodes along the eastern boundary being taken off-line rather than a shift in groundwater movement. Electrodes to the west of MWJ01 were not taken off-line and temperatures at MWJ01 remained constant.







9 Conclusions

Contract specification temperatures were obtained in 193 (86%) of the 224 thermocouples monitored in Area 1 and 213 (95%) of these thermocouples reached the boiling point of TCE at depth. On average, those thermocouples that reached design treatment were maintained at temperature for 70 days and those that reached the boiling point of TCE at depth were maintained at temperature for 97 days.

Data collected at various stages of the project indicated that the central region of the Area 1 contained the most NAPL, followed by the southeast, southwest and north regions of the treatment area. In the northern half of Area 1, data indicated that the northeast corner was more impacted by NAPL. In general, heating was most complete in the central, southeast, north and southwest regions of Area 1, respectively. With the exception of the southwest boundary, those regions where the indications of NAPL presence were the greatest were also the areas that were heated the most efficiently and held at the boiling point of TCE longest.

While focused heating in the northeast corner of the site from late June through early August 2004 resulted in substantial increased in subsurface temperature, it did not result in the additional recovery of significant TCE mass. The data clearly indicated that continued heating in the northern half of Area 1 would not result in any additional NAPL removal from Area 1.

Vapor concentrations measured at the regional sampling ports and OXIN indicate that the recovery of vapor phase TCE across Area 1 peaked in early May 2000 and by mid July 2004 had reached asymptotic levels. There is no vapor data indicating that NAPL still exists in Area 1 or that continued heating in any portion of Area 1 will result in significant recovery of vapor phase TCE from the treatment volume.

Groundwater quality data shows that TCE concentrations in the treatment volume peaked as NAPL transitioned to the dissolved phase and then dropped to levels below starting concentrations. The highest concentration of TCE in a groundwater monitoring well within the treatment area is now 220 µg/L and the average concentration is 57 µg/L. There is no groundwater data indicating that NAPL still exists within the Area 1 treatment volume.

Vapor phase and groundwater data show that all sources of NAPL within Area 1 have been removed and that the goal of the ERH treatment effort has been accomplished. Several portions of Area 1 had been offline for over 40 days as of August 4, 2004. Vapor and groundwater data suggest that there has been no rebound of TCE concentrations in those regions of Area 1 allowed to cool.

Continued operations of the ERH treatment system would result in the consumption of significant quantities of natural resources, propane and electrical power, and the expenditure of funds for the rental and maintenance of equipment, sampling and analyses, and general operations of the site in return for an insignificant recovery of TCE mass.

Table 1. NAPL Area 1, Northern Region Temperatures

TB08

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	99	40	67
267	98	0	96
262	74	0	0
257	87	0	22
252	109	105	125
247	112	137	144
245	113	137	144

MWF03

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	96	54	60
267	98	0	82
262	79	0	3
257	103	17	29
252	110	35	44
247	113	39	44
245	114	39	47

TK04 (Off June 17, 2004)

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	49	52	53
267	78	48	105
262	64	66	82
257	71	101	120
252	79	114	137
247	80	123	144
245	77	119	139

MWC08

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	98	110	121
267	100	33	110
262	91	0	40
257	100	5	65
252	108	80	98
247	119	88	104
245	110	82	100

TF05

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	99	85	93
267	100	69	145
262	103	40	87
257	106	44	112
252	110	127	131
247	112	123	130
245	113	119	127

TD06

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	99	81	108
267	99	13	100
262	86	0	38
257	100	26	51
252	109	64	76
247	112	66	79
245	113	62	76

TH03

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	100	100	120
267	99	15	100
262	91	0	19
257	109	36	37
252	112	40	61
247	117	78	98
245	117	83	102

TE04

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	118	45	45
267	98	4	83
262	70	0	0
257	101	24	32
252	111	28	34
247	102	9	28
245	101	4	25

THO5 (Off June 17, 2004)

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	98	102	108
267	100	49	107
262	86	3	62
257	79	33	54
252	88	61	98
247	94	74	101
245	93	71	100

MWE07 (Off June 17, 2004)

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	100	147	168
267	102	87	127
262	105	71	97
257	107	88	102
252	110	115	126
247	105	122	131
245	104	114	125

MWH06 (Off June 17, 2004)

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	99	105	109
267	101	101	128
262	104	102	117
257	107	122	124
252	110	133	142
247	111	141	150
245	109	136	145

TE08 (Off June 17, 2004)

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	89	108	113
267	98	65	138
262	91	32	94
257	76	14	52
252	71	40	70
247	62	63	92
245	80	60	84

MWJ04 (Off June 17, 2004)

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	60	51	53
267	83	43	106
262	78	49	99
257	81	67	103
252	83	99	132
247	82	105	133
245	79	96	124

Table 2. NAPL Area 1, Southeast Region Temperatures

MWJ10 (Off June 17, 2004)			
Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	96	115	120
267	100	101	136
262	104	104	127
257	107	105	127
252	110	97	116
247	106	78	90
245	100	66	81

MWL07 (Off July 20, 2004)			
Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	85	100	102
267	97	71	125
262	95	55	107
257	101	98	114
252	108	124	139
247	105	129	138
245	101	123	133

MWL10 (Off on July 20, 2004)			
Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	40	3	5
267	67	1	83
262	92	44	94
257	96	51	81
252	95	55	59
247	101	78	119
245	104	140	145

TM05 (Off July 20, 2004)			
Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	68	80	81
267	68	40	79
262	78	45	57
257	94	76	83
252	96	82	90
247	95	90	117
245	96	78	127

TM08 (Off July 20, 2004)			
Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	66	85	85
267	78	0	94
262	98	49	90
257	101	103	121
252	102	129	142
247	102	101	140
245	98	5	131

TM10 (Off July 20, 2004)			
Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	47	39	39
267	47	29	61
262	51	19	127
257	84	115	166
252	91	69	177
247	96	167	177
245	92	163	173

Table 3. NAPL Area 1, Southwest Region Temperatures

TG09

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	96	104	105
267	102	87	137
262	99	4	120
257	80	0	0
252	104	23	61
247	112	66	79
245	110	63	75

TI13

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	99	77	80
267	101	81	134
262	104	30	89
257	87	0	9
252	69	0	0
247	76	0	0
245	75	0	0

MWF11

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	85	37	44
267	99	29	141
262	100	9	84
257	58	0	0
252	64	0	0
247	87	0	4
245	93	0	67

TH12 (Off July 20, 2004)

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	100	99	101
267	102	100	145
262	105	86	129
257	108	79	100
252	111	89	116
247	114	84	88
245	107	58	82

TF11

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	95	55	75
267	100	52	142
262	102	15	108
257	69	0	0
252	73	0	0
247	113	84	104
245	114	97	133

MWF12

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	99	80	83
267	100	42	148
262	101	7	100
257	77	0	0
252	87	0	3
247	95	0	18
245	94	0	14

MWF14

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	96	34	39
267	101	58	130
262	101	2	69
257	64	0	0
252	104	19	57
247	106	22	53
245	106	22	51

TG14

Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	99	42	51
267	101	44	122
262	97	0	60
257	93	0	23
252	92	0	22
247	96	0	25
245	96	0	24

Table 4. NAPL Area 1, Central Region Temperatures

TH10			
Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	101	106	107
267	102	108	151
262	105	97	137
257	98	0	80
252	110	95	115
247	113	101	122
245	113	101	120

MWI07 (Off June 17, 2004)			
Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	97	108	109
267	101	106	138
262	104	108	128
257	107	118	131
252	97	110	136
247	112	120	136
245	96	95	130

MWI08			
Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	100	125	131
267	101	109	146
262	104	101	132
257	107	82	105
252	110	106	132
247	113	108	132
245	114	97	119

TK06 (Off June 17, 2004)			
Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	98	122	125
267	99	80	151
262	100	100	130
257	105	106	125
252	104	118	136
247	96	102	130
245	89	73	109

TK08			
Depth	Temperature 8/4/2004	Days at Spec Temp	Days at TCE Boiling Temp
272	100	125	127
267	101	101	135
262	104	100	125
257	108	98	120
252	111	93	120
247	107	43	90
245	100	24	52

EXTERNAL MONITORING WELLS

MWB09

	DATE	TCE	c-DCE
START	11/18/03	2800	380
HIGH	11/18/03	2800	380
CURRENT	7/28/04	110	160

MWD03

	DATE	TCE	c-DCE
START	11/11/03	15	8.9
HIGH	11/18/03	15	8.9
CURRENT	7/12/04	5.5	23

MWD14

	DATE	TCE	c-DCE
START	11/18/03	190	280
HIGH	1/13/04	6800	1700
CURRENT	7/28/04	890	75

MWH15

	DATE	TCE	c-DCE
START	11/13/03	3.4	2
HIGH	1/13/04	4.8	2.8
CURRENT	7/14/04	2	17

MWJ01

	DATE	TCE	c-DCE
START	11/10/03	5.4	2
HIGH	6/2/04	14	18
CURRENT	7/12/04	8.7	19

MWM12

	DATE	TCE	c-DCE
START	11/10/03	0.69	2
HIGH	1/13/04	7.4	7.7
CURRENT	7/13/04	2	12

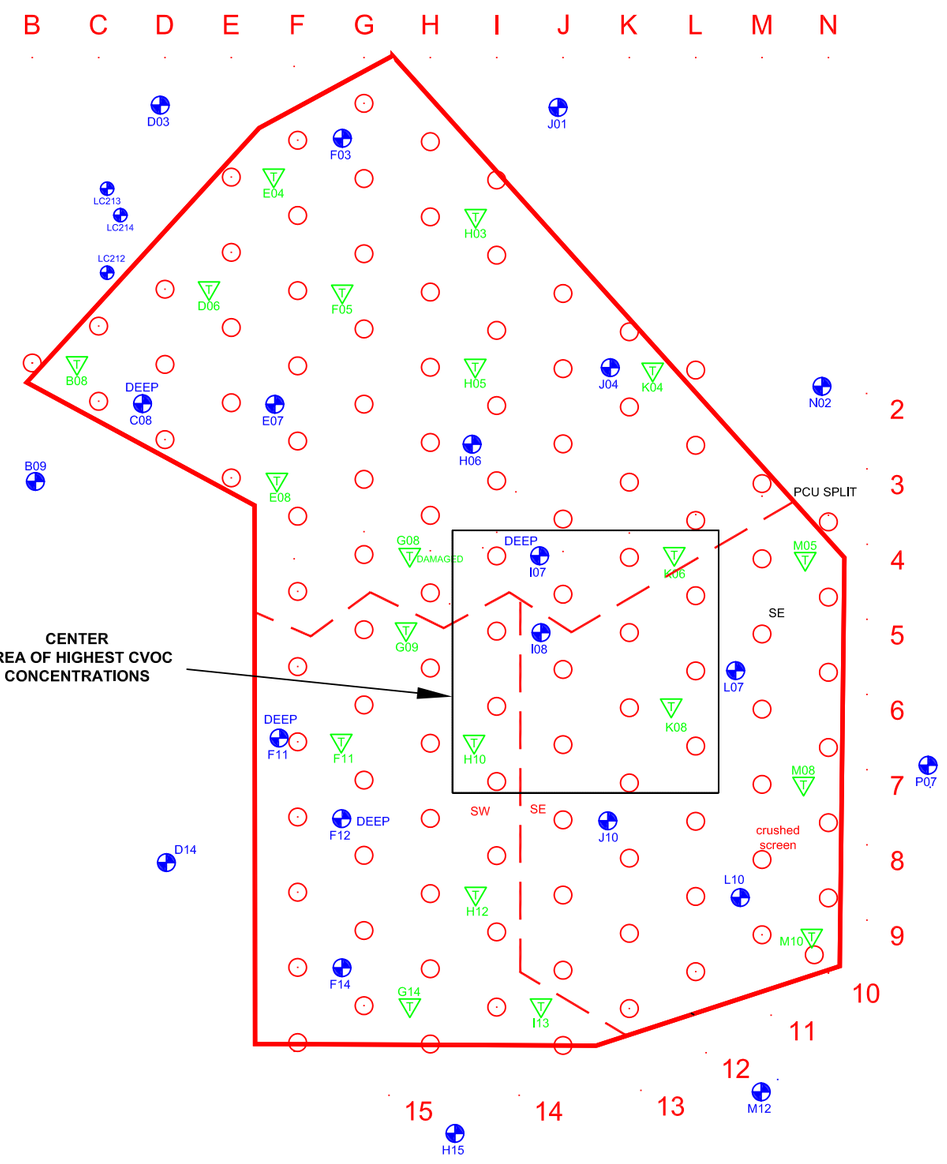
MWN02

	DATE	TCE	c-DCE
START	11/10/03	2	2
HIGH	6/16/04	51	36
CURRENT	7/12/04	7.4	42

MWP07

	DATE	TCE	c-DCE
START	11/10/03	2.7	2
HIGH	6/16/04	82	22
CURRENT	7/13/04	5	12

VOC CONCENTRATIONS
ARE ug/l



SHALLOW MONITORING WELLS

MWE07

	DATE	TCE	c-DCE
START	11/19/03	3400	3100
HIGH	11/19/03	3400	3100
CURRENT	7/20/04	59	11

MWF03

	DATE	TCE	c-DCE
START	11/11/03	5.7	2.5
HIGH	7/7/04	350	2
CURRENT	7/27/04	42	2

MWF14

	DATE	TCE	c-DCE
START	11/20/03	95	107
HIGH	3/2/04	560	730
CURRENT	7/27/04	100	12

MWH06

	DATE	TCE	c-DCE
START	11/12/03	2400	80
HIGH	11/12/03	2400	80
CURRENT	7/27/04	4.2	4.3

MWI08

	DATE	TCE	c-DCE
START	11/12/03	720	220
HIGH	4/7/04	22,000	1400
CURRENT	7/27/04	220	2.9

MWJ04

	DATE	TCE	c-DCE
START	11/11/03	150	15
HIGH	4/16/04	20,000	310
CURRENT	7/27/04	41	33

MWJ10

	DATE	TCE	c-DCE
START	11/13/03	63	72
HIGH	4/7/04	790	20
CURRENT	7/27/04	6.3	2

MWL07

	DATE	TCE	c-DCE
START	11/11/03	1500	37
HIGH	4/7/04	950,000	2,000
CURRENT	7/27/04	120	3.2

MWL10

	DATE	TCE	c-DCE
START	11/11/03	4.4	2
HIGH	3/2/04	2,500	8
CURRENT	7/27/04	8.7	2

VOC CONCENTRATIONS
ARE ug/l

DEEP MONITORING WELLS

MWF11

	DATE	TCE	c-DCE
START	11/18/03	500	2.2
HIGH	2/11/04	980	39
CURRENT	7/20/04	120	2

MWF12

	DATE	TCE	c-DCE
START	11/20/03	300	3.2
HIGH	1/13/04	1900	160
CURRENT	7/20/04	18	2

MWI07

	DATE	TCE	c-DCE
START	11/12/03	13	2
HIGH	3/23/04	10	2
CURRENT	6/16/04	2	2

MWC08

	DATE	TCE	c-DCE
START	11/18/03	4.6	2
HIGH	2/23/04	4	9.2
CURRENT	4/21/04	2	2

VOC CONCENTRATIONS
ARE ug/l

FIGURE 1

ENGINEER'S SEAL

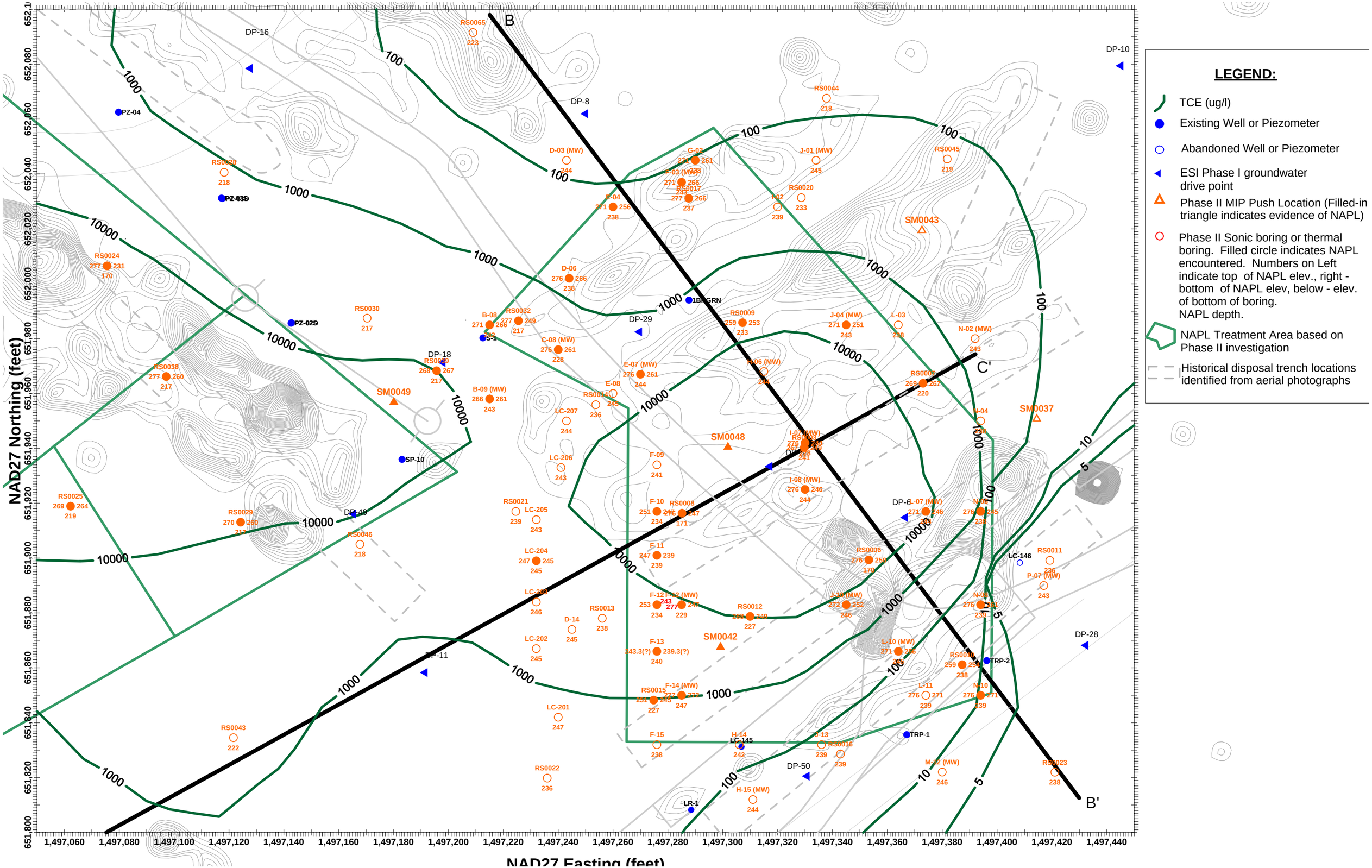
NO.	DATE	BY	REVISIONS

DESIGN BY:	GB
DRAWN BY:	TP
CHECKED BY:	MD
PROJECT MANAGER:	PC
DATE:	09/24/04
SCALE:	NA
FIGURE NUMBER:	FIG 1
PROJECT NUMBER:	TAC02
FILE NAME:	FIG 1 092404 aid

GROUND WATER CVOC DATA

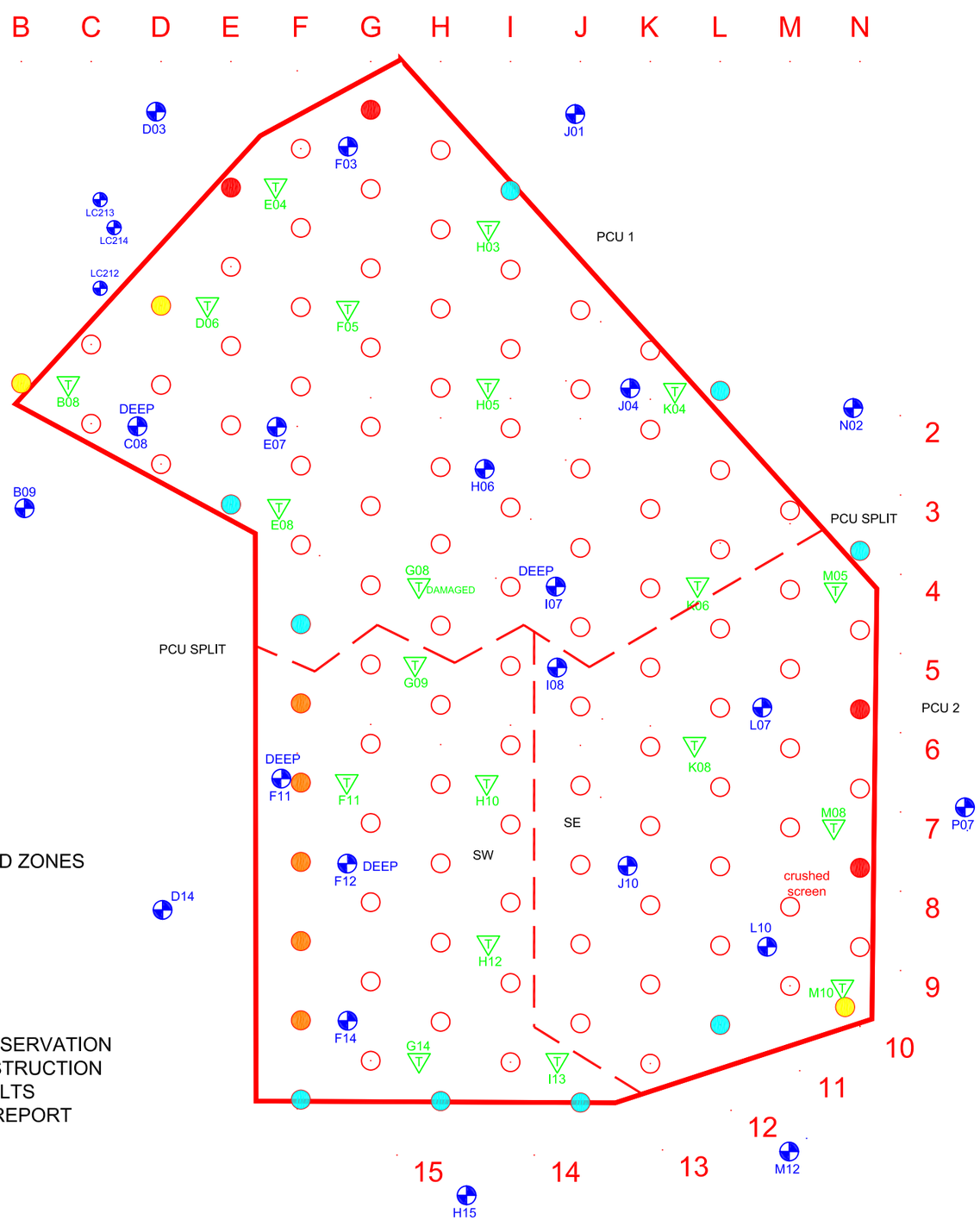
EGDY NAPL AREA 1
FT LEWIS

THERMAL REMEDIATION SERVICES, INC.



LEGEND:

- TCE (ug/l)
- Existing Well or Piezometer
- Abandoned Well or Piezometer
- ESI Phase I groundwater drive point
- Phase II MIP Push Location (Filled-in triangle indicates evidence of NAPL)
- Phase II Sonic boring or thermal boring. Filled circle indicates NAPL encountered. Numbers on Left indicate top of NAPL elev., right - bottom of NAPL elev, below - elev. of bottom of boring. NAPL depth.
- NAPL Treatment Area based on Phase II investigation
- Historical disposal trench locations identified from aerial photographs



NAPL SCREENING LEGEND

- NAPL SCREENING NOT PERFORMED
- NAPL NOT FOUND
- NAPL FOUND IN VADOSE ZONE
- NAPL FOUND IN SATURATED ZONE
- NAPL FOUND BOTH VADOSE AND SATURATED ZONES

NOTE

NAPL SCREENING INCLUDED THE FOLLOWING:
PID, UV FLUORESCENCE, DYE KIT AND SHEEN OBSERVATION
NAPL SCREENING ACCOMPLISHED DURING CONSTRUCTION
PERIMETER ELECTRODE NAPL SCREENING RESULTS
FROM APPENDIX B OF THE FINAL INSTALLATION REPORT

FIGURE 3

ENGINEER'S SEAL

NO.	DATE	BY	REVISIONS

DESIGN BY:	GB
DRAWN BY:	TP
CHECKED BY:	MD
PROJECT MANAGER:	PC
DATE:	7/28/04
SCALE:	NONE
FIGURE NUMBER:	3
PROJECT NUMBER:	TAC02
FILE NAME:	XXX

NAPL EVIDENCE PLOT

EGDY NAPL AREA 1
FT LEWIS

THERMAL REMEDIATION SERVICES, INC.

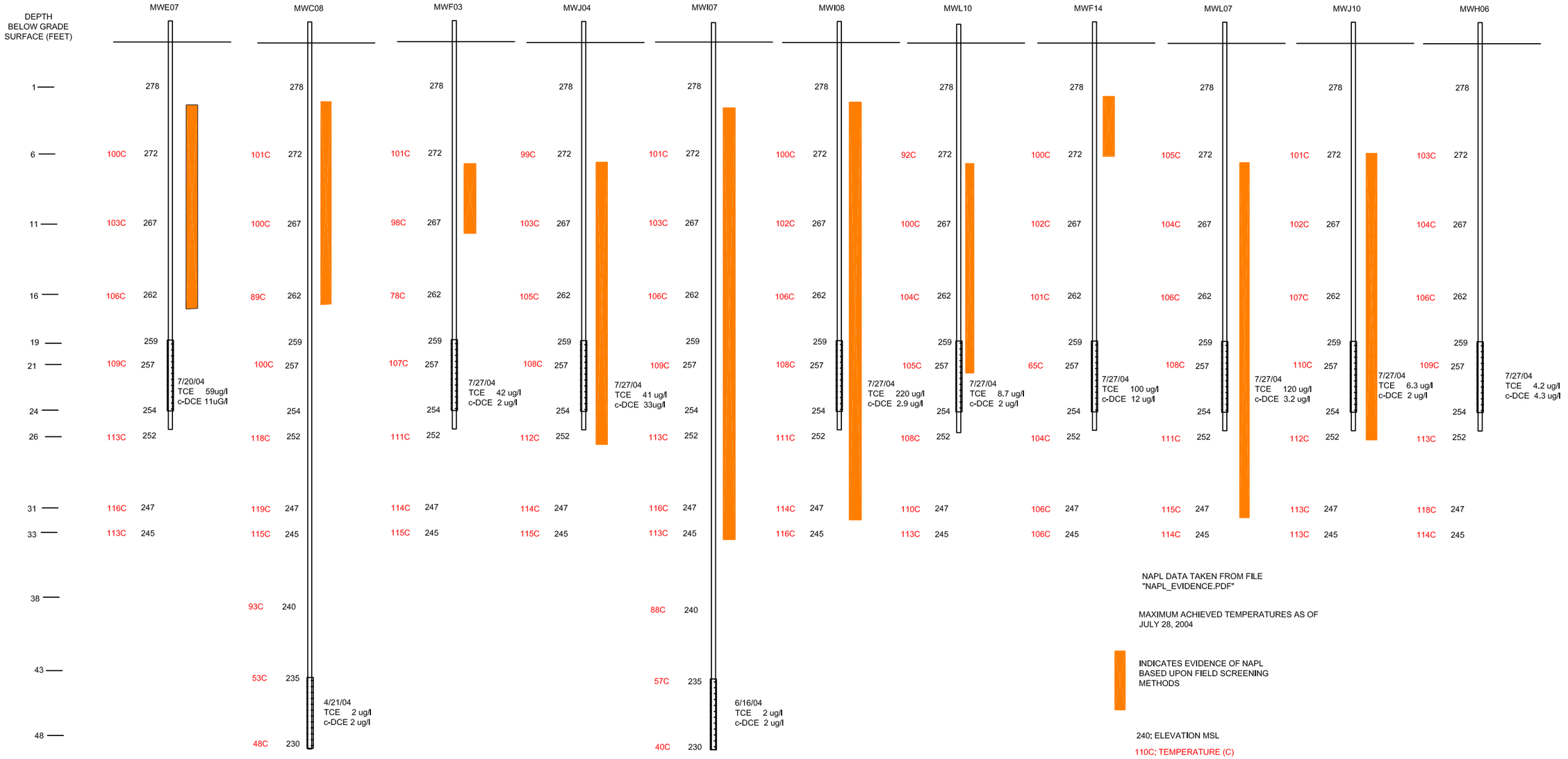


FIGURE 4

ENGINEER'S SEAL

NO.	DATE	BY	REVISIONS

DESIGN BY:	TP
DRAWN BY:	TP
CHECKED BY:	MD
PROJECT MANAGER:	PC
DATE:	7/28/04
SCALE:	NONE
FIGURE NUMBER:	4
PROJECT NUMBER:	TAC02
FILE NAME:	XXX

MONITORING WELL NAPL EVIDENCE LOCATIONS NAPL AREA 1 EGDY FT LEWIS, WA

THERMAL REMEDIATION SERVICES, INC.

APPENDIX B

August 4, 2004 Ft. Lewis Public Works Closure Memorandum

DEPARTMENT OF THE ARMY
HEADQUARTERS, I CORPS AND FORT LEWIS
BOX 339500 Building 2012
FORT LEWIS, WASHINGTON 98433-9500
04 August 2004

REPLY TO
ATTENTION OF:

AFZH-PWE

MEMORANDUM FOR: EPA Region 10

SUBJECT: Concurrence for Shutdown of Thermal Remediation Project – Non Aqueous Phase Liquid (NAPL) Area 1 - East Gate Disposal Yard (EGDY), Fort Lewis, Washington

Mr. Bob Kievit,

Request EPA Region 10 concurrence for shutdown of Thermal Remediation Project – NAPL Area 1 - EGDY, Fort Lewis, Washington.

We are pleased to report that as of August 4, 2004, the mass removals of the contaminants of concern Trichlorethylene (TCE), Vinyl Chloride (VC) and cis-Dichloroethylene (cis-DCE) has diminished to 2-4 kg/day from a high of 161 kg/day as measured in December 2003. Mass removal has been below 10 kg/day since May 2004 and consistently below 4 kg/day since early July 2004.

Treatment at 50% of the site has been shut down due to sufficient time at temperature in order to redirect power into areas that have not reached temperatures.

Presently, 224 electrodes are operating at the site. Based on thermocouple data, 94% of the site has reached the boiling point of TCE; only 14 thermocouples at seven Temperature Monitoring Points (TMP) locations are currently below the boiling point of pure TCE. Of these 14 thermocouples, temperatures above and below these points have exceeded the boiling point of TCE, and in most cases, have reached 100° C or greater.

Complex hydrogeological behavior has allowed cold water to migrate into the treatment area in certain locations. This has prevented uniform site heating to the contract specified temperatures. A small stratigraphical section of ~5 to 10 feet in thickness in the center of select areas (the 7 TMP locations) of the site have not reached the boiling point of pure TCE. These areas are heating at less then 0.5 degrees C per day despite maximum inputs of power. Estimated time for the seven TMP locations to reach TCE boiling point temperatures is estimated to be at a minimum, one month. Cost (and time) to correct hydraulic control has not been funded. Cost to continue operation will run greater than $1000 per kg TCE recovered and continuing operation will require an immediate contract modification.

The Thermal Work Group met via a teleconference on 28 July 2004 where all present (Public Works, PNNL, EPA and USACE) were in agreement that the project was at a point of diminished returns based on multiple lines of evidence, and that TCE NAPL should have been removed from the treatment area. All present agreed that a formal treatment termination memorandum should be written by Thermal Remediation Services Inc. (TRS) with a discussion of multiple lines of evidence for

SUBJECT: Concurrence for Shutdown of Thermal Remediation Project –NAPL Area 1- East Gate Disposal Yard, Fort Lewis, Washington

shutdown of the site. For your reference we have attached the TRS letter dated 2 August 2004.

Based on the cost to operate verses the mass removed, the Fort Lewis Restoration Section Program Manager recommends immediate treatment termination of in-situ thermal remediation at NAPL Area 1, Fort Lewis Logistics Center. It is recommended that the Liquid Waste Management System (LWMS) and hydraulic control continue operate for at least 7 days or until the area is cool enough to prevent fugitive emissions.

Fort Lewis requests concurrence from EPA Region 10 for the shutdown of Thermal Remediation Project – NAPL Area 1 – EGDY, Fort Lewis, Washington.

Sincerely,

Richard W. Wil

Richard Wilson
Restoration Program Manager
Fort Lewis, Public Works

cc:
Eva Davis
Marcia Knadle

APPENDIX B

June 15, 2004 Final USACE Memorandum

NAPL Mass Estimate Uncertainty Analysis

DRAFT

CENWS-EC-TB-GE 15 June 2004

Smith/3309

MEMORANDUM FOR: Linnea Norby

SUBJECT: Evaluation of sources of uncertainty in in-situ NAPL and thermal treatment removal mass estimates for the EGDY.

1. **Introduction and Purpose**. Estimates of the volume and mass of non-aqueous phase liquids (NAPL) contaminated with chlorinated solvents (i.e., TCE) present in the subsurface of NAPL areas 1, 2 and 3 were presented in the 2002 Field Investigation Report for the Phase II Remedial Investigation (RI) of the East Gate Disposal Yard (EGDY). These estimates were calculated using data collected during the Phase II RI and are presented in Table 1.

The intent of the RI was primarily to define the extent of NAPL contamination so that thermal remediation could be applied to the site to reduce NAPL source mass. The three NAPL areas were defined to divide the site into manageable treatment units. The boundaries of the three areas were developed based on 1), locations of borings with NAPL, 2) locations of borings without NAPL, 3) geophysical survey results of disposal trench locations, and 4) locations where NAPL containing drums were excavated. Information obtained from borings for installation of the thermal treatment system generally confirmed the adequacy of the boundaries to contain NAPL within NAPL area 1. Estimates of contaminant mass in NAPL were made using the data collected during the RI primarily to support the thermal remediation contract bid documents. However, the uncertainty associated with these mass estimates was not thoroughly discussed in the RI report. The purpose of this memorandum is to discuss the uncertainties associated with NAPL contaminant mass estimates determined during the RI as well as uncertainties in mass estimates associated with NAPL removal as a result of current aggressive treatment using electrical resistance/thermal heating.

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2. **Estimates of Contaminant Mass in NAPL**. The mass of TCE, Cis-1,2-DCE, TPH-Dx, and TPH-oil present in the NAPL phase was estimated using the following formula:

$M_A = C_A/C_T \times V_N \times n_e \times S_N$

Where M_A = Mass of an analyte (e.g., TCE) in the NAPL phase.

C_A = Average concentration of the analyte in NAPL contaminated soil samples.

C_T = Total concentration of the four analytes of concern (i.e., TCE, Cis-1,2-DCE, TPH-Dx, and TPH-oil) in NAPL contaminated soil samples.

V_N = Total volume of subsurface where NAPL is present.

n_e = average effective porosity.

S_N = Fraction of pore space saturated with NAPL.

The following sections describe the methods and assumptions made for each variable in the above equation:

2.1. Total volume of subsurface where NAPL is present (V_N). Visual observations of NAPL in sonic drilled cores were compiled for each NAPL area. Test methods used to identify NAPL in cores included 1) visual identification of brown to black oily liquids, 2) hydrophobic dye tests, 3) UV fluorescence, 4) sheen tests, and 5) PID response values. These test method results were combined in a lines-of-evidence approach to determine the presence of NAPL within a given length of core. Sonic borings with no observed NAPL were used to define the boundary of each NAPL area, where NAPL was assumed to be present to some degree within the NAPL area and not present outside the NAPL area. The net (i.e., sum of partial lengths of core identified as NAPL contaminated) total length of core contaminated with visual NAPL at each boring within a NAPL area was determined for each boring. These values of net NAPL thickness were interpolated within the NAPL area assuming NAPL thickness was zero at the boundaries of the NAPL area. It was assumed that the resulting interpolated thickness of NAPL from the limited number of borings was representative of the thickness of NAPL throughout each NAPL area. The thickness interpolation and volume of space represented by the solid between the zero thickness plane and the interpolated thickness surface were generated using the Surfer contouring software package.

2.2. Effective porosity (n_e). NAPL was observed only within the outwash and till deposits, which had similar values for effective porosity as measured in a laboratory on sonic core samples. It was assumed that the average measured effective porosity of these units of 28.7 percent (rounded to 30 percent for calculations) was applicable to each NAPL area (i.e., porosity measurements from individual NAPL areas were not averaged for specific NAPL areas).

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2.3. NAPL saturation (S_N). NAPL saturation samples (and all physical soil samples) were collected from borings located within a few feet of borings where visual NAPL observations were made. These samples were collected in sleeves that did not allow for visual identification of NAPL presence. NAPL saturation values ranged from non detect at 0.1 percent of pore volume to 68.6 percent of pore volume. Eighteen samples were selected for percent NAPL saturation testing. Ten of 18 samples tested were non-detect at the limit of NAPL saturation quantitation (less than 0.1 percent pore volume [Pv] for 6 samples, less than 0.01 percent Pv for 4 samples). Six of the 10 samples that were non-detect were in zones that were visibly contaminated with NAPL based on the original sonic boring located immediately adjacent to the physical sample boring, suggesting that NAPL may be present at one location but absent at the same depth only a few feet away. One soil sample (RS0019a-25-25.5) had a reported value of 68.6 percent Pv. This result is questionable because, based on the boring logs of RS0019a and RS0019, no NAPL was observed over this sample interval (25 to 25.5 feet bgs). The laboratory was contacted, and there were no obvious errors detected regarding the reporting of this sample (Young 2002). The second highest reported value was 11.6 percent Pv at RS0006a-9-10. Boring log RS0006 indicated obvious, visible NAPL at the sample depth of 9 to 10 feet bgs; therefore, this value is believed to be valid. The mean percent NAPL saturation value for samples where NAPL was detected, excluding the apparent outlier (the 68.6 percent Pv value), was 3.7 percent Pv and was based on averaging seven values. The mean percent NAPL saturation value, including all non-detected samples (at one-half their detection limit) but excluding the 68.6 percent outlier value, was 1.6 percent Pv. The mean value for all samples from intervals of observed NAPL based on visual identification from original sonic borings was 2.3 percent Pv. The mean value for all samples tested for NAPL saturation (including non-detects at one-half their detection limit and the 68.6 percent outlier) was 5.3 percent Pv. For

NAPL mass estimate calculations, it was assumed that the high-end average value of 5 percent for samples from all three NAPL areas was applicable for each individual NAPL area.

2.4. Analyte mass fraction of total NAPL mass (C_A/C_T). For each NAPL area, the results of soil analyses for TCE, Cis-1,2-DCE, TPH-Dx, and TPH-oil from soil samples with visual NAPL present were compiled (Table 2). The measured concentration values for these four analytes were summed and the percentage of this sum was determined for each analyte. It was assumed that these four analytes represent the bulk of NAPL mass and other analytes/compounds were an insignificant part of the total NAPL mass.

3. **Uncertainty Analysis of RI NAPL Contaminant Mass Estimates**. Each variable in the equation used to calculate contaminant mass in NAPL has a measure of uncertainty associated with it. Values used to determine contaminant mass in NAPL may be biased high or low depending on the assumptions made relative to actual unknown physical conditions. Some uncertainty is quantifiable based upon the range of values measured. Other uncertainties can be discussed semi-quantitatively as either likely biased high or low, and some uncertainties can only be discussed in general qualitative terms due to lack of adequate data for qualitative discussion. The following sections discuss the uncertainties associated with each variable in the above equation.

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3.1. Total volume of subsurface where NAPL is present (V_N). Ten, eleven, and six sonic borings were used to determine the volume of subsurface contaminated with NAPL for NAPL areas 1, 2 and 3, respectively. There were approximately 2,500, 4,600, and 3,000 square feet of NAPL contaminated area per boring for NAPL areas 1, 2, and 3, respectively. The following is a list of factors that limit the certainty associated with this variable:

1. Field observations of NAPL presence may miss NAPL not immediately visible by the methods used. TCE uncontaminated with hydrocarbons would be harder to detect either visually due to lack of color or by UV fluorescence. This factor would, thus likely bias the variable low.
2. NAPL observed at borings within a given NAPL area may not be continuous between borings. It was assumed that all NAPL observed was continuously connected between borings within a given area. This factor would likely bias the NAPL volume estimate variable high.
3. Borings may have been located in areas that were relatively low or high in NAPL relative to the rest of the area not sampled. NAPL is likely present both at low residual saturation in ganglia and as high saturation "pools" varying in an unpredictable manner throughout the site both horizontally and vertically. This factor could bias the NAPL volume variable high or low depending on whether borings were predominantly in regions of high or low residual saturation.

The first factor is unlikely to have a significant impact on the accuracy of this variable because a wide range of tools were used to determine the presence of NAPL, reducing the likelihood that NAPL could be missed, except possibly in Area 3 where TCE NAPL was present with no measurable hydrocarbons. The third factor is likely biased slightly high due to the deliberate spacing of borings in disposal trenches to maximize encountering NAPL. The second factor listed above, continuity of NAPL, is likely to be the most significant factor impacting the estimate of NAPL volume. NAPL was known to have been disposed in discrete trenches in this

area. Thus, NAPL from one trench may not have mingled with NAPL from adjacent trenches, leaving gaps of non-NAPL contaminated soil between. Since borings were deliberately placed within the alignment of old trenches to maximize the likelihood of encountering NAPL, these gaps in NAPL could have been missed. Therefore, the volume of soil containing NAPL is likely biased high.

3.2. Effective porosity (n_e). The average and mean effective porosity of the outwash and till units were both 29 percent from 29 samples total. The minimum and maximum values were 20 and 39 percent, respectively. The standard deviation for the combined outwash and till effective porosity values was 5 percent. Thus, the error associated with this measurement is likely to be trivial (e.g., approximately 5 percent) when compared to other variables.

3.3. NAPL saturation (S_N). As discussed above, the individual NAPL saturation measurements ranged from non-detect at 0.1 percent to 68.6 percent. The average NAPL saturation varies from 1.6 to 5.3 percent depending on assumptions used to select a population of samples for averaging. The value of 5 percent NAPL saturation used in the RI calculations likely biases the estimate high since the average NAPL saturation value may be as low as 1.6 percent and the 69.6 percent sample value is questionable. Another source of error that is difficult to quantify is the limited number of sample results and the application of results from different NAPL areas to a site wide average. Finally, the laboratory methods used to measure the NAPL saturation add a degree of error. These last two sources of uncertainty could bias the results high or low.

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3.4. Analyte mass fraction of total NAPL mass (C_A/C_T). The assumption that the four analytes of concern (e.g., TCE, Cis-1,2-DCE, TPH-Dx, and TPH-oil) comprise the total mass of the NAPL biases the mass estimates of the analytes high. Other VOCs besides TCE and cis-1,2-DCE are sometimes present in NAPL contaminated soil, though typically at low percentage levels. However, it is possible that many analytes comprising a portion of the NAPL mass may have been present and were not analyzed or quantified (e.g., TPH outside the range analyzed). Therefore, this variable is biased high. The degree of this bias can not be calculated due to the lack of data of non VOC, TPH-Dx and TPH-oil analytes. A secondary source of uncertainty associated with the analyte mass fraction of the NAPL is related to the number of samples collected relative to the volume of space containing NAPL, and the high variability of analyte mass fractions of NAPL within a given NAPL area. In NAPL area 1, values of TCE as a fraction of the NAPL mass ranged from 0 percent to 100 percent with a standard deviation of 24 percent. This factor could bias the results either high or low. Lastly, the analytical methods used to determine the concentrations of analytes in NAPL have a large range of error as verified with duplicate analyses (e.g., up to a factor of 2 or more). This factor also could bias the results either high or low, but would likely average out with larger numbers of samples.

4. **Thermal Remediation Mass Estimates**. The mass of contaminants treated by thermal remediation is determined by measuring the concentration of the analytes of concern for each media treated and the volume of each media treated. Potential sources of uncertainty associated with treatment mass estimates include:

1. Frequency of measurements of media extraction rates and concentrations.
2. In-situ remediation of compounds.
3. Comparison of NaOH usage in the oxidizer to vapor mass estimates.

The first factor listed above is potentially not a concern as analyses of data collected during NAPL Area 1 operation indicate that total mass removal estimates for daily vapor stream monitoring and weekly vapor stream monitoring would yield similar results within a few percent of each other. However, slugs of very highly contaminated vapor streams could potentially slip by between sampling events biasing this estimate low (see below). Factor 2 above may be significant but is not quantifiable with current data. Increases in cis-1,2-DCE and vinyl chloride relative to TCE in some wells indicates that bioremediation of TCE may be occurring at an accelerated rate due to temperature increases. It is also possible that other mechanisms such as hydrous pyrolysis/oxidation may be occurring. Hydrous pyrolysis/oxidation is a mechanism where chlorinated solvents are converted to carbon dioxide and chloride ion when heated to near the boiling temperature of water in the presence of oxygen. The amount of in-situ destruction of contaminants by these or other methods can not be quantified due to a lack of data. NaOH use by the oxidizer/scrubber can be used to estimate total CVOC production suing stoichiometric chemistry mass balances methods. NaOH usage to date indicates approximately 4,800 Kg of CVOCs have been processes by the oxidizer. This is nearly twice as much as the combined TCE and cis-1,2-DCE measured at the oxidizer inlet vapor stream. The use of NaOH should provide a continuous record of CVOC destruction while sampling at the oxidizer inlet occurs at discrete moments in time with no record of what happened between sampling events. In summary, it is likely that estimates of analyte destruction (especially TCE) are potentially biased low due to the possibility that these analytes may be destroyed in-situ before they can be measured and because NaOH estimates of mass destroyed indicate the CVOC mass may be higher than that measured at the oxidizer inlet. Limited fixed laboratory data collected during the thermal remediation indicate that TPH remediation results from the on-site laboratory are underestimating the total TPH remediated due to the on-site lab reporting only light end TPH. An analysis has not yet been conducted to estimate the possible missing TPH mass that is not detected by the on-site lab.

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5. **Comparison of Estimated Contaminant Mass in NAPL Area 1 to Estimated Mass Removed to Date**. The estimated mass present in NAPL for the analytes of concern and the estimated mass treated at the surface for NAPL Area 1 are given in Table 3. Current extraction rate of total CVOCs is 3 Kg/day with most of this being TCE. Unless there is a sudden and sustained increase in the mass removal rate, it is unlikely that the measured (via vapor sampling at the oxidizer inlet) TCE removed by thermal remediation will exceed 2,600 Kg total.

The analysis of uncertainty presented above indicates that the most significant sources of uncertainty related to estimates of initial NAPL analyte mass are likely biased high. Of the possible factors that biased these estimates high, the only quantifiable factor is NAPL saturation. If the lowest average value of NAPL saturation (i.e., 1.6 percent) were used to determine the mass of TCE present in NAPL area 1, then the estimated mass of TCE would be 3,800 Kg (Table 4). This value would be even lower if other factors that potentially biased the estimate high could be quantified. Therefore, some value for TCE NAPL mass less than 3,800 Kg is a likely lower limit for the estimate of mass in place, and the original 12,000 Kg is likely an upper limit.

Additionally, the above uncertainty analysis indicates that measurements of mass treated by thermal remediation are likely biased low to an unknown degree. Therefore, the actual mass of TCE remediated to date is likely more than 2,400 Kg by some unquantifiable amount. The mass remediated of other COCs such as cis-1,2-DCE and TPH are also likely biased low.

6. **Summary**. It was the intent when estimating the mass of contaminants in NAPL to deliberately error on the high side to support the intended use of this data. At the time these estimates were developed, the estimates were intended to be used to help the thermal contractor bidding on the contract to size their treatment systems accordingly to deal with the NAPL in place. Conservatively high estimates of NAPL mass were provided to prevent future cost over runs, contractor claims, and expensive system modifications that might be necessary if the mass of contaminants were underestimated. Quantitative and qualitative analyses of uncertainty associated with estimates of TCE mass in place and TCE mass removed by thermal treatment indicate that the mass remeditated by thermal treatment to date may be near or above a theoretical, yet unquantifiable, lower limit of estimated initial TCE NAPL mass. Due to the very large quantitative range of uncertainty associated with the initial TCE NAPL mass estimate and the potential even larger non-quantitative range of uncertainty for initial mass and mass removed, it is recommended that comparisons of initial and removed mass not be used as a criteria for determining when to shut down the treatment system.

DRAFT

Richard E. Smith
Geology and Instrumentation Section

CC: Lynch, K.
Pitre, E.
Shaw, T.
FILE

Table 1.

ESTIMATED TOTAL AND COMPOUND SPECIFIC VOLUME AND MASS OF NAPL CONTAMINATION BY NAPL AREA

NAPL Area	Volume ft^3	NAPL Volume			NAPL Mass	
		ft^3	gal	liters	kg	lbs
1	235,047	3,526	26,407	99,953	95,669	210,910
2a	225,715	3,386	25,359	95,985	90,593	199,719
2b	58,493	877	6,572	24,874	22,376	49,330
2c	176,659	2,650	19,848	75,124	67,578	148,981
3	122,028	1,830	13,710	51,892	64,629	142,480
		TOTAL	92,000	350,000	340,000	750,000

NAPL Area	Volume by Compound						Mass by Compound					
	TPH		TCE		Cis-DCE		TPH		TCE		Cis-DCE	
	gal	liters	gal	liters	gal	liters	kg	lbs	kg	lbs	kg	lbs
1	23,523	89,033	1,674	6,472	870	3,331	80,130	176,654	11,208	24,710	4,330	9,547
2a	23,403	88,579	1,633	6,345	92	348	79,721	175,753	10,418	22,968	453	999
2b	6,556	24,813	4	15	5	17	22,332	49,232	22	49	22	49
2c	19,818	75,011	1	5	5	21	67,510	148,832	7	15	27	60
3	5,612	21,242	7,588	28,720	494	1,870	19,118	42,146	43,081	94,975	2,431	5,359
TOTAL	79,000	300,000	11,000	43,000	1,500	6,000	270,000	590,000	65,000	140,000	7,300	16,000

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Notes:

Estimates assume mean porosity of 0.3 and NAPL Saturation of 0.05

Assumes analyte weight percentages provided in Tables 5-4, 5-5, and 5-6 of EGDY RI FIR

Totals have been rounded to 2 significant digits

Units: gal = gallons, g = grams, kg = kilograms, lbs = pounds

NAPL areaas 2a, b & c are as defined in the original thermal contract.

Table 2.
NAPL Area 1.

Location ID	RS0003	RS0003	RS006A	RS006A	RS006A	RS0006	RS0006
Sample ID	RS3003-22-23	RS0003-28-29	RS006A-6.5-7.5	RS006A-9-10	RS006A-24.3-25.3	RS0006-5-6	RS3006-8-9
Sample Date	11/6/01	11/6/01	1/3/02	1/3/02	1/3/02	11/17/01	11/17/01
Field QC	Field Duplicate						Field Duplicate
TPH (µg/Kg)							
#2 Diesel	186500 J	162000 J	5350000 J	115000 J	U	673000 J	5240000 J
Motor Oil	350000	425000	9600000 J	253000 J	41600 J	1760000 J	9385000 J
VOCs (µg/Kg)							
cis-1,2-dichloroethene	269 J	U	29300	U	U	82800 D	12150 J
trichloroethene	161500 JD	12400 D	40800	229 J	1410	192000 D	63500 D
mass% TPH-D	26.709%	27.027%	35.619%	31.231%	0.000%	24.854%	35.645%
mass% TPH-O	50.124%	70.904%	63.914%	68.707%	96.722%	64.997%	63.841%
mass% cis-1-2-DCE	0.039%	0.000%	0.195%	0.000%	0.000%	3.058%	0.083%
mass% TCE	23.129%	2.069%	0.272%	0.062%	3.278%	7.091%	0.432%

Location ID	RS0006	RS007A	RS0007	RS0008	RS0008	RS0009	RS0010
Sample ID	RS0006-26-27	RS3007A-9-9.5	RS0007-8-9	RS0008-6.5-7.5	RS0008-29-30	RS0009-22.5-23.5	RS0010-20-21
Sample Date	11/17/01	12/17/01	11/7/01	11/27/01	11/27/01	12/1/01	12/2/01
Field QC		Field Duplicate					
#2 Diesel	123000 J	757500 J	1120000 J	U	U	388000 J	U
Motor Oil	314000 J	2670000	4130000	U	U	673000 J	U
cis-1,2-dichloroethene	U	U	U	4370	U	961	U
trichloroethene	491	U	U	U	10300	17000 D	U
mass% TPH-D	28.11[illegible]%	22.184%	21.333%	0.000%	0.000%	35.961%	
mass% TPH-O	71.773%	77.899%	78.667%	0.000%	0.000%	62.375%	
mass% cis-1-2-DCE	0.000%	0.000%	0.000%	100.000%	0.000%	0.089%	
mass% TCE	0.112%	0.000%	0.000%	0.000%	100.000%	1.576%	

Location ID	RS0012	RS0015	RS0017	RS0032	RS0032	RS0032	
Sample ID	RS0012-14-15	RS0015-33-34	RS3017-7-8	RS0032-7-8	RS0032-22-23	RS0032-27-28	
Sample Date	12/3/01	12/5/01	12/10/01	1/19/02	1/19/02	1/19/02	
Field QC			Field Duplicate				
#2 Diesel	753000 J	182000 J	1390000 J	922000 J	212000 J	35600 J	
Motor Oil	1250000 J	348000 J	1570000	2150000 J	478000 J	83500 J	
cis-1,2-dichloroethene	U	U	3250	2680	286	71.4 J	
trichloroethene	1100000	7900	U	262	26100 D	141000 D	
							AVERAGE
mass% TPH-D	24.267%	33.835%	46.908%	29.984%	29.593%	13.683%	24.6%
mass% TPH-O	40.284%	64.696%	52.982%	69.920%	66.724%	32.094%	57.7%
mass% cis-1-2-DCE	0.000%	0.000%	0.110%	0.087%	0.040%	0.027%	5.5%
mass% TCE	35.450%	1.469%	0.000%	0.009%	3.643%	54.195%	12.3%

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Table 2 – Continued.
NAPL Area 2a.

Location ID	RS0005	RS0005	RS0018	RS0018	RS0024
Sample ID	RS0005-12-13	RS0005-38-39	RS0018-7-7.5	RS0018-18	RS0024-7-7.5
Sample Date	11/14/01	11/15/01	12/11/01	12/11/01	1/4/02
Field QC					
TPH (µg/Kg)					
#2 Diesel	8190000 J	1340000 J	2750000 J	42200	810000 J
Motor Oil	1.5E+07 J	2200000 J	4920000 J	88100	1000000 J
VOCs (µg/Kg)					
cis-1,2-dichloroethene	40700 D	U	13700 D	U	31100
trichloroethene	1860000 JD	U	11000 D	U	21800
mass% TPH-D	32.256%	37.853%	35.739%	32.387%	43.481%
mass% TPH-O	60.258%	62.147%	63.940%	67.613%	53.680%
mass% cis-1-2-DCE	0.160%	0.000%	0.178%	0.000%	1.669%
mass% TCE	7.326%	0.000%	0.143%	0.000%	1.170%

Location ID	RS0024	RS0024	RS0024	RS0031	
Sample ID	RS0024-19.5-20	RS0024-35-36	RS0024-41	RS0031-5.5-6.5	
Sample Date	1/4/02	1/4/02	1/4/02	1/18/02	
Field QC					
TPH (µg/Kg)					
#2 Diesel	78500 J	69400 J	1490000 J	286000 J	
Motor Oil	129000 J	117000 J	1790000 J	522000 J	
VOCs (µg/Kg)					
cis-1,2-dichloroethene	4740	807 J	U	939	
trichloroethene	3300	30100 D	1.2E+07 D	3230	
					AVERAGE
mass% TPH-D	36.420%	31.936%	9.688%	35.214%	32.8%
mass% TPH-O	59.850%	53.841%	11.638%	64.272%	55.2%
mass% cis-1-2-DCE	2.199%	0.371%	0.000%	0.116%	0.5%
mass% TCE	1.531%	13.851%	78.674%	0.398%	11.5%

DRAFT

Table 2 – Continued.

NAPL Area 2b.

Location ID	RS0029	RS0029	RS0038	RS0038	
Sample ID	RS0029-8-8.5	RS0029-16-17	RS0038-7-8	RS0038-10-11	
Sample Date	1/16/02	1/16/02	1/23/02	1/23/02	
Field QC					
TPH (µg/Kg)					
#2 Diesel	490000 J	15600 J	8850000 J	89600 J	
Motor Oil	1060000 J	38400 J	8130000 J	101000 J	
VOCs (µg/Kg)					
cis-1,2-dichloroethene	160 J	U	29300 J	702	
trichloroethene	313	131 J	U	U	
					AVERAGE
mass% TPH-D	31.603%	28.819%	52.030%	46.837%	39.8%
mass% TPH-O	68.366%	70.939%	47.797%	52.796%	60.0%
mass% cis-1-2-DCE	0.010%	0.000%	0.172%	0.367%	0.1%
mass% TCE	0.020%	0.242%	0.000%	0.000%	0.1%

DRAFT

Table 2 – Continued.
NAPL Area 2c.

Location ID	RS0019	RS0019	RS0019	RS0019	RS0025	RS0027
Sample ID	RS3019-8.5-9	RS0019-14-14.5	RS0019-17.5-18	RS0019-21.5-22	RS0025-12-13	RS0027-9-10
Sample Date	12/12/01	12/12/01	12/12/01	12/12/01	1/5/02	1/7/02
Field QC	Field Duplicate					
TPH (µg/Kg)						
#2 Diesel	3540000 J	684000 J	600000 J	69800	363000 J	225000 J
Motor Oil	8715000 J	1430000 J	898000 J	114000	602000 J	385000 J
VOCs (µg/Kg)						
cis-1,2-dichloroethene	U	U	U	U	U	401
trichloroethene	U	U	U	U	128 J	U
mass% TPH-D	28.886%	32.356%	40.053%	37.976%	37.612%	36.861%
mass% TPH-O	71.114%	67.644%	59.947%	62.024%	62.375%	63.073%
mass% cis-1-2-DCE	0.000%	0.000%	0.000%	0.000%	0.000%	0.066%
mass% TCE	0.000%	0.000%	0.000%	0.000%	0.013%	0.000%

Location ID	RS0027	RS0035	RS0037	RS0037	RS0042	
Sample ID	RS0027-13-14	RS0035-18-19	RS0037-17-18	RS0037-25-26	RS0042-16-17	
Sample Date	1/7/02	1/21/02	1/22/02	1/22/02	1/29/02	
Field QC						
TPH (µg/Kg)						
#2 Diesel	46600 J	198000 J	803000 J	87600 J	U	
Motor Oil	91300 J	272000 J	1140000 J	167000 J	U	
VOCs (µg/Kg)						
cis-1,2-dichloroethene	U	521	918	343	U	
trichloroethene	U	139 J	657	U	U	
						AVERAGE
mass% TPH-D	33.793%	42.069%	41.294%	34.361%		36.53%
mass% TPH-O	66.207%	57.791%	58.625%	65.505%		63.43%
mass% cis-1-2-DCE	0.000%	0.111%	0.047%	0.135%		0.04%
mass% TCE	0.000%	0.030%	0.034%	0.000%		0.01%

DRAFT

Table 2 – Continued.
NAPL Area 3.

Location ID	RS0002	RS0002	RS0047	RS0048	RS0048	RS0048	RS0051	
Sample ID	RS0002-6-6.5	RS0002-15-16	RS3047-16-17	RS0048-8.5-9.5	RS0048-16-17	RS0048-24-25	RS0051-13.5-14.5	
Sample Date	11/2/01	11/2/01	2/1/02	2/1/02	2/1/02	2/1/02	2/5/02	
Field QC			Field Duplicate					
TPH (µg/Kg)								
#2 Diesel	4350000 J	47200	U	U	U	U	U	
Motor Oil	1.4E+07 J	148000	U	U	U	45200 J	U	
VOCs (µg/Kg)								
cis-1,2-dichloroethene	25400	399	296	101 J	1170	610	U	
trichloroethene	2990000	7070	4720	2480	7630 D	36700 D	2150	
								AVERAGE
mass% TPH-D	20.848%	23.289%	0.000%	0.000%	0.000%	0.000%	0.000%	6.305%
mass% TPH-O	64.700%	73.025%	0.000%	0.000%	0.000%	54.781%	0.000%	27.501%
mass% cis-1-2-DCE	0.122%	0.197%	5.901%	3.913%	13.295%	0.739%	0.000%	3.453%
mass% TCE	14.330%	3.488%	94.099%	96.087%	86.705%	44.479%	100.000%	62.741%

DRAFT

Table 3. NAPL Area 1 RI Mass Estimates vs. Estimated Remediated Mass

Analyte	Mass Estimated in RI (Kg)	Remediated Mass Measured (Kg)	% Remediated
TCE	12000	2400	20
Cis-1,2-DCE	5300	350	7
TPH[1]	79100	24000	30

1. Note Ri TPH includes hydrocarbon chains through C36; the remediated mass estimate includes hydrocarbon chains through C14.

Table 4. NAPL Area 1 Potential Lower Limit of NAPL Mass vs. Estimated Remediated Mass.

Analyte	Mass Estimated Lower Limit (Kg)	Remediated Mass Measured (Kg)	% Remediated
TCE	3800	2400	63
Cis-1,2-DCE	1700	350	21
TPH[1]	25000	24000	96

1. Note RI TPH includes hydrocarbon chains through C36; the remediated mass estimate includes hydrocarbon chains through C14.

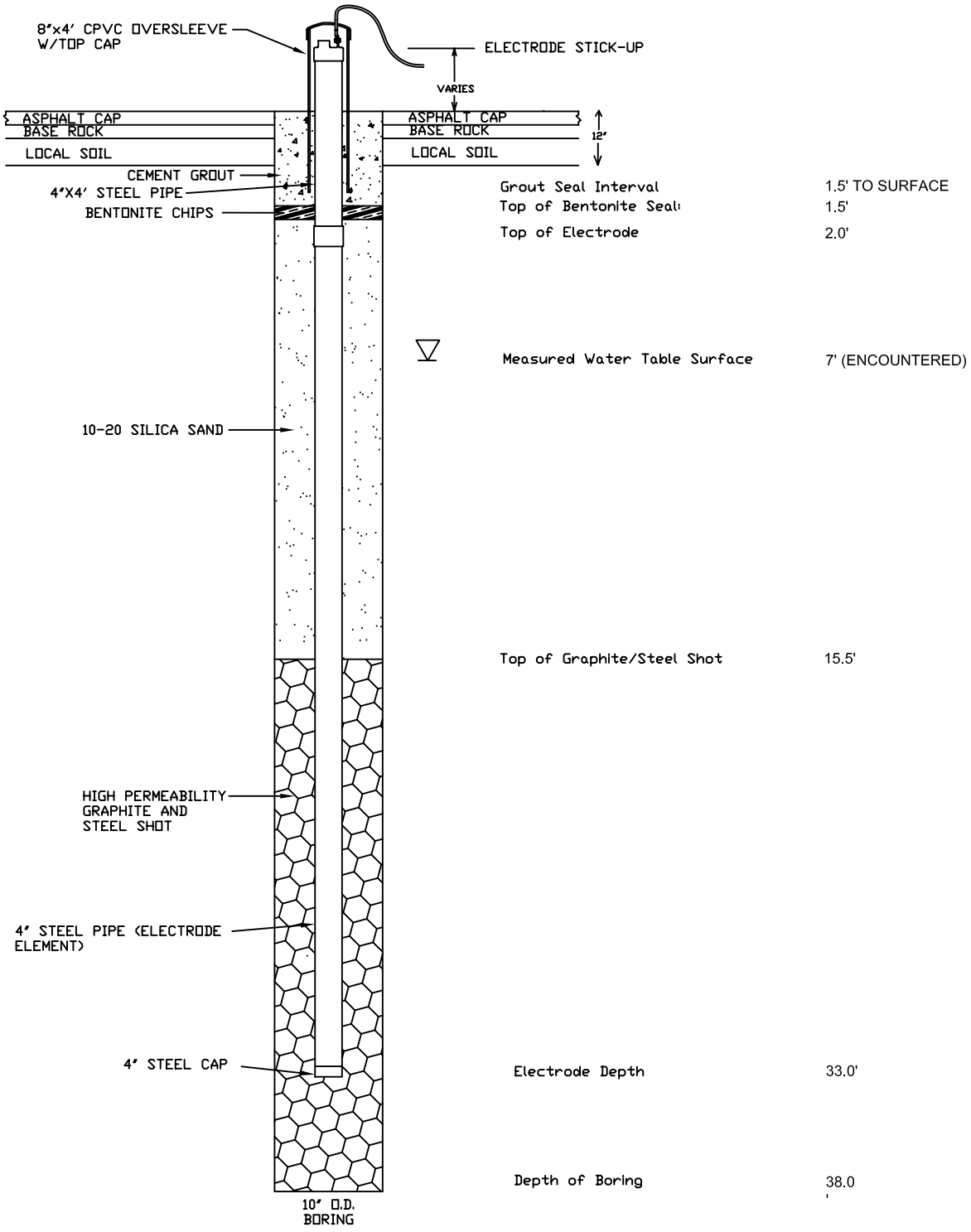
APPENDIX C

As-Built Completion Records and Field Logs

ELECTRODE AS-BUILT RECORD

DRILLER: HOLT DRILLING, INC.	LOCATION: FT. LEWIS, WA	DACA67-02-C-0218:	EGDY NAPL AREA 1
DRILL RIG: TH-60	ELEVATIONS (FT. MSL)	NORTHING: 652045	ELECTRODE ID: (E) D 04 AUX
METHOD: AIR ROTARY	GROUND SURFACE:	EASTING: 1497244	DATE COMPLETED: 04/08/04
DEPTH TO GROUNDWATER: APPROX. 7 FEET	TOP STEEL ELECTRODE CASING:	INSPECTOR: M. MOORE	TIME COMPLETED: 1125

Location and elevation assumed same as primary electrode (E) D 04.



EGDY SITE – FORT LEWIS

TACOMA, WASHINGTON

US ARMY CORPS OF ENGINEERS

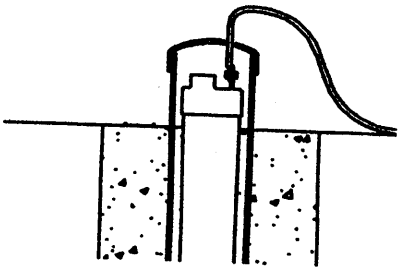
NAPL AREA 1 ELECTRODE AS-BUILT
ERH REMEDIATION – FORT LEWIS, WASHINGTON

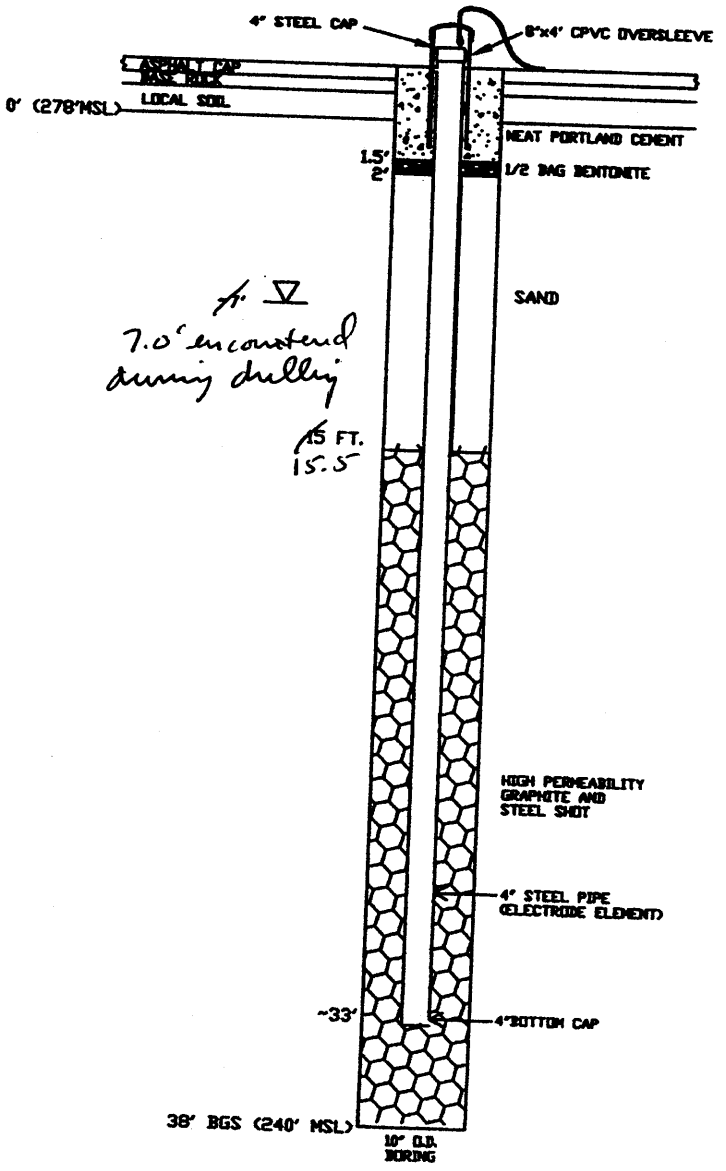
THERMAL REMEDIATION services inc.

2325 HUDSON STREET
LONGVIEW, WA 98632
(360) 425-8121 FAX: (360) 425-6674

NAPL AREA 1 MODIFIED ELECTRODE

(E) DØ3-Aux





Completed 4-6-04

NO.	DATE	BY	REVISIONS

ENGINEER'S SEAL

DESIGN BY:	GB
DRAWN BY:	TP
CHECKED BY:	GB
PROJECT MANAGER:	PC
DATE:	033104
SCALE:	NONE
FIGURE NUMBER:	XXX
PROJECT NUMBER:	TAC02

NAPL Area1 Modified Electrode

EDGY Site-FT Lewis

THERMAL REMEDIATION SERVICES, INC.

SOIL BORING LOG

Project	ERH EGDY	Logged By	Mike Moore	Soil Boring ID	(E) DO3-AUX
Project Location	FT. LEWIS, WASHINGTON	Driller/ Company	Holt	Location	EGDY NAPL AREA 1
Contract	DACA67-02-C-0218	Checked by		Date(s) Drilled	4/5/04
Drilling Method	Air Rotary	Depth to Groundwater	7 ~	Depth of Borehole	
Drill Rig	TH-60	Northing		Borehole Diameter	10"
Sampler Type	Cuttings	Easting		Surface Elevation	278 ~
Comments					

Elevation feet (MSL)	Depth, feet	SAMPLE Type	% Recovery	PID (ppm)	UV Fluorescence	Dye Test	Sheen Present	Graphic Log	MATERIAL DESCRIPTION (color, type, Unified Soil Classification (USC), density, moisture content)	USC Symbol	REMARKS
	0			0					Asphalt cap		
	1								~~Gravel (Fill)~~ Gravel (Fill)		
	2								Brown to dk brown sandy gravel		
	3								Bk sandy gravel. Gravel 3/4" to 1 1/2" dia.		
	4			6					(Slight heavy oil smell (tar, like asphalt)		
	5								Cuttings are warm.		
	6										
	7										
	8			0							
	9								▽ encountered 4/5/04		
	10										
	11								color change from Black to tan.		
	12			0					TAN, silty, sandy, GRAVEL.		
	13								Gravel 1/4 to 3/4" dia. slight hydrocarbon odor		
	14										
	15										
	16										
	17										
	18										
	19										

SOIL BORING LOG

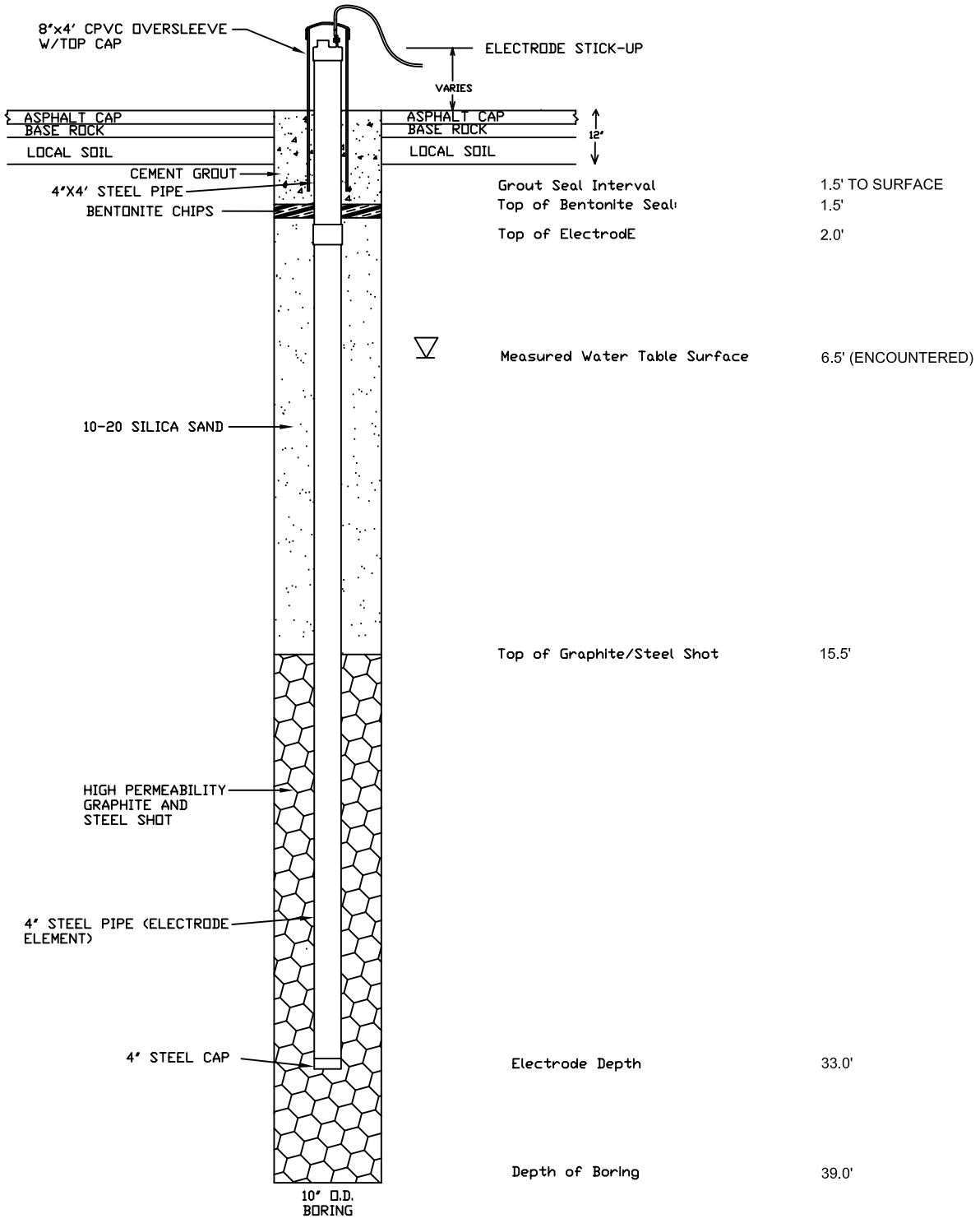
Project	ERH EGDY	Contract	DACA67-02-C-0218	Soil Boring ID	E 003-AUX

Elevation feet (MSL)	Depth, feet	SAMPLE Type	% Recovery	PID (ppm)	UV Fluorescence	Dye Test	Sheen Present	Graphic Log	MATERIAL DESCRIPTION (color, type, Unified Soil Classification (USC), density, moisture content)	USC Symbol	REMARKS
	20	C		0					Tan, very silty sandy Gravel. Some organics present, slight odor.		
	21										
	22										
	23										
	24										
	25								increase in water		
	26										
	27										
	28										
	29										
	30								Lt. Brown to tan, silty, sandy GRAVEL Gravel $\frac{1}{2}$" - $1\frac{1}{4}$" dia.		
	31										
	32								Dense, gray, Sand w/Gravel and silt (Till)		
	33										
	34										
	35										
	36										
	37										
	38								Loose, silty sandy, GRAVEL		
	39								Bottom of Boring 4/8/04 11:25 AM		
	40										
	41										
	42										
	43										
	44										

ELECTRODE AS-BUILT RECORD

DRILLER: HOLT DRILLING, INC.	LOCATION: FT. LEWIS, WA		DACA67-02-C-0218:	EGDY NAPL AREA 1
DRILL RIG: TH-60	ELEVATIONS (FT. MSL)		NORTHING: 652029	ELECTRODE ID: (E) E 04 AUX
METHOD: AIR ROTARY	GROUND SURFACE:	278.4'	EASTING: 1497259	DATE COMPLETED: 04/09/04
DEPTH TO GROUNDWATER: APPROX. 6.5 FEET	TOP STEEL ELECTRODE CASING:	279.65'	INSPECTOR: M. MOORE	TIME COMPLETED:

Location and elevations assumed same as primary electrode (E) E 04.



EGDY SITE – FORT LEWIS

TACOMA, WASHINGTON

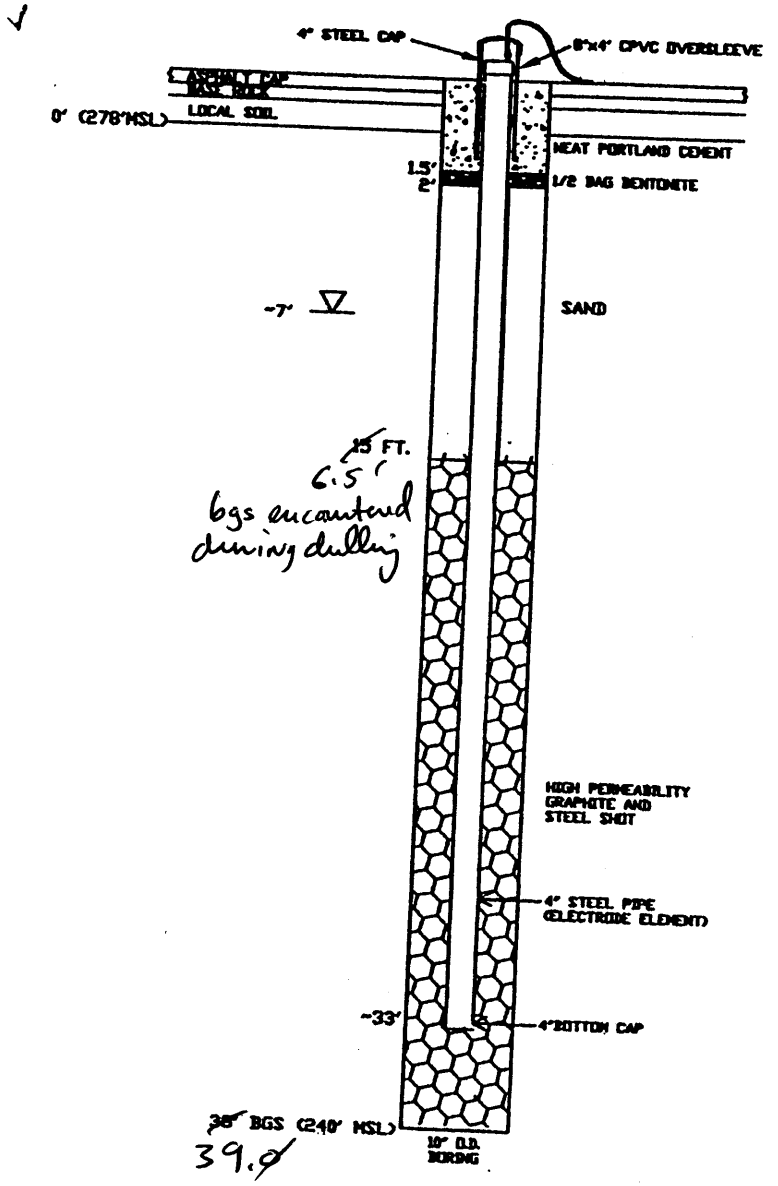
US ARMY CORPS OF ENGINEERS

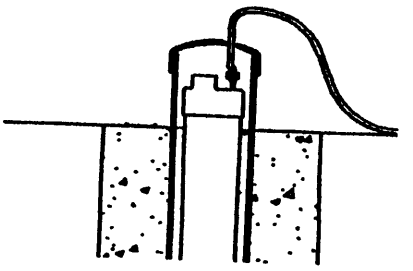
NAPL AREA 1 ELECTRODE AS-BUILT
ERH REMEDIATION – FORT LEWIS, WASHINGTON

THERMAL REMEDIATION services inc.

2325 HUDSON STREET
LONGVIEW, WA 98632
(360) 425-8121 FAX: (360) 425-6674

NAPL AREA 1 MODIFIED ELECTRODE (E) EQM-Aux





completed 4-9-04

NO.	DATE	BY	REVISIONS

ENGINEER'S SEAL

DESIGN BY:	GB
DRAWN BY:	TP
CHECKED BY:	GB
PROJECT MANAGER:	PC
DATE:	033104
SCALE:	NONE
FIGURE NUMBER:	XXX
PROJECT NUMBER:	TAC02

NAPL Area1 Modified Electrode

EDGY Site-FT Lewis

THERMAL REMEDIATION SERVICES, INC.

SOIL BORING LOG

Project	ERH EGDY	Logged By	Mike Neal	Soil Boring ID	(E) EGDY Aux
Project Location	FT. LEWIS, WASHINGTON	Driller/ Company	Holt	Location	EGDY NAPL AREA 1
Contract	DACA67-02-C-0218	Checked by		Date(s) Drilled	4/9/04
Drilling Method	Air Rotary	Depth to Groundwater	~6.5'	Depth of Borehole	38
Drill Rig	TH-60	Northing		Borehole Diameter	10"
Sampler Type	Cuttings	Easting		Surface Elevation	~278

Comments: Power and VR system off during drilling

Elevation feet (MSL)	Depth, feet	SAMPLE Type	% Recovery	PID (ppm)	UV Fluorescence	Dye Test	Sheen Present	Graphic Log	MATERIAL DESCRIPTION (color, type, Unified Soil Classification (USC), density, moisture content)	USC Symbol	REMARKS
	0								Asphalt Cap		
	1								Gravel for Fill		
	2								Brown sand w/gravel		
	3										
	4										
	5										
	6								▽ encountered during drilling 4/9/04		
	7			4		Y			DK gray, sandy Gravel, strong hydrocarbon odor. Aged smell. Sheen		
	8								Gravel diameter ½ to 1½"		
	9										
	10										
	11										
	12										
	13										
	14										
	15			2					Color change to brown, lt. Brown		
	16								Lt. Brown to Brown silty		
	17								sandy GRAVEL		
	18								Gravel diameter ¼ to 1". Note gravel diameter change w/inc. of silt.		
	19			0		N					

SOIL BORING LOG

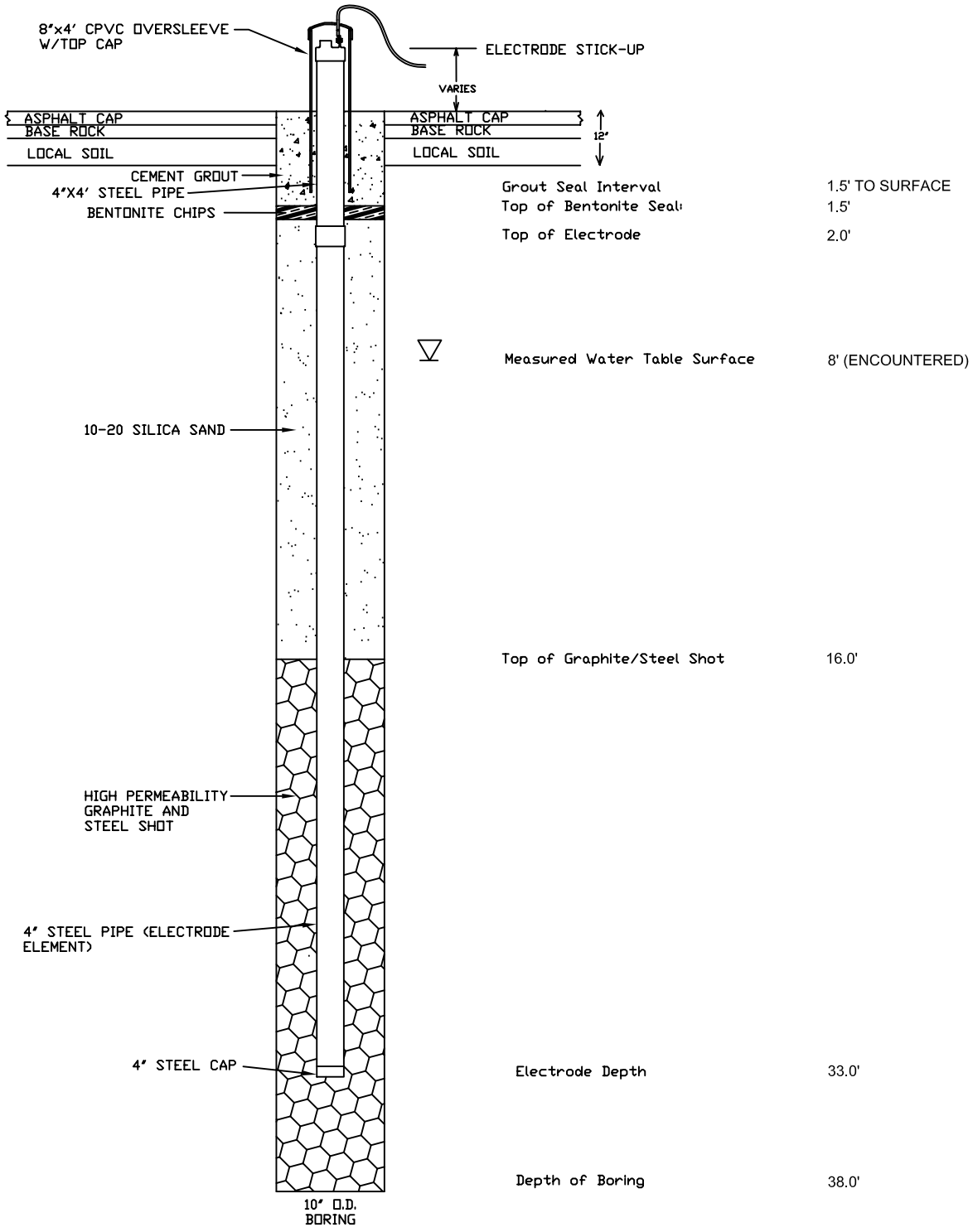
Project	ERH EGDY	Contract	DACA67-02-C-0218	Soil Boring ID	EG04-AUX

Elevation feet (MSL)	Depth, feet	SAMPLE Type	SAMPLE % Recovery	SAMPLE PID (ppm)	SAMPLE UV Fluorescence	SAMPLE Dye Test	SAMPLE Sheen Present	Graphic Log	MATERIAL DESCRIPTION (color, type, Unified Soil Classification (USC), density, moisture content)	USC Symbol	REMARKS
	20										
	21			0							
	22						N		~~Brown to tan~~ Tan silty, sandy, pebbley, GRAVEL Gravel ~~dot~~ dia ½" to 2" Lots of water generated during drilling Loose.		
	23										
	24										
	25										
	26			0					---- decrease in gravel		
	27										
	28								Tan, silty, pebbley, SAND Driller able to shut of water during drilling		
	29										
	30										
	31			0							
	32								Brown, pebbles w/sand, silt and Gravel. Lot's of water		
	33						N				
	34								Brown, very silty GRAVEL. Stiff not dense. Driller able to shut off water		
	35										
	36			0							
	37										
	38								Loose, silty GRAVEL to sandy GRAVEL w/silt Lot's of water		
	39								↑ sandy.		
	40								39.0' Bottom of Boring 4/9/04		
	41										
	42										
	43										
	44										

ELECTRODE AS-BUILT RECORD

DRILLER: HOLT DRILLING, INC.	LOCATION: FT. LEWIS, WA		DACA67-02-C-0218:	EGDY NAPL AREA 1
DRILL RIG: TH-60	ELEVATIONS (FT. MSL)		NORTHING: 652012	ELECTRODE ID: (E) E 05 AUX
METHOD: AIR ROTARY	GROUND SURFACE:	278.1'	EASTING: 1497259	DATE COMPLETED: 04/08/04
DEPTH TO GROUNDWATER: APPROX. 8.0 FEET	TOP STEEL ELECTRODE CASING:	279.32'	INSPECTOR: M. MOORE	TIME COMPLETED:

Location and elevation assumed same as primary electrdoe (E) E 05.



EGDY SITE – FORT LEWIS

TACOMA, WASHINGTON

US ARMY CORPS OF ENGINEERS

NAPL AREA 1 ELECTRODE AS-BUILT
ERH REMEDIATION – FORT LEWIS, WASHINGTON

THERMAL REMEDIATION services inc.

2325 HUDSON STREET
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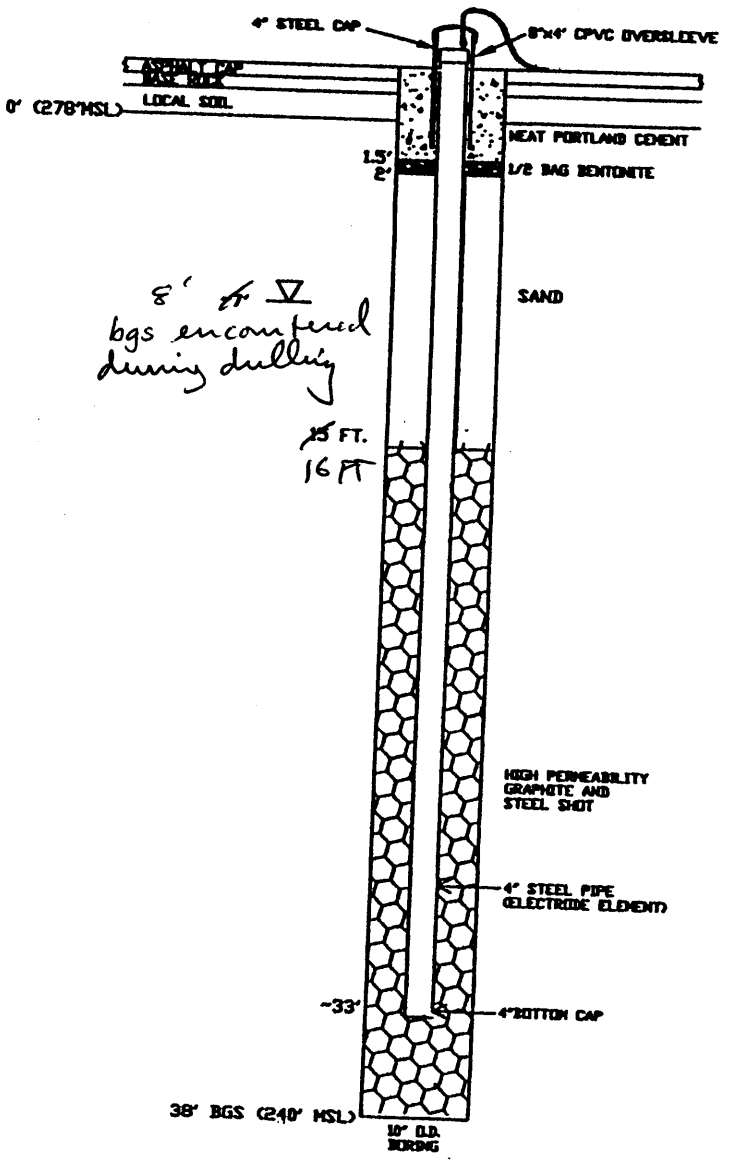
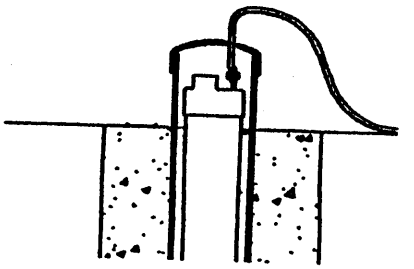
(360) 425-8121 FAX: (360) 425-6674

NAPL AREA 1 MODIFIED ELECTRODE (E) EQS AUX





completed 4-8-04

NO.	DATE	BY	REVISIONS

ENGINEER'S SEAL

DESIGN BY:	GB
DRAWN BY:	TP
CHECKED BY:	GB
PROJECT MANAGER:	PC
DATE:	033104
SCALE:	NONE
FIGURE NUMBER:	1001
PROJECT NUMBER:	TAC02

NAPL Area1 Modified Electrode

EDGY Site-FT Lewis

THERMAL REMEDIATION SERVICES, INC.

SOIL BORING LOG

Project	ERH EGDY	Logged By	M. Moore	Soil Boring ID	EGS-Aux
Project Location	FT. LEWIS, WASHINGTON	Driller/ Company	Holt.	Location	EGDY NAPL AREA 1
Contract	DACA67-02-C-0218	Checked by		Date(s) Drilled	4/8/04
Drilling Method	Air Rotary	Depth to Groundwater	~8'	Depth of Borehole	38' bgs
Drill Rig	TH-60	Northing		Borehole Diameter	10"
Sampler Type	Cuttings	Easting		Surface Elevation	~278

Comments: Power (ERH) and vapor Recovery system is off during drilling

Elevation feet (MSL)	Depth, feet	SAMPLE Type	% Recovery	PID (ppm)	UV Fluorescence	Dye Test	Sheen Present	Graphic Log	MATERIAL DESCRIPTION (color, type, Unified Soil Classification (USC), density, moisture content)	USC Symbol	REMARKS
	0			0							
	1										
	2										
	3			0					Brown sandy GRAVEL		
	4										
	5										
	6										
	7										
	8										
	9			e			Y		Black sandy SAND w/Gravel Hydrocarbon odor (Tar like).		
	10										
	11										
	12										
	13										
	14										
	15										
	16										
	17			0			Y		---- color change to lt. Brown		
	18								Brown, silty, Sandy GRAVEL		
	19										

SOIL BORING LOG

(2) EQS-MW

Page 2 of 2

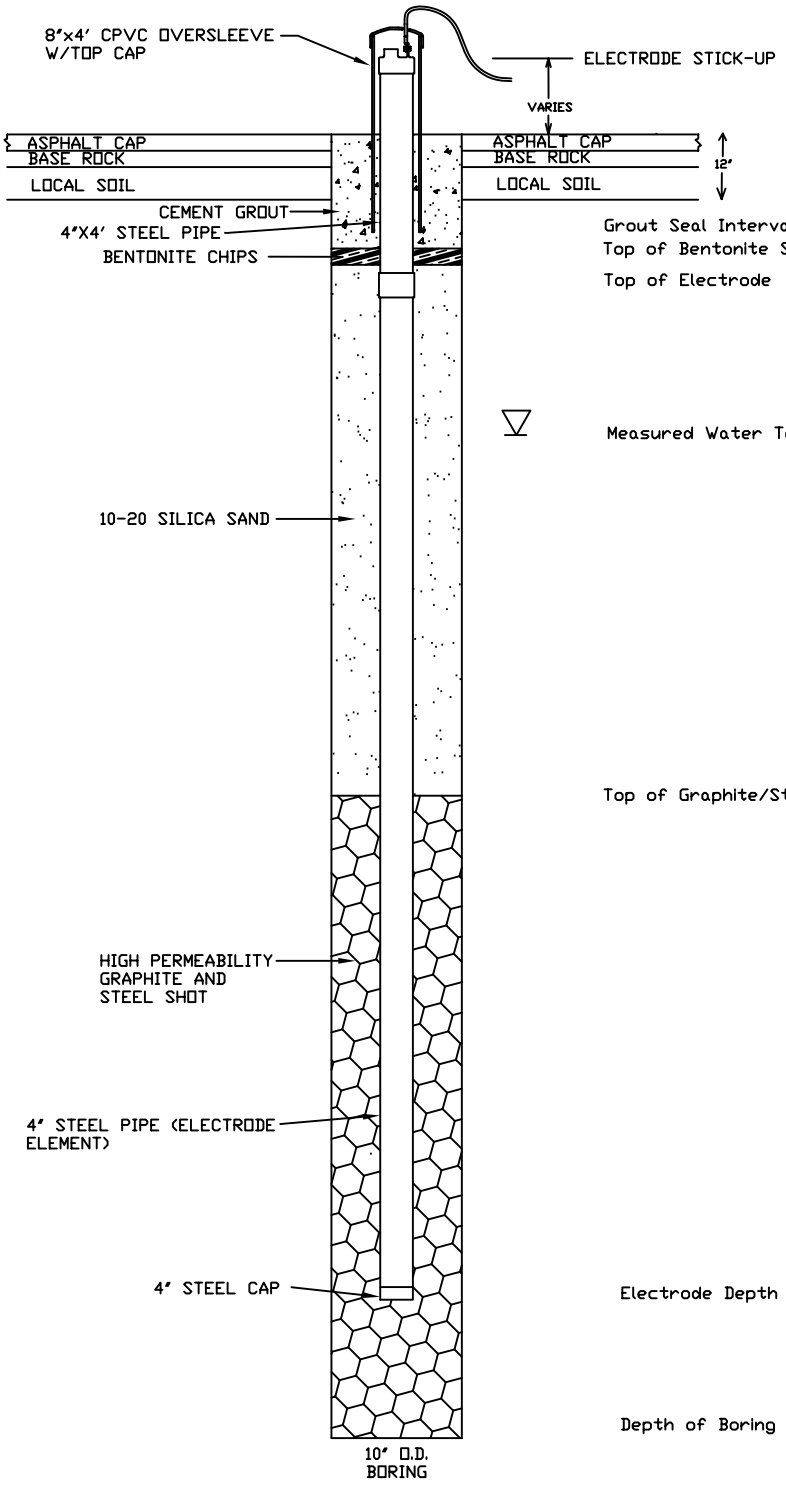
Project	ERH EGDY	Contract	DACA67-02-C-0218	Soil Boring ID	

Elevation feet (MSL)	Depth, feet	SAMPLE: Type	SAMPLE: % Recovery	SAMPLE: PID (ppm)	SAMPLE: UV Fluorescence	SAMPLE: Dye Test	SAMPLE: Sheen Present	Graphic Log	MATERIAL DESCRIPTION (color, type, Unified Soil Classification (USC), density, moisture content)	USC Symbol	REMARKS
	20			0					Brown, sandy GRAVEL large volume of water		
	21										
	22										
	23										
	24						N				
	25								Brown, very silty, sandy GRAVEL little to sheut of water		
	26										
	27								Brown, silty sandy GRAVEL w/ trace silt		
	28										
	29								Lots of water		
	30			0							
	31						N				
	32										
	33										
	34										
	35										
	36										
	37										
	38								Bottom of Boring 4/8/04		
	39										
	40										
	41										
	42										
	43										
	44										

ELECTRODE AS-BUILT RECORD

DRILLER: HOLT DRILLING, INC.	LOCATION: FT. LEWIS, WA		DACA67-02-C-0218:	EGDY NAPL AREA 1
DRILL RIG: TH-60	ELEVATIONS (FT. MSL)		NORTHING: 652023	ELECTRODE ID: (E) F 03 AUX
METHOD: AIR ROTARY	GROUND SURFACE:	278.4'	EASTING: 1497274	DATE COMPLETED: 04/09/04
DEPTH TO GROUNDWATER: APPROX. 7.5 FEET	TOP STEEL ELECTRODE CASING:	279.74'	INSPECTOR: M. MOORE	TIME COMPLETED:

Location and elevations assumed same as primary electrode (E) F 03.



Grout Seal Interval	1.5' TO SURFACE
Top of Bentonite Seal	1.5'
Top of Electrode	2.0'
Measured Water Table Surface	7.5' (ENCOUNTERED)
Top of Graphite/Steel Shot	16.0'
Electrode Depth	33.0'
Depth of Boring	39.0'

EGDY SITE – FORT LEWIS

TACOMA, WASHINGTON

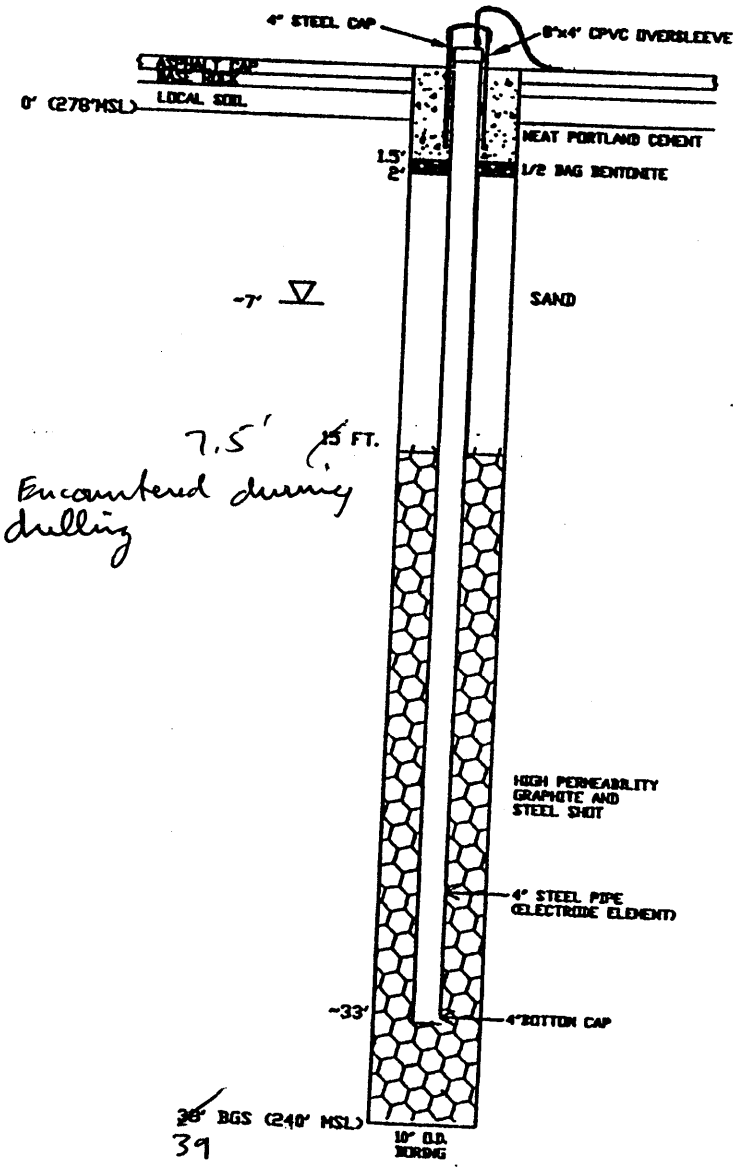
US ARMY CORPS OF ENGINEERS

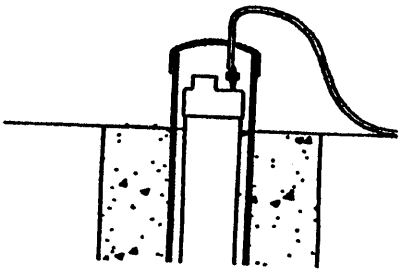
NAPL AREA 1 ELECTRODE AS-BUILT
ERH REMEDIATION – FORT LEWIS, WASHINGTON

THERMAL REMEDIATION services inc.

2325 HUDSON STREET
LONGVIEW, WA 98632
(360) 425-8121 FAX: (360) 425-6674

NAPL AREA 1 MODIFIED ELECTRODE (E) #3 -AM4





completed 4-9-04

NO.	DATE	BY	REVISIONS

ENGINEER'S SEAL

DESIGN BY:	GB
DRAWN BY:	TP
CHECKED BY:	GB
PROJECT MANAGER:	PC
DATE:	033104
SCALE:	NONE
FIGURE NUMBER:	XXX
PROJECT NUMBER:	TAC02

NAPL Area1 Modified Electrode

EDGY Site-FT Lewis

THERMAL REMEDIATION SERVICES, INC.

SOIL BORING LOG

Project	ERH EGDY	Logged By	M. Mat[redacted]	Soil Boring ID	(E) F03-AUX
Project Location	FT. LEWIS, WASHINGTON	Driller/ Company	Holt [redacted]	Location	EGDY NAPL AREA 1
Contract	DACA67-02-C-0218	Checked by		Date(s) Drilled	4/9/04
Drilling Method	Air Rotary	Depth to Groundwater	~7.5'	Depth of Borehole	39'
Drill Rig	TH-60	Northing		Borehole Diameter	10"
Sampler Type	Cuttings	Easting		Surface Elevation	~278
Comments					

Elevation feet (MSL)	Depth, feet	SAMPLE Type	% Recovery	PID (ppm)	UV Fluorescence	Dyé Test	Sheen Present	Graphic Log	MATERIAL DESCRIPTION (color, type, Unified Soil Classification (USC), density, moisture content)	USC Symbol	REMARKS
	0			0					Asphalt Cap		
	1		1						Gravel Fill		
	2								Brown Sand w/Gravel		
	3										
	4			0							
	5										
	6								color change to gray		
	7								▽		
	8			2					DK gray to black, sandy GRAVEL strong odor Metal Debris		
	9										
	10								increase in silt		
	11								Gray, silty SAND w/Gravel, Strong odor, Cuttings are wet water		
	12			10							
	13										
	14										
	15								increase in Gravel		
	16								Gray, silty, sandy, GRAVEL		
	17								Gravel ½ to 1½" dia. Silt strong odor, Ad drillers able to cut of water		
	18										
	19										

SOIL BORING LOG

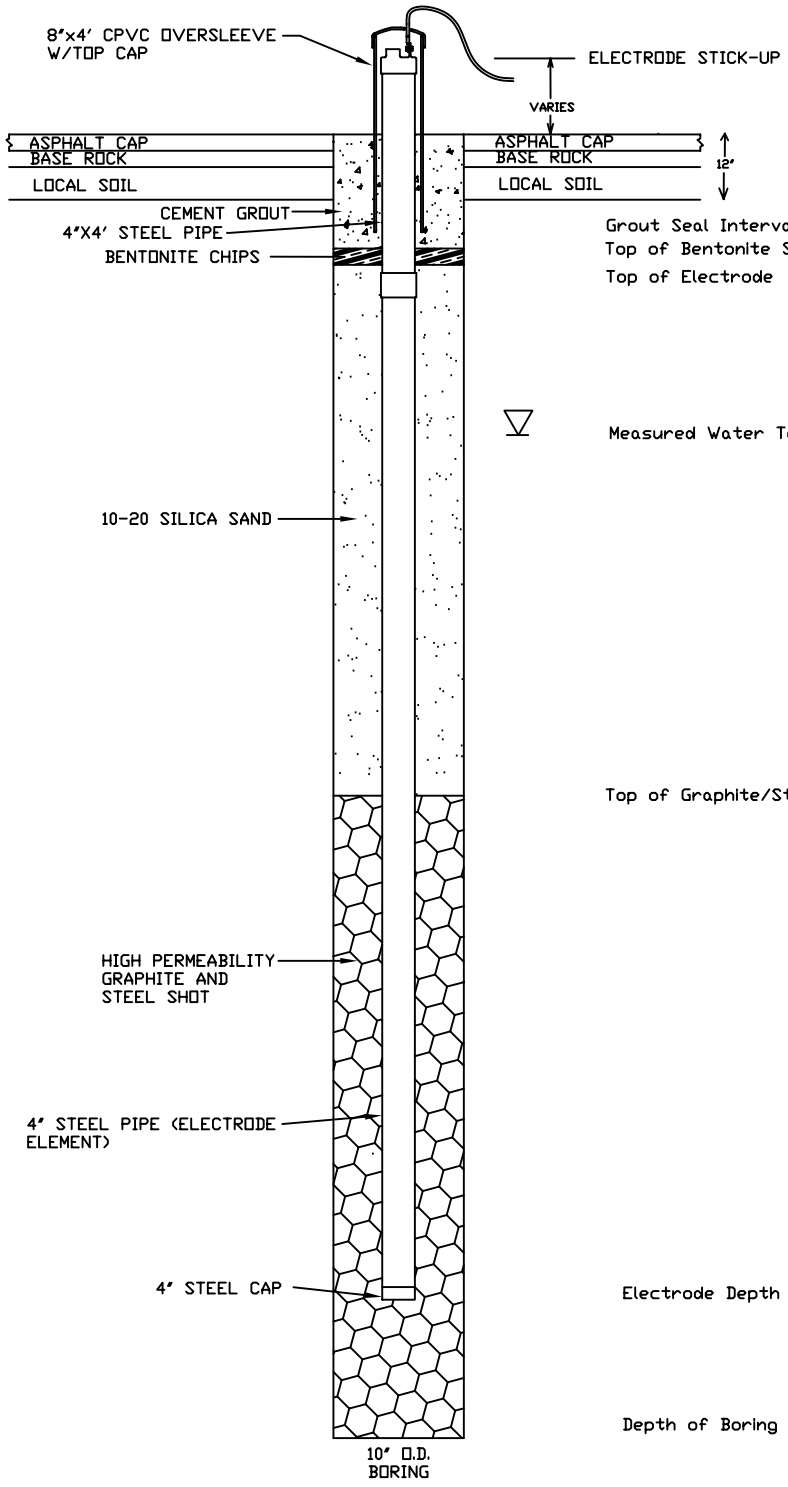
Project	Contract	Soil Boring ID
ERH EGDY	DACA67-02-C-0218	(E) FB3-AMW

Elevation feet (MSL)	Depth, feet	SAMPLE: Type	SAMPLE: % Recovery	SAMPLE: PID (ppm)	SAMPLE: UV Fluorescence	SAMPLE: Dye Test	SAMPLE: Sheen Present	Graphic Log	MATERIAL DESCRIPTION (color, type, Unified Soil Classification (USC), density, moisture content)	USC Symbol	REMARKS
	20										
	21										
	22										
	23										
	24										
	25										
	26								~~Increase in silt~~ Decrease in silt		
	27								Sandy GRAVEL to Gravelly SAND.		
	28								Drillers not able to cut off water. Lots of water.		
	29										
	30								Silty, GRAVEL w/SAND		
	31								Lots of water		
	32										
	33										
	34										
	35										
	36										
	37										
	38										
	39								38.5 Bottom of Boring		
	40										
	41										
	42										
	43										
	44										

ELECTRODE AS-BUILT RECORD

DRILLER: HOLT DRILLING, INC.	LOCATION: FT. LEWIS, WA	DACA67-02-C-0218:	EGDY NAPL AREA 1
DRILL RIG: TH-60	ELEVATIONS (FT. MSL)	NORTHING: 652045	ELECTRODE ID: (E) G 02 AUX
METHOD: AIR ROTARY	GROUND SURFACE: 278.4'	EASTING: 1497290	DATE COMPLETED: 04/09/04
DEPTH TO GROUNDWATER: APPROX. 8.0 FEET	TOP STEEL ELECTRODE CASING: 279.28'	INSPECTOR: M. MOORE	TIME COMPLETED:

Locations and elevations assumed same as primary electrode (E) G 02.



Grout Seal Interval	1.5' TO SURFACE
Top of Bentonite Seal	1.5'
Top of Electrode	2.0'
Measured Water Table Surface	8.0' (ENCOUNTERED)
Top of Graphite/Steel Shot	16.0'
Electrode Depth	33.0'
Depth of Boring	38.5'

EGDY SITE – FORT LEWIS

TACOMA, WASHINGTON

US ARMY CORPS OF ENGINEERS

NAPL AREA 1 ELECTRODE AS-BUILT
ERH REMEDIATION – FORT LEWIS, WASHINGTON

THERMAL REMEDIATION services inc.

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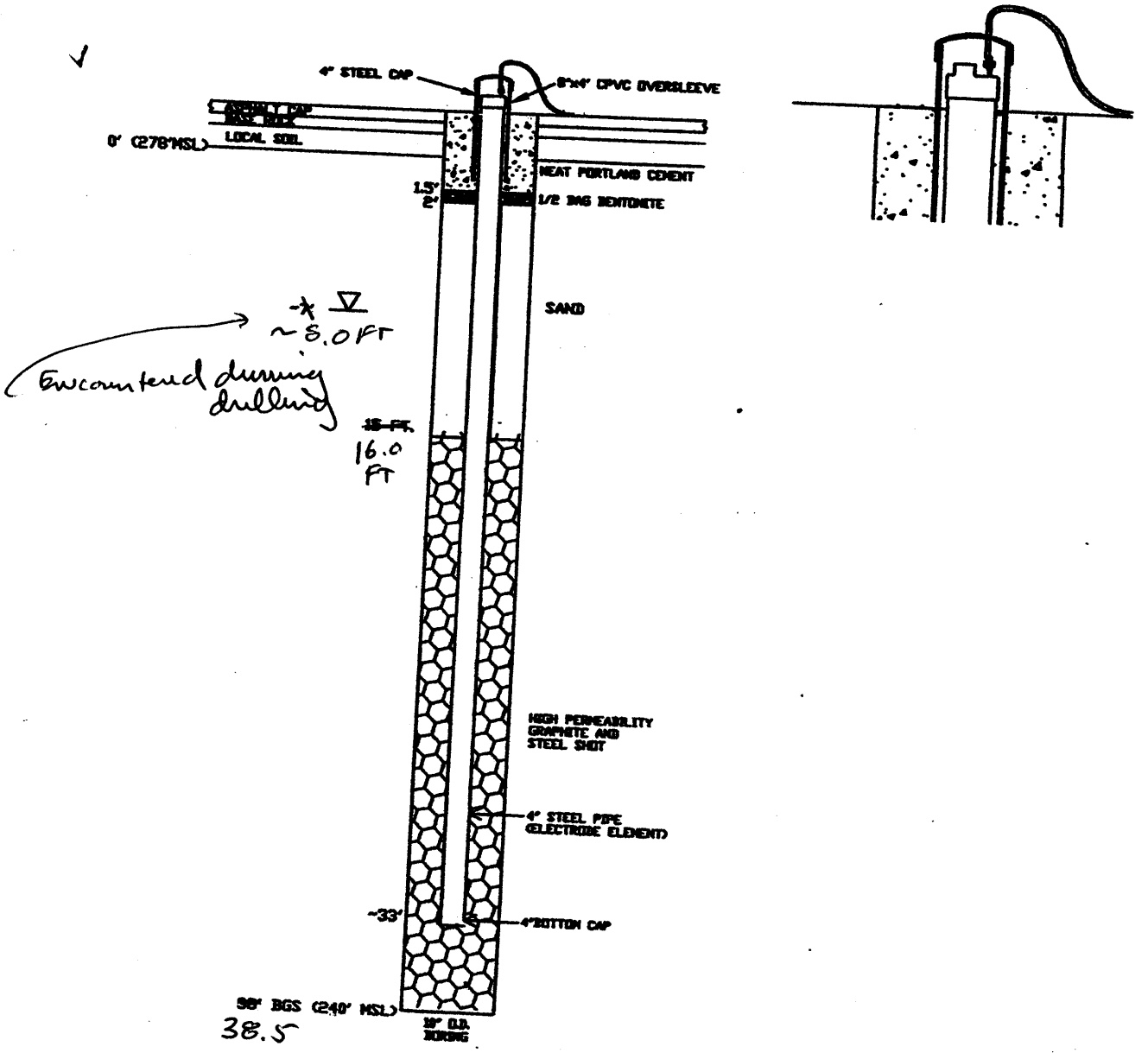
NAPL AREA 1 MODIFIED ELECTRODE (E) GØ2-AUX



Completed 4-8-04

NO.	DATE	BY	REVISIONS

ENGINEER'S SEAL

DESIGN BY:	GB
DRAWN BY:	TP
CHECKED BY:	GB
PROJECT MANAGER:	PC
DATE:	03/04
SCALE:	NONE
FIGURE NUMBER:	XXX
PROJECT NUMBER:	TAC02

NAPL Area1 Modified Electrode

EDGY Site-FT Lewis

THERMAL REMEDIATION SERVICES, INC.

SOIL BORING LOG

Project	ERH EGDY	Logged By	M. Moore	Soil Boring ID	(E)GP02-AUX
Project Location	FT. LEWIS, WASHINGTON	Driller/ Company	Holt	Location	EGDY NAPL AREA 1
Contract	DACA67-02-C-0218	Checked by		Date(s) Drilled	4-8-04
Drilling Method	Air Rotary	Depth to Groundwater	~5'	Depth of Borehole	38.5'
Drill Rig	TH-60	Northing		Borehole Diameter	10"
Sampler Type	Cuttings	Easting		Surface Elevation	~278
Comments					

Elevation feet (MSL)	Depth, feet	SAMPLE Type	% Recovery	PID (ppm)	UV Fluorescence	Dye Test	Sheen Present	Graphic Log	MATERIAL DESCRIPTION (color, type, Unified Soil Classification (USC), density, moisture content)	USC Symbol	REMARKS
	0			0					Asphalt Cap		
	1								Gravel (Fill)		
	2								Brown sandy GRAVEL.		
	3										
	4			5					Dk gray, sandy GRAVEL. strong odor		
	5										
	6			4			N				
	7								▽ Encountered		
	8										
	9			0			N		Gray, sandy GRAVEL w/silt. mild odor		
	10										
	11										
	12										
	13										
	14										
	15										
	16										
	17										
	18								---- increase in silt		
	19								Brown, silty, sandy GRAVEL		
									Brown, sandy GRAVEL. lot of water		

SOIL BORING LOG

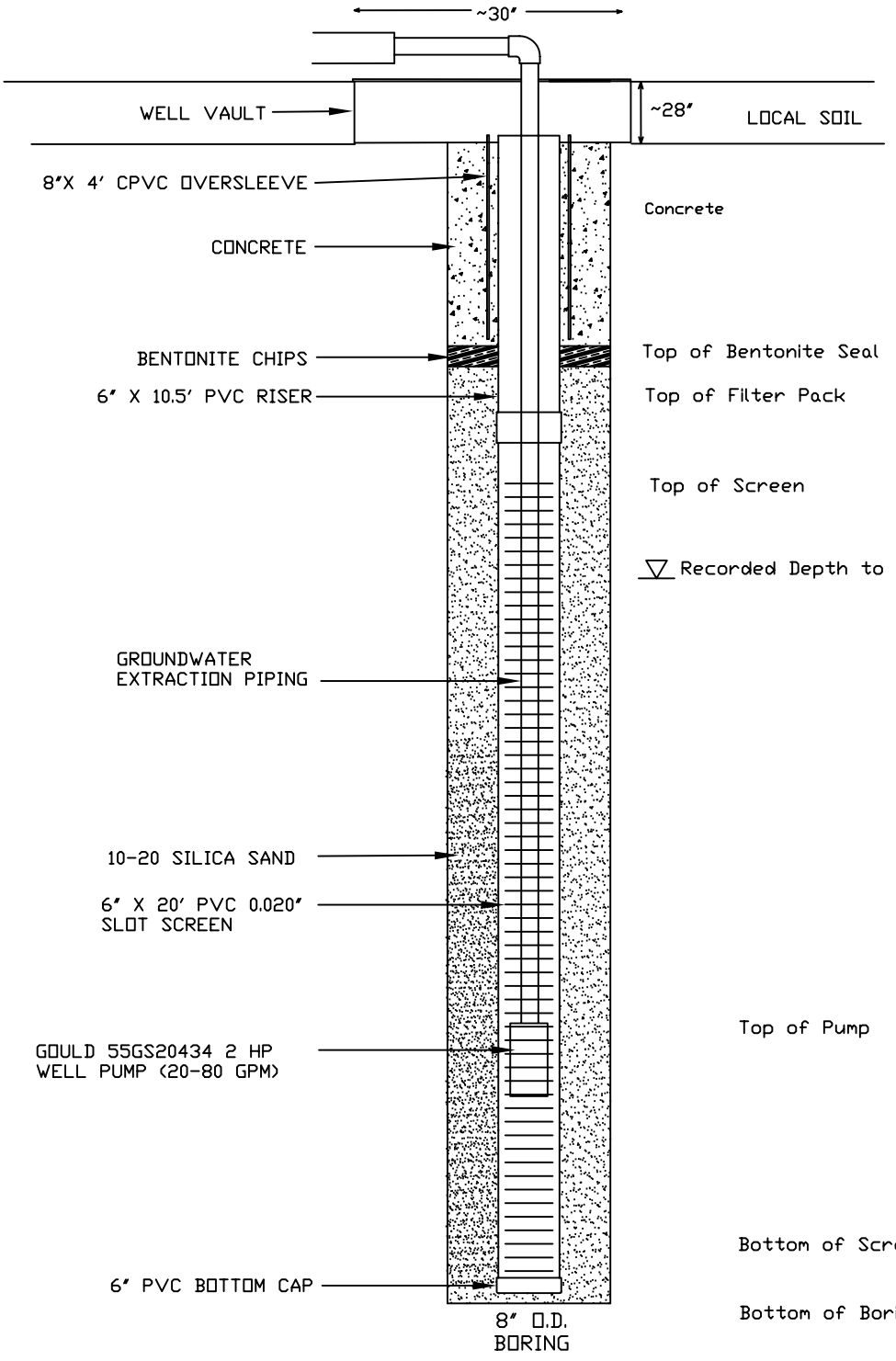
Page 2 of 2

Project	ERH EGDY	Contract	DACA67-02-C-0218	Soil Boring ID	GP2 Aux

Elevation feet (MSL)	Depth, feet	SAMPLE: Type	SAMPLE: % Recovery	SAMPLE: PID (ppm)	SAMPLE: UV Fluorescence	SAMPLE: Dye Test	SAMPLE: Sheen Present	Graphic Log	MATERIAL DESCRIPTION (color, type, Unified Soil Classification (USC), density, moisture content)	USC Symbol	REMARKS
	20								Brown Sandy GRAVEL. Lots of water		
	21										
	22										
	23						N				
	24										
	25								increase in silt less water		
	26								Brown, Silty, Sandy GRAVEL		
	27										
	28						N				
	29										
	30										
	31										
	32										
	33										
	34						N		Brown ~~to~~ Silty SAND w/GRAVEL denser		
	35										
	36										
	37										
	38								Brown Silty Sand w GRAVEL Looser.		
	39								Bottom of Boring		
	40										
	41										
	42										
	43										

HYDRAULIC CONTROL EXTRACTION WELL AS-BUILT RECORD

DRILLER: HOLT DRILLING, INC.	LOCATION: FT. LEWIS, WA	DACA67-02-C-0218:	EGDY NAPL AREA 1
DRILL RIG: TH-60	ELEVATIONS (FT. MSL)	NORTHING: 652095	START CARD/HCW ID: HCW 07
METHOD: AIR ROTARY	GROUND SURFACE:	EASTING: 1497305	DATE STARTED: 04/07/04
DEPTH TO GROUNDWATER: APPROX. 7.5 FEET	TOP STAINLESS STEEL CASING: 277	INSPECTOR: M. MOORE	DATE COMPLETED: 04/07/04



Concrete	Surface to 5"
Top of Bentonite Seal	5.0'
Top of Filter Pack	6.0'
Top of Screen	7.75' (APPROX. ELEVATION ')
▽ Recorded Depth to GW Surface	APPROX. 7.5' (ENCOUNTERED)
Top of Pump	22.0' (APPROX. ELEVATION ')
Bottom of Screen	27.75' (APPROX. ELEVATION ')
Bottom of Boring	30.0'

PVC MEANS POLY-VINYL CHLORIDE

EGDY SITE – FORT LEWIS

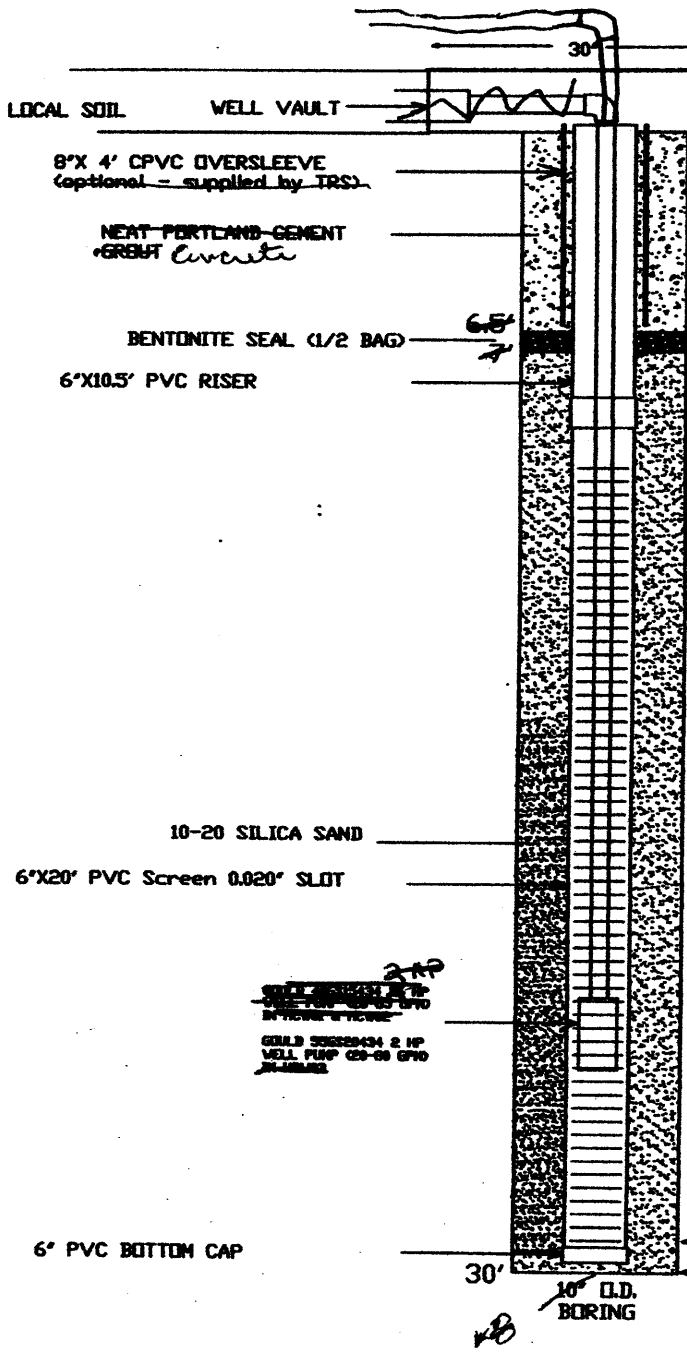
TACOMA, WASHINGTON

US ARMY CORPS OF ENGINEERS

NAPL AREA 1 HCW EXTRACTION WELL AS-BUILT
ERH REMEDIATION – FORT LEWIS, WASHINGTON

THERMAL REMEDIATION services inc.
2325 HUDSON STREET
LONGVIEW, WA 98632
(360) 425-8121 FAX: (360) 425-6674

HCW #1 . DRAFT WELL completion LOG



Neat Portland Cement Grout to Surface — 5 feet to surface Concrete

Top of Bentonite Seal — 5

Top of Filter Pack — 6

Top of Screen — 9.75'

Recorded Depth to GW Surface — 7.5' encountered

Top of Pump — 22

Bottom of Screen — 29.75'

Bottom of Boring — 30'

PVC: Poly-vinyl Chloride

EGDY SITE - FORT LEWIS

TACOMA, WASHINGTON

US ARMY CORPS OF ENGINEERS

NAPL AREA 1 HCW EXTRACTION WELL AS-BUILT
ERH REMEDIATION - FORT LEWIS, WASHINGTON

THERMAL REMEDIATION services inc.

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LONGVIEW, WA 98632
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SOIL BORING LOG

Project	ERH EGDY	Logged By	A	Soil Boring ID	HCWØ7
Project Location	FT. LEWIS, WASHINGTON	Driller/ Company	Holt	Location	EGDY NAPL AREA 1
Contract	DACA67-02-C-0218	Checked by		Date(s) Drilled	4/7/04
Drilling Method	Air Rotary	Depth to Groundwater	~ 7' bgs	Depth of Borehole	30' RGS
Drill Rig	TH-60	Northing		Borehole Diameter	
Sampler Type	Cuttings	Easting		Surface Elevation	278 ~

Comments: Drilling accomplish with continous cement sonny

Elevation feet (MSL)	Depth, feet	SAMPLE Type	SAMPLE % Recovery	SAMPLE PID (ppm)	SAMPLE UV Fluorescence	SAMPLE Dye Test	SAMPLE Sheen Present	Graphic Log	MATERIAL DESCRIPTION (color, type, Unified Soil Classification (USC), density, moisture content)	USC Symbol	REMARKS
	0								surface fill		
	1	0.2		0					Lt brown to dk brown sand w/Gravel and silt		
	2										
	3										
	4										
	5						N				
	6	0.2		0					Brown sandy Gravel w/cobbles	GW	
	7								▽ encountered 4.7.04		
	8										
	9										
	10	0.1		0			N		Brown sandy Gravel w/cobbles (no odor or sheen)		
	11										
	12										
	13								--- increase in water during drilling.		
	14										
	15	0.1		0					Brown to gray sandy Gravel w/cobbles		
	16						N		(no odor or sheen)	GW	
	17										
	18								---- Cobble		
	19	0.5		0					---- increase of silt		
	20								∫ light Brown silty sand w/ Gravel	SM/GM	
				0							

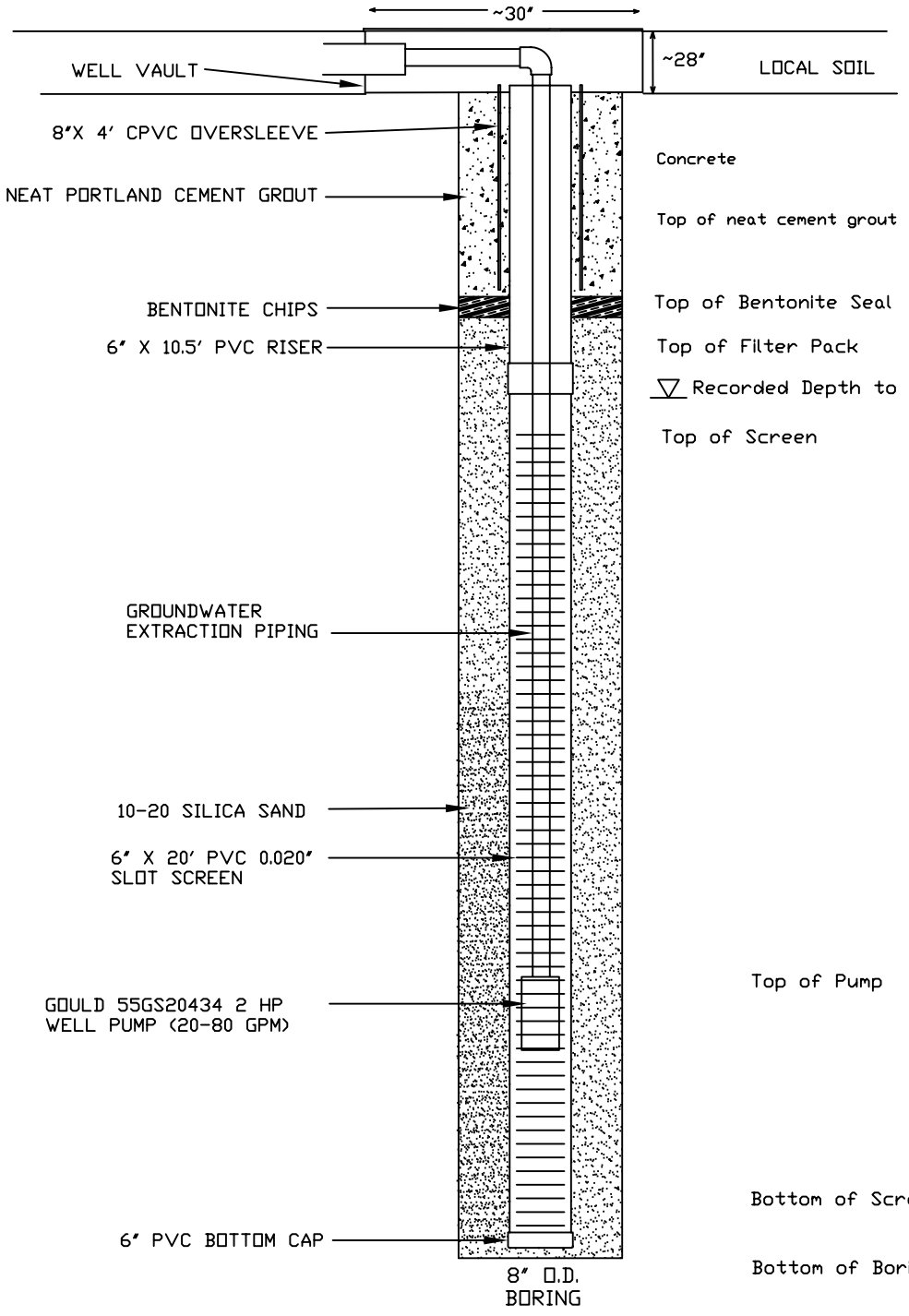
SOIL BORING LOG

Project	ERH EGDY	Contract	DACA67-02-C-0218	Soil Boring ID	HEW07

Elevation feet (MSL)	Depth, feet	SAMPLE: Type & ID	% Recovery	PID (ppm)	UV Fluorescence	Dye Test	Sheen Present	Graphic Log	MATERIAL DESCRIPTION (color, type, Unified Soil Classification (USC), density, moisture content)	USC Symbol	REMARKS
	20	0		0			N		Light Brown Silty Sand w/Gravel	SM	
	21									SM	
	22										
	23										
	24										
	25								Brown, sandy Gravel w/silt	SM/GM	
	26										
	27			0		N					
	28										
	29	0									
	30	0									
	31								Bottom of Boring 30'		
	32										
	33										
	34										
	35										
	36										
	37										
	38										
	39										
	40										
	41										
	42										
	43										
	44										

HYDRAULIC CONTROL EXTRACTION WELL AS-BUILT RECORD

DRILLER: HOLT DRILLING, INC.	LOCATION: FT. LEWIS, WA	DACA67-02-C-0218:	EGDY NAPL AREA 1
DRILL RIG: TH-60	ELEVATIONS (FT. MSL)	NORTHING: 652078	START CARD/HCW ID: HCW 08
METHOD: AIR ROTARY	GROUND SURFACE:	EASTING: 1497244	DATE STARTED: 04/07/04
DEPTH TO GROUNDWATER: APPROX. 7.5 FEET	TOP STAINLESS STEEL CASING: 277	INSPECTOR: M. MOORE	DATE COMPLETED: 04/07/04



Concrete	Surface to 1.5'
Top of neat cement grout	1.5'
Top of Bentonite Seal	5.0'
Top of Filter Pack	6.0'
▽ Recorded Depth to GW Surface	APPROX. 7.5' (ENCOUNTERED)
Top of Screen	9.5' (APPROX. ELEVATION ')
Top of Pump	21.5' (APPROX. ELEVATION ')
Bottom of Screen	29.5' (APPROX. ELEVATION ')
Bottom of Boring	30.0'

PVC MEANS POLY-VINYL CHLORIDE

EGDY SITE – FORT LEWIS

TACOMA, WASHINGTON

US ARMY CORPS OF ENGINEERS

NAPL AREA 1 HCW EXTRACTION WELL AS-BUILT
ERH REMEDIATION – FORT LEWIS, WASHINGTON

THERMAL REMEDIATION services inc.
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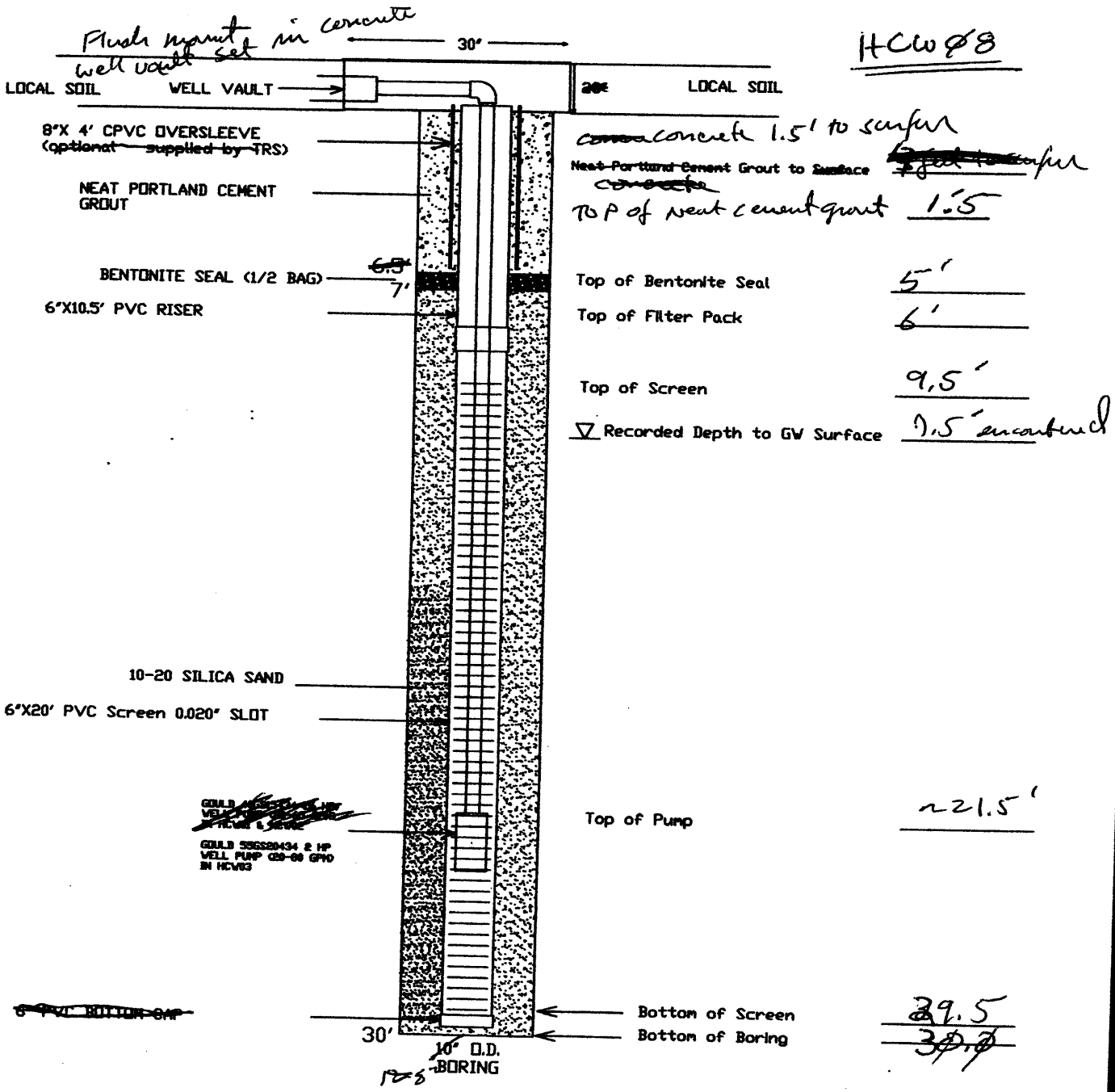
(360) 425-8121 FAX: (360) 425-6674

HCW08



PVC: Poly-vinyl Chloride

Draft As-Built

NAPL AREA 1 HCW EXTRACTION WELL AS-BUILT
ERH REMEDIATION – FORT LEWIS, WASHINGTON

EGDY SITE – FORT LEWIS
TACOMA, WASHINGTON

US ARMY CORPS OF ENGINEERS

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SOIL BORING LOG

Page 1 of 2

Project	ERH EGDY	Logged By	M. Moore	Soil Boring ID	HCW08
Project Location	FT. LEWIS, WASHINGTON	Driller/ Company	Holt Drilling	Location	EGDY NAPL AREA 1
Contract	DACA67-02-C-0218	Checked by		Date(s) Drilled	4-7-04
Drilling Method	Air Rotary	Depth to Groundwater	~17'	Depth of Borehole	30
Drill Rig	TH-60	Northing		Borehole Diameter	8"
Sampler Type	Cuttings	Easting		Surface Elevation	~278

Comments

Elevation feet (MSL)	Depth, feet	SAMPLE Type	% Recovery	PID (ppm)	UV Fluorescence	Dye Test	Sheen Present	Graphic Log	MATERIAL DESCRIPTION (color, type, Unified Soil Classification (USC), density, moisture content)	USC Symbol	REMARKS
	0	0-8		0			N		Fill, 1½" clean washed gravel		
	1										
	2			0					Dk brown, sand.	SM	
	3										
	4										
	5								transition to lt. gray.		
	6						N		Lite gray med. sand w/gravel (no odor)		
	7										
	8								Lite. gray to tan med. sand w/gravel (NO odor or discoloration)		
	9										
	10	9-02		0			N				
	11										
	12										
	13										
	14								Lt. ~~gray~~ brown, med sand w/gravel. Gravel ¼" - 3¼", subangular.	SW/GW	
	15										
	16										
	17										
	18	17-32		0			Y		Lt brown, ~~to~~ silty med. sand w/gravel (generating more water during drilling) no odor or sheen		
	19										
	20										

SOIL BORING LOG

Project	ERH EGDY	Contract	DACA67-02-C-0218	Soil Boring ID	HCW 08

Elevation feet (MSL)	Depth, feet	SAMPLE: ~~Type~~ lbs/ft	SAMPLE: % Recovery	SAMPLE: PID (ppm)	SAMPLE: UV Fluorescence	SAMPLE: Dye Test	SAMPLE: Sheen Present	Graphic Log	MATERIAL DESCRIPTION (color, type, Unified Soil Classification (USC), density, moisture content)	USC Symbol	REMARKS
	20										
	21										
	22	0		0			Y		LT Brown, med. to coarse sand w/silt and gravel		Sheen in cuttings Hopper. May be cross contamination
	23										
	24						N				
	25										
	26										
	27										
	28						N				
	29										
	30	0		0							
	31								Bottom of Boring 30 feet BGS 4/7/04		
	32										
	33										
	34										
	35										
	36										
	37										
	38										
	39										
	40										
	41										
	42										
	43										
	44										

APPENDIX D

ERH Startup Checklist

ERH STARTUP CHECKLIST

Site: EGDY NAPL Area 1, Ft. Lewis, WA **Project Number:** TAC02

This form is to be completed after construction and installation of ERH components and prior to first application of power.

Note: All boxes must be checked Yes/No or labeled as NA – Not applicable

What is the expected electrode voltage? Approximately 356 (Phase to Neutral)

What is the voltage rating of the cables? 600

What is the electrode spacing? 15 feet

What is the electrode diameter? 10 inches

What is the electrode conductive interval? 2 to 38 feet

List and describe all subsurface conductive materials that pass through the field:

NAPL Area 1 is an old landfill which has had a removal action. All large metal debris was removed from excavation trenches, however, the field does have the potential for fairly high Volume of scrap metal (e.g. small pieces less than 1 to feet in length of rebar and other metal debris). Subcontractor removed infiltration gallery that bisected NAPL Area 1.

How is the ERH system grounded? The PCU, equipment on pad and the case of the transformer skid are grounded via eight (8) ground rods in gas line trench (gas line is non-conductive) located 120 ft. north, north-west of PCU and 200 ft. north of field. Neutral from center tap of auxillory transformer is grounded via three (3) ground rods at the base of the power pole (west of equipment pad). The site trailer is grounded to pole 40 ft. south of trailer, which is also 45 ft. west from closest electrode (locations will be shown in Installation Report on as-built plot plans).

Oct 06 04 07:10a T R S E. G. D. Y. (253) 964-3009 p.2

ERH STARTUP CHECKLIST

Site: EGDY NAPL Area 1, Ft. Lewis, WA **Project Number:** TAC02

Yes — Are there ground rods? See previous page

Distance from field? _____

No — Is the current to ground monitored?

NA — Is there an automatic ERH shutdown for excessive ground current?

What is the shutdown setpoint? _____

Yes — Is there a surface exclusion zone?

Yes — Have personnel who will enter the exclusion zone signed the acknowledgement?

Yes — Is there a personnel exclusion fence? Fence at Lincoln and Rainier is locked at night when personnel are off site. Fence and gate is quarter mile from site. NAPL Area 1 site cap and equipment pad have a wooden post and rope boundary encompassing both locations allowing for posting of High Voltage/Do Not Enter and No Digging signs.

No — Does the fence have barbed wire?

Yes — Does the fence have embedded posts? The posts are wooden and approximately 40 feet from nearest electrode.

NA — Is the fence connected to utility ground?

Yes — Are there "Danger - High Voltage" signs posted? NAPL Area 1 has wooden post and rope boundary.

Yes — Are these signs at 30 foot spacing on all sides?

No — Does a fence separate the equipment from the field?

No — Does this fence have an interlocked access gate?

No — Does the fence have a surface grid?

What is the grid material?

NA — Is the fence connected to the grid?

At what interval? _____

NA — Is the grid covered?

What is the grid covered with? _____

NA — Are there boundaries of the exclusion zone that use existing fences/walls?

Describe these fences/walls: _____

Oct 06 04 07:10a T R S E. G. D. Y. (253) 964-3009 p.3

ERH STARTUP CHECKLIST

Site: EGDY NAPL Area 1, Ft. Lewis, WA **Project Number:** TAC02

Yes Are the electrode heads insulated?

Describe the electrode head insulation: CPVC oversleeves

No Is any part of the field covered by an exclusion zone?

NA Is there a subsurface neutral zone?

What depth interval is the neutral zone? _____

What is the depth to water? _____

What is the depth to known utilities? _____

What is the neutral zone material? _____

What gauge is the neutral wire? _____

NA Is the neutral connected to utility ground? (not recommended)

No Is the amperage to ground monitored?

Yes Is there a surface grid?

What is the grid material? Steel mesh

No Is the grid connected to all vaults or other surface metal?

Yes Is the grid covered?

What is the grid covered with? Four inches of asphalt.

No Are there electrode vaults?

NA Do the vaults lock?

NA Are the vaults connected to utility ground?

NA Can the vaults flood?

NA Are the electrodes insulated?

NA Is a "Danger - High Voltage" sign in each vault?

Yes Are there any monitor wells in the field?

What material are the monitor well casings? Stainless steel with CPVC oversleeve

ERH STARTUP CHECKLIST

Site: EGDY NAPL Area 1, Ft. Lewis, WA **Project Number:** TAC02

No	Are the monitor wells in vaults?	Some wells outside treatment area are in vaults.
No	Are the vaults locked?	MW vault lids outside treatment area are bolted shut. Nearest electrodes are at least 30 feet away.
NA	Are the vaults connected to the surface grid or utility ground?	
NA	Is a "Danger - High Voltage" sign in each vault or on each well?	
NA	Has the company responsible for monitoring been notified of danger by letter?	
	Date of letter:	TRS and project team subcontractors are manning site Monday through Friday during operations. Letter to be sent week of 12/01/03 to TRS Project Team.
Yes	Are there "Danger - Buried High Voltage" signs?	
Yes	Are these signs at 40' spacing?	
Yes/ No	Has the property owner been notified of subsurface voltage by letter?	
	Date of letter:	Letter to be sent week of 12/01/03 to USACE and subcontractors. USACE is aware of schedule based on meetings, correspondence and Final RAMP.
No	Is the site open to the public?	Authorized personnel only. All visitors directed via signs to sign in at TRS Site Trailer.
NA	Is there a ground rod grid around the field?	

Site: EGDY NAPL Area 1, Ft. Lewis, WA **Project Number:** TAC02

The site is ready for the application of power.

Project Manager — 12/02/03 Date

Reviewer — 12-3-03 Date

Contract Quality Control Manager — 12/04/03 Date

Date that a copy was sent to Chief Engineer. _____

Dec 02 03 06:22p T R S E. G. D. V. (253) 964-3009 p.5

Dec 06 04 07:11a T R S E. G. D. V. (253) 964-3009 p.5

ERH STARTUP CHECKLIST

Site: EDGY Naple Area 1, Ft Lewis, WA **Project Number:** TAL02

What is the amperage to ground? → N/A - This System does Not

What is the highest observed amperage in a neutral wire? Incorporate an Surface Neutral wire

What is the voltage from neutral to ground? to Control Stray Voltage @ Surface

[Y] Has a step-and-touch voltage survey log sheet been prepared?

☐ Does the log sheet refer to a plot plan that shows measurement locations?

(attached copy shows survey results)

[Y] Has a voltage to utility ground survey been conducted?

(attached copy shows survey results)

Describe any anomalous measurements (electrodes with high or low currents, unusual voltages, etc.)

Higher Currents Observed in L-08, K-09, and H-03. Outlet boxes on light Poles (equivalent to Utility Ground) Showing Voltage Potential to Field

What changes were made is response to the anomalies? L-08 was removed from Service to reduce Currents in L-08 & K-09. L-08 will be attached to Low Voltage output to limit Observed Currents. (New Current Survey Attached) H-03 will be Observed for Current Increases. Utility ground ~~connected~~ disconnected from Outlet boxes on light Poles.

(attach a copy of the post-change voltage survey)

The site is ready for unattended operation.

12/17/03 — Project Leader — Date

12/17/03 — Reviewer — Date

Date that a copy was sent to Chief Engineer: _____

06 DEC 04 07:11a T R S E. G. D. Y. (253) 964-3009 p.6

APPENDIX E

Accident Investigation Report

SUPERVISOR'S REPORT OF AN ACCIDENT

Site Manager's name: PAT COSSINS

Date: 09/22/03 Exact time reported to you: 10:20 a.m

Injured employee's name: JOHN ARFMAN (HOLT DRILLING)

Who reported it? JOEL JACOBSON (HOLT DRILLING)

Name of witnesses: NONE

Describe the accident: WHILE DRILLING, WELD ON AIR CYLINDER TO THE BREAKOUT WRENCH BROKE AND TOP OF CHANNEL THAT GUIDES WRENCH BROKE ALLOWING WRENCH TO COME OUT OF CHANNEL. RESULT: MOVEMENT OF ROD → STRUCK DRILLER.

Was first aid required? NO VISIBLE SIGNS OF BLEEDING OR BRUISING; DRILLER CONSCIOUS

Did the accident require a doctor's treatment? DRILLER DAZED / NUMB - TAKEN TO MAHOGANY ER

Date and time of next doctor appointment: NA

Was the employee competent and skillful in his/her job? YES. DRILLER ATTIRED IN APPROPRIATE PPE, AS WELL.

What were the causes? SEE ABOVE

Will this be time-loss case? NO

If so, was the employee instructed to keep the company informed of his/her progress? NO

If not, why? DISCHARGED FROM HOSPITAL 9/22/03; OFF WORK (OWN VOLITION) 9/23/03

Has this employee had other industrial injuries? NO How many?

EXPLAIN IN DETAIL: What part of the body was injured?: - UNDETERMINED -

DRILLER PROBABLY HIT IN HEAD/FOREHEAD REGION, BUT HARD HAT DEFLECTED/ABSORBED BLOW FROM DRILLING ROD. NO BLEEDING, NO SWELLING. CAT SCAN (MAHOGANY) INCONCLUSIVE. NO VISIBLE DAMAGE TO HARD HAT.

Other details of the accident: HOLT DRILLING INVESTIGATED DRILL RIG (DALE SMITH PERFORMED INVESTIGATION) TO DETERMINED CAUSE OF ACCIDENT. ACCIDENT DUE TO FAILURE OF WELD AND RESULTING MOVEMENT OF DRILL ROD

Supervisor signature: Pat Cossins Date: 09/23/03

EMPLOYEE'S REPORT OF AN ACCIDENT

(To be filled out for occupational injuries or illness)

Employee's name: John Arfman

Job Title: well Driller

Exact time of injury: 10:30 Date of injury: 9-22-03

Location where injury occurred: East gate disposal yard Ft-Lewis

Name of person to whom this incident was reported: Charlie Smith Time: 10:30

Name of witnesses:

Summarize what you think happened: flex from topdrive turning - out - broke breakout fork -

What could have been done to avoid this accident?:

EXPLAIN IN DETAIL: What part of your body was injured? BE SPECIFIC

Side of head -

Is this an original injury or a re-injury? original

If a re-injury, when and where was previous injury?

Who was the employer? Holt Drilling Claim number:

Would you be willing to perform light-duty work during your recovery? Yes

Date and time you sought medical attention: 9-22-03 10:45

Whom did you see? ER Phy Office/Hospital: Madigan

Employee signature: [signature] Date: 9-26-03

This form is to be returned to your employer as soon as possible.

Date employer received report: 9-23-03

NOTE: Washington Administrative Code number 296-24-025(6) states: Employee's responsibility: "Employees shall make a prompt report to their immediate supervisor of each industrial injury."

TRS
ACCIDENT INVESTIGATION REPORT

See Accident Investigation Checklist attached. Information to be provided by employee, site manager, and SSHO. (Attach additional sheets as needed.)

First, check all that apply: Serious Injury*____ Minor Injury*____
Near-Miss (serious injury was possible)____ Property Damage____

PART I—EMPLOYEE INFORMATION **Date of this Investigation:** 09/22 - 23/03

1. Name ARFMAN (Last) JOHN (First) - DRILLER FOR HOLT DRILLING CSUBCONTRACTOR (Initial)

2. Shift Supervisor PAT COSSINS Supervisor's Tel. No. (562) 527-8041

3. Shift: Days X Swing ____ Graveyard ____ Overtime: Yes ____ No X

4. How long on this particular job: DRILLING SUBCONTRACTOR - TWO MONTHS

5. Is this the employee's regular work? Yes X No ____

PART II—ACCIDENT DETAILS

1. Date of Accident: 09/22/03 Time of Accident: ~10:25 a.m. ____ p.m.

2. Date Reported: 09/22/03 Time Reported: ~10:40 a.m. ____ p.m.

3. Location of Accident: FT. LEWIS EGDY - SITE CAP

4. Accident Reported to: PAT COSSINS 5. Accident Reported by: JOE JACOBSEN DRILLING SUBCONTRACTOR)

6. Did employee stop work? Yes X No ___ If stopped: Date ~10:20 am Time ____

7. Witnesses (Full Names, Home and Work Phones, Addresses):
(Attach any written statements to this report.)

NONE

8. Disposition: (Check all applicable, comment as needed)

9. **Describe the accident. What happened?**

VERO ON AIR CYLINDER TO THE BREAKOUT WRENCH BROKE AND TOP OF CHANNEL THAT GUIDES WRENCH BROKE ALLOWING BOTH WRENCH TO COME OUT OF CHANNEL. RESULT: UNEXPECTED MOVEMENT OF DRILL ROD. DRILLER (JOHN ARFMAN) WAS HIT BY ROD - NO BLEEDING VISIBLE OR SWELLING. HARD HAT PROBABLY ABSORBED BLOW. NO VISIBLE DAMAGE TO HARD HAT.

PART III—ACCIDENT ANALYSIS

1. Were safe procedures followed? Yes X No _____ If not, explain:_____

2. Was appropriate PPE being used? Yes X No _____ If not, explain: _____

3. What is the *primary* cause of this accident? SEE #9

4. What are the contributing factors in this accident? SEE #9

5. Does any information regarding this accident seem contradictory? Yes _____ No X
If yes, explain:_____

6. Was the accident in any way caused by a non-TRS employee? Yes X No _____

If yes, explain: ACCIDENT (SEE #9) CONFINED TO HOLT DRILLING DRILL RIG AND DRILLING ACTIVITIES (SUBCONTRACTOR RESPONSIBILITY)

PART IV—PREVENTIVE ACTION PLAN/RECOMMENDATIONS

1. Indicate the following:

Action(s) Taken or To Be Taken	By Whom?	When?	Completed? Yes or No?
INVESTIGATION OF DRILL RIG	DALE SMITH	09/23/03	YES
FIX BROKEN PARTS	HOLT DRILLING	09/22-23/03	YES
ADJUST DRILLING PROTOCOLS	HOLT DRILLING	09/23/03	YES

2. Recommendations for additional action(s): (Please indicate any known or estimated costs)

NA

3. Signatures:

	Printed Name	Signature
Site Manager	PAT COSSINS	/ Pat Cossins
Employee	John Aafman	/
Site Safety and Health Officer		/

4. SSHO distribute copies to: Employee, Corporate Health and Safety Officer, Site Manager, ERH CIH, Worker's Comp. Office, CO

(For Safety Staff only)	REPORT NO.	EROC CODE	UNITED STATES ARMY CORPS OF ENGINEERS ACCIDENT INVESTIGATION REPORT (For Use of this Form See Attached Instructions and USACE Suppl to AR 385-40)	REQUIREMENT CONTROL SYMBOL: CEEC-S-8(R2)
		G0		

1. ACCIDENT CLASSIFICATION

PERSONNEL CLASSIFICATION	INJURY/ILLNESS/FATAL	PROPERTY DAMAGE	MOTOR VEHICLE INVOLVED	DIVING
GOVERNMENT ☐ CIVILIAN ☐ MILITARY	☐	☐ FIRE INVOLVED ☐ OTHER	☐	☐
☒ CONTRACTOR	☐	☐ FIRE INVOLVED NA ☐ OTHER	NA ☐	NA ☐
☐ PUBLIC	☐ FATAL ☐ OTHER		☐	

2. PERSONAL DATA

a. Name (Last, First, MI)	b. AGE	c. SEX	d. SOCIAL SECURITY NUMBER	e. GRADE
ARFMAN, JOHN C.	30	☒ MALE ☐ FEMALE	532-76-0552	CIVILIAN

f. JOB SERIES/TITLE	g. DUTY STATUS	h. EMPLOYMENT STATUS AT TIME OF ACCIDENT
DRILLER CIVILIAN SUBCONTRACTOR HOLT DRILLING COMPANY	☐ ON DUTY ☐ TDY ☐ OFF DUTY	☐ ARMY ACTIVE ☐ ARMY RESERVE ☐ VOLUNTEER ☐ PERMANENT ☐ FOREIGN NATIONAL ☐ SEASONAL ☐ TEMPORARY ☐ STUDENT ☒ OTHER (Specify) SUBCONTRACTOR

3. GENERAL INFORMATION

a. DATE OF ACCIDENT (month/day/year)	b. TIME OF ACCIDENT (Military time)	c. EXACT LOCATION OF ACCIDENT	d. CONTRACTOR'S NAME
09/22/03	~1025 hrs	FT. LEWIS EGDY DRILL RIG - IN SITU THERMAL REMEDIATION PROJECT	(1) PRIME: THERMAL REMEDIATION SERVICES (2) SUBCONTRACTOR: HOLT DRILLING COMPANY

e. CONTRACT NUMBER	f. TYPE OF CONTRACT	g. HAZARDOUS/TOXIC WASTE ACTIVITY
DACA67-02-C-0218 ☐ CIVIL WORKS ☐ MILITARY ☐ OTHER (SPECIFY)	☒ CONSTRUCTION ☐ SERVICE ☐ A/E ☐ DREDGE ☐ OTHER (SPECIFY)	☒ SUPERFUND ☐ DERP ☐ IRP ☐ OTHER (Specify)

4. CONSTRUCTION ACTIVITIES ONLY (Fill in line and corresponding code number in box from list - see instructions)

a. CONSTRUCTION ACTIVITY	(CODE)	b. TYPE OF CONSTRUCTION EQUIPMENT	(CODE)
DRILLING	#	DRILL RIG (AIR ROTARY)	#

5. INJURY/ILLNESS INFORMATION (Include name on line and corresponding code number in box for items e, f & g - see instructions)

a. SEVERITY OF ILLNESS / INJURY	(CODE)	B. ESTIMATED DAYS LOST	C. ESTIMATED DAYS HOSPITALIZED	D. ESTIMATED DAYS RESTRICTED DUTY
NONCLOSURE - NO VISIBLE BLEEDING OR SWELLING	#	NONE - 1 DAY ELECTIVE	NONE	NONE

e. BODY PART AFFECTED	(CODE)	g. TYPE AND SOURCE OF INJURY/ILLNESS	(CODE)
PRIMARY HEAD	#	TYPE	#
SECONDARY	#	SOURCE	#
f. NATURE OF ILLNESS / INJURY: POSSIBLE BLOW TO HEAD - HARD HAT PROTECTION	#		

6. PUBLIC FATALITY (Fill in line and correspondence code number in box - see instructions)

a. ACTIVITY AT TIME OF ACCIDENT	(CODE)	b. PERSONAL FLOATATION DEVICE USED?
DRILLING	#	☐ YES ☐ NO ☒ N/A

7. MOTOR VEHICLE ACCIDENT NOT APPLICABLE

a. TYPE OF VEHICLE	b. TYPE OF COLLISION	c. SEAT BELTS	USED	NOT USED	NOT AVAILABLE
☐ PICKUP/VAN ☐ AUTOMOBILE ☐ TRUCK ☐ OTHER (Specify)	☐ SIDE SWIPE ☐ HEAD ON ☐ REAR END ☐ BROADSIDE ☐ ROLL OVER ☐ BACKING ☐ OTHER (Specify)	(1) FRONT SEAT			
		(2) REAR SEAT			

8. PROPERTY/MATERIAL INVOLVED NOT APPLICABLE

a. NAME OF ITEM	B. OWNERSHIP	C. $ AMOUNT OF DAMAGE
(1)		
(2)		
(3)		

9. VESSEL/FLOATING PLANT ACCIDENT NOT APPLICABLE (Fill in line and correspondence code number in box from list - see instructions)

a. TYPE OF VESSEL/FLOATING PLANT	(CODE)	b. TYPE OF COLLISION/MISHAP	(CODE)
	#		#

10. ACCIDENT DESCRIPTION (Use additional paper, if necessary)

See attached page.

11. CAUSAL FACTOR(S) *(Read Instruction Before Completing)*

a. (Explain YES answers in item 13)	YES	NO
DESIGN: Was design of facility, workplace or equipment a factor?	☐	☒
INSPECTION/MAINTENANCE: Were inspection & maintenance procedures a factor?	☐	☒
PERSON'S PHYSICAL CONDITION: In your opinion, was the physical condition of the person a factor?	☐	☒
OPERATING PROCEDURES: Were operating procedures a factor?	☐	☒
JOB PRACTICES: Were any job safety/health practices not followed when the accident occurred?	☐	☒
HUMAN FACTORS: Did any human factors such as size or strength of person, etc., contribute to accident?	☐	☒
ENVIRONMENTAL FACTORS: Did heat, cold, dust, sun, glare, etc., contribute to the accident?	☐	☒

a. (CONTINUED)	YES	NO
CHEMICAL AND PHYSICAL AGENT FACTORS: Did exposure to chemical agents, such as dust, fumes, mists, vapors or physical agents, such as, noise, radiation, etc., contribute to accident?	☐	☒
OFFICE FACTORS: Did office setting such as, lifting office furniture, carrying, stooping, etc., contribute to the accident?	☐	☒
SUPPORT FACTORS: Were inappropriate tools/resources provided to properly perform the activity/task?	☐	☒
PERSONAL PROTECTIVE EQUIPMENT: Did the improper selection, use or maintenance of personal protective equipment contribute to the accident?	☐	☒
DRUGS/ALCOHOL: In your opinion, was drugs or alcohol a factor to the accident	☐	☒

b. WAS A WRITTEN JOB/ACTIVITY HAZARD ANALYSIS COMPLETED FOR TASK BEING PERFORMED AT TIME OF ACCIDENT?

☒ YES *(If yes, attach a copy.)* ☐ NO

12. TRAINING

a. WAS PERSON TRAINED TO PERFORM ACTIVITY/TASK?	b. TYPE OF TRAINING.	c. DATE OF MOST RECENT FORMAL TRAINING.
☒ YES ☐ NO	☒ CLASSROOM ☒ ON JOB	(Month) (Day) (Year)

13. **FULLY EXPLAIN WHAT ALLOWED OR CAUSED THE ACCIDENT; INCLUDE DIRECT AND INDIRECT CAUSES** *(See instruction for definition of direct and indirect causes.) (Use additional paper, if necessary)*

a. DIRECT CAUSE

See attached page.

b. INDIRECT CAUSE(S)

See attached page.

14. **ACTION(S) TAKEN, ANTICIPATED OR RECOMMENDED TO ELIMINATE CAUSE(S).**

DESCRIBE FULLY:

See attached page.

15. **DATES FOR ACTIONS IDENTIFIED IN BLOCK 14.**

a. BEGINNING (Month/Day/Year)	b. ANTICIPATED COMPLETION (Month/Day/Year)
09/22/03	09/22/03 - 09/23/03

c. SIGNATURE AND TITLE OF SUPERVISOR COMPLETING REPORT	d. DATE *(Mo/Da/Yr)*	e. ORGANIZATION IDENTIFIER *(Div, Br, Sect)*	f. OFFICE SYMBOL
CORPS _____ CONTRACTOR Pat Bass	09/24/03		

16. **MANAGEMENT REVIEW** *(1st).*

a. ☐ CONCUR b. ☐ NON CONCUR c. COMMENTS

SIGNATURE	TITLE	DATE

17. **MANAGEMENT REVIEW** *(2nd - Chief Operations, Construction, Engineering, etc.)*

a. ☐ CONCUR b. ☐ NON CONCUR c. COMMENTS

SIGNATURE	TITLE	DATE

18. **SAFETY AND OCCUPATIONAL HEALTH OFFICE REVIEW**

a. ☐ CONCUR b. ☐ NON CONCUR c. ADDITIONAL ACTIONS/COMMENTS

SIGNATURE	TITLE	DATE

19. **COMMAND APPROVAL**

COMMENTS

COMMANDER SIGNATURE	DATE

(Reverse of ENG Form 3394)

*U.S. GOVERNMENT PRINTING OFFICE: 1993-0-791-757

10. **ACCIDENT DESCRIPTION (Continuation)**

DRILLER (SUBCONTRACTOR - HOLT DRILLING COMPANY) RECEIVED POSSIBLE BLOW TO HEAD WHILE OPERATING AIR ROTARY DRILL RIG. NO WITNESSES TO INCIDENT; NO DAMAGE (VISIBLE) TO HARD HAT. DRILLER STUNNED, BUT CONSCIOUS THROUGHOUT INCIDENT. DRILLER REPORTED THAT HE HEARD SOMETHING "POP" WHILE PERFORMING ROUTINE DRILLING ACTIVITIES. AFTER HEARING "POP," DRILLER RECEIVED A POSSIBLE BLOW TO HEAD, HOWEVER, NO VISIBLE SIGNS OF BLEEDING OR SWELLING WERE APPARENT TO SITE PERSONNEL. SINCE DRILLER WAS OBVIOUSLY STUNNED, BUT COHERENT, THOUGH HE REPORTED GENERAL NUMBNESS AND LOSS OF FEELING IN FINGERTIPS, HE WAS TAKEN TO MADIGAN HOSPITAL EMERGENCY ROOM, FT. LEWIS, WASHINGTON, FOR OBSERVATION. DRILLER WAS WEARING APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT AT TIME OF INCIDENT: HARD HAT (REPLACED NOW WITH NEW ONE), SAFETY GLASSES, AND STEEL-TOED BOOTS. AFTER DISCHARGE FROM HOSPITAL (09/22/03), DRILLER ELECTED TO TAKE OFF ONE DAY TO RECUPERATE. DRILLER RETURNED TO WORK (NORMAL DUTIES) 09/24/03.

13a. **DIRECT CAUSE** *(Continuation)*

WELD ON AIR CYLINDER TO TAG BREAKOUT WRENCH BROKE AND TOP OF CHANNEL THAT GUIDES WRENCH BROKE ALLOWING WRENCH TO COME OUT OF CHANNEL. CONSEQUENTLY, DRILL ROD MOVED OUT OF NORMAL POSITION UNEXPECTEDLY. DRILLER WAS PRESUMABLY HIT BY DRILL ROD AT THIS TIME. DRILL ROD TRAVEL DISTANCE: APPROXIMATELY SIX INCHES.

(Addition to ENG Form 3394)

I CORPS & FORT LEWIS
INCIDENT REPORT

TO: DPTMS OPERATIONS, (253) 967-0050 OR FOD/SDNCO, (253) 967-0015.

1	***Type Report:***		***DTG Received:***		***Report #*** 092203 -Civilian	
	a. Initial:	X				
	b. Follow up:					
2	***Received From (HQS):***		***Rank/Name:***		***Tele #:***	
	TRS Site Trailer, Ft. Lewis EGDY		Civilian – PM: Patrick Cossins		(253) 964-1699	
3	***DTG Incident Occurred***: 09/22/03					
4	***Type of incident:*** Drilling Accident					
5	***Personnel Involved:***					
	Name:	***Rank:***	***SSN:***	***Unit:***		
	John Arfman	Civilian	532-76-0552	Holt Drilling Company (subcontractor)		
6	***Remarks (Age, Marital Status, Time/Position in unit, on/off post, address, etc.):***					
	Civilian - subcontractor					
7	***Location of Incident (Grid/Address):*** Ft. Lewis EGDY – Superfund Site – In Situ Thermal Remediation Project					
8	***Hospital Involved:*** Madigan Hospital – Emergency Room					
9	***Summary of incident:***					
	During drilling activities, weld on air cylinder to the breakout wrench broke and top of channel that guides wrench broke allowing wrench to come out of channel. As a result, the drill rod was allowed to move out of its normal position unexpectedly. Driller (John Arfman) was hit by rod, however, no signs of bleeding or swelling were visible on driller by site personnel who arrived at the drill rig shortly after the incident. The hard hat presumably absorbed the major force of the blow (driller was wearing appropriate health and safety gear: hard hat, safety glasses, steel-toed boots). No damage to driller's hard hat was visible, either (hard hat has been replaced as a precaution). Driller was stunned, but coherent. Driller complained of numbness and loss of feeling in his fingertips. Since the driller was conscious, but apparently received a blow to his head, he was taken to Madigan Hospital Emergency Room by site personnel for observation. Hospital findings were reported to site personnel as inconclusive. Driller elected to stay home one day and returned to work, resuming normal duties, on Wednesday, September 23, 2003.						
10	***Investigation in progress***: Holt Drilling completed investigation of rig to determine cause of incident.					
11	***Other Information:*** **USACE informed of incident on 09/22/03,**					
12	***Notification:***	***Time:***	***Rank/Name:***	***Notification:***	***Time:***	***Rank/Name:***
	CHAPLAIN	Not Applicable		***PAO***	Not Applicable	
	SGS	Not Applicable		***GARRISON CDR***	Not Applicable	
	1st MP BDE	Not Applicable		***GARRISON CSM***	Not Applicable	
	SAFETY	Not Applicable		***CORPS CSM***	Not Applicable	
	CASUALTY	Not Applicable		***FORSCOM***	Not Applicable	
	MAMC	Not Applicable		***UNIT***	Not Applicable	
13	***Received by:***					
14	***Point of Contact:*** Thermal Remediation Services (TRS) – Patrick Cossins (civilian subcontractor for USACE)					

I CORPS & FORT LEWIS
INCIDENT REPORT

TO: DPTMS OPERATIONS, (253) 967-0050 OR FOD/SDNCO, (253) 967-0015.

CONTINUATION SHEET *(List report number and continued from: block number)*	
092203-Civilian	No continuation of information.

Work Activity	Potential Hazards	Actions, Controls, or Methods of Compliance
4. Drilling (Continued)		
	Overexposure of personnel to on-site contaminants	– Personnel will be briefed on the employee-monitoring program in the SSHP and the SHSO will ensure that the provisions of the plan are implemented. – The SHSO will be trained on the calibration, use, and maintenance of all personnel monitoring equipment. – All monitoring equipment will be inspected and calibrated daily before use and then during each use as necessary.
	Skin and eye injury due to exposure to steam during decontamination activities	– All decontamination personnel will be trained on the proper operations of the steam cleaner. – Personnel shall not hold equipment or parts being steam cleaned. These items shall be placed on a suitable surface. – Small parts will be contained in a perforated basket for decontamination. The steam jet will be off when personnel are rearranging small parts in the basket.
	Injury due to rotating equipment	– Drilling equipment and steam cleaners will have protective guarding on all rotating shafts, belts, and pulleys. – Do not wear loose fitting clothing or jewelry that may become entangled in machinery. – Personnel with long hair will tie hair back to prevent entanglement in machinery.
	Accidents due to fire	– Drilling equipment will be turned off before fueling. – Fuels will be stored in proper containers. – Each drill rig will contain at least one ABC type fire extinguisher. – Where possible, drill rigs will be refueled off-site.
	Accidents due to unauthorized operations	– Only trained and authorized personnel will operate and/or assist in drilling operations.
	Crushing injuries	– Drill rods and drill bit stabilizers will be transported properly either by a rack, the rig, or a utility trailer. – If transported on a trailer, these items will be held securely in place. – Drill rig and wheeled equipment will have chocks placed under the wheels to prevent rolling.

Work Activity	Potential Hazards	Actions, Controls, or Methods of Compliance
3. General Construction (Continued)		
	Accidents due to poor lighting	– Adequate lighting will be provided to ensure a safe working environment.
4. Drilling		
	Head Injury, Foot and Hand Injury	– Hard hats shall be worn at all times. – Sturdy, safety-toed footwear that covers the ankles shall be required. – Protective gloves shall be worn when handling sharp, rough, or slippery materials.
	Eye injury	– Protective eyewear shall be worn at all times.
	Hearing damage	– Hearing protection shall be worn when noise levels exceed 85 dBA.
	Back injury	– Personnel are instructed on proper lifting techniques (See General Conditions Above).
	Injury due to slips and falls	– Basic housekeeping requirements shall apply (See General Conditions Above). If mud pans are used, the pan will be cleaned out as often as possible to avoid slippery conditions.
	Injury due to Explosive Atmosphere	– SHSO will periodically monitor for explosive gas levels at the drill penetration point using a hand-held meter. HOLD POINT: If readings exceed 10% of the LEL, work will stop immediately, and the situation will be evaluated by the SHSO. Work will not proceed without approval of the SHSO.
	Injury from drum handling	– When filling drums avoid contact with the waste material. Wear appropriate skin protection. Make sure the bung or lid of the drum is secure prior to moving the drum. – When moving a drum make sure to leverage properly or use a drum dolly with straps and lid catch securely attached. Make sure that toes and fingers are clear of the drum.
	Contamination being carried from the job site	– Personnel shall follow all decontamination procedures in the SSHP. – Drilling rigs, equipment, augers, and tools will be steam cleaned prior to arriving on-site, when moving between drilling locations, and before leaving the site. – At a minimum, plastic will be placed over the area to be drilled. If fuel or oil leaks on the plastic sheeting, absorbent pads will be used.

Work Activity	Potential Hazards	Actions, Controls, or Methods of Compliance
4. Drilling (Continued)		
	Accidents due to rig/equipment damage	– Rigs will be inspected daily and documented by the rig operator. – Wire cables will be inspected daily, and cables with broken strands, weak spots, kinks, or mashed areas will be replaced prior to use. – Driller will inspect thread connections prior to fieldwork and weekly thereafter. – The mast and cables must be able to support all equipment and drill rods. – All rotating shafts, pulleys, or chains must be covered with protective guards. – All drill rigs must be equipped with an emergency kill switch, which is readily accessible to personnel at the rear of the rig. All personnel involved with drilling operations must know the location of the switch.
	Injury from severe weather	– Drilling will stop when rain or other weather factors interferes with the safety of operations. – Drilling will stop during lighting. Personnel will move to the evacuation area indicated in the SSHP or as directed by the SHSO.
	Electrocution from power lines and underground utilities	– An underground utilities locate will be performed before drilling and underground utilities will be clearly marked. – If the drill bid encounters anything hard, drilling will stop and the SHSO or geologist will be notified. – If work is near an overhead line, care will be taken when positioning the rig and rising the mast. A spotter will be used during both operations. – When working in an area where drilling equipment could encounter electrical power sources, the equipment shall be grounded.
5. System Operations		
Electrical Resistance Heating (ERH) Multi-Phase Extraction (MPE) Liquid Waste Management (LWM) Thermal Oxidization (OX)	Injury from general hazards.	– See General Conditions.
	Injury and illness due to inadequate warning or protection provided to personnel or others.	– See Section 3 - General Construction
	Injury from use of hand and power tools: contusions, abrasions, cuts, and amputations.	– See Section 3 – General Construction.

Holt
DRILLING, Inc.
Commercial, Environmental and Geotechnical Drilling

9/22/03

TRS
Patrick Cossins

Accident Investigation Comments:

Summery of accident: The operator was struck by the drill rod following the failure of a weld and his unusual position at the back of the rig. Operator was wearing all appropriate safety gear.

Onsite investigation of the injury that occurred at the back of the TH60 air rotary drill rig is as follows;

Weld on air cylinder to the breakout wrench broke.

Top of channel that guides wrench broke and allowed the wrench to come out of channel.

Table was not completely extended possibly causing additional movement of rods.

Preventative measures to be taken;

Repair wrench air cylinder.

Weld plate on top of wrench channel.

Review operator's position and technique during rod breaking and tightening procedures.

We believe that the failure of a weld and the position of the operator both contributed to the accident. A review of equipment and procedures for our air rotary drill rigs with respect to the breakout wrench and associated equipment has been discussed on site.

Dale Smith,
Projects Manager

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APPENDIX F

UIC Permit Memo

DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-2255

July 20, 2004

REPLY TO
ATTENTION OF

Environmental Management Branch

Memorandum for Rich Wilson, PW-ENRD-IRP PM, Fort Lewis, Fort Lewis, WA

Subject: UIC Permit #11996, Logistics Center, East Gate Disposal Yard, Fort Lewis, WA – Operational changes since July 2003.

1. This memorandum is to report changes that have happened within the past 12 months at the East Gate Disposal Yard, (EGDY), formerly Landfill 2, on the Fort Lewis installation, Fort Lewis, WA. EGDY is the source area of a CERLA Superfund site listed on the National Priorities List (NPL) known as the Logistics Center. Activities on the NPL site are operating under a 1990 Record of Decision (ROD) and its subsequent 1998 Explanation of Significant Differences (ESD). The primary contaminants of concern are chlorinated solvents (TCE, VC and cis-DCE) from degreasing activities a the former Logistics Center deposited as waste at EGDY sometime between 1940 and the early 1970s. There are also spent petroleum, oils and lubricants (POLs) in the soils and groundwater beneath the site.

2. On behalf of the remediation activities on site, and to comply with the Washington State Administration Code – Underground Injection Program, EGDY activities have been registered under UIC permit # 11996. Current activities include the operation and maintenance of a long-term pump and treat system (EGDY P&T), active since 1994; an in-situ thermal remediation project using electric resistive heating (active since July 2003); and an in-situ bioremediation (ISB) technology demonstration (active since November 2003). Each of these activities have been utilizing injection and/or extraction wells and infiltration galleries (with the exception of the ISB). Changes in the past 12 months include as follows.

3. **EGDY P&T System:** The EGDY P&T system maximum extraction/injection rate was in 1997 when it reached slightly higher than 800 gpm. Current operation rates are running between 660 to 700 gpm depending upon the season. Operational configuration has undergone some recent changes with the exception of the six extraction wells. As a result of the in-situ thermal remediation project, the system's two original infiltration galleries and injection wells have been relocated and/or abandoned. Of the original infiltration galleries, Gallery 6 has been cut, filled and partially destroyed by the in-situ thermal remediation project as of July 2003. Gallery 5 has been removed from operation with the valves closed as of July 2003. Connective piping from the treatment plant to both galleries has been severed. Two new replacement galleries (Gallery 7 and Gallery 8) have been constructed in the woods surrounding EGDY approximately 1,000 feet to the southwest of their original location. The galleries were placed into operation in January 2004. Location maps, gallery construction and operation details can be found in the attached documents.

Of the two original injection wells, both LR-1 and LR-2 have been removed from operation. The connective piping from the treatment plant to LR-2 has been cut and filled and all valves are closed as of July 2003. Connective piping from the treatment plant to LR-1 remains intact, however all valves remain closed as of December 2003. A new well (LR-3) has been constructed and tested approximately 1,000 feet to the southwest of their original positions next to the two new infiltration galleries (Galleries 7 and 8). However, with the exception of testing after construction, this well is not being used. Location maps and well construction and operation details can be found in the attached documents.

The duration of this project is indefinite with a estimated duration of 40 years. Current injection rates average approximately 660 to 700 gpms. With all treated effluent water split approximate 50:50 between the two new galleries (Gallery 7 and Gallery 8). Previous system configuration averaged 100 gpms to each injection well (LR-1 and LR-2) with the remainder (500-600 gpm) split between the two galleries (Gallery 5 and 6).

4. **In-Situ Thermal Remediation:** This is a three phase project. The first phase (NAPL Area 1) is nearing completion. This is an aggressive source treatment which heats the vadose and groundwater with the concept of mobilizing the contaminates of concern up and out of the ground were the vapor and liquid phases can be captured and treated either by combustion (vapor phase) or air sparging (liquid phase). The treated liquid phase is either injected into two 250' infiltration galleries (constructed and placed in operation Oct-Nov 2003) or any one or more of the 8 hydraulic control wells (6 hydraulic control wells [HCW-1 through HCW-6] were constructed and placed in operation Oct-Nov 2003, and two additional wells [HCW-7 and HCW-8] were constructed and placed into operation in April 2004). The hydraulic control wells are used to maintain a neutral flow across the treatment area. The rate of injection and/or extraction and the location of the well will vary with seasonal groundwater trends. Currently only two of the wells are active. The duration of this project encompassing all three phases is expected to last until 2006. This first phase (NAPL Area 1) should be completed by late summer 2004. Operation time is 7 day - 24 hours, however, there will be downtime between phases. Each phase's operational time is expected to last between 5-8 months. Location maps and well construction and operation details can be found in the attached documents.

   One adjustment to a project gallery has been make since initial construction in order to correct for poor infiltration rates. The northwestern injection gallery piping was re-laid parallel and in very close proximity to the original piping construction in March of 2004. The new piping was surrounded with drain rock and the original piping was abandon in place. Current injection rates into the galleries are between 70-120 gpms.

5. **ISB Technology Demonstration:** ISB Technology Demonstration in NAPL Area 3: This project, funded by a DoD grant, is to demonstrate the ability of enhanced in-situ bioremediation (ISB) to facilitate increased mass transfer rates of chlorinated solvents from the nonaqueous phase to the aqueous phase during bioremediation, thereby making this technology viable in for dense nonaqueous phase liquid (DNAPL) source areas. The conceptual design for the demonstration utilizes two treatment cells within NAPL Area 3 of EGDY, one which will undergo high- and the other low- concentration nutrient (donor)

injections. Prior to nutrient injections, however, tracer testing was conducted in order to determine the hydrologic properties of the aquifer and to aid in the design of the injection strategy for each treatment cell.

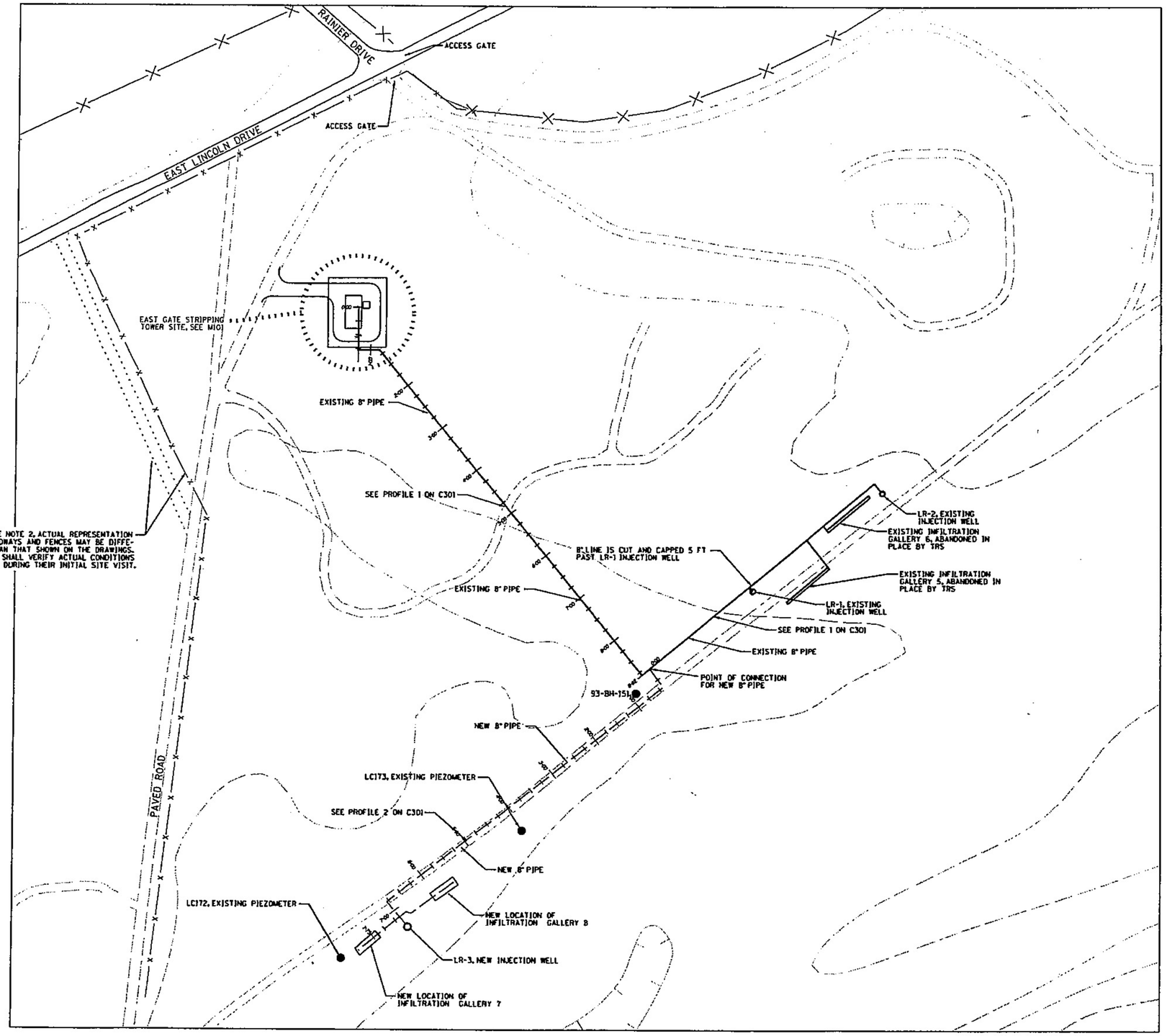
In April 2003, two extraction and two injection wells were constructed. Aquifer pump tests and tracer test were conducted June 2003. A second and a third round of pump and tracer tests were performed in August 2003 and November 2003. The results of this testing suggested that significant vertical gradients were present in both of the treatment cells, and both extraction wells were very inefficient, with maximum yields ~2-4 gpm. Therefore, in April 2004 two additional extraction wells were constructed using a different drilling method, and two additional injection wells were constructed to a shallower depth (20 ft as opposed to 30 ft). In June 2004, a forth round of pump tests and tracer tests were completed using the new injection and extraction wells in both of the treatment cells. Extraction and donor injection rates will cycle with an estimated average extraction of 12 hours per week for a weekly injection. If necessary, the pumps may run 24:7 to recirculate water in the treatment cells. The duration of this project is expected to last until 2005. Location maps and well construction and operation details can be found in the attached documents.

6. The point of contact for this memo is Linnea Norby. Please direct any questions to Linnea either by e-mail at Linnea.Norby@nws02.usace.army.mil or via phone at 206-765-6831.

Sincerely,

Linnea Norby, P.G.
USACE Fort Lewis Project Manager

SYMBOL	ZONE	REVISION DESCRIPTION	DATE	BY
		REVISED AS-BUILT	1/29/04	HZJ



GENERAL SITE PLAN

SCALE: 1" = 160'

NOTES:

1. SEE PLATES C102 AND C103 FOR ADDITIONAL INFORMATION
2. EAST LINCOLN DRIVE AND RAINIER DRIVE ARE BOTH PAVED WITH ACCESS GATES WHERE INDICATED. REPRESENTATION OF FENCES AND NON-LISTED ROADS AS SHOWN ON THIS SHEETS AND ON SHEETS C102 AND C103 MAY VARY SLIGHTLY. CONTRACTOR SHALL VERIFY EXISTING SITE UTILITIES AND FIELD CONDITIONS.
3. ALL STAGING AREAS MUST BE APPROVED BY THE CO PRIOR TO FIELD IMPLEMENTATION.
4. LR-2, GALLERIES 5 & 6 ARE ABANDONED

LEGEND

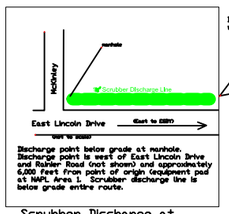
- EXISTING EFFLUENT WATER LINE SEE C102 FOR ADDITIONAL DETAILS
- NEW EFFLUENT WATER LINE SEE C103 FOR ADDITIONAL DETAILS
- INFILTRATION GALLERY
- BUILDING OR STRUCTURE
- FENCE
- CONTOUR
- NORTHING AND EASTING COORDINATES
- INJECTION/RECHARGE WELL
- BORING LOCATION OR PIEZOMETER
- PAVED ROAD OR GRAVEL ROAD
- SPOT ELEVATION

N

U.S. ARMY ENGINEER DISTRICT, SEATTLE CORPS OF ENGINEERS SEATTLE, WASHINGTON				
LOGISTICAL CENTER EGDY INFILTRATION SYSTEM RELOCATION				
GENERAL SITE PLAN AS-BUILT				
FT. LEWIS	DSERTS-FTLE33			WASHINGTON
SIZE F	INVITATION NO.	FAC NO. 225/841-10-10	DATE 03JUN03	PLATE C101
DSGN. DANIELS	DR. WOLFE	CHK.	SHEET 2	

This project was designed by the Seattle District U.S. Army Corps of Engineers. The review of signature and registration designations of individuals approving this documentation or on these project documents within the scope of their employment as required by ER 1110-1-8100, Professional Registration.

DATE AND TIME PLOTTED: ***DATE****TIME DESIGN FILE: ***DGN**********



Scrubber Discharge at Sanitary Sewer System

LEGEND

- HYDRAULIC CONTROL EXTRACTION WELL (3)
- HYDRAULIC CONTROL INJECTION WELL (3)
- GROUNDWATER AND TEMPERATURE WELL (20 EACH AREA)
- TEMPERATURE MONITORING POINT (AREA 1-20, AREA 2-30)
- ERH ELECTRODE AND MPE WELL (AREA 1-106, AREA 2-210)

NOTE: NAPL Area 2 are proposed locations which may be modified at a later date.

4" PVC AND 2" CPVC AREA 3 PIPING
1½" SCRUBBER DISCHARGE PIPING
6" PVC INFILTRATION PIPING
NORTHWEST INFILTRATION GALLERY - 250'
SOUTHWEST INFILTRATION GALLERY - 250'
EXISTING INFILTRATION GALLERIES

LC-187 LC-184 LC-190 TCE: 1000 ug/l LC-188 LC-191 TCE: 379 ug/l DCE: 194 ug/l LC-192 TCE: 1,050 ug/l DCE: 696 ug/l LC-148 LR-2 LC-147 LC-26D TCE: 10 ug/l LC-26 LR-1

ST-3 ST-6

GROUNDWATER FLOW
190'
GROUNDWATER FLOW
GROUNDWATER FLOW

500 GALLON PROPANE TANK
PROPANE LINE
AUX. XFMR NEUTRAL GROUND RODS
POWER CONTROL UNIT
EQUIPMENT PAD GROUND RODS
NAPL STORAGE TANK
SURGE TANK
THERMAL OXIDIZER
LOCAL CONTROL PANEL
COND
VLS
CABLES
OFFICE TRAILER (AREA 1 POSITION)
UTILITY POLE

GS TO 47 FT BGS
(277 TO 230 FT MSL)
26,000 CU YD

pre-ERH
TCE: 86 ug/l
DCE: 120 ug/l
HCW04

pre-ERH
TCE: 34 ug/l
DCE: ND
HCW01

pre-ERH
TCE: ND
DCE: ND
HCW02

pre-ERH
TCE: ND
DCE: ND
HCW03

pre-ERH
TCE: 1,200 ug/l
DCE: 260 ug/l
HCW05

pre-ERH
TCE: 34 ug/l
DCE: ND
HCW06

AREA 1

25,400 SQ FT
GS TO 33 FT BGS)
(278 TO 245 FT MSL)

GROUNDWATER FLOW
GS TO 18 FT BGS
(277 TO 259 FT MSL)
6,300 CU YD

AREA 2

8 TO 28 FT BGS
(273 TO 253 FT MSL)
19,900 CU YD

50,900 SQ FT
52,200 CU YD

WOODED AREA

NO	DATE	REVISION	BY

THERMAL REMEDIATION services inc. amec CDM

W.O.	TAC02
DESIGN	GB
DRAWN	GB
DATE	MAY 2003
SCALE	1" = 60'

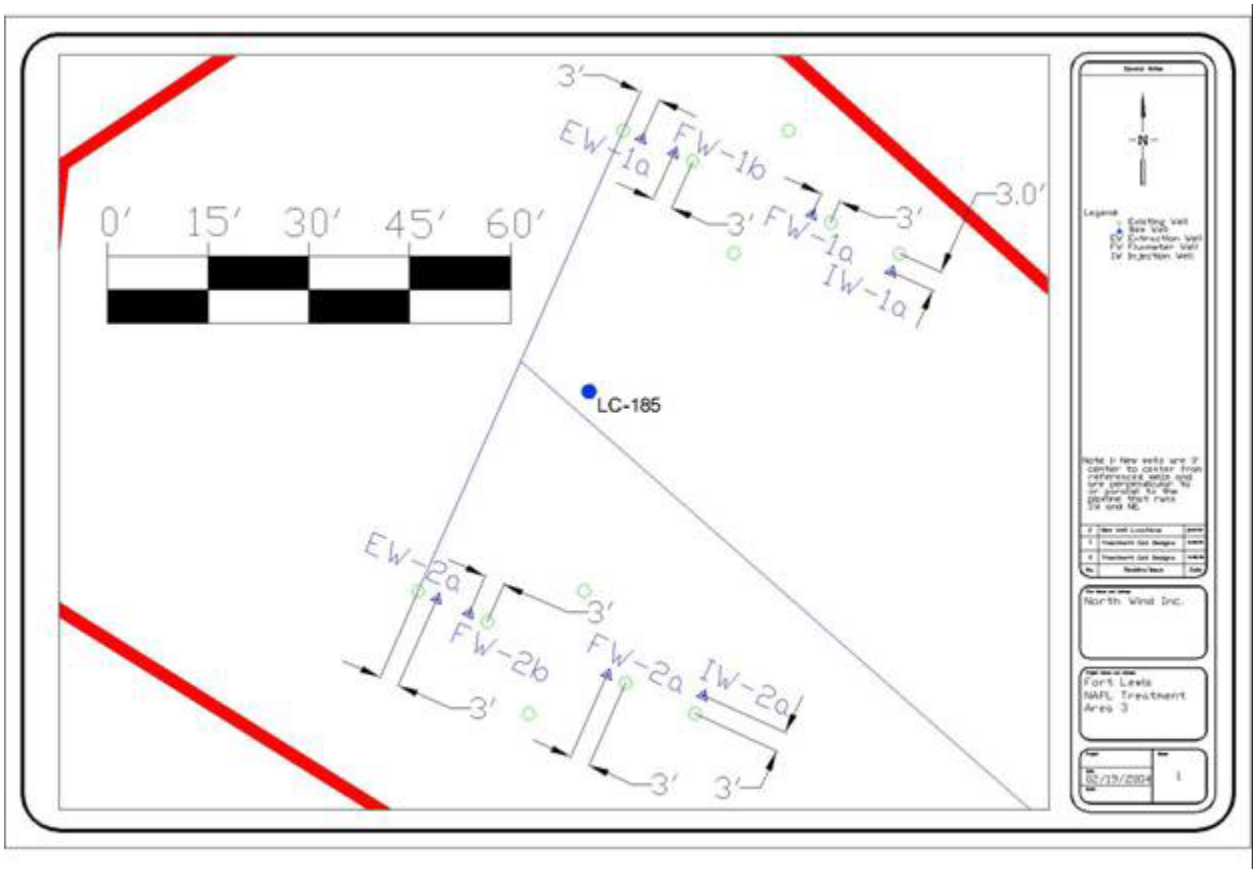
EGDY SITE – FORT LEWIS
TACOMA, WASHINGTON

NAPL AREA 1 AND SITE PLOT PLAN

SHEET NUMBER 2

EGDY ERH DRAFT INSTALLATION REPORT Fig 2

RAMP\DRAFT INSTALLATION REPORT\DWGs\Fig 2



1. Location of new wells emplaced April 2004 in relation to the existing well system.

APPENDIX G

NAPL Area 1 Data Summation Tables (Groundwater, Air, and Temperatures)

NAPL Area 1 Air and Vapor Sample Summary Results

VOC Oxidizer Influent (OXIN), Scrubber Stack Effluent (OXSS), and Main NAPL Storage Tank Vent Stack (MSTS) Air/Vapor Analytical Data

Constituents of Concern in ug/m3	OXIN				OXSS				MSTS			
	12/9/03 Initial	2/10/04 Week 9	4/8/04 Week 17	8/4/04 Final	12/9/03 Initial	2/10/04 Week 9	4/8/04 Week 17	7/13/04 Final	12/10/03 Initial	2/12/04 Week 9	4/5/04 Week 17	8/4/04 Final
TCE	450,000	300,000	440,000	100,000	370 J	370	1600	<190	<190	<190	<190	<190
c-DCE	450,000	110,000	34,000	18,000	350 J	<140	<140	<140	<140	<140	<140	<140
TCA	<380	<190	<190	<190	<190	<190	<190	<190	<190	<190	<190	<190
PCE	<480	1,100	700	<240	<240	<240	<240	<240	<240	<240	<240	<240
VC	38,000	4,700 J	850	540	<90	<90 UJ	<90	<90	<90	<90 UJ	<90	<90

Perimeter Air Monitoring (PAM)

Constituents of Concern in ug/m3	PAM01 A1 (Front Gate Entrance)				PAM02 A1 (East)				PAM03 A1 (West)			PAM04 A1 (North)			PAM05 A1 (South)			PAM06 A1 (Down Wind)				PAM07 A1 (Equipment Pad)			
	1/22/04 Initial	3/15/04 Week 14	6/7/04 Week 25	6/30/04 Final	1/22/04 Initial	3/15/04 Week 14	6/7/04 Week 25	6/30/04 Final	1/22/04 Initial	3/15/04 Week 14	6/7/04 Final	1/22/04 Initial	3/15/04 Week 14	6/7/04 Week 25 Final	1/22/04 Initial	3/15/04 Week 14	6/7/04 Week 25 Final	1/22/04 Initial	3/15/04 Week 14	6/7/04 Week 25	6/30/04 Final	1/22/04 Initial	3/15/04 Week 14	6/7/04 Week 25	6/30/04 Final
TCE	0.200	0.390	0.190	0.110	0.140	0.064	0.570	1.800	0.380	0.100	<0.0069 U	0.250	0.220	0.210	0.130 U	<0.0055 U	0.220	0.190	0.160	0.290	1.900	0.230	0.170	0.260	1.700
c-DCE	<0.0053 U	<0.0059 U	<0.0046 U	<0.0043 U	<0.0039U	<0.0036 U	0.094	0.320	0.051	<0.0036 U	<0.0052 U	<0.004 U	<0.0042 U	<0.0043 U	<0.0041 U	<0.0041 U	<0.0046 U	<0.0048 U	0.034	<0.0041 U	0.320	0.038	<0.0041 U	<0.0046 U	0.310
TCA	0.140	0.130	0.130	0.130	0.140	0.120	0.130	0.130	0.150	0.130	0.130	0.140	0.130	0.130	0.140	0.130	0.130	0.610	0.130	0.130	0.130	0.140	0.130	0.120	0.130
PCE	0.097 U	<0.0079 U	0.072	0.060	0.085 U	0.038	0.068	0.059	0.100 U	0.040	0.076	0.086 U	0.046	0.075	0.084 U	0.040	0.007	0.290	0.040	0.071	0.061	0.074 U	0.120	0.071	0.063
VC	<0.0079 U	<0.012 U	<0.0092 U	<0.0086 U	<0.0079 U	<0.0072 U	<0.009 U	0.023	<0.0098 U	<0.0072 U	<0.01 U	<0.008 U	<0.0084 U	<0.0085 U	<0.0081 U	<0.0082 U	<0.0092 U	0.029	<0.0079 U	<0.0083 U	0.020	<0.0079 U	<0.0082 U	<0.0092 U	0.023

Multiphase Extraction Well Vapor Analytical Data

Constituents of Concern in ug/m3	MPEB08A1				MPEC07A1				MPEC08A1				MPED06A1		MPED07A1				MPED08A1				MPEE04A1				MPEE05A1			
	7/15/04 Initial	7/16/04	7/19/04	7/20/04 Final	6/11/04 Initial	7/14/04	7/19/04	7/27/04 Final	6/11/04 Initial	7/15/04	7/20/04	7/27/04 Final	6/21/04 Initial	7/15/04 Final	6/21/04 Initial	7/12/04	7/22/04	7/27/04 Final	7/15/04 Initial	7/16/04	7/19/04	7/20/04 Final	6/11/04 Initial	7/15/04	7/20/04	7/27/04 Final	7/15/04	7/19/04	7/20/04	7/27/04 Final
TCE	360,000 U	280,000	250,000	190,000	6,500	740,000	430,000	240,000	53,000	8,100,000	7,700,000	7,400,000	120,000	<95,000	60000	2,500,000J	1,100,000J	<95,000	16,000,000	25,000,000	12,000,000	23,000,000	41,000	100,000 JU	430,000	<95,000	300,000 U	<95,000	290,000	1,900,000
c-DCE	400,000	200,000	170,000	210,000	9,500	470,000	230,000	140,000	47,000	8,700,000	2,500,000	5,500,000	230,000	73,000 J	71000	<70,000UJ	99,000J	<70,000	2,000,000	2,000,000	720,000	14,000,000	7,900	560,000	1,000,000	<70,000	1,200,000	120,000	400,000	3,200,000
TCA	<9,5000	<95,000	<95,000	<95,000	<190	<95,000	<95,000	<95,000	<190	<95,000	<95,000	<95,000	<190	<95,000	<190	<95,000UJ	<95,000UJ	<95,000	<9,5000	<95,000	<95,000	<95,000	<190	<95,000	<95,000	<95,000	<95,000	<95,000	<95,000	<95,000
PCE	<120,000	<120,000	<120,000	<120,000	<240	<120,000	<120,000	<120,000	<240	<120,000	<120,000	<12,000	450	<120,000	590	<120,000UJ	<120,000UJ	<120,000	<120,000	<120,000	<120,000	<120,000	<240	<120,000	<120,000	<120,000	<120,000	<120,000	<120,000	<120,000
VC	<45,000	<45,000	<45,000	<45,000	1,700.0	<45,000	<45,000	<45,000	2,100	340,000	<45,000	180,000	22,000	<45,000	4600	<45,000UJ	<45,000UJ	<45,000	<45,000	<45,000	<45,000	<45,000	290	<45,000	<45,000	<45,000	<45,000	<45,000	<45,000	160,000

Constituents of Concern in ug/m3	MPEE06A1				MPEE07A1	MPEE08A1		MPEF03A1				MPEF04A1			MPEF05A1				MPEF08A1	MPEF09A1		MPEF11A1			MPEF12A1		MPEF13A1		
	6/10/04 Initial	7/14/04	7/20/04	7/27/04 Final	06/18/2004	6/10/04 Initial	6/18/04 Final	7/15/04 Initial	7/22/04	7/23/04	7/27/04 Final	7/15/04 Initial	7/19/04	7/23/04	7/27/04 Final	6/10/04 Initial	6/21/04	7/15/04	7/22/04 Final	06/18/2004	6/10/04 Initial	7/21/04	6/11/2004 Initial	7/12/04	7/21/04 Final	7/14/04 Initial	7/21/2004 Final	6/11/2004 Initial	7/12/04	7/21/04 Final
TCE	32,000	3,600,000	4,300,000	280,000	140,000	28,000	240,000	<95,000	670,000 J	150,000 J	<95,000	450,000 U	670,000	97,000 UJ	570,000	44,000	330,000	<95,000	<95,000 UJ	100,000	29,000	<95,000 UJ	35,000	<95,000 UJ	<95,000 UJ	<95,000	<95,000 UJ	3,400	<95,000 UJ	<95,000 UJ
c-DCE	5,900	160,000	200,000	140,000	96,000	38,000	78,000	<70,000	560,000 J	210,000 J	<70,000	900,000	760,000	110,000 J	610,000	7,800	32,000	<70,000	<70,000 UJ	180,000	8,500	<70,000 UJ	15,000	<70,000 UJ	<70,000 UJ	<70,000	<70,000 UJ	1,100	<70,000 UJ	<70,000 UJ
TCA	<190	<95,000	<95,000	<95,000	<190	<190	<190	<95,000	<95,000 UJ	<95,000 UJ	<95,000	<95,000	<95,000	<95,000 UJ	<95,000	<190	<190	<95,000	<95,000 UJ	<190	<190	<95,000 UJ	<190	<95,000 UJ	<95,000 UJ	<95,000	<95,000 UJ	<190	<95,000 UJ	<95,000 UJ
PCE	<240	<120,000	<120,000	<120,000	540	<240	640	<120,000	<120,000 UJ	<120,000 UJ	<120,000	<120,000	<120,000	<120,000 UJ	<120,000	1,900	7,100	<120,000	<120,000 UJ	<240	<240	<120,000 UJ	<240	<120,000 UJ	<120,000 UJ	<120,000	<120,000 UJ	<240	<120,000 UJ	<120,000 UJ
VC	<90	<45,000	<45,000	<45,000	4,800	2,000	3,000	<45,000	<45,000 UJ	<45,000 UJ	<45,000	<45,000	<45,000	<45,000 UJ	<45,000	800	1,700	<45,000	<45,000 UJ	15,000	390	<45,000 UJ	<90	<45,000 UJ	<45,000 UJ	<45,000	<45,000 UJ	<90	<45,000 UJ	<45,000 UJ

Constituents of Concern in ug/m3	MPEF14A1	MPEF15A1		MPEF15A1		MPEG03A1				MPEG04A1				MPEG05A1				MPEG06A1				MPEG07A1	MPEG09A1		MPEG10A1		MPEG11A1		
	07/23/04	6/11/04 Initial	7/21/04 Final	7/15/04 Initial	7/27/04 Final	6/10/04 Initial	6/22/04	7/15/04	7/23/04 Final	6/17/04 Initial	6/29/04	7/20/04	7/27/04 Final	6/17/04 Initial	6/29/04	7/22/04	7/27/04 Final	6/10/04 Initial	7/16/04	7/19/04	7/20/04 Final	06/10/2004	7/14/04 Initial	7/23/04	7/14/04 Initial	7/21/04	6/10/04 Initial	7/12/04	7/21/04
TCE	<95,000 UJ	840	97,000 UJ	<95,000	1,100,000	30,000	390,000	<95,000	<95,000 UJ	130,000	48,000	2,100,000	430,000	190,000	350,000	<95,000 UJ	<95,000	39,000	340,000	480,000	690,000	83,000	<95,000	<95,000 UJ	460,000	900,000 J	280,000	<95,000 UJ	900,000 J
c-DCE	<70,000 UJ	<140	110,000 UJ	<70,000	640,000	19,000	100,000	<70,000	<70,000 UJ	10,000	680	450,000	250,000	16,000	91,000	<70,000 UJ	<70,000	11,000	400,000	510,000	380,000	11,000	<70,000	<70,000 UJ	<70,000	<70,000 UJ	110,000	<70,000 UJ	<70,000 UJ
TCA	<95,000 UJ	<190	<95,000 UJ	<95,000	<95,000	<190	<950	<95,000	<95,000 UJ	<190	<190	<95,000	<95,000	<190	<190	<95,000 UJ	<95,000	<190	<95,000	<95,000	<95,000	<190	<95,000	<95,000 UJ	<95,000	<95,000 UJ	<190	<95,000 UJ	<95,000 UJ
PCE	<120,000UJ	<240	<120,000 UJ	<120,000	<120,000	<240	2,000	<120,000	<120,000 UJ	1,700	470	<120,000	<120,000	2,200	6,400	<120,000 UJ	<120,000	860	<120,000	<120,000	<120,000	310 J	<120,000	<120,000 UJ	<120,000	<120,000 UJ	1,000	<120,000 UJ	<120,000 UJ
VC	<45,000 UJ	<90	<45,000 UJ	<45,000	<45,000	1,400	12,000	<45,000	<45,000 UJ	<90	<90	<45,000	<45,000	260	820	<45,000 UJ	<45,000	720	<45,000	<45,000	<45,000	700	<45,000	<45,000 UJ	<45,000	<45,000 UJ	1,700	<45,000 UJ	<45,000 UJ

Constituents of Concern in ug/m3	MPEG12A1		MPEG13A1	MPEG14A1		MPEH03A1			MPEH05A1	MPEH08A1	MPEH09A1			MPEH10A1				MPEI02A1				MPEI03A1				MPEI04A1		MPEI05A1	
	7/14/04 Initial	7/21/04 Final	07/23/04	7/14/04 Initial	7/21/04 Final	6/29/04 Initial	7/22/04	7/27/04	06/18/04	06/10/04	7/14/04 Initial	7/21/04 Final	6/21/04 Initial	6/30/04	7/12/04	7/21/04 Final	6/11/04 Initial	6/22/04	7/12/04	7/22/04 Final	6/22/04 Initial	6/29/04	7/12/04	7/27/04 Final	6/10/04 Initial	6/18/04 Final	6/10/04 Initial	6/18/04 Final
TCE	<190	97,000 UJ	<95,000 UJ	<95,000	97,000 UJ	48,000	<95,000 UJ	<95,000	63,000	1,100,000	230,000	97,000 UJ	380,000	640,000 J	2,100,000 J	1,600,000 J	39,000	150,000	<95,000 UJ	<95,000 UJ	57,000	24,000	1,200,000 J	160,000	210,000	110,000	280,000	260,000
c-DCE	<140	<70000 UJ	<70,000 UJ	<70,000	<70,000 UJ	4,800	<70,000 UJ	<70,000	40,000	180,000	<70,000	<70,000 UJ	150,000	<70,000 J	260,000 J	400,000 J	6,500	110,000	<70,000 UJ	<70,000 UJ	30,000	5,600	540,000 J	<70,000	61,000	43,000	110,000	74,000
TCA	<190	<95,000 UJ	<95,000 UJ	<95,000	<95,000 UJ	<190	<95,000 UJ	<95,000	<190	<190	<95,000	<95,000 UJ	<190	<95,000 J	<95,000 UJ	<95,000 UJ	<190	<190	<95,000 UJ	<95,000 UJ	<190	<190	<95,000 UJ	<95,000	<190	<190	<190	<190
PCE	<240	<120,000 UJ	<120,000UJ	<120,000	<120,000 UJ	390	<120,000 UJ	<120,000	<240	6,700	<120,000	<120,000 UJ	1,200	<120,000 J	<120,000 UJ	<120,000 UJ	<240	650	<120,000 UJ	<120,000 UJ	<240	240	<120,000 UJ	<120,000	340	<240	1,400	410
VC	<90	<45,000 UJ	<45,000 UJ	<45,000	<45,000 UJ	<90	<45,000 UJ	<45,000	1,700	6,300	<45,000	<45,000 UJ	3,400	<45,000 J	<45,000 UJ	<45,000 UJ	<90	6,600	<45,000 UJ	<45,000 UJ	1,200	<90	<45,000 UJ	<45,000	610	2,000	3,600	1,600

Constituents of Concern in ug/m3	MPEI09A1				MPEI10A1				MPEI11A1	MPEI12A1		MPEI13A1			MPEJ05A1	MPEJ06A1	MPEJ08A1				MPEK03A1	MPEK09A1	MPEK10A1	MPEK12A1		MPEL04A1	MPEL05A1
	6/11/04 Initial	6/30/04	7/12/04	7/23/04 Final	6/21/04 Initial	6/30/04	7/12/04	7/23/04 Final	06/10/04	6/10/04 Initial	7/21/04 Final	6/11/04 Initial	7/14/04	7/21/04 Final	06/11/04	06/10/04	6/10/04 Initial	6/30/04	7/12/04	7/23/04 Final	06/10/04	06/10/04	06/10/04	06/11/04	07/14/04	06/10/04	06/10/04
TCE	230,000	49,000,000 J	23,000,000 J	25,000,000 J	570,000	2,900,000 J	450,000 J	550,000 J	3,500	120,000	<95,000 UJ	3,400	200,000	<95,000 UJ	78,000	750,000	2,900,000	630,000 J	2,400,000 J	830,000 J	110,000	770,000	49,000	41,000	130,000 J	16,000	33,000
c-DCE	3,700	800,000 J	<70,000 UJ	240,000 J	14,000	200,00 J	<70,000 UJ	<70,000 UJ	450	28,000	<70,000 UJ	390	<70,000	<70,000 UJ	14,000	37,000	300,000	<70,000 J	<70,000 J	<70,000 UJ	57,000	180,000	3,000	6,000	<70,000	4,600	3,100
TCA	<190	<190 J	<95,000 UJ	<95,000 UJ	<190	<95,000 J	<95,000 UJ	<95,000 UJ	<190	<190	<95,000 UJ	<190	<95,000	<95,000 UJ	<190	<190	<1520	<95,000 J	<95,000 UJ	<95,000 UJ	<190	<190	<190	<190	<95,000	<190	<190
PCE	300 J	200,000 J	<120,000 UJ	<120,000 UJ	1,800	<120,000 J	<120,000UJ	<120,000 UJ	<240	1,300	<120,000 UJ	<240	<120,000	<120,000 UJ	360	3,400	5,100	<120,000 J	<120,000 UJ	<120,000 UJ	450	4,000	490	<240	<120,000	<240	<240
VC	99 J	<90 J	<45,000 UJ	<45,000 UJ	180	<45,000 J	<45,000 UJ	<45,000 UJ	<90	870	<45,000 UJ	<90	<45,000	<45,000 UJ	<90	2,600	10,000	<45,000 J	<45,000 UJ	<45,000 UJ	860	6,000	<90	<90	<45,000	<90	<90

Constituents of Concern in ug/m3	MPEL06A1				MPEL07A1				MPEL08A1				MPEL09A1	MPEM05A1				MPEM08A1		MPEM10A1		MPEN05A1			
	6/11/04 Initial	6/22/04	7/19/04	7/20/04 Final	6/11/04 Initial	6/30/04	7/13/04	7/23/04 Final	6/11/04 Initial	6/30/04	7/12/04	7/23/04 Final	07/12/04	6/11/04 Initial	6/17/04	6/22/04	6/29/04 Final	6/11/04 Initial	6/22/04 Final	6/11/04 Initial	6/22/04	7/12/04 Final	6/11/04 Initial	6/17/04	6/29/04	7/12/04 Final
TCE	290,000	12,000 R	1,400,000	420,000	240,000	7,200,000 J	2,200,000	2,800,000 J	880,000	3,000,000	390,000 J	250,000 J	<95,000 UJ	180,000	43,000	75,000	30,000	29,000	200,000	26,000	22,000	<95,000 UJ	5,300,000	16,000,000	1,600,000	120,000 JJ
c-DCE	9,000	1,300 R	<70,000	<70,000	6,800	<70,000 J	<70,000	190,000 J	180,000	310,000 J	<70,000 UJ	<70,000 UJ	<70,000 UJ	14,000	11,000	29,000	15,000	2,700	34,000	2,200	5,700	<70,000 UJ	440,000	1,800,000	220,000	<70,000 UJ
TCA	<190	<190 R	<95,000	<95,000	<190	<95,000 J	<95,000	<95,000 UJ	<190	<95,000 J	<95,000 UJ	<95,000 UJ	<95,000 UJ	<190	<190	<190	<190	<190	<190	<190	<190	<95,000 UJ	<1,520	<7,600	<1,900	<95,000 UJ
PCE	610	<240 R	<120,000	<120,000	550	<120,000 J	<120,000	<120,000 UJ	3,200	<120,000 J	<120,000 UJ	<120,000 UJ	<120,000UJ	1,000	<240	290 J	<240	<240	1,300	<240	<240	<120,000 UJ	21,000	52,000	6,900	<120,000 UJ
VC	280	<90 R	<45,000	<45,000	160	<45,000 J	<45,000	<45,000 UJ	3,000	<45,000 J	<45,000 UJ	<45,000 UJ	<45,000 UJ	160	<90	<90	<90	<90	<90	<90	<90	<45,000 UJ	3,200	5,000 J	1,500	<45,000 UJ

Regional Header Air/Vapor Analytical Data

Constituents of Concern in ug/m3	MPEN07A1				MPEN10A1	MPENC01A1				MPENE01A1				MPENW01A1				MPESC01A1				MPESE01A1				MPESW01A1			
	6/11/04 Initial	6/17/04	6/29/04	7/12/04 Final	06/22/04	12/19/03 Initial	2/12/04 Week 9	4/8/04 Week 17	7/29/04 Final	12/19/03 Initial	2/12/04 Week 9	4/5/04 Week 17	7/29/04 Final	12/19/03 Initial	2/12/04 Week 9	4/5/04 Week 17	7/29/04 Final	12/19/03 Initial	2/12/04 Week 9	4/5/04 Week 17	7/29/04 Final	12/19/03 Initial	2/12/04 Week 9	4/5/04 Week 17	7/29/04 Final	12/19/03 Initial	2/12/04 Week 9	4/5/04 Week 17	7/29/04 Final
TCE	1,200,000 E	2,800,000	44,000	<95,000 UJ	8,400	360,000	610,000 EJ	560,000	250,000	18,000	72,000	65,000	95,000	110,000	420,000	890,000	430,000	260,000	160,000	2,600,000	420,000	6,300,000	380,000	350,000	24,000	200,000	82,000	420,000	81,000
c-DCE	140,000	590,000	3,700	<70,000 UJ	1,800	210,000	290,000	70,000	90,000	13,000	29,000	12,000	63,000	75,000	180,000	100,000	170,000	89,000	63,000	120,000	21,000	280,000	52,000	13,000	2,300	140,000	860	48,000	6,300
TCA	<190	<950	<190	<95,000 UJ	<190	<190	<190	<190	<190	<190	<190	<190	<190	<190	<190	<190	<190	<190	<190	<760	<190	<760	<190	<190	<190	<190	1,800	<190	<190
PCE	9,100	15,000	<240	<120,000 UJ	<240	440	2,000	920	380	<240	<240	<240	<240	330 J	2,300	2,200	950	470	500	4,700	930	4,800	850	640	<240	760	410	810	<240
VC	2,100	2,000	<90	<45,000 UJ	<90	7,100	17,000 J	3,700	4,400	1,600	1,800 J	610	2,400	9,500	11,000 J	2,800	6,600	840	1,600 J	2,300	360	<360	<90J	<90	<90	5,800	1,900 J	1,300	<90

ug/m3: micrograms per meter squared

TCE: Trichlorothene
c-DCE: cis-1,2-Dichloroethene
TCA: 1,1,1-Trichloroethene
PCE: Tetrachloroethene
VC: Vinyl Chloride

J = Estimated Value
E = Exceeded the Instrument Calibration Range
R = Sample Rejected
U = Constituent Detected below this value but Instrument not Able to analyze at that Range

NAPL Area 1 Groundwater Results Summary

Hydraulic Control Wells Groundwater Analytical Data*

Constiuents of Concern	HCW01A1				HCW02A1				HCW03A1				HCW04A1				HCW05A1	HCW06A1	HCW07A1				HCW08A1			
	11/05/03 Initial	2/10/04 Week 9	4/8/04 Week 17	6/7/04 Final	11/6/04 Initial	2/10/04 Week 9	4/8/04 Week 17	8/4/04 Final	11/6/04 Initial	1/27/04 Week 7	6/7/04 Week 26	8/4/04 Final	11/7/04 Initial	2/24/04 Week 11	4/8/04 Week 17	5/1904 Final	11/7/03 Initial	11/7/03 Initial	4/19/04 Initial	5/4/04 Week 21	5/19/04 Week 23	6/1/04 Final	4/19/04 Initial	4/30/04 Week 20	5/10/04 Week 22	5/20/04 Final
TCE	34.0	3.40J	4.0J	5.4	<2.0	<2.0	2.10J	<2.0	<2.0	5.9	<2.0	<2.0	86.0	5.1	5.9	6.1	1200E	34.0	2.60J	1.4	1.0	1.0	2.7J	2.5J	1.8	2.10J
c-DCE	<2.0	<2.0	<2.0	9.1	<2.0	<2.0	<2.0	<2.0	<2.0	3.50J	<2.0	<2.0	120.0	<2.0	<2.0	<2.0	260	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
TCA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PCE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.1	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1
VC	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.1	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1

Lateral Control Wells Groundwater Analytical Data*

Constiuents of Concern	LC2010A1				LC2013A1	LC20201A1		LC20301A1		LC20401A1		LC20501A1		LC20601A1		LC20701A1		LC20801A1			
	1/14/04 Initial	3/24/04 Week 15	6/28/04 Week 29	8/4/2004 Final	4/7/04 Initial	1/14/04 Initial	4/28/04 Final	1/14/04 Initial	4/28/04 Final	1/13/04 Initial	4/28/04 Final	1/13/04 Initial	4/28/04 Final	1/13/04 Initial	4/28/04 Final	1/12/04 Initial	4/28/04 Final	1/14/04 Initial	3/24/04 Week 15	6/28/04 Week 29	8/4/04 Final
TCE	610	470	240	180	370	2200	120	3500	300	4400	670	140	340	29	290	7400	260	330.0	950.0	170.0	130.0
c-DCE	560	140	120	99	110	1100	53	1100	730	920	850	360	450	900	400	8100	200	6.3	8.8	<2.0	<2.0
TCA	<2.0	<2.0	<2.0	<2.0	<0.5	<20.0	<4.0	<20.0	<4.0	<20.0	<20.0	<2.0	<4.0	<2.0	<4.0	<20.0	<20.0	<2.0	<2.0	<2.0	<2.0
PCE	<2.0	<2.0	<2.0	<2.0	<0.5	<20.0	<4.0	<20.0	<4.0	<20.0	<20.0	<2.0	<4.0	<2.0	<4.0	<20.0	<20.0	<2.0	<2.0	<2.0	<2.0
VC	4.6J	<2.0	<2.0	<2.0	<0.5	<20.0	<4.0	<20.0	4.40J	<20.0	<20.0	<2.0	8.9J	340	84	1600.0	<20.0	<2.0	<2.0	<2.0	<2.0

Constiuents of Concern	LC20901A1				LC21001A1			LC21101A1		LC21201A1		LC21301A1				LC21401A1	LC21501A1				
	1/13/04 Initial	3/24/04 Week 15	6/28/04 Week 29	8/4/04 Final	1/13/04 Initial	3/24/04 Week 15	6/28/04 Week 29	8/4/04 Final	1/12/04 Initial	4/28/04 Final	1/12/04 Initial	4/28/04 Final	1/12/04 Initial	4/28/04 Week 20	6/28/04 Week29	8/4/04 Final	1/12/04 Initial	1/14/04 Initial	3/24/04 Week 15	6/28/04 Week 29	8/4/04 Final
TCE	390	300	190	120	220	470	250	230	58	66	18	40	6.4	17	15	11	2.6	<2.0	190.0	5.0	3.6J
c-DCE	<2.0	2.2J	<2.0	<2.0	<2.0	3.0J	3.4	6.9	11	71	11	350	<2.0	150	62	49	4.3	<2.0	26.0	<2.0	<2.0
TCA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PCE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
VC	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	41	<2.0	28	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

Multi-Phase Extraction Wells Regional Header Groundwater Analytical Data*

Constiuents of Concern	MPEC01A1		MPENC01A1		MPENW01A1		MPESC01A1		MPESE01A1		MPESW01A1	
	12/23/03 Initial	4/9/04 Final	12/23/03 Initial	4/9/04 Final	12/23/03 Initial	4/9/04 Final	12/23/03 Initial	4/9/04 Final	12/23/03 Initial	4/9/04 Final	12/23/03 Initial	4/9/04 Final
TCE	1100	87	140	51	1100	270	1100	670	370000	160	1300.0	140.0
c-DCE	790	24	210	28	1300	56	650	55	4400	24	2200.0	40.0
TCA	<2.5	<0.5	<0.5	<0.5	<2.5	<0.5	<2.5	<2.0	<250	<0.5	<5.0	<0.5
PCE	<2.5	<0.5	<0.5	<0.5	<2.5	<0.5	<2.5	<2.0	<250	<0.5	<5.0	<0.5
VC	19.0	<0.5	<0.5	<0.5	15.0	0.53	<2.5	<2.0	<250	<0.5	10.0	<0.5

Groundwater Monitoring Wells Groundwater Analytical Data*

Constiuents of Concern	MWB09A1				MWC08A1				MWD03A1				MWD14A1				MWE07A1				MWF03A1			
	11/18/03 Initial	3/24/04 Week 15	6/30/04 Week 29	8/3/2004 Final	11/18/03 Initial	1/13/04 Week 5	3/11/04 Week 13	4/21/2004 Final	11/11/03 Initial	4/6/04 Week 17	6/29/04 Week 29	8/2/04 Final	11/18/03 Initial	4/8/04 Week 17	6/30/04 Week 29	8/3/04 Final	11/19/03 Initial	4/7/04 Week 17	6/29/04 Week 29	8/2/04 Final	11/11/03 Initial	4/16/04 Week 18	6/29/04 Week 29	8/2/04 Final
TCE	2800	19.0	73.0	160.0	4.6J	<2.0	<2.0	<2.0	15.0	14B	5.0	7.0	190	800	320	830	2700	3000B	35	26	5.7	2.7J	52	41
c-DCE	380	<2.0	240.0	170.0	<2.0	<2.0	<2.0	<2.0	8.9	<2.0	3.8J	27.0	280	500	170	51	2100	48	13	7.5	2.5J	<2.0	<2.0	<2.0
TCA	<40.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<20	<8.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PCE	2.6	<2.0	<2.0	<2.0	<0.1	<2.0	<2.0	<2.0	<0.1	<2.0	<2.0	<2.0	<0.1	<4.0	<2.0	<2.0	2.5	18J	<2.0	<2.0	<0.1	<2.0	<2.0	<2.0
VC	0.59	<2.0	4J	17.0	<0.1	<2.0	<2.0	<2.0	5.0	<2.0	<2.0	<2.0	0.4	12.0	<2.0	<2.0	28	<8.0	<2.0	<2.0	<0.1	<2.0	<2.0	<2.0

Constiuents of Concern	MWF14A1				MWH06A1				MWH15A1				MWI07A1				MWI08A1				MWJ01A1			
	11/20/03 Initial	4/7/04 Week 17	6/29/04 Week 29	8/2/2004 Final	11/12/03 Initial	4/7/04 Week 17	6/29/04 Week 29	8/2/04 Final	11/13/03 Initial	4/8/04 Week 17	6/30/04 Week 29	8/3/04 Final	11/12/03 Initial	2/10/04 Week 9	4/21/04 Week 19	6/16/04 Final	11/12/03 Initial	4/7/04 Week 17	6/29/04 Week 29	8/2/04 Final	11/10/03 Initial	4/6/04 Week 17	6/29/04 Week 29	8/3/04 Final
TCE	95	36B	42	860	2400	380B	4.9J	<2.0	3.4	2.8J	4.3J	<2.0	11	4.9J	4.5J	<2.0	720	22000B	2600	200	5.4	8.7B	4.1J	4.5J
c-DCE	107	7.6	32	15	80.0	2.5J	3.1J	<2.0	<2.0	<2.0	25.0	27.0	<2.0	<2.0	<2.0	<2.0	220	1400	<100	<2.0	<2.0	<2.0	6.7	14.0
TCA	<2.0	<2.0	<2.0	<2.0	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<40	<100	<2.0	<2.0	<2.0	<2.0	<2.0
PCE	<0.1	<2.0	<2.0	3J	3.9	<2.0	<2.0	<2.0	<0.1	<2.0	<2.0	<2.0	<0.1	<2.0	<2.0	<2.0	0.28	<40	<100	<2.0	<0.1	<2.0	<2.0	<2.0
VC	0.25	<2.0	<2.0	<2.0	0.3	<2.0	<2.0	<2.0	<0.1	<2.0	<2.0	<2.0	<0.1	<2.0	<2.0	<2.0	0.32	<40	<100	<2.0	<0.1	<2.0	<2.0	<2.0

Constiuents of Concern	MWJ04A1				MWJ10A1				MWL07A1				MWL10A1				MWM12A1				MWN02A1				MWP07A1			
	11/11/03 Initial	4/16/04 Week 18	6/29/04 Week 29	8/2/04 Final	11/13/03 Initial	4/7/04 Week 17	6/29/04 Week 29	8/2/04 Final	11/11/03 Initial	4/7/04 Week 17	6/29/04 Week 29	8/2/2004 Final	11/11/03 Initial	4/5/04 Week 17	6/29/04 Week 29	8/2/04 Final	11/10/03 Initial	4/8/04 Week 17	6/30/04 Week 29	8/3/04 Final	11/10/03 Initial	4/8/04 Week 17	6/30/04 Week 29	8/3/04 Final	11/10/03 Initial	4/8/04 Week 17	6/30/04 Week 29	8/3/04 Final
TCE	150	20000	78	43	63	790B	230	16	1500	950000B	23	140	4.4	250B	6.8	11	0.69	<2.0	<2.0	<2.0	2	2.6J	16	7.10	2.7	2.5J	14	2.6J
c-DCE	15	310	13	45	72	20	2.8J	<2.0	37	<2000	<8.0	7.4	<2.0	<8.0	<2.0	<2.0	<2.0	<2.0	7.0	<2.0	<2.0	<2.0	110	26	<2.0	<2.0	17	9.3
TCA	<2.0	<40	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<8.0	<2000	<8.0	<2.0	<2.0	<8.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PCE	<0.1	72J	<2.0	<2.0	<0.1	3.7J	<2.0	<2.0	0.78	<2000	<8.0	2.4J	<0.1	<8.0	<2.0	<2.0	<0.1	<2.0	<2.0	<2.0	<0.1	<2.0	<2.0	<2.0	<0.1	<2.0	<2.0	<2.0
VC	<0.1	57J	<2.0	<2.0	<0.1	<2.0	<2.0	<2.0	<0.1	<2000	<8.0	<2.0	<0.1	<8.0	<2.0	<2.0	<0.1	<2.0	<2.0	<2.0	<0.1	<2.0	<2.0	<2.0	<0.1	<2.0	<2.0	<2.0

* All analyical Data Reported in Micrograms per liter

TCE: Trichlorothene
c-DCE: cis-1,2-Dichloroethene
TCA: 1,1,1-Trichloroethene
PCE: Tetrachloroethene
VC: Vinyl Chloride

J = Estimated Value
E = Exceeded the Instrument Calibration Range
R = Sample Rejected
U = Constituent Detected below this value but Instrument not Able to analyze at that Range
B = Constituent Detected in Instrument Blank

Initial = Date of Initial Sampling Event
Final = Date of Final Sampling Event
Week 9 = Week 9 of Remediation Operations

NAPL Area 1 Subsurface Temperature Summary

External Monitoring Well Temperature* Monitoring Point (TMP) Identification and Temperatures

TMP Elevation	MWB09A1				MWD03A1				MWD14A1				MWH15A1				MWJ01A1				MWM12A1				MWN02A1				MWP07A1			
	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231
272	3.5	6.2	18.6	49.6	4.2	4.5	9.4	39.6	3.9	5.7	17.7	42.8	3.1	4.7	14.2	26.6	5.5	6.0	13.2	75.1	2.7	5.2	9.9	26.4	3.9	5.4	11.0	29.0	4.1	5.2	11.2	36.9
264	11.0	24.2	47.9	83.9	8.3	6.2	7.6	58.3	10.1	15.3	48.6	74.2	7.8	7.8	31.0	27.6	11.8	8.6	14.5	98.6	7.8	7.3	9.0	22.5	8.4	7.2	8.7	31.5	7.8	7.0	9.8	37.8
256	12.2	12.5	32.8	72.1	9.6	7.6	7.3	45.6	11.5	13.3	49.7	75.0	10.0	9.3	26.8	24.5	11.7	9.7	10.7	48.5	9.5	8.9	8.8	16.6	10.4	9.1	9.0	25.9	9.4	8.0	7.9	18.2
248	12.4	10.6	14.3	43.0	10.0	8.5	7.7	13.5	11.1	13.5	29.0	46.2	10.1	9.8	14.1	14.7	11.4	10.6	10.6	15.6	9.9	10.0	9.1	12.7	10.7	10.2	10.0	18.3	10.1	8.8	8.4	20.1

Internal Monitoring Well / Temperature* Monitoring Point (TMP) Identification and Temperatures

TMP Elevation	MWC08A				MWE07A1				MWF03A1				MWF11A1				MWEF12A1				MWF14A1				MWH06A1				MWI07A1			
	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231
278	4.7	27.0	31.1	67.7	4.7	18.2	42.1	73.1	6.1	16.4	33.2	64.6	4.9	15.2	26.8	44.7	3.3	8.8	35.0	58.0	4.6	9.5	27.2	52.8	4.3	10.7	39.4	73.8	2.9	14.5	34.0	43.7
272	14.2	82.4	74.3	97.7	12.6	63.7	95.2	99.7	15.9	50.7	58.0	96.3	11.0	33.5	68.4	85.3	10.7	35.3	66.4	98.5	11.4	30.9	65.5	99.7	10.8	38.5	83.2	98.5	12.5	43.7	81.5	96.5
267	14.4	62.4	74.2	99.7	14.0	46.9	79.1	101.6	13.2	26.4	35.3	98.2	11.9	39.2	89.2	98.9	11.6	39.2	89.4	99.8	12.2	36.3	82.8	101.6	11.3	36.2	96.2	100.8	12.8	33.3	92.3	100.8
262	13.0	21.9	42.7	91.0	13.5	22.4	45.4	104.7	11.6	10.4	13.4	78.8	11.9	37.4	72.8	100.4	11.2	26.7	76.8	100.7	11.9	26.4	65.4	102.1	11.5	17.3	98.3	104.3	12.7	25.1	89.8	104.2
257	12.0	23.1	55.2	100.2	13.0	24.9	57.2	107.4	11.0	12.1	21.3	102.6	11.0	22.3	34.7	58.1	10.2	22.7	52.0	76.9	10.9	25.4	41.2	65.8	11.1	20.9	108.6	107.0	11.9	24.9	96.5	107.2
252	11.1	25.4	71.9	107.5	12.4	29.5	93.9	109.6	10.6	14.4	32.2	110.2	10.3	26.8	36.9	63.9	9.8	23.0	60.9	87.1	10.5	25.4	58.1	106.3	10.9	28.1	111.8	110.0	11.5	27.3	105.5	97.3
247	10.2	25.4	78.9	118.6	11.7	30.8	103.5	105.2	10.0	14.5	33.8	113.4	10.5	38.8	53.4	86.7	9.1	26.4	79.1	95.4	10.1	26.7	58.0	109.2	10.4	33.2	113.5	111.3	10.7	28.4	102.8	112.4
245	9.8	24.4	77.7	110.2	11.4	29.2	95.2	104.1	9.8	14.5	36.6	114.4	10.3	43.6	65.5	93.0	8.8	26.6	81.1	94.2	9.9	26.3	57.7	108.9	10.1	31.3	109.4	109.0	10.4	27.8	96.5	96.4
240	10.1	20.7	57.6	98.0	NA	NA	NA	NA	NA	NA	NA	NA	10.0	35.8	63.3	74.2	10.4	26.8	70.3	78.4	NA	NA	NA	NA	NA	NA	NA	NA	10.2	20.9	63.3	76.6
235	10.2	15.8	31.1	53.8	NA	NA	NA	NA	NA	NA	NA	NA	9.2	18.4	35.1	48.9	10.4	19.0	35.1	42.1	NA	NA	NA	NA	NA	NA	NA	NA	8.9	12.9	31.7	56.5
230	9.6	13.4	19.3	40.3	NA	NA	NA	NA	NA	NA	NA	NA	8.7	15.4	25.0	38.5	9.8	13.4	25.4	36.9	NA	NA	NA	NA	NA	NA	NA	NA	8.4	9.7	18.7	40.9

TMP Elevation	MWI08A1				MWJ04A1				MWJ10A1				MWL07A1				MWL10A1				TMPB08A1				TMPD06A1				TMPE04A1			
	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231
278	4.6	17.4	39.7	76.1	3.0	8.2	29.1	33.2	7.9	15.9	34.9	48.1	4.5	16.4	51.0	47.2	-3.3	10.0	26.0	31.3	4.4	21.6	34.5	62.5	5.0	18.9	29.3	56.7	5.3	20.4	30.2	55.5
272	13.0	52.9	90.2	99.6	8.9	15.2	62.9	60.3	15.7	44.0	88.3	95.9	10.2	27.9	81.0	85.0	3.6	11.9	22.0	40.4	11.5	63.2	70.9	98.6	15.5	57.1	66.4	98.8	14.1	56.2	84.0	117.7
267	12.7	39.6	96.3	100.7	10.1	17.9	64.7	83.1	13.9	36.2	88.6	100.4	11.0	28.3	76.5	97.3	8.8	20.2	43.2	67.0	13.1	35.1	61.3	98.4	13.5	34.3	58.1	99.3	13.0	33.0	43.4	98.3
262	11.9	33.0	92.3	104.3	10.6	18.6	48.0	78.4	12.8	31.7	86.5	104.3	10.6	25.4	65.9	95.4	9.9	25.9	66.0	91.7	12.8	14.9	26.2	73.9	12.4	15.6	21.6	85.5	11.8	10.3	12.2	70.2
257	11.1	31.1	76.9	106.9	10.5	21.9	70.3	80.7	11.4	29.2	89.5	107.2	9.7	23.4	74.9	100.7	9.4	21.3	56.0	95.5	12.0	15.5	40.0	87.4	11.4	13.5	23.8	100.1	11.3	11.5	15.2	101.3
252	10.7	31.1	94.5	109.8	10.4	25.5	102.5	83.1	10.5	25.9	82.9	110.0	9.5	26.5	110.8	107.5	9.0	21.3	48.2	94.5	11.2	22.8	92.2	108.6	10.7	16.4	42.3	108.9	11.0	14.1	23.6	111.0
247	10.1	31.2	96.1	112.7	10.1	28.9	108.0	81.8	9.7	20.6	65.4	105.6	9.0	25.3	110.0	105.1	8.6	29.9	90.5	101.3	10.1	39.6	114.9	112.0	9.8	16.5	47.1	112.3	10.4	14.7	26.2	102.3
245	9.9	29.0	88.5	113.9	9.8	28.7	103.8	79.2	9.3	19.4	58.3	100.3	8.8	24.1	103.5	100.5	8.4	32.5	109.2	104.0	9.8	27.1	115.4	112.9	9.5	16.0	46.2	112.9	10.2	14.6	26.9	100.9
240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
235	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
230	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TMP Elevation	TMPE08A1				TMPF05A1				TMPF14A1				TMPG09A1				TMPG14A1				TMPH03A1				TMPH05A1				TMPH10A1			
	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231
278	4.3	13.2	27.7	45.9	-0.4	13.2	25.5	36.5	4.4	11.0	27.3	40.8	6.2	32.5	31.9	54.2	4.8	8.3	28.2	57.9	5.0	20.9	34.2	62.1	4.3	17.3	29.9	51.2	0.9	13.8	26.2	31.4
272	12.6	46.6	69.2	88.8	17.1	74.8	76.2	99.0	13.0	39.6	77.8	95.4	13.8	79.9	78.8	96.4	10.4	39.0	71.8	99.5	12.7	95.4	83.9	100.0	10.8	53.3	67.5	97.7	13.8	47.1	80.3	100.9
267	13.6	47.8	84.4	97.5	14.6	49.7	82.4	100.0	30.3	37.6	91.4	100.0	12.5	29.9	95.1	102.0	11.1	28.2	78.9	100.5	13.8	43.3	56.8	99.4	11.3	41.7	68.2	99.5	14.2	51.1	97.7	101.5
262	13.3	25.5	59.6	90.8	13.1	24.6	45.7	102.8	12.9	37.0	78.1	102.2	13.1	26.8	79.2	99.0	10.7	23.8	61.7	100.9	13.3	19.4	28.0	90.5	11.5	20.5	34.2	86.2	13.6	36.2	87.5	104.8
257	12.2	23.8	61.2	75.6	12.0	17.9	62.6	106.2	12.0	26.4	43.6	68.6	12.2	30.0	62.6	79.6	9.8	23.5	49.3	96.8	12.2	19.2	40.1	108.5	11.1	22.3	48.7	79.3	12.0	29.9	69.2	97.7
252	11.6	24.2	75.2	70.6	11.8	21.8	104.8	109.9	11.2	25.3	48.7	73.1	11.7	28.7	64.9	103.9	9.5	23.9	46.1	95.4	11.5	22.9	61.6	111.5	10.9	26.9	71.0	87.8	11.0	26.1	83.5	110.2
247	10.9	25.8	86.1	62.2	11.5	23.5	101.3	112.1	10.4	33.7	86.7	113.1	11.2	31.4	67.1	112.4	9.0	23.6	44.5	103.0	10.9	25.3	79.6	116.6	10.4	30.3	76.3	93.6	10.0	27.4	88.8	113.4
245	10.6	25.0	84.2	79.8	11.4	23.6	99.9	113.1	10.0	37.8	93.7	113.6	11.0	31.3	65.9	109.7	8.5	23.2	44.2	103.0	10.8	24.7	82.9	117.2	10.1	30.3	76.0	93.4	9.8	27.2	88.7	113.3
240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
235	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
230	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TMP Elevation	TMPH12A1				TMPI13A1				TMPK04A1				TMPK06A1				TMPK08A1				TMPM05A1				TMPM08A1				TMPM10A1			
	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231	12/18/03 Day 1	2/7/04 Day 52	4/7/04 Day 112	8/4/04 Day 231
278	3.4	8.0	27.7	50.7	2.1	7.6	21.6	46.9	3.7	8.7	21.3	31.6	4.0	26.3	37.2	48.7	7.6	12.2	40.0	60.6	4.1	7.8	18.5	23.4	3.3	7.8	25.8	35.8	2.8	8.6	18.5	32.3
272	12.8	29.3	83.2	99.7	9.9	27.8	64.6	98.7	9.3	12.9	47.8	48.7	13.6	87.2	87.8	97.5	14.1	31.1	94.4	100.4	8.8	11.4	19.2	68.4	8.5	11.9	59.3	65.8	7.6	8.1	19.9	46.9
267	13.0	30.8	95.9	101.7	11.5	30.1	90.3	100.4	10.7	11.4	57.2	77.5	12.0	49.9	98.0	99.4	13.5	30.5	88.9	101.1	9.8	12.5	20.0	67.9	9.2	12.5	55.8	77.7	9.1	18.4	41.2	46.7
262	12.3	24.4	85.5	104.6	11.2	24.5	71.0	104.1	11.4	19.5	60.8	64.2	11.0	36.8	87.1	100.0	12.7	28.3	85.0	104.4	10.4	16.9	25.5	77.7	9.8	18.7	39.4	98.4	10.0	27.0	99.3	50.5
257	11.4	23.8	75.2	107.5	10.4	21.5	47.4	90.9	11.1	26.0	102.4	70.9	10.2	30.6	87.7	104.7	11.5	25.4	82.1	107.8	10.3	20.9	45.9	94.3	9.6	23.3	87.8	100.5	9.5	45.2	100.2	83.9
252	11.1	26.7	83.8	110.5	10.0	22.1	36.8	68.3	11.2	30.3	105.6	78.5	10.1	30.0	99.0	104.4	11.2	25.4	85.5	110.7	10.2	24.2	62.5	96.4	9.3	31.8	104.3	102.1	9.1	73.7	98.9	91.1
247	10.3	29.5	72.8	113.5	9.3	21.5	39.0	78.9	11.0	36.3	102.5	79.5	9.7	31.4	94.3	96.0	10.7	24.3	76.1	106.9	9.8	28.3	87.8	94.6	8.9	31.8	105.2	102.4	8.9	75.7	101.1	95.7
245	10.0	29.6	65.9	107.4	9.0	21.2	38.7	78.1	11.0	36.7	101.3	77.4	9.7	29.9	84.1	89.2	10.6	23.3	67.6	99.7	9.6	28.8	92.2	96.1	8.6	29.0	99.0	98.4	8.5	71.2	102.3	91.7

* Temperatures Measured in Degrees Celsius
TMP Elevations Relative to Mean Sea Level
Day 1 = Day One of Remediation Operations

APPENDIX H

Air and Water Analytical Results and Qualifiers

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
MPEB08A1	MPEB0801A1071504	07/15/2004		FPA	<70000	100000	**400000**	100000	<70000	100000	<120000	170000	<95000	135000	360000 **U**	135000	<45000	65000	-
	MPEB0801A1071604	07/16/2004		FPA	<70000	100000	**200000**	100000	<70000	100000	<120000	170000	<95000	135000	**280000**	135000	<45000	65000	-
	MPEB0801A1071904	07/19/2004		FPA	<70000	100000	**170000**	100000	<70000	100000	<120000	170000	<95000	135000	**250000**	135000	<45000	65000	-
	MPEB0801A1071904	07/19/2004	Lab Dup	FPA	<70000	100000	**170000**	100000	<70000	100000	<120000	170000	<95000	135000	**230000**	135000	<45000	65000	-
	MPEB0801A1072004	07/20/2004		FPA	<70000	100000	**210000**	100000	<70000	100000	<120000	170000	<95000	135000	**190000**	135000	<45000	65000	-
MPEC07A1	MPEC0701A1061104	06/11/2004		FPA	<140	200	**9500**	200	**310**	200	<240	340	<190	270	**6500**	270	**1700**	130	ND
	MPEC0701A1061104	06/11/2004	Lab Dup	FPA	<140	200	**9400**	200	**290**	200	<240	340	<190	270	**6600**	270	**1600**	130	ND
	MPEC0701A1062104	06/21/2004		FPA	<1400	2000	**280000**	2000	**12000**	2000	<2400	3400	<1900	2700	**260000**	2700	**42000**	1300	ND
	MPEC0701A1071404	07/14/2004		FPA	<70000	100000	**470000**	100000	<70000	100000	<120000	170000	<95000	135000	**740000**	135000	<45000	65000	-
	MPEC0701A1071504	07/15/2004		FPA	<70000	100000	**1600000**	100000	<70000	100000	<120000	170000	<95000	135000	**1300000**	135000	**180000**	65000	-
	MPEC0701A1071504	07/15/2004	Lab Dup	FPA	<70000	100000	**1600000**	100000	<70000	100000	<120000	170000	<95000	135000	**1300000**	135000	**78000**	65000	-
	MPEC0701A1071612	07/16/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	**250000**	135000	<45000	65000	-
	MPEC0701A1071904	07/19/2004		FPA	<70000	100000	**230000**	100000	<70000	100000	<120000	170000	<120000	170000	**430000**	135000	<45000	65000	-
	MPEC0701A1072004	07/20/2004		FPA	<70000	100000	**600000**	100000	<70000	100000	<120000	170000	<95000	135000	**980000**	135000	<45000	65000	-
	MPEC0701A1072704	07/27/2004		FPA	<70000	100000	**140000**	100000	<70000	100000	<120000	170000	<95000	135000	**240000**	135000	<45000	65000	ND
	MPEC0702A1072704	07/27/2004	Field Dup	FPA	<70000	100000	**1100000**	100000	<70000	100000	<120000	170000	<95000	135000	**2000000**	135000	<45000	65000	ND
MPEC08A1	MPEC0801A1061104	06/11/2004		FPA	**150**	200	**47000**	200	**3000**	200	<240	340	<190	270	**53000**	270	**2100**	130	ND
	MPEC0801A1071404	07/14/2004		FPA	<70000	100000	**4400000**	100000	<70000	100000	<120000	170000	<95000	135000	**24000000**	135000	<45000	65000	-
	MPEC0801A1071504	07/15/2004		FPA	<70000	100000	**8700000**	100000	**740000**	100000	<120000	170000	<95000	135000	**8100000**	135000	**340000**	65000	-
	MPEC0801A1071604	07/16/2004		FPA	<70000	100000	**5000000**	100000	**170000**	100000	<120000	170000	<95000	135000	**19000000**	135000	<45000	65000	-
	MPEC0801A1071904	07/19/2004		FPA	<70000	100000	**2200000**	100000	**75000**	100000	<120000	170000	<95000	135000	**7900000**	135000	<45000	65000	-
	MPEC0801A1072004	07/20/2004		FPA	<70000	100000	**2500000**	100000	**100000**	100000	<120000	170000	<95000	135000	**7700000**	135000	<45000	65000	-
	MPEC0801A1072704	07/27/2004		FPA	<70000	100000	**5500000**	100000	**440000**	100000	<120000	170000	<95000	135000	**7400000**	135000	**180000**	65000	-
	MPEC0801A1072704	07/27/2004	Lab Dup	FPA	<70000	100000	**6100000**	100000	**440000**	100000	<120000	170000	<95000	135000	**7600000**	135000	**140000**	65000	-
MPED06A1	MPED0601A1062104	06/21/2004		FPA	**480**	200	**230000**	200	**11000**	200	**450**	340	<190	270	**120000**	270	**22000**	130	ND
	MPED0601A1071504	07/15/2004		FPA	<70000	100000	**73000**	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-
MPED07A1	MPED0701A1062104	06/21/2004		FPA	**580**	200	**71000**	200	**3800**	200	**590**	340	<190	270	**60000**	270	**4600**	130	ND
	MPED0701A1071204	07/12/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**2500000 J**	135000	<45000 **UJ**	65000	-
	MPED0701A1071404	07/14/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-
	MPED0702A1071404	07/14/2004	Field Dup	FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-
	MPED0701A1071504	07/15/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-
	MPED0701A1072204	07/22/2004		FPA	<70000 **UJ**	100000	**99000 J**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**1100000 J**	135000	<45000 **UJ**	65000	-
	MPED0702A1072204	07/22/2004	Field Dup	FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
	MPED0701A1072704	07/27/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-
MPED08A1	MPED0801A1071504	07/15/2004		FPA	<70000	100000	**2000000**	100000	<70000	100000	<120000	170000	<95000	135000	**16000000**	135000	<45000	65000	-
	MPED0801A1071504	07/15/2004	Lab Dup	FPA	<70000	100000	**2000000**	100000	<70000	100000	<120000	170000	<95000	135000	**16000000**	135000	<45000	65000	-
	MPED0801A1071604	07/16/2004		FPA	<70000	100000	**2000000**	100000	<70000	100000	<120000	170000	<95000	135000	**25000000**	135000	<45000	65000	-
	MPED0801A1071904	07/19/2004		FPA	<70000	100000	**720000**	100000	<70000	100000	<120000	170000	<95000	135000	**12000000**	135000	<45000	65000	-
	MPED0801A1071904	07/19/2004	Lab Dup	FPA	<70000	100000	**770000**	100000	<70000	100000	<120000	170000	<95000	135000	**12000000**	135000	<45000	65000	-
	MPED0801A1072004	07/20/2004		FPA	<70000	100000	**1400000**	100000	<70000	100000	<120000	170000	<95000	135000	**23000000**	135000	<45000	65000	-
MPEE04A1	MPEE0401A1061104	06/11/2004		FPA	<140	200	**7900**	200	**700**	200	<240	340	<190	270	**41000**	270	**290**	130	ND
	MPEE0401A1062204	06/22/2004		FPA	<140	200	**5900**	200	**250**	200	<240	340	<190	270	**12000**	270	**100**	130	ND
	MPEE0401A1071504	07/15/2004		FPA	<70000	100000	**560000**	100000	<70000	100000	<120000	170000	<95000	135000	100000 U	135000	<45000	65000	-
	MPEE0401A1071604	07/16/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-
	MPEE0401A1071904	07/19/2004		FPA	<70000	100000	**730000**	100000	<70000	100000	<120000	170000	<95000	135000	**270000**	135000	<45000	65000	-
	MPEE0401A1072004	07/20/2004		FPA	<70000	100000	**1000000**	100000	<70000	100000	<120000	170000	<95000	135000	**430000**	135000	<45000	65000	-
	MPEE0401A1072004	07/20/2004	Lab Dup	FPA	<70000	100000	**1000000**	100000	<70000	100000	<120000	170000	<95000	135000	**420000**	135000	<45000	65000	-
	MPEE0401A1072704	07/27/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
MPEE05A1	MPEE0501A1071504	07/15/2004		FPA	<70000	100000	**1200000**	100000	<70000	100000	<120000	170000	<95000	135000	300000 **U**	135000	<45000	65000	-
	MPEE0502A1071504	07/15/2004	Field Dup	FPA	<70000	100000	**1300000**	100000	<70000	100000	<120000	170000	<95000	135000	410000 **U**	135000	<45000	65000	-
	MPEE0501A1071604	07/16/2004		FPA	<70000	100000	**160000**	100000	<70000	100000	<120000	170000	<95000	135000	**120000**	135000	<45000	65000	-
	MPEE0501A1071904	07/19/2004		FPA	<70000	100000	**120000**	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-
	MPEE0501A1072004	07/20/2004		FPA	<70000	100000	**400000**	100000	<70000	100000	<120000	170000	<95000	135000	**290000**	135000	<45000	65000	-
	MPEE0501A1072704	07/27/2004		FPA	<70000	100000	**3200000**	100000	**160000**	100000	<120000	170000	<95000	135000	**1900000**	135000	**160000**	65000	-
MPEE06A1	MPEE0601A1061004	06/10/2004		FPA	<140	200	**5900**	200	**250**	200	<240	340	<190	270	**32000**	270	<90	130	ND
	MPEE0601A1061004	06/10/2004	Lab Dup	FPA	<140	200	**5400**	200	**250**	200	<240	340	<190	270	**31000**	270	<90	130	ND
	MPEE0601A1061104	06/11/2004		FPA	**2800**	1600	**130000**	1600	**9400**	1600	<1920	2720	<1520	2160	**230000**	2160	**3900**	1040	ND
	MPEE0602A1061104	06/11/2004	Field Dup	FPA	**3600**	200	**140000**	200	**9600**	200	**670**	340	<190	270	**190000**	270	**6200**	130	ND
	MPEE0601A1071404	07/14/2004		FPA	<70000	100000	**160000**	100000	<70000	100000	<120000	170000	<95000	135000	**3600000**	135000	<45000	65000	-
	MPEE0601A1071404	07/14/2004	Lab Dup	FPA	<70000	100000	**130000**	100000	<70000	100000	<120000	170000	<95000	135000	**3600000**	135000	<45000	65000	-
	MPEE0602A1071404	07/14/2004	Field Dup	FPA	<70000	100000	**170000**	100000	<70000	100000	<120000	170000	<95000	135000	**3300000**	135000	<45000	65000	-
	MPEE0601A1071504	07/15/2004		FPA	<70000	100000	**330000**	100000	<70000	100000	<120000	170000	<95000	135000	**5200000**	135000	<45000	65000	-
	MPEE0602A1071504	07/15/2004	Field Dup	FPA	<70000	100000	**220000**	100000	<70000	100000	<120000	170000	<95000	135000	**4500000**	135000	<45000	65000	-
	MPEE0601A1071604	07/16/2004		FPA	<70000	100000	**510000**	100000	<70000	100000	<120000	170000	<95000	135000	**12000000**	135000	<45000	65000	-
	MPEE0601A1071904	07/19/2004		FPA	<70000	100000	**110000**	100000	<70000	100000	<120000	170000	<95000	135000	**3400000**	135000	<45000	65000	-
	MPEE0602A1071904	07/19/2004	Field Dup	FPA	<70000	100000	**110000**	100000	<70000	100000	<120000	170000	<95000	135000	**2500000**	135000	<45000	65000	-
	MPEE0601A1072004	07/20/2004		FPA	<70000	100000	**200000**	100000	<70000	100000	<120000	170000	<95000	135000	**4300000**	135000	<45000	65000	-
	MPEE0602A1072004	07/20/2004	Field Dup	FPA	<70000	100000	**160000**	100000	<70000	100000	<120000	170000	<95000	135000	**2700000**	135000	<45000	65000	-
	MPEE0601A1072704	07/27/2004		FPA	<70000	100000	**140000**	100000	<70000	100000	<120000	170000	<95000	135000	**280000**	135000	<45000	65000	-
	MPEE0602A1072704	07/27/2004	Field Dup	FPA	<70000	100000	**110000**	100000	<70000	100000	<120000	170000	<95000	135000	**350000**	135000	<45000	65000	-
MPEE07A1	MPEE0701A1061804	06/18/2004		FPA	**4600**	200	**96000**	200	**9500**	200	**540**	340	<190	270	**140000**	270	**4800**	130	ND
	MPEE0702A1061804	06/18/2004	Field Dup	FPA	**3200**	200	**77000**	200	**6700**	200	**400**	340	<190	270	**110000**	270	**4200**	130	ND
MPEE08A1	MPEE0801A1061004	06/10/2004		FPA	**4200**	200	**38000**	200	**7100**	200	<240	340	<190	270	**28000**	270	**2000**	130	ND
	MPEE0801A1061804	06/18/2004		FPA	**6900**	200	**78000**	200	**12000**	200	**640**	340	<190	270	**240000**	270	**3000**	130	ND
MPEF03A1	MPEF0301A1071504	07/15/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-
	MPEF0301A1072204	07/22/2004		FPA	<70000 **UJ**	100000	**560000 J**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**670000 J**	135000	<45000 **UJ**	65000	-
	MPEF0301A1072304	07/23/2004		FPA	<70000 **UJ**	100000	**210000 J**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**150000 J**	135000	<45000 **UJ**	65000	-
	MPEF0301A1072704	07/27/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-
MPEF04A1	MPEF0401A1071504	07/15/2004		FPA	<70000	100000	**900000**	100000	<70000	100000	<120000	170000	<95000	135000	450000 U	135000	<45000	65000	-
	MPEF0401A1071604	07/16/2004		FPA	<70000	100000	**250000**	100000	<70000	100000	<120000	170000	<95000	135000	**240000**	135000	<45000	65000	-
	MPEF0401A1071904	07/19/2004		FPA	<70000	100000	**760000**	100000	<70000	100000	<120000	170000	<95000	135000	**670000**	135000	<45000	65000	-
	MPEF0401A1072004	07/20/2004		FPA	<70000	100000	**550000**	100000	<70000	100000	<120000	170000	<95000	135000	**580000**	135000	<45000	65000	-
	MPEF0401A1072304	07/23/2004		FPA	<70000 **UJ**	100000	**110000 J**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**97000 J**	135000	<45000 **UJ**	65000	-
	MPEF0402A1072304	07/23/2004	Field Dup	FPA	<70000 **UJ**	100000	**220000 J**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**220000 J**	135000	<45000 **UJ**	65000	-
	MPEF0401A1072704	07/27/2004		FPA	<70000	100000	**610000**	100000	<70000	100000	<120000	170000	<95000	135000	**570000**	135000	<45000	65000	-
MPEF05A1	MPEF0501A1061004	06/10/2004		FPA	<140	200	**7800**	200	**320**	200	**1900**	340	<190	270	**44000**	270	**800**	130	ND
	MPEF0501A1061704	06/17/2004		FPA	**15000**	200	**810000**	200	**59000**	200	**4600**	340	<190	270	**550000**	270	**100000**	130	ND
	MPEF0501A1062104	06/21/2004		FPA	**1000**	200	**32000**	200	**2100**	200	**7100**	340	<190	270	**330000**	270	**1700**	130	ND
	MPEF0501A1062904	06/29/2004		FPA	**360**	200	**16000**	200	**910**	200	**5500**	340	<190	270	**370000**	270	**410**	130	-
	MPEF0501A1071204	07/12/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
	MPEF0501A1071504	07/15/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-
	MPEF0501A1072204	07/22/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEF08A1	MPEF0801A1061804	06/18/2004		FPA	**24000**	200	**180000**	200	**30000**	200	<240	340	<190	270	**100000**	270	**15000**	130	ND
MPEF09A1	MPEF0901A1061004	06/10/2004		FPA	**590**	200	**8500**	200	**880**	200	<240	340	<190	270	**29000**	270	**390**	130	ND
	MPEF0901A1072104	07/21/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m³)		cis-1,2-Dichloroethene (µg/m³)		trans-1,2-Dichloroethene (µg/m³)		Tetrachloroethene (µg/m³)		1,1,1-Trichloroethane (µg/m³)		Trichloroethene (µg/m³)		Vinyl Chloride (µg/m³)		TPH (µg/m³)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
MPEF11A1	MPEF1101A1061104	06/11/2004		FPA	**640**	200	**15000**	200	**1600**	200	<240	340	<190	270	**35000**	270	<90	130	ND
	MPEF1101A1071204	07/12/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
	MPEF1101A1072104	07/21/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEF12A1	MPEF1201A1071404	07/14/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-
	MPEF1201A1072104	07/21/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEF13A1	MPEF1301A1061104	06/11/2004		FPA	<140	200	**1100**	200	<140	200	<240	340	<190	270	**3400**	270	<90	130	ND
	MPEF1301A1071204	07/12/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
	MPEF1301A1072104	07/21/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEF14A1	MPEF1401A1072304	07/23/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEF15A1	MPEF1501A1061104	06/11/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**840**	270	<90	130	ND
	MPEF1501A1072104	07/21/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEG02A1	MPEG0201A1071504	07/15/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-
	MPEG0201A1072704	07/27/2004		FPA	<70000	100000	**640000**	100000	<70000	100000	<120000	170000	<95000	135000	**1100000**	135000	<45000	65000	
MPEG03A1	MPEG0301A1061004	06/10/2004		FPA	**370**	200	**19000**	200	**1500**	200	<240	340	<190	270	**30000**	270	**1400**	130	ND
	MPEG0301A1062231	06/22/2004		FPA	**4400**	1000	**100000**	1000	**5000**	1000	**2000**	1700	<950	1350	**390000**	1350	**12000**	650	ND
	MPEG0301A1071204	07/12/2004		FPA	<70000 **UJ**	100000	**100000 J**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**110000 J**	135000	<45000 **UJ**	65000	-
	MPEG0301A1071504	07/15/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-
	MPEG0301A1072204	07/22/2004		FPA	<70000 **UJ**	100000	**330000 J**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**260000 J**	135000	<45000 **UJ**	65000	-
	MPEG0301A1072204	07/22/2004	Lab Dup	FPA	<70000	100000	**310000**	100000	<70000	100000	<120000	170000	<95000	135000	**290000**	135000	<45000	65000	-
	MPEG0301A1072304	07/23/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEG04A1	MPEG0401A1061704	06/17/2004		FPA	**170**	200	**10000**	200	**530**	200	**1700**	340	<190	270	**130000**	270	<90	130	ND
	MPEG0401A1062104	06/21/2004		FPA	<140	200	**3600**	200	<140	200	**1600**	340	<190	270	**110000**	270	<90	130	ND
	MPEG0401A1062104	06/21/2004	Lab Dup	FPA	<140	200	**3400**	200	**170**	200	**1500**	340	<190	270	**100000**	270	<90	130	ND
	MPEG0401A1062904	06/29/2004		FPA	<140	200	**680**	200	<140	200	**470**	340	<190	270	**48000**	270	<90	130	-
	MPEG0401A1071204	07/12/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**1100000 J**	135000	<45000 **UJ**	65000	-
	MPEG0401A1071504	07/15/2004		FPA	<70000	100000	**220000**	100000	<70000	100000	<120000	170000	<95000	135000	**1100000**	135000	<45000	65000	-
	MPEG0401A1071613	07/16/2004		FPA	<70000	100000	**280000**	100000	<70000	100000	<120000	170000	<95000	135000	**1900000**	135000	<45000	65000	-
	MPEG0402A1071604	07/16/2004	Field Dup	FPA	<70000	100000	**620000**	100000	<70000	100000	<120000	170000	<95000	135000	**2400000**	135000	<45000	65000	-
	MPEG0402A1071604	07/16/2004	Lab Dup	FPA	<70000	100000	**530000**	100000	<70000	100000	<120000	170000	<95000	135000	**2400000**	135000	<45000	65000	-
	MPEG0401A1071904	07/19/2004		FPA	<70000	100000	**400000**	100000	<70000	100000	<120000	170000	<95000	135000	**2100000**	135000	<45000	65000	-
	MPEG0401A1072004	07/20/2004		FPA	<70000	100000	**450000**	100000	<70000	100000	<120000	170000	<95000	135000	**2100000**	135000	<45000	65000	-
	MPEG0401A1072704	07/27/2004		FPA	<70000	100000	**250000**	100000	<70000	100000	<120000	170000	<95000	135000	**430000**	135000	<45000	65000	-
MPEG05A1	MPEG0501A1061704	06/17/2004		FPA	**420**	200	**16000**	200	**1100**	200	**2200**	340	<190	270	**190000**	270	**260**	130	ND
	MPEG0501A1062104	06/21/2004		FPA	**21000**	2000	**430000**	2000	**35000**	2000	**110000**	3400	<1900	2700	**4800000**	2700	**4000**	1300	ND
	MPEG0501A1062904	06/29/2004		FPA	**3000**	200	**91000**	200	**3400**	200	**6400**	340	<190	270	**350000**	270	**820**	130	-
	MPEG0501A1071204	07/12/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	<95000 **UJ**	<95000 **UJ**	135000	<45000 **UJ**	65000	-
	MPEG0501A1072204	07/22/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	<95000 **UJ**	<95000 **UJ**	135000	<45000 **UJ**	65000	-
	MPEG0501A1072704	07/27/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-
MPEG06A1	MPEG0601A1061004	06/10/2004		FPA	**1700**	200	**11000**	200	**2300**	200	**860**	340	<190	270	**39000**	270	**720**	130	ND
	MPEG0601A1071604	07/16/2004		FPA	<70000	100000	**400000**	100000	<70000	100000	<120000	170000	<95000	135000	**340000**	135000	<45000	65000	-
	MPEG0601A1071904	07/19/2004		FPA	<70000	100000	**510000**	100000	<70000	100000	<120000	170000	<95000	135000	**480000**	135000	<45000	65000	-
	MPEG0601A1072004	07/20/2004		FPA	<70000	100000	**380000**	100000	<70000	100000	<120000	170000	<95000	135000	**690000**	135000	<45000	65000	-
	MPEG0601A1072004	07/20/2004	Lab Dup	FPA	<70000	100000	**390000**	100000	<70000	100000	<120000	170000	<95000	135000	**690000**	135000	<45000	65000	-
MPEG07A1	MPEG0701A1061004	06/10/2004		FPA	**1500**	200	**11000**	200	**1900**	200	**310**	340	<190	270	**83000**	270	**700**	130	ND
	MPEG0702A1061004	06/10/2004	Field Dup	FPA	**6100**	200	**33000**	200	**7500**	200	**780**	340	<190	270	**130000**	270	**2600**	130	ND
MPEG09A1	MPEG0901A1071404	07/14/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-
	MPEG0901A1072304	07/23/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	<95000 **UJ**	<95000 **UJ**	135000	<45000 **UJ**	65000	-

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
MPEG10A1	MPEG1001A1071404	07/14/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	460000	135000	<45000	65000	-
	MPEG1001A1072104	07/21/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**900000 J**	135000	<45000 **UJ**	65000	-
	MPEG1001A1072104	07/21/2004	Lab Dup	FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	**960000**	135000	<45000	65000	-
MPEG11A1	MPEG1101A1061004	06/10/2004		FPA	**5200**	200	**110000**	200	**11000**	200	**1000**	340	<190	270	**280000**	270	**1700**	130	ND
	MPEG1102A1061004	06/10/2004	Field Dup	FPA	**3700**	200	**77000**	200	**7700**	200	**600**	340	<190	270	**200000**	270	**1300**	130	ND
	MPEG1101A1071204	07/12/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
	MPEG1101A1072104	07/21/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
	MPEG1102A1072104	07/21/2004	Field Dup	FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEG12A1	MPEG1201A1071404	07/14/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	-
	MPEG1201A1072104	07/21/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEG13A1	MPEG1301A1072304	07/23/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEG14A1	MPEG1401A1071404	07/14/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-
	MPEG1401A1072104	07/21/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEH03A1	MPEH0301A1062904	06/29/2004		FPA	**210**	200	**4800**	200	**370**	200	**390**	340	<190	270	**48000**	270	<90	130	-
	MPEH0301A1072204	07/22/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
	MPEH0301A1072704	07/27/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	<95000	135000	<45000	65000	-
MPEH05A1	MPEH0501A1061804	06/18/2004		FPA	**1000**	200	**40000**	200	**5100**	200	<240	340	<190	270	**63000**	270	**1700**	130	ND
	MPEH0502A1061804	06/18/2004	Field Dup	FPA	**1300**	200	**43000**	200	**5400**	200	<240	340	<190	270	**69000**	270	**2000**	130	ND
MPEH08A1	MPEH0801A1061004	06/10/2004		FPA	**13000**	200	**180000**	200	**26000**	200	**6700**	340	<190	270	**1100000**	270	**6300**	130	ND
MPEH09A1	MPEH0901A1071404	07/14/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	**230000**	135000	<45000	65000	-
	MPEH0901A1072104	07/21/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
	MPEH0902A1072104	07/21/2004	Field Dup	FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEH10A1	MPEH1001A1062104	06/21/2004		FPA	**3300**	200	**150000**	200	**10000**	200	**1200**	340	<190	270	**380000**	270	**3400**	130	ND
	MPEH1001A1063004	06/30/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**640000 J**	135000	<45000 **UJ**	65000	-
	MPEH1001A1071204	07/12/2004		FPA	<70000 **UJ**	100000	**260000 J**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**2100000 J**	135000	<45000 **UJ**	65000	-
	MPEH1001A1071204	07/12/2004	Lab Dup	FPA	<70000	100000	**290000**	100000	<70000	100000	<120000	170000	<95000	135000	**2100000**	135000	<45000	65000	-
	MPEH1001A1072104	07/21/2004		FPA	<70000 **UJ**	100000	**400000 J**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**1600000 J**	135000	<45000 **UJ**	65000	-
MPEI02A1	MPEI0201A1061104	06/11/2004		FPA	<140	200	**6500**	200	**440**	200	<240	340	<190	270	**39000**	270	<90	130	ND
	MPEI0201A1062204	06/22/2004		FPA	**1300**	200	**110000**	200	**6200**	200	**650**	340	<190	270	**150000**	270	**6600**	130	ND
	MPEI0201A1062904	06/29/2004		FPA	<140	200	**5400**	200	**400**	200	<240	340	<190	270	**14000**	270	**290**	130	-
	MPEI0201A1071204	07/12/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
	MPEI0201A1072204	07/22/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEI03A1	MPEI0301A1062204	06/22/2004		FPA	**320**	200	**30000**	200	**1800**	200	<240	340	<190	270	**57000**	270	**1200**	130	ND
	MPEI0301A1062904	06/29/2004		FPA	<140	200	**5600**	200	**170**	200	**240**	340	<190	270	**24000**	270	<90	130	-
	MPEI0302A1062904	06/29/2004	Field Dup	FPA	<140	200	**2900**	200	<140	200	<240	340	<190	270	**11000**	270	<90	130	-
	MPEI0301A1071204	07/12/2004		FPA	<70000 **UJ**	100000	**540000 J**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**1200000 J**	135000	<45000 **UJ**	65000	-
	MPEI0302A1071204	07/12/2004	Field Dup	FPA	<70000 **UJ**	100000	**190000 J**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**630000 J**	135000	<45000 **UJ**	65000	-
	MPEI0301A1072204	07/22/2004		FPA	<70000 **UJ**	100000	**210000 J**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**110000 J**	135000	<45000 **UJ**	65000	-
	MPEI0301A1072704	07/27/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	**160000**	135000	<45000	65000	-
	MPEI0301A1072704	07/27/2004	Lab Dup	FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	**170000**	135000	<45000	65000	-
MPEI04A1	MPEI0401A1061004	06/10/2004		FPA	**3300**	200	**61000**	200	**9100**	200	**340**	340	<190	270	**210000**	270	**610**	130	ND
	MPEI0401A1061804	06/18/2004		FPA	**1200**	200	**43000**	200	**5000**	200	<240	340	<190	270	**110000**	270	**2000**	130	ND
MPEI05A1	MPEI0501A1061004	06/10/2004		FPA	**11000**	200	**110000**	200	**20000**	200	**1400**	340	<190	270	**280000**	270	**3600**	130	ND
	MPEI0501A1061004	06/10/2004	Lab Dup	FPA	**11000**	200	**110000**	200	**19000**	200	**1400**	340	<190	270	**280000**	270	**3500**	130	ND
	MPEI0501A1061804	06/18/2004		FPA	**3700**	200	**74000**	200	**10000**	200	**410**	340	<190	270	**260000**	270	**1600**	130	ND

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
MPEI09A1	MPEI0901A1061104	06/11/2004		FPA	<140	200	**3700**	200	**220**	200	**300**	340	<190	270	**230000**	270	**99**	130	ND
	MPEI0902A1061104	06/11/2004	Field Dup	FPA	**510**	200	**20000**	200	**1600**	200	**2600**	340	<190	270	**880000**	270	**670**	130	ND
	MPEI0901A1062104	06/21/2004		FPA	**27000**	20000	**1200000**	20000	**87000**	20000	**58000**	34000	<19000	27000	**75000000**	27000	**120000**	13000	ND
	MPEI0901A1063004	06/30/2004		FPA	<140 **UJ**	200	**800000 J**	200	<140 **UJ**	200	**200000 J**	340	<190 **UJ**	270	**49000000 J**	270	<90 **UJ**	130	-
	MPEI0901A1071204	07/12/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**23000000 J**	135000	<45000 **UJ**	65000	-
	MPEI0901A1071204	07/12/2004	Lab Dup	FPA	<70000	100000	**77000**	100000	<70000	100000	<120000	170000	<95000	135000	**23000000**	135000	<45000	65000	-
	MPEI0902A101204	07/12/2004	Field Dup	FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**17000000 J**	135000	<45000 **UJ**	65000	-
	MPEI0901A1071904	07/19/2004		FPA	<70000	100000	**100000**	100000	<70000	100000	<120000	170000	<95000	135000	**13000000**	135000	<45000	65000	-
	MPEI0902A1071904	07/19/2004	Field Dup	FPA	<70000	100000	**100000**	100000	<70000	100000	<120000	170000	<95000	135000	**17000000**	135000	<45000	65000	-
	MPEI0901A1072004	07/20/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	**6400000**	135000	<45000	65000	-
	MPEI0902A1072004	07/20/2004	Field Dup	FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	**5100000**	135000	<45000	65000	-
	MPEI0901A1072304	07/23/2004		FPA	<70000 **UJ**	100000	**240000 J**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**25000000 J**	135000	<45000 **UJ**	65000	-
	MPEI0901A1072304	07/23/2004	Lab Dup	FPA	<70000	100000	**230000**	100000	<70000	100000	<120000	170000	<95000	135000	**25000000**	135000	<45000	65000	-
MPEI10A1	MPEI1001A1062104	06/21/2004		FPA	**470**	200	**14000**	200	**1600**	200	**1800**	340	<190	270	**570000**	270	**180**	130	ND
	MPEI1001A1063004	06/30/2004		FPA	<70000 **UJ**	100000	**200000 J**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**2900000 J**	135000	<45000 **UJ**	65000	-
	MPEI1001A1071204	07/12/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**450000 J**	135000	<45000 **UJ**	65000	-
	MPEI1001A1072304	07/23/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**550000 J**	135000	<45000 **UJ**	65000	-
MPEI11A1	MPEI1101A1061004	06/10/2004		FPA	<140	200	**450**	200	<140	200	<240	340	<190	270	**3500**	270	<90	130	ND
MPEI12A1	MPEI1201A1061004	06/10/2004		FPA	**2900**	200	**28000**	200	**7300**	200	**1300**	340	<190	270	**120000**	270	**870**	130	ND
	MPEI1201A1072104	07/21/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEI13A1	MPEI1301A1061104	06/11/2004		FPA	<140	200	**390**	200	<140	200	<240	340	<190	270	**3400**	270	<90	130	ND
	MPEI1301A1061104	06/11/2004	Lab Dup	FPA	<140	200	**470**	200	<140	200	<240	340	<190	270	**3300**	270	<90	130	ND
	MPEI1301A1071404	07/14/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	200000	135000	<45000	65000	-
	MPEI1301A1072104	07/21/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	<95000 **UJ**	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEJ05A1	MPEJ0501A1061104	06/11/2004		FPA	**710**	200	**14000**	200	**1400**	200	**360**	340	<190	270	**78000**	270	<90	130	ND
MPEJ06A1	MPEJ0601A1061004	06/10/2004		FPA	**3400**	200	**37000**	200	**6300**	200	**3400**	340	<190	270	**750000**	270	**2600**	130	ND
MPEJ08A1	MPEJ0801A1061004	06/10/2004		FPA	**33000**	1600	**300000**	1600	**57000**	1600	**5100**	2720	<1520	2160	**2900000**	2160	**10000**	1040	ND
	MPEJ0801A1062104	06/21/2004		FPA	**40000**	2000	**440000**	2000	**83000**	2000	**15000**	3400	<1900	2700	**4800000**	2700	**5300**	1300	ND
	MPEJ0801A1063004	06/30/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**630000 J**	135000	<45000 **UJ**	65000	-
	MPEJ0801A1070204	07/02/2004		FPA	<70000	100000	**150000**	100000	<70000	100000	<120000	170000	<95000	135000	**2800000**	135000	<45000	65000	-
	MPEJ0801A1071204	07/12/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**2400000 J**	135000	<45000 **UJ**	65000	-
	MPEJ0801A1071904	07/19/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	**1600000**	135000	<45000	65000	-
	MPEJ0801A1072004	07/20/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	**3800000**	135000	<45000	65000	-
	MPEJ0801A1072304	07/23/2004		FPA	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**830000 J**	135000	<45000 **UJ**	65000	-
MPEK03A1	MPEK0301A1061004	06/10/2004		FPA	**13000**	200	**57000**	200	**3400**	200	**450**	340	<190	270	**110000**	270	**860**	130	ND
MPEK09A1	MPEK0901A1061004	06/10/2004		FPA	**18000**	200	**180000**	200	**34000**	200	**4000**	340	<190	270	**770000**	270	**6000**	130	ND
MPEK10A1	MPEK1001A1061004	06/10/2004		FPA	<140	200	**3000**	200	**360**	200	**490**	340	<190	270	**49000**	270	<90	130	ND
MPEK12A1	MPEK1201A1061104	06/11/2004		FPA	440	200	**6000**	200	**910**	200	<240	340	<190	270	**41000**	270	<90	130	ND
	MPEK1201A1071404	07/14/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	**130000**	135000	<45000	65000	-
MPEL04A1	MPEL0401A1061004	06/10/2004		FPA	**830**	200	**4600**	200	**600**	200	<240	340	<190	270	**16000**	270	<90	130	ND
	MPEL0401A1061004	06/10/2004	Lab Dup	FPA	**770**	200	**4500**	200	**560**	200	<240	340	<190	270	**16000**	270	**92**	130	ND
MPEL05A1	MPEL0501A1061004	06/10/2004		FPA	<140	200	**3100**	200	**180**	200	<240	340	<190	270	**33000**	270	<90	130	ND
MPEL06A1	MPEL0601A1061104	06/11/2004		FPA	**320**	200	**9000**	200	**710**	200	**610**	340	<190	270	**290000**	270	**280**	130	ND
	MPEL0601A1062204	06/22/2004		FPA	<140 **R**	200	1300 **R**	200	<140 **R**	200	<240 **R**	340	<190 **R**	270	12000 **R**	270	<90 **R**	130	ND
	MPEL0601A1062204	06/22/2004	Lab Dup	FPA	<140	200	**1200**	200	<140	200	<240	340	<190	270	**11000**	270	<90	130	ND **R**
	MPEL0602A1062204	06/22/2004	Field Dup	FPA	**20000**	2000	**880000**	2000	**28000**	2000	**15000**	3400	<1900	2700	**6900000**	2700	**7700**	1300	ND
	MPEL0601A1071904	07/19/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	**1400000**	135000	<45000	65000	-
	MPEL0601A1072004	07/20/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	**420000**	135000	<45000	65000	-

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
MPEL07A1	MPEL0701A1061104	06/11/2004		FPA	**180**	200	**6800**	200	**590**	200	**550**	340	<190	270	**240000**	270	**160**	130	ND
	MPEL0701A1061704	06/17/2004		FPA	**630**	200	**19000**	200	**1200**	200	**910**	340	<190	270	**760000**	270	**140**	130	ND
	MPEL0701A1062104	06/21/2004		FPA	**180**	200	**3100**	200	**540**	200	**710**	340	<190	270	**530000**	270	<90	130	ND
	MPEL0701A1063004	06/30/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**7200000 J**	135000	<45000 **UJ**	65000	-
	MPEL0701A1070204	07/02/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	**7500000**	135000	<45000	65000	-
	MPEL0701A1071304	07/13/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	**2200000**	135000	<45000	65000	-
	MPEL0701A1071304	07/13/2004	Lab Dup	FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	**2000000**	135000	<45000	65000	-
	MPEL0701A1071904	07/19/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	**1000000**	135000	<45000	65000	-
	MPEL0701A1072004	07/20/2004		FPA	<70000	100000	<70000	100000	<70000	100000	<120000	170000	<95000	135000	**1700000**	135000	<45000	65000	-
	MPEL0701A1072304	07/23/2004		FPA	<70000 **UJ**	100000	**190000 J**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**2800000 J**	135000	<45000 **UJ**	65000	-
MPEL08A1	MPEL0801A1061104	06/11/2004		FPA	**13000**	200	**180000**	200	**18000**	200	**3200**	340	<190	270	**880000**	270	**3000**	130	ND
	MPEL0801A1061704	06/17/2004		FPA	**19000**	1000	**200000**	1000	**26000**	1000	**3500**	1700	<950	1350	**1700000**	1350	**5900**	650	ND
	MPEL0801A1062104	06/21/2004		FPA	**18000**	2000	**210000**	2000	**26000**	2000	**3200**	3400	<1900	2700	**1800000**	2700	**4900**	1300	ND
	MPEL0801A1063004	06/30/2004		FPA	<70000 **UJ**	100000	**310000 J**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**3000000 J**	135000	<45000 **UJ**	65000	-
	MPEL0801A1070204	07/02/2004		FPA	<70000	100000	**280000**	100000	<70000	100000	<120000	170000	<95000	135000	**2800000**	135000	<45000	65000	-
	MPEL0802A1070204	07/02/2004	Field Dup	FPA	<70000	100000	**180000**	100000	<70000	100000	<120000	170000	<95000	135000	**2000000**	135000	<45000	65000	-
	MPEL0802A1070204	07/02/2004	Lab Dup	FPA	<70000	100000	**190000**	100000	<70000	100000	<120000	170000	<95000	135000	**2000000**	135000	<45000	65000	-
	MPEL0802A1071204	07/12/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**390000 J**	135000	<45000 **UJ**	65000	-
	MPEL0801A1071904	07/19/2004		FPA	<70000	100000	**95000**	100000	<70000	100000	<120000	170000	<95000	135000	**550000**	135000	<45000	65000	-
	MPEL0801A1072004	07/20/2004		FPA	<70000	100000	**77000**	100000	<70000	100000	<120000	170000	<95000	135000	**720000**	135000	<45000	65000	-
	MPEL0801A1072304	07/23/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**250000 J**	135000	<45000 **UJ**	65000	-
MPEL09A1	MPEL0901A1071204	07/12/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEM05A1	MPEM0501A1061104	06/11/2004		FPA	**1400**	200	**14000**	200	**2500**	200	**1000**	340	<190	270	**180000**	270	**160**	130	ND
	MPEM0501A1061704	06/17/2004		FPA	**170**	200	**11000**	200	**190**	200	<240	340	<190	270	**43000**	270	<90	130	ND
	MPEM0501A1062204	06/22/2004		FPA	**410**	200	**29000**	200	**780**	200	290	340	<190	270	**75000**	270	<90	130	ND
	MPEM0501A1062904	06/29/2004		FPA	<140	200	**15000**	200	**140**	200	<240	340	<190	270	**30000**	270	<90	130	-
MPEM08A1	MPEM0801A1061104	06/11/2004		FPA	**160**	200	**2700**	200	**280**	200	<240	340	<190	270	**29000**	270	<90	130	ND
	MPEM0801A1062204	06/22/2004		FPA	**1400**	200	**34000**	200	**2100**	200	**1300**	340	<190	270	**200000**	270	<90	130	ND
MPEM10A1	MPEM1001A1061104	06/11/2004		FPA	<140	200	**2200**	200	**280**	200	<240	340	<190	270	**26000**	270	<90	130	ND
	MPEM1001A1062204	06/22/2004		FPA	**500**	200	**5700**	200	**400**	200	<240	340	<190	270	**22000**	270	<90	130	ND
	MPEM1001A1071204	07/12/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEN05A1	MPEN0501A1061104	06/11/2004		FPA	**46000**	1600	**440000**	1600	**87000**	1600	**21000**	2720	<1520	2160	**5300000**	2160	**3200**	1040	ND
	MPEN0501A1061704	06/17/2004		FPA	**120000**	8000	**1800000**	8000	**200000**	8000	**52000**	13600	<7600	10800	**16000000**	10800	**5000**	5200	ND
	MPEN0501A1062104	06/21/2004		FPA	**59000**	20000	**680000**	20000	**89000**	20000	<24000	34000	<19000	27000	**9200000**	27000	<9000	13000	ND
	MPEN0501A1062104	06/21/2004	Lab Dup	FPA	**56000**	20000	**660000**	20000	**95000**	20000	<24000	34000	<19000	27000	**9200000**	27000	<9000	13000	ND
	MPEN0501A1062904	06/29/2004		FPA	**13000**	2000	**220000**	2000	**19000**	2000	**6900**	3400	<1900	2700	**1600000**	2700	**1500**	1300	-
	MPEN0501A1071204	07/12/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	**120000 J**	135000	<45000 **UJ**	65000	-
MPEN07A1	MPEN0701A1061104	06/11/2004		FPA	**14000**	200	**140000**	200	**24000**	200	**9100**	340	<190	270	**1200000**	270	**2100**	130	ND
	MPEN0701A1061704	06/17/2004		FPA	**22000**	1000	**590000**	1000	**36000**	1000	**15000**	1700	<950	1350	**2800000**	1350	**2000**	650	ND
	MPEN0701A1062104	06/21/2004		FPA	**3800**	200	**58000**	200	**6600**	200	**2100**	340	<190	270	**390000**	270	<90	130	ND
	MPEN0701A1062904	06/29/2004		FPA	**250**	200	**3700**	200	**370**	200	<240	340	<190	270	**44000**	270	<90	130	-
	MPEN0701A1062904	06/29/2004	Lab Dup	FPA	**170**	200	**3200**	200	**250**	200	<240	340	<190	270	**41000**	270	<90	130	-
	MPEN0702A1062904	06/29/2004	Field Dup	FPA	**970**	200	**14000**	200	**1500**	200	**430**	340	<190	270	**170000**	270	**150**	130	-
	MPEN0701A1071204	07/12/2004		FPA	<70000 **UJ**	100000	<70000 **UJ**	100000	<70000 **UJ**	100000	<120000 **UJ**	170000	<95000 **UJ**	135000	<95000 **UJ**	135000	<45000 **UJ**	65000	-
MPEN10A1	MPEN1001A1062204	06/22/2004		FPA	<140	200	**1800**	200	<140	200	<240	340	<190	270	**8400**	270	<90	130	ND
	MPEN1001A1062204	06/22/2004	Lab Dup	FPA	<140	200	**1700**	200	<140	200	<240	340	<190	270	**8300**	270	<90	130	ND

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
MPENC01A1	MPENC121903	12/19/2003		FPA	**1000**	200	**210000**	200	**3700**	200	**440**	340	<190	270	**360000**	270	**7100**	130	**4200000 J**
	MPENC01A1122303	12/23/2003		FPA	**1800**	200	**130000**	200	**3400**	200	**270**	340	<190	270	**540000**	270	**13000**	130	**7100000 J**
	MPENC01A1123003	12/30/2003		FPA	**570**	800	**120000**	800	**4200**	800	<960	1360	<760	1080	**410000**	1080	**26000**	520	**11000000 J**
	MPENC01A1011504	01/15/2004		FPA	**1400**	200	**150000**	200	**7800**	200	**1100**	340	<190	270	**330000**	270	**23000**	130	**29000000 J**
	MPENC01A1012104	01/21/2004		FPA	**1000**	200	**210000**	200	**10000**	200	**1100**	340	<190	270	**390000**	270	**19000**	130	**37000000 J**
	MPENC01A1013004	01/30/2004		FPA	**<140**	200	**89000**	200	**4300**	200	**460**	340	<190	270	**170000**	270	**8200**	130	**17000000 J**
	MPENC01A1020604	02/06/2004		FPA	**5000**	200	**240000**	200	**25000**	200	**690**	340	<190	270	**440000**	270	**18000 J**	130	**14000000 J**
	MPENC02A1020604	02/06/2004	Field Dup	FPA	**3300**	200	**160000**	200	**15000**	200	**520**	340	<190	270	**310000**	270	**11000 J**	130	**11000000 J**
	MPENC01A1021204	02/12/2004		FPA	**3900**	200	**290000**	200	**19000**	200	**2000**	340	<190	270	**610000 J**	270	**17000 J**	130	**9000000 J**
	MPENC01A1021204	02/12/2004	Lab Dup	FPA	**4100**	400	**280000**	400	**19000**	400	**2300**	680	<380	540	**690000**	540	**16000**	260	**8400000**
	MPENC01A1021804	02/18/2004		FPA	**2300**	400	**220000**	400	**15000**	400	**1200**	680	<380	540	**480000**	540	**11000 J**	260	**11000000 J**
	MPENC01A1022504	02/25/2004		FPA	**1600**	200	**190000**	200	**7100**	200	**940**	340	<190	270	**450000**	270	**13000**	130	**2300000 J**
	MPENC01A1030404	03/04/2004		FPA	**4200**	200	**200000**	200	**14000**	200	**870**	340	<190	270	**440000**	270	**14000**	130	**6200000**
	MPENC01A1031104	03/11/2004		FPA	**2000**	200	**160000**	200	**8600**	200	**560**	340	<190	270	**310000**	270	**14000**	130	**5500000 J**
	MPENC01A1032204	03/22/2004		FPA	**1900**	200	**130000**	200	**8600**	200	**450**	340	<190	270	**370000**	270	**11000**	130	**1700000 J**
	MPENC01A1040504	04/05/2004		FPA	**520**	200	**70000**	200	**3200**	200	**920**	340	<190	270	**560000**	270	**3700**	130	**5200000 J**
	MPENC01A1041404	04/14/2004		FPA	**750**	200	**67000**	200	**3400**	200	**690**	340	<190	270	**440000**	270	**2500**	130	**4100000 J**
	MPENC01A1042204	04/22/2004		FPA	**2100**	200	**170000**	200	**10000**	200	**3000**	340	<190	270	**900000**	270	**3900**	130	**14000000 J**
	MPENC01A1042704	04/27/2004		FPA	**6800**	200	**270000**	200	**22000**	200	**3200**	340	<190	270	**890000**	270	**6200**	130	**9500000 J**
	MPENC02A1042704	04/27/2004	Field Dup	FPA	**3800**	200	**180000**	200	**14000**	200	**2200**	340	<190	270	**740000**	270	**4100**	130	**6200000 J**
	MPENC01A1050604	05/06/2004		FPA	**5400**	200	**160000**	200	**14000**	200	**2000**	340	<190	270	**460000**	270	**4600**	130	**18000000 J**
	MPENC01A1051304	05/13/2004		FPA	**3500**	200	**110000**	200	**9700**	200	**3300**	340	<190	270	**710000**	270	**5300**	130	**27000000 J**
	MPENC01A1051804	05/18/2004		FPA	**3600**	200	**74000**	200	**9200**	200	**1700**	340	<190	270	**300000**	270	**4800**	130	**22000000 J**
	MPENC01A1060304	06/03/2004		FPA	**2800**	200	**58000**	200	**7000**	200	**550**	340	<190	270	100000 **U**	270	**3700**	130	**22000000 J**
	MPENC01A1061004	06/10/2004		FPA	**2100**	200	**130000**	200	**8500**	200	**250**	340	<190	270	**100000**	270	**9400**	130	**17000000 J**
	MPENC01A1061704	06/17/2004		FPA	**12000**	200	**220000**	200	**25000**	200	**1500**	340	<190	270	**330000**	270	**16000**	130	**75000000 J**
	MPENC01A1062404	06/24/2004		FPA	**2800**	200	**81000**	200	**7600**	200	**670**	340	<190	270	**200000**	270	**4900**	130	**14000000 J**
	MPENC01A1070104	07/01/2004		FPA	**2000**	200	**34000**	200	**4100**	200	**480**	340	<190	270	**150000**	270	**1800**	130	ND
	MPENC01A1070704	07/07/2004		FPA	**2000 J**	200	**63000 J**	200	**6500 J**	200	**470 J**	340	<190 **UJ**	270	**130000 J**	270	**6300 J**	130	-
	MPENC01A1071404	07/14/2004		FPA	**2700**	200	**58000**	200	**6600**	200	**400**	340	<190	270	**200000**	270	**2400**	130	**15000000 J**
	MPENC01A1072104	07/21/2004		FPA	**3500 J**	200	**77000 J**	200	**9100 J**	200	<240 **UJ**	340	<190 **UJ**	270	**160000 J**	270	**5100 J**	130	-
	MPENC01A1072904	07/29/2004		FPA	**3100**	200	**90000**	200	**8700**	200	**380**	340	<190	270	**250000**	270	**4400**	130	**21000000 J**

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
MPENE01A1	MPENE121903	12/19/2003		FPA	<140	200	**13000**	200	**660**	200	<240	340	<190	270	**18000**	270	**1600**	130	**3400000 J**
	MPENE01A1122303	12/23/2003		FPA	<140	200	**31000**	200	**1600**	200	<240	340	<190	270	**55000**	270	**3200**	130	**2000000 J**
	MPENE01A1122303	12/23/2003	Lab Dup	FPA	<140	200	**31000**	200	**1700**	200	<240	340	<190	270	**58000**	270	**3400**	130	**2000000**
	MPENE01A1123003	12/30/2003		FPA	**150**	200	**41000**	200	**1800**	200	<240	340	<190	270	**92000**	270	**4000**	130	**4600000 J**
	MPENE01A1011504	01/15/2004		FPA	**1000**	200	**70000**	200	**5200**	200	<240	340	<190	270	**98000**	270	**6700**	130	**22000000 J**
	MPENE01A1012104	01/21/2004		FPA	<140	200	**37000**	200	**1900**	200	<240	340	<190	270	**60000**	270	**2100**	130	**8400 J**
	MPENE01A1013004	01/30/2004		FPA	<140	200	**17000**	200	**770**	200	<240	340	<190	270	**32000**	270	**1900**	130	**2700000 J**
	MPENE01A1020604	02/06/2004		FPA	**320**	200	**44000**	200	**1900**	200	<240	340	<190	270	**99000**	270	**3500 J**	130	**5600000 J**
	MPENE01A1021204	02/12/2004		FPA	<140	200	**29000**	200	**1300**	200	<240	340	<190	270	**72000**	270	**1800 J**	130	**690000 J**
	MPENE01A1021804	02/18/2004		FPA	<140	200	**29000**	200	**1300**	200	<240	340	<190	270	**59000**	270	**1500 J**	130	**1300000 J**
	MPENE01A1022504	02/25/2004		FPA	<140	200	**20000**	200	**1000**	200	<240	340	<190	270	**62000**	270	**1600**	130	**1600000 J**
	MPENE01A1030404	03/04/2004		FPA	**150**	200	**12000**	200	**820**	200	<240	340	<190	270	**43000**	270	**880**	130	**190000**
	MPENE01A1031104	03/11/2004		FPA	**390**	200	**28000**	200	**2000**	200	<240	340	<190	270	**83000**	270	**2200**	130	**970000 J**
	MPENE01A1032204	03/22/2004		FPA	**370**	200	**37000**	200	**2000**	200	<240	340	<190	270	**160000**	270	**2900**	130	**490000 J**
	MPENE02A1032204	03/22/2004	Field Dup	FPA	**270**	200	**35000**	200	**1800**	200	<240	340	<190	270	**160000**	270	**2800**	130	**680000 J**
	MPENE01A1040504	04/05/2004		FPA	<140	200	**12000**	200	**590**	200	<240	340	<190	270	**65000**	270	**610**	130	**230000 J**
	MPENE02A1040504	04/05/2004	Field Dup	FPA	**<140**	200	**13000**	200	**540**	200	<240	340	<190	270	**74000**	270	**590**	130	**240000 J**
	MPENE01A1041404	04/14/2004		FPA	**190**	200	**19000**	200	**1200**	200	<240	340	<190	270	**110000**	270	**610**	130	**710000 J**
	MPENE02A1041404	04/14/2004	Field Dup	FPA	**<140**	200	**22000**	200	**1400**	200	<240	340	<190	270	**130000**	270	**770**	130	**640000 J**
	MPENE01A1042204	04/22/2004		FPA	<140	200	**22000**	200	**1200**	200	<240	340	<190	270	**170000**	270	**640**	130	**1900000 J**
	MPENE01A1042704	04/27/2004		FPA	**870**	200	**40000**	200	**3100**	200	**420**	340	<190	270	**140000**	270	**1400**	130	**2100000 J**
	MPENE01A1050604	05/06/2004		FPA	**910**	200	**38000**	200	**3000**	200	**310**	340	<190	270	**110000**	270	**1500**	130	**7500000 J**
	MPENE01A1051304	05/13/2004		FPA	**1000**	200	**86000**	200	**4900**	200	**800**	340	<190	270	**310000**	270	**2900**	130	**25000000 J**
	MPENE01A1051804	05/18/2004		FPA	**1600**	200	**98000**	200	**6500**	200	**580**	340	<190	270	**220000**	270	**3800**	130	**24000000 J**
	MPENE01A1060304	06/03/2004		FPA	**1100**	200	**40000**	200	**3800**	200	**260**	340	<190	270	**120000**	270	**1500**	130	**5700000 J**
	MPENE01A1061004	06/10/2004		FPA	**1300**	200	**46000**	200	**4600**	200	<240	340	<190	270	**130000**	270	**1900**	130	**9000000 J**
	MPENE01A1061704	06/17/2004		FPA	**6200**	200	**120000**	200	**13000**	200	**770**	340	<190	270	**300000**	270	**3100**	130	**5000000 J**
	MPENE01A1062404	06/24/2004		FPA	**860**	200	**43000**	200	**3400**	200	**240**	340	<190	270	**120000**	270	**1900**	130	**10000000 J**
	MPENE01A1070104	07/01/2004		FPA	**1400**	200	**36000**	200	**3400**	200	**250**	340	<190	270	**120000**	270	**1500**	130	ND
	MPENE01A1070704	07/07/2004		FPA	**250 J**	200	**13000 J**	200	**1300 J**	200	<240 **UJ**	340	<190 **UJ**	270	**30000 J**	270	**230 J**	130	-
	MPENE01A1071404	07/14/2004		FPA	**1200**	200	**43000**	200	**4600**	200	<240	340	<190	270	**99000**	270	**1700**	130	**36000000 J**
	MPENE01A1072104	07/21/2004		FPA	**960 J**	200	**53000 J**	200	**4500 J**	200	<240 **UJ**	340	<190 **UJ**	270	**59000 J**	270	**2700 J**	130	-
	MPENE02A1072104	07/21/2004	Field Dup	FPA	**2400 J**	200	**130000 J**	200	**12000 J**	200	<240 **UJ**	340	<190 **UJ**	270	**75000 J**	270	**8000 J**	130	-
	MPENE01A1072904	07/29/2004		FPA	**1100**	200	**63000**	200	**5400**	200	<240	340	<190	270	**99000**	270	**2700**	130	**51000000 J**
	MPENE02A1072904	07/29/2004	Field Dup	FPA	**1300**	200	**63000**	200	**5300**	200	<240	340	<190	270	**95000**	270	**2400**	130	**47000000 J**

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
MPENW01A1	MPENW121903	12/19/2003		FPA	**250**	200	**75000**	200	**1500**	200	**330**	340	<190	270	**110000**	270	**9500**	130	**3000000 J**
	MPENW01A1122303	12/23/2003		FPA	**2200**	200	**210000**	200	**4700**	200	**500**	340	<190	270	**430000**	270	**20000**	130	**4500000 J**
	MPENW01A1123003	12/30/2003		FPA	**1400**	800	**240000**	800	**7600**	800	**1400**	1360	<760	1080	**1100000**	1080	**43000**	520	**7500000 J**
	MPENW01A1011504	01/15/2004		FPA	**1900**	800	**190000**	800	**7000**	800	**7000**	1360	<760	1080	**530000**	1080	**29000**	520	**38000000 J**
	MPENW01A1012104	01/21/2004		FPA	**390**	200	**110000**	200	**3500**	200	**340**	340	<190	270	**170000**	270	**11000**	130	**6300000 J**
	MPENW01A1012104	01/21/2004	Lab Dup	FPA	**490**	200	**110000**	200	**3500**	200	**320**	340	<190	270	**170000**	270	**11000**	130	**6600000**
	MPENW01A1013004	01/30/2004		FPA	<140	200	**92000**	200	**2700**	200	**1800**	340	<190	270	**340000**	270	**6000**	130	**6800000 J**
	MPENW01A1020604	02/06/2004		FPA	**170**	200	**53000**	200	**1900**	200	**650**	340	<190	270	**160000**	270	**4000 J**	130	**3100000 J**
	MPENW01A1021204	02/12/2004		FPA	**770**	200	**180000**	200	**6200**	200	**2300**	340	<190	270	**420000**	270	**11000 J**	130	**7200000 J**
	MPENW01A1021804	02/18/2004		FPA	**330**	400	**140000**	400	**5100**	400	**1600**	680	<380	540	**380000**	540	**5600 J**	260	**4900000 J**
	MPENW01A1022504	02/25/2004		FPA	**360**	200	**56000**	200	**2300**	200	**540**	340	<190	270	**180000**	270	**3800**	130	**1500000 J**
	MPENW01A1030404	03/04/2004		FPA	**880**	200	**88000**	200	**4700**	200	**480**	340	<190	270	**210000**	270	**7100**	130	**4300000**
	MPENW01A1031104	03/11/2004		FPA	**1400**	200	**140000**	200	**6800**	200	**1200**	340	<190	270	**530000**	270	**8500**	130	**4000000 J**
	MPENW01A1032204	03/22/2004		FPA	**1600**	200	**130000**	200	**7100**	200	**690**	340	<190	270	**710000**	270	**6700**	130	**100000 J**
	MPENW01A1040504	04/05/2004		FPA	**910**	200	**100000**	200	**4600**	200	**2200**	340	<190	270	**890000**	270	**2800**	130	**4900000 J**
	MPENW01A1041404	04/14/2004		FPA	**1100**	200	**100000**	200	**5600**	200	**1800**	340	<190	270	**840000**	270	**3300**	130	**5600000 J**
	MPENW01A1042204	04/22/2004		FPA	**1400**	400	**160000**	400	**8300**	400	**4000**	680	<380	540	**1300000**	540	**4300**	260	**13000000 J**
	MPENW01A1042704	04/27/2004		FPA	**3800**	400	**160000**	400	**12000**	400	**5600**	680	<380	540	**1300000**	540	**6800**	260	**14000000 J**
	MPENW01A1050604	05/06/2004		FPA	**1400**	200	**110000**	200	**5900**	200	**1700**	340	<190	270	**360000**	270	**5700**	130	**19000000 J**
	MPENW01A1051304	05/13/2004		FPA	**3000**	200	**92000**	200	**8600**	200	**1500**	340	<190	270	**460000**	270	**4100**	130	**22000000 J**
	MPENW01A1051804	05/18/2004		FPA	**5800**	200	**140000**	200	**14000**	200	**1200**	340	<190	270	**280000**	270	**8000**	130	**42000000 J**
	MPENW02A1051804	05/18/2004	Field Dup	FPA	**5400**	200	**130000**	200	**13000**	200	**730**	340	<190	270	**220000**	270	**6800**	130	**23000000 J**
	MPENW01A1060304	06/03/2004		FPA	**1600**	200	**46000**	200	**4000**	200	<240	340	<190	270	**96000**	270	**3300**	130	**4600000 J**
	MPENW02A1060304	06/03/2004	Field Dup	FPA	**2100**	200	**54000**	200	**5300**	200	**240**	340	<190	270	**120000**	270	**4200**	130	**9600000 J**
	MPENW01A1061004	06/10/2004		FPA	**1700**	200	**41000**	200	**4200**	200	<240	340	<190	270	**81000**	270	**3100**	130	**4400000 J**
	MPENW02A1061004	06/10/2004	Field Dup	FPA	**4100**	200	**88000**	200	**9600**	200	**300**	340	<190	270	**150000**	270	**6800**	130	**10000000 J**
	MPENW01A1061704	06/17/2004		FPA	**11000**	200	**210000**	200	**22000**	200	**870**	340	<190	270	**320000**	270	**16000**	130	**27000000 J**
	MPENW02A1061704	06/17/2004	Field Dup	FPA	**12000**	200	**230000**	200	**23000**	200	**800**	340	<190	270	**320000**	270	**17000**	130	**18000000 J**
	MPENW01A1062404	06/24/2004		FPA	**2000**	200	**71000**	200	**5800**	200	**500**	340	<190	270	**120000**	270	**4500**	130	**23000000 J**
	MPENW01A1070104	07/01/2004		FPA	**1800**	200	**61000**	200	**5900**	200	**450**	340	<190	270	**160000**	270	**5000**	130	ND
	MPENW01A1070104	07/01/2004	Lab Dup	FPA	**1800**	200	**56000**	200	**5500**	200	**430**	340	<190	270	**140000**	270	**4500**	130	ND
	MPENW01A1070704	07/07/2004		FPA	**2800 J**	200	**130000 J**	200	**13000 J**	200	**540 J**	340	<190 **UJ**	270	**180000 J**	270	**13000 J**	130	-
	MPENW01A1071404	07/14/2004		FPA	**5100**	200	**160000**	200	**16000**	200	**1100**	340	<190	270	**440000**	270	**9800**	130	**87000000 J**
	MPENW02A1071404	07/14/2004	Field Dup	FPA	**4600**	200	**130000**	200	**13000**	200	**820**	340	<190	270	**370000**	270	**8600**	130	**82000000 J**
	MPENW01A1072104	07/21/2004		FPA	**820 J**	600	**60000 J**	600	**5000 J**	600	**3600 J**	1020	<190 **UJ**	810	**110000 J**	810	**1300 J**	390	-
	MPENW01A1072904	07/29/2004		FPA	**4500**	200	**170000**	200	**16000**	200	**950**	340	<190	270	**430000**	270	**6600**	130	**100000000 J**

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date	Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
				Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
MPESC01A1	MPESC121903	12/19/2003	FPA	**180**	200	**89000**	200	**1100**	200	**470**	340	<190	270	**260000**	270	**840**	130	**320000 J**
	MPESC01A1122303	12/23/2003	FPA	<560	800	**96000**	800	**1100**	800	**1100**	1360	<760	1080	**610000**	1080	**960**	520	**240000 J**
	MPESC01A1123003	12/30/2003	FPA	**620**	400	**120000**	400	**1600**	400	**1200**	680	<380	540	**810000**	540	**1800**	260	**1300000 J**
	MPESC01A1011504	01/15/2004	FPA	**1200**	800	**130000**	800	**3200**	800	**13000**	1360	<760	1080	**440000**	1080	**1200**	520	**7500000 J**
	MPESC01A1012104	01/21/2004	FPA	**210**	200	**90000**	200	**960**	200	**400**	340	<190	270	**120000**	270	**1400**	130	**690000 J**
	MPESC01A13004	01/30/2004	FPA	<140	200	**100000**	200	**1100**	200	**1500**	340	<190	270	**240000**	270	**2000**	130	**1200000 J**
	MPESC01A1020604	02/06/2004	FPA	<140	200	**84000**	200	**810**	200	**610**	340	<190	270	**120000**	270	**1900 J**	130	**700000 J**
	MPESC01A1021204	02/12/2004	FPA	<140	200	**63000**	200	**610**	200	**500**	340	<190	270	**160000**	270	**1600 J**	130	**440000 J**
	MPESC01A1021804	02/18/2004	FPA	<140	200	**63000**	200	**730**	200	**610**	340	<190	270	**220000**	270	**1200 J**	130	**740000 J**
	MPESC01A1022504	02/25/2004	FPA	**240**	200	**43000**	200	**780**	200	**880**	340	<190	270	**370000**	270	**1300**	130	**360000 J**
	MPESC01A1030404	03/04/2004	FPA	**510**	200	**60000**	200	**1200**	200	**1000**	340	<190	270	**500000**	270	**1800**	130	**420000**
	MPESC01A1031104	03/11/2004	FPA	**1200**	800	**160000**	800	**4600**	800	**3800**	1360	<760	1080	**2000000**	1080	**4900**	520	**380000 J**
	MPESC01A1032204	03/22/2004	FPA	**2100**	1000	**210000**	1000	**7800**	1000	**4200**	1700	<950	1350	**3100000**	1350	**6400**	650	**290000 J**
	MPESC01A1040504	04/05/2004	FPA	**1700**	800	**120000**	800	**4300**	800	**4700**	1360	<760	1080	**2600000**	1080	**2300**	520	**2600000 J**
	MPESC01A1041404	04/14/2004	FPA	**2000**	800	**90000**	800	**5200**	800	**3100**	1360	<760	1080	**2000000**	1080	**900**	520	**2500000 J**
	MPESC01A1042204	04/22/2004	FPA	**2900**	800	**89000**	800	**6700**	800	**5000**	1360	<760	1080	**2300000**	1080	**920**	520	**5700000 J**
	MPESC01A1042704	04/27/2004	FPA	**3600**	800	**98000**	800	**8600**	800	**3300**	1360	<760	1080	**1200000**	1080	**1300**	520	**5400000 J**
	MPESC01A1050604	05/06/2004	FPA	**2100**	200	**67000**	200	**5200**	200	**1500**	340	<190	270	**470000**	270	**640**	130	**11000000 J**
	MPESC01A1051304	05/13/2004	FPA	**3100**	200	**69000**	200	**7900**	200	**4400**	340	<190	270	**890000**	270	**1100**	130	**42000000 J**
	MPESC01A1051804	05/18/2004	FPA	**6000**	200	**73000**	200	**13000**	200	**2300**	340	<190	270	**530000**	270	**1700**	130	**33000000 J**
	MPESC01A1060304	06/03/2004	FPA	**2500**	200	**33000**	200	**5000**	200	**910**	340	<190	270	**410000**	270	**990**	130	**6200000 J**
	MPESC01A1061004	06/10/2004	FPA	**2100**	200	**23000**	200	**4000**	200	**670**	340	<190	270	**250000**	270	**830**	130	**5700000 J**
	MPESC01A1061704	06/17/2004	FPA	**8100**	200	**83000**	200	**15000**	200	**1600**	340	<190	270	**580000**	270	**3300**	130	**9700000 J**
	MPESC01A1062404	06/24/2004	FPA	**1500**	200	**21000**	200	**3200**	200	**490**	340	<190	270	**200000**	270	**440**	130	**3300000 J**
	MPESC01A1070104	07/01/2004	FPA	**1900**	200	**20000**	200	**3100**	200	**750**	340	<190	270	**300000**	270	**570**	130	ND
	MPESC01A1070704	07/07/2004	FPA	**4100 J**	200	**36000 J**	200	**5900 J**	200	**1400 J**	340	<190 **UJ**	270	**390000 J**	270	**1300 J**	130	-
	MPESC01A1071404	07/14/2004	FPA	**5700**	200	**54000**	200	**9200**	200	**1900**	340	<190	270	**940000 J**	270	**2300**	130	**8000000 J**
	MPESC01A1072104	07/21/2004	FPA	**530 J**	200	**16000 J**	200	**1300 J**	200	<240 **UJ**	340	<190 **UJ**	270	**120000 J**	270	**130 J**	130	-
	MPESC01A1072904	07/29/2004	FPA	**2000**	200	**21000**	200	**3100**	200	**930**	340	<190	270	**420000**	270	**360**	130	**5900000 J**

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date	Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
				Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
MPESE01A1	MPESE121903	12/19/2003	FPA	**9900**	800	**280000**	800	**8300**	800	**4800**	1360	<760	1080	**6300000**	1080	<360	520	**910000 J**
	MPESE01A1122303	12/23/2003	FPA	**67000**	20000	**650000**	20000	**48000**	20000	<24000	34000	<19000	27000	**53000000**	27000	**20000**	13000	ND
	MPESE01A1123003	12/30/2003	FPA	<1400	2000	**51000**	2000	**1700**	2000	**3700**	3400	<1900	2700	**2400000**	2700	<900	1300	**2400000 J**
	MPESE01A1011504	01/15/2004	FPA	**1500**	1000	**140000**	1000	**4200**	1000	**12000**	1700	<950	1350	**2100000**	1350	**730**	650	**39000000 J**
	MPESE01A1012104	01/21/2004	FPA	<560	800	**74000**	800	**960**	800	**3100**	1360	<760	1080	**810000**	1080	<360	520	**1700000 J**
	MPESE01A1013004	01/30/2004	FPA	<140	200	**31000**	200	**440**	200	**430**	340	<190	270	**220000**	270	<90	130	**510000 J**
	MPESE01A1020604	02/06/2004	FPA	<140	200	**41000**	200	**470**	200	**370**	340	<190	270	**220000**	270	<90 **UJ**	130	**330000 J**
	MPESE01A1021204	02/12/2004	FPA	**170 J**	200	**52000**	200	**550**	200	**850**	340	<190	270	**380000**	270	<90 **UJ**	130	**720000 J**
	MPESE01A1021804	02/18/2004	FPA	<560	800	**110000**	800	**1000**	800	**2400**	1360	<760	1080	**1600000**	1080	<360 **UJ**	520	**1600000 J**
	MPESE01A1022504	02/25/2004	FPA	**760**	400	**100000**	400	**1500**	400	**3000**	680	<380	540	**1400000**	540	**2000**	260	**430000 J**
	MPESE01A1030404	03/04/2004	FPA	**430**	400	**54000**	400	**1100**	400	**2300**	680	<380	540	**1200000**	540	**960**	260	**300000**
	MPESE01A1031104	03/11/2004	FPA	<560	800	**53000**	800	**890**	800	**2800**	1360	<760	1080	**1600000**	1080	**630**	520	**240000 J**
	MPESE01A1032204	03/22/2004	FPA	<700	1000	**34000**	1000	**1100**	1000	**1800**	1700	<950	1350	**1200000**	1350	**600**	650	**220000 J**
	MPESE01A1040504	04/05/2004	FPA	<140	200	**13000**	200	**320**	200	**640**	340	<190	270	**350000**	270	<90	130	**210000 J**
	MPESE01A1041404	04/14/2004	FPA	<140	200	**11000**	200	**260**	200	**420**	340	<190	270	**250000**	270	**93**	130	**240000 J**
	MPESE01A1042204	04/22/2004	FPA	**590**	200	**31000**	200	**1500**	200	**2500**	340	<190	270	**850000**	270	**290**	130	**1400000 J**
	MPESE01A1042704	04/27/2004	FPA	**1500**	400	**68000**	400	**3800**	400	**3100**	680	<380	540	**950000**	540	**530**	260	**3000000 J**
	MPESE01A1050604	05/06/2004	FPA	**3800**	200	**73000**	200	**6900**	200	**4700**	340	<190	270	**830000**	270	**910**	130	**9700000 J**
	MPESE01A1051304	05/13/2004	FPA	**2800**	200	**43000**	200	**5100**	200	**1500**	340	<190	270	**380000**	270	**620**	130	**9300000 J**
	MPESE01A1051804	05/18/2004	FPA	**3900**	200	**53000**	200	**6800**	200	**2000**	340	<190	270	**460000**	270	**980**	130	**22000000 J**
	MPESE01A1060304	06/03/2004	FPA	**1100**	200	**12000**	200	**1600**	200	**310**	340	<190	270	**140000**	270	**160**	130	**1200000 J**
	MPESE01A1061004	06/10/2004	FPA	**1200**	200	**14000**	200	**1800**	200	**440**	340	<190	270	**170000**	270	**170**	130	**700000 J**
	MPESE01A1061704	06/17/2004	FPA	**5200**	200	**62000**	200	**7200**	200	**1900**	340	<190	270	**470000**	270	**810**	130	**5100000 J**
	MPESE01A1062404	06/24/2004	FPA	**2700**	200	**41000**	200	**5600**	200	**1600**	340	<190	270	**310000**	270	**220**	130	**3700000 J**
	MPESE01A1070104	07/01/2004	FPA	**370**	200	**10000**	200	**800**	200	<240	340	<190	270	**63000**	270	<90	130	ND
	MPESE01A1071404	07/14/2004	FPA	**2900**	200	**21000**	200	**3800**	200	**730**	340	<190	270	**260000**	270	**260**	130	**10000000 J**
	MPESE01A1072104	07/21/2004	FPA	**3500 J**	200	**23000 J**	200	**4900 J**	200	**540 J**	340	<190 **UJ**	270	**180000 J**	270	**320 J**	130	-
	MPESE01A1072904	07/29/2004	FPA	**200**	200	**2300**	200	**250**	200	<240	340	<190	270	**24000**	270	<90	130	**430000 J**

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date	Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
				Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
MPESW01A1	MPESW121903	12/19/2003	FPA	**230**	200	**140000**	200	**1600**	200	**760**	340	<190	270	**200000**	270	**5800**	130	**890000 J**
	MPESW01A1122303	12/23/2003	FPA	**820**	800	**200000**	800	**2300**	800	**2500**	1360	<760	1080	**1200000**	1080	**6200**	520	**560000 J**
	MPESW01A1123003	12/30/2003	FPA	**1100**	400	**290000**	400	**4000**	400	**3500**	680	<380	540	**1000000**	540	**16000**	260	**4400000 J**
	MPESW01A1011504	01/15/2004	FPA	**1200**	800	**250000**	800	**4300**	800	**12000**	1360	<760	1080	**750000**	1080	**3700**	520	**15000000 J**
	MPESW01A1012104	01/21/2004	FPA	**380**	200	**150000**	200	**2400**	200	**2500**	340	<190	270	**340000**	270	**3300**	130	**6000000 J**
	MPESW01A1013004	01/30/2004	FPA	<140	200	**64000**	200	**1900**	200	**1200**	340	<190	270	**180000**	270	**3300**	130	**3900000 J**
	MPESW01A1020604	02/06/2004	FPA	<140	200	**37000**	200	**780**	200	**270**	340	<190	270	**52000**	270	**1600 J**	130	**760000 J**
	MPESW01A1021204	02/12/2004	FPA	<140	200	**44000**	200	**860**	200	**410**	340	**1800**	270	**82000**	270	**1900 J**	130	**410000 J**
	MPESW01A1021804	02/18/2004	FPA	<140	200	**44000**	200	**650**	200	**370**	340	<190	270	**86000**	270	**1500 J**	130	**670000 J**
	MPESW01A1022504	02/25/2004	FPA	<140	200	**25000**	200	**450**	200	<240	340	<190	270	**81000**	270	**1300**	130	**220000 J**
	MPESW01A1030404	03/04/2004	FPA	<140	200	**27000**	200	**560**	200	<240	340	<190	270	**62000**	270	**1300**	130	**120000**
	MPESW01A1031104	03/11/2004	FPA	<140	200	**49000**	200	**1300**	200	**370**	340	<190	270	**150000**	270	**2700**	130	**29000 J**
	MPESW01A1032204	03/22/2004	FPA	**270**	200	**45000**	200	**1200**	200	**450**	340	<190	270	**270000**	270	**2400**	130	**100000 J**
	MPESW01A1040504	04/05/2004	FPA	**250**	200	**48000**	200	**1300**	200	**810**	340	<190	270	**420000**	270	**1300**	130	**1100000 J**
	MPESW01A1041404	04/14/2004	FPA	**330**	200	**59000**	200	**2100**	200	**980**	340	<190	270	**410000**	270	**1100**	130	**1900000 J**
	MPESW01A1042204	04/22/2004	FPA	**690**	200	**87000**	200	**2700**	200	**1600**	340	<190	270	**580000**	270	**890**	130	**4900000 J**
	MPESW01A1042704	04/27/2004	FPA	**2400**	200	**100000**	200	**6300**	200	**1800**	340	<190	270	**510000**	270	**2200**	130	**4300000 J**
	MPESW01A1050604	05/06/2004	FPA	**1100**	200	**40000**	200	**3200**	200	**950**	340	<190	270	**250000**	270	**680**	130	**7700000 J**
	MPESW01A1051304	05/13/2004	FPA	**1200**	200	**38000**	200	**3400**	200	**1300**	340	<190	270	**310000**	270	**770**	130	**11000000 J**
	MPESW01A1051804	05/18/2004	FPA	**2800**	200	**58000**	200	**6100**	200	**1100**	340	<190	270	**300000**	270	**1200**	130	**7500000 J**
	MPESW01A1060304	06/03/2004	FPA	**2100**	200	**37000**	200	**4100**	200	**590**	340	<190	270	**230000**	270	**1100**	130	**2800000 J**
	MPESW01A1061004	06/10/2004	FPA	**1600**	200	**31000**	200	**3400**	200	**340**	340	<190	270	**140000**	270	**720**	130	**1800000 J**
	MPESW01A1061704	06/17/2004	FPA	**1700**	200	**39000**	200	**3700**	200	**330**	340	<190	270	**160000**	270	**580**	130	**1100000 J**
	MPESW01A1062404	06/24/2004	FPA	**400**	200	**15000**	200	**1100**	200	<240	340	<190	270	**49000**	270	**94**	130	**440000 J**
	MPESW01A1070104	07/01/2004	FPA	**920**	200	**15000**	200	**1200**	200	**330**	340	<190	270	**110000**	270	**110**	130	ND
	MPESW01A1070704	07/07/2004	FPA	**620 J**	200	**13000 J**	200	**1000 J**	200	<240 **UJ**	340	<190 **UJ**	270	**52000 J**	270	**1200 J**	130	-
	MPESW01A1071404	07/14/2004	FPA	**450**	200	**16000**	200	**1100**	200	<240	340	<190	270	**110000**	270	<90	130	**2000000 J**
	MPESW01A1072104	07/21/2004	FPA	**6500 J**	200	**66000 J**	200	**11000 J**	200	**1500 J**	340	<190 **UJ**	270	**640000 J**	270	**1800 J**	130	-
	MPESW01A1072904	07/29/2004	FPA	<140	200	**6300**	200	**390**	200	<240	340	<190	270	**81000**	270	<90	130	**1700000 J**

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
MSTS01A1	D3121011	12/10/2003		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	MSTS01A1121903	12/19/2003		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	MSTS01A1122403	12/24/2003		FPA	<140	200	**830**	200	<140	200	<240	340	<190	270	**7600**	270	<90	130	ND
	MSTS01A1123003	12/30/2003		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	640 **U**	270	<90	130	ND
	MSTS01A1011504	01/15/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**220**	270	<90	130	ND
	MSTS01A1012104	01/21/2004		FPA	<140	200	**190**	200	<140	200	<240	340	<190	270	**290**	270	<90	130	ND
	MSTS02A1012104	01/21/2004	Field Dup	FPA	<140	200	**180**	200	<140	200	<240	340	<190	270	**280**	270	<90	130	ND
	MSTS01A1013004	01/30/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**290**	270	<90	130	ND
	MSTS01A1020504	02/05/2004		FPA	<140	200	**260**	200	<140	200	<240	340	<190	270	**360**	270	<90 **UJ**	130	ND
	MSTS01A1021204	02/12/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90 **UJ**	130	ND
	MSTS02A1021204	02/12/2004	Field Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90 **UJ**	130	ND
	MSTS01A1021704	02/17/2004		FPA	<140	200	<140	200	<140	200	<240 **UJ**	340	<190	270	**190**	270	<90 **UJ**	130	ND
	MSTS01A1021704	02/17/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	MSTS01A1022504	02/25/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	MSTS02A1022504	02/25/2004	Field Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	MSTS01A1030504	03/05/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	MSTS01A1031104	03/11/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**430**	270	<90	130	ND **UJ**
	MSTS03A1031704	03/17/2004		CAS	<0.05	1	**33**	1	**<0.03**	1	<0.09	1	<0.08	1	**65**	1	<0.09	1	-
	MSTS01A1031704	03/17/2004		FPA	<194.6	278	<194.6	278	<194.6	278	<333.6	472.6	<264.1	375.3	<264.1	375.3	<125.1	180.7	ND **UJ**
	MSTS01A1032204	03/22/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	MSTS01A1033104	03/31/2004		FPA	<175	250	<175	250	<175	250	<300	425	<237.5	337.5	<237.5	337.5	<112.5	162.5	ND **UJ**
	MSTS01A1033104	03/31/2004	Lab Dup	FPA	<175	250	<175	250	<175	250	<300	425	<237.5	337.5	<237.5	337.5	<112.5	162.5	ND
	MSTS01A1040504	04/05/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	MSTS02A1040504	04/05/2004	Field Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	MSTS01A1041404	04/14/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**630**	270	<90	130	ND **UJ**
	MSTS01A1041404	04/14/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**600**	270	<90	130	ND
	MSTS01A1042204	04/22/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**780**	270	<90	130	ND **UJ**
	MSTS01A1042704	04/27/2004		FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	<190 **UJ**	270	<90 **UJ**	130	ND **UJ**
	MSTS01A1042904	04/29/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**310**	270	<90	130	ND **UJ**
	MSTS01A1050604	05/06/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**230**	270	<90	130	ND **UJ**
	MSTS01A1050604	05/06/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**230**	270	<90	130	ND
	MSTS01A1051304	05/13/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	MSTS01A1051804	05/18/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	MSTS01A1052704	05/27/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	MSTS01A1060304	06/03/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	MSTS01A1060304	06/03/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	MSTS01A1061004	06/10/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	MSTS01A1061704	06/17/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	MSTS01A1062404	06/24/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	MSTS01A1070104	07/01/2004		FPA	<140	200	**210**	200	<140	200	<240	340	<190	270	**330**	270	<90	130	ND **UJ**
	MSTS01A1070204	07/02/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	MSTS01A1070704	07/07/2004		FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	<190 **UJ**	270	<90 **UJ**	130	ND **UJ**
	MSTS02A1070704	07/07/2004	Field Dup	FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	<190 **UJ**	270	<90 **UJ**	130	ND **UJ**
	MSTS01A1071404	07/14/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	-
	MSTS01A1072104	07/21/2004		FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	**320 J**	270	<90 **UJ**	130	-
	MSTS01A1072104	07/21/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**240**	270	<90	130	-
	MSTS01A1072804	07/28/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	MSTS01A1072804	07/28/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	MSTS01A1080404	08/04/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	MSTS01A1080404	08/04/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
1WL07A1VAPO	MWL07 VAPOR	04/06/2004		FPA	**4400**	4000	**39000**	4000	**7400**	4000	**13000**	6800	<3800	5400	**29000000**	5400	<1800	2600	ND **UJ**
OXIN01A1	D3120911	12/09/2003		FPA	**1500**	400	**450000**	400	**7200**	400	<480	680	<380	540	**450000**	540	**38000**	260	ND
	D3121012	12/10/2003		FPA	**1200**	400	**440000**	400	**7100**	400	**700**	680	<380	540	**930000**	540	**26000**	260	ND
	OXIN01A1121503	12/15/2003		FPA	**430**	200	**190000**	200	**3100**	200	**500**	340	<190	270	**420000**	270	**11000**	130	ND
	OXIN01A1121503	12/15/2003	Lab Dup	FPA	**500**	200	**190000**	200	**3200**	200	**530**	340	<190	270	**440000**	270	**12000**	130	ND
	OXIN01A1121603	12/16/2003		FPA	**250**	200	**100000**	200	**1800**	200	**300**	340	<190	270	**250000**	270	**6000**	130	**5100000 J**
	OXIN01A1121603	12/16/2003	Lab Dup	FPA	**160**	200	**76000**	200	**1300**	200	<240	340	<190	270	**180000**	270	**4300**	130	**5500000**
	OXIN01A1121703	12/17/2003		FPA	**160**	200	**92000**	200	**1500**	200	**300**	340	<190	270	**210000**	270	**3400**	130	**7400000 J**
	OXIN01A1121703	12/17/2003	Lab Dup	FPA	**190**	200	**88000**	200	**1600**	200	**330**	340	<190	270	**210000**	270	**3400**	130	**7900000**
	OXIN01A1121803	12/18/2003		FPA	**160**	200	**54000**	200	**980**	200	<240	340	<190	270	**160000**	270	**2700**	130	**7600000 J**
	OXIN01A1121903	12/19/2003		FPA	**490**	200	**64000**	200	**1400**	200	**310 J**	340	<190	270	**290000**	270	**3800**	130	**5200000 J**
	OXIN01A1122203	12/22/2003		FPA	**1400**	800	**100000**	800	**2200**	800	**1400**	1360	<760	1080	**1100000**	1080	**5700**	520	**1100000 J**
	OXIN01A1122303	12/23/2003		FPA	**4900**	2000	**180000**	2000	**5500**	2000	**4800**	3400	<1900	2700	**5400000**	2700	**7900**	1300	**1200000 J**
	OXIN01A1122403	12/24/2003		FPA	**470**	200	**22000**	200	**660**	200	**390**	340	<190	270	**490000**	270	**1100**	130	**650000 J**
	OXIN01A1122903	12/29/2003		FPA	**1200**	800	**100000**	800	**3200**	800	**5700**	1360	<760	1080	**1600000**	1080	**9400**	520	**4100000 J**
	OXIN01A1122903	12/29/2003	Lab Dup	FPA	**1300**	800	**96000**	800	**3000**	800	**6000**	1360	<760	1080	**1600000**	1080	**9100**	520	**3800000**
	OXIN01A1122303	12/30/2003		FPA	**710**	800	**120000**	800	**3100**	800	**1400**	1360	<760	1080	**690000**	1080	**21000**	520	**2400000 J**
	OXIN01A1123103	12/31/2003		FPA	**570**	800	**100000**	800	**2100**	800	**1200**	1360	<760	1080	**590000**	1080	**7000**	520	**8100000 J**
	OXIN02A1123103	12/31/2003	Field Dup	FPA	**550**	400	**98000**	400	**2100**	400	**1000**	680	<380	540	**600000**	540	**7200**	260	**8500000 J**
	0XIN01A1011404	01/14/2004		FPA	<2800	4000	**120000**	4000	<2800	4000	<4800	6800	<3800	5400	**890000**	5400	**6600**	2600	ND
	OXIN01A1011504	01/15/2004		FPA	**2500**	1000	**110000**	1000	**6200**	1000	**29000**	1700	<950	1350	**710000**	1350	**4600**	650	ND
	OXIN02A1011504	01/15/2004	Field Dup	FPA	**1100**	1000	**96000**	1000	**4700**	1000	**17000**	1700	<950	1350	**610000**	1350	**4800**	650	ND
	OXIN01A1011604	01/16/2004		FPA	**630**	800	**97000**	800	**3100**	800	**3800**	1360	<760	1080	**620000**	1080	**5600**	520	ND
	OXIN01A1011904	01/19/2004		FPA	<140	200	**55000**	200	**1000**	200	**710**	340	<190	270	**240000**	270	**2100**	130	**5100000**
	OXIN01A1012004	01/20/2004		FPA	<140	200	**59000**	200	**1500**	200	**610**	340	<190	270	**200000**	270	**2800**	130	**7600000 J**
	OXIN01A1012104	01/21/2004		FPA	**210**	200	**74000**	200	**1600**	200	**780**	340	<190	270	**250000**	270	**3200**	130	**5300000 J**
	OXIN01A1012204	01/22/2004		FPA	**230**	200	**69000**	200	**1400**	200	**910**	340	<190	270	**230000**	270	**3700**	130	**6200000 J**
	OXIN01A1012304	01/23/2004		FPA	<140	200	**61000**	200	**1300**	200	**810**	340	<190	270	**240000**	270	**2300**	130	**4800000 J**
	OXIN01A1012704	01/27/2004		FPA	<140	200	**54000**	200	**1300**	200	**780**	340	<190	270	**200000**	270	**2200**	130	**3900000 J**
	OXIN01A1012804	01/28/2004		FPA	<140	200	**140000**	200	**4500**	200	**1900**	340	<190	270	**400000**	270	**11000**	130	**7100000 J**
	OXIN01A1012904	01/29/2004		FPA	<140	200	**85000**	200	**2100**	200	**1300**	340	<190	270	**270000**	270	**3800**	130	**5600000 J**
	OXIN01A1012904	01/29/2004	Lab Dup	FPA	<140	200	**78000**	200	**2200**	200	**1200**	340	<190	270	**250000**	270	**3700**	130	**5300000**
	OXIN01A1013004	01/30/2004		FPA	<140	200	**86000**	200	**2100**	200	**1200**	340	<190	270	**290000**	270	**3800**	130	**5200000 J**
	OXIN02A1013004	01/30/2004	Field Dup	FPA	<140	200	**93000**	200	**2300**	200	**1300**	340	<190	270	**280000**	270	**4100**	130	**6200000 J**
	OXIN01A1020204	02/02/2004		FPA	<140	200	**91000**	200	**2600**	200	**1100**	340	<190	270	**240000**	270	**5000 J**	130	**5300000 J**
	OXIN01A1020304	02/03/2004		FPA	<140	200	**83000**	200	**3400**	200	**720**	340	<190	270	**200000**	270	**4300 J**	130	**8300000 J**
	OXIN01A1020404	02/04/2004		FPA	**650**	200	**76000**	200	**3300**	200	**540**	340	<190	270	**190000**	270	**3500 J**	130	**8400000 J**
	OXIN01A1020504	02/05/2004		FPA	**410**	200	**72000**	200	**2800**	200	**530**	340	<190	270	**200000**	270	**3000 J**	130	**6400000 J**
	OXIN01A1020604	02/06/2004		FPA	**590**	200	**81000**	200	**3600**	200	**570**	340	<190	270	**220000**	270	**4300 J**	130	**6300000 J**
	OXIN01A1020904	02/09/2004		FPA	**440**	200	**62000**	200	**2600**	200	**560**	340	<190	270	**180000**	270	**2600 J**	130	**4500000 J**
	OXIN01A1021004	02/10/2004		FPA	**680**	200	**110000**	200	**4200**	200	**1100**	340	<190	270	**300000**	270	**4700 J**	130	**3900000 J**
	OXIN01A1021104	02/11/2004		FPA	**1500**	200	**150000**	200	**6600**	200	**1400**	340	<190	270	**430000**	270	**9900 J**	130	**3800000 J**
	OXIN01A1021204	02/12/2004		FPA	**520**	200	**99000**	200	**3200**	200	**910**	340	<190	270	**330000**	270	**3800 J**	130	**3700000 J**
	OXIN01A1021304	02/13/2004		FPA	**320 J**	400	**88000**	400	**3100**	400	**1300**	680	<380	540	**650000**	540	**3400 J**	260	**2000000 J**
	OXIN01A1021604	02/16/2004		FPA	**1200**	400	**150000**	400	**5600**	400	**1700**	680	<380	540	**640000**	540	**7500 J**	260	**2700000 J**
	OXIN01A1021704	02/17/2004		FPA	**310 J**	400	**79000**	400	**2700**	400	**1100**	680	<380	540	**410000**	540	**2200 J**	260	**1900000 J**
	OXIN02A1021704	02/17/2004	Field Dup	FPA	<280	400	**76000**	400	**2600**	400	**1100**	680	<380	540	**400000**	540	**2400 J**	260	**2200000 J**
	OXIN01A1021804	02/18/2004		FPA	**320**	200	**81000**	200	**2300**	200	**990**	340	<190	270	**510000**	270	**2300 J**	130	**2600000 J**
	OXIN01A1021904	02/19/2004		FPA	**340**	200	**69000**	200	**2200**	200	**970**	340	<190	270	**430000**	270	**2400**	130	**3400000 J**
	OXIN01A1022004	02/20/2004		FPA	**400**	200	**85000**	200	**2300**	200	**1000**	340	<190	270	**490000**	270	**4100**	130	**1400000 J**
	OXIN01A1022304	02/23/2004		FPA	**560**	200	**74000**	200	**2200**	200	**920**	340	<190	270	**480000**	270	**3500**	130	**760000 J**
	OXIN01A1022404	02/24/2004		FPA	**290**	200	**42000**	200	**1000**	200	**600**	340	<190	270	**320000**	270	**2400**	130	**1200000 J**

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
OXIN01A1	OXIN01A1022504	02/25/2004		FPA	**390**	200	**52000**	200	**1500**	200	**420**	340	<190	270	**340000**	270	**2700**	130	**230000 J**
	OXIN01A1022604	02/26/2004		FPA	**340 J**	200	**42000 J**	200	**1300 J**	200	**700 J**	340	<190 **UJ**	270	**340000 J**	270	**2200 J**	130	**2600000 J**
	OXIN01A1022704	02/27/2004		FPA	**260 J**	200	**43000 J**	200	**1300 J**	200	**560 J**	340	<190 **UJ**	270	**290000 J**	270	**2200 J**	130	**3300000 J**
	OXIN01A1030104	03/01/2004		FPA	**310 J**	200	**44000 J**	200	**1400 J**	200	**600 J**	340	<190 **UJ**	270	**330000 J**	270	**2300 J**	130	**2000000 J**
	OXIN01A1030204	03/02/2004		FPA	**310 J**	200	**37000 J**	200	**1500 J**	200	**490 J**	340	<190 **UJ**	270	**260000 J**	270	**2200 J**	130	**2300000 J**
	OXIN01A1030304	03/03/2004		FPA	**250 J**	200	**34000 J**	200	**1400 J**	200	**450 J**	340	<190 **UJ**	270	**270000 J**	270	**1900 J**	130	**1600000 J**
	OXIN01A1030404	03/04/2004		FPA	**640 J**	200	**55000 J**	200	**2500 J**	200	**640 J**	340	<190 **UJ**	270	**380000 J**	270	**3100 J**	130	**1300000 J**
	OXIN01A1030504	03/05/2004		FPA	**400 J**	200	**48000 J**	200	**1900 J**	200	**540 J**	340	<190 **UJ**	270	**440000 J**	270	**2700 J**	130	**470000 J**
	OXIN01A1030804	03/08/2004		FPA	**620**	200	**67000**	200	**2600**	200	**1100**	340	<190	270	**520000**	270	**3600**	130	**2700000 J**
	OXIN01A1030904	03/09/2004		FPA	**390**	200	**45000**	200	**1500**	200	**510**	340	<190	270	**450000**	270	**2000**	130	**350000 J**
	OXIN01A1031004	03/10/2004		FPA	**600**	200	**59000**	200	**2100**	200	**770**	340	<190	270	**500000**	270	**2500**	130	**590000 J**
	OXIN01A1031104	03/11/2004		FPA	**600**	200	**59000**	200	**2300**	200	**840**	340	<190	270	**520000**	270	**2600**	130	**690000 J**
	OXIN01A1031204	03/12/2004		FPA	**800**	200	**83000**	200	**3000**	200	**1200**	340	<190	270	**660000**	270	**4600**	130	**640000 J**
	OXIN01A1031704	03/17/2004		FPA	**420**	448	**47000**	448	**1900**	448	**1000**	761.6	<425.6	605	**620000**	604.800000	**1900**	291.2	**1400000 J**
	OXIN01A1031704	03/17/2004	Lab Dup	CAS	<0.034	0.72	**2.7**	0.72	<0.023	0.72	<0.037	0.42	<0.043	0.52	**31**	0.53	<0.097	1.1	-
	OXIN03A1031704	03/17/2004	Split	CAS	<140	2900	**10000**	2900	<91	2900	<260	2900	<230	2900	**160000**	2900	<250	2900	-
	OXIN01A1032204	03/22/2004		FPA	**400 J**	200	**56000 J**	200	**2100 J**	200	**1300 J**	340	<190 **UJ**	270	**630000 J**	270	**2500 J**	130	**2000000 J**
	OXIN01A1032304	03/23/2004		FPA	**1200 J**	200	**71000 J**	200	**3100 J**	200	**2100 J**	340	<190 **UJ**	270	**880000 J**	270	**2900 J**	130	**2400000 J**
	OXIN01A1032404	03/24/2004		FPA	**2700**	800	**230000**	800	**10000**	800	**4300**	1360	<760	1080	**2400000**	1080	**9300**	520	**3500000 J**
	OXIN01A1032504	03/25/2004		FPA	370 **R**	200	48000 **R**	200	1600 **R**	200	1200 **R**	340	<190 **R**	270	510000 **R**	270	1700 **R**	130	1600000 **R**
	OXIN02A1032504	03/25/2004	Field Dup	FPA	**1100**	200	**110000**	200	**4300**	200	**3100**	340	<190	270	**870000**	270	**4700**	130	**5500000 J**
	OXIN01A1032604	03/26/2004		FPA	**690**	200	**84000**	200	**3100**	200	**1700**	340	<190	270	**630000**	270	**3600**	130	**5000000 J**
	OXIN01A1033104	03/31/2004		FPA	**770**	424	**90000**	424	**3000**	424	**1900**	720.8	<402.8	572.4	**1100000**	572.4	**2900**	275.6	**3900000 J**
	OXIN01A1040504	04/05/2004		FPA	**690**	800	**59000**	800	**2400**	800	**1600**	1360	<760	1080	**1000000**	1080	**1400**	520	**1300000 J**
	OXIN01A1040604	04/06/2004		FPA	**610**	200	**51000**	200	**2200**	200	**1300**	340	<190	270	**580000**	270	**1500**	130	**2500000 J**
	OXIN01A1040704	04/07/2004		FPA	**440**	200	**42000**	200	**1600**	200	**1200**	340	<190	270	**580000**	270	**1200**	130	**2200000 J**
	OXIN01A1040804	04/08/2004		FPA	**440**	200	**34000**	200	**1500**	200	**700**	340	<190	270	**440000**	270	**850**	130	**730000 J**
	OXIN01A1040904	04/09/2004		FPA	**730**	200	**65000**	200	**2700**	200	**1400**	340	<190	270	**660000**	270	**1600**	130	**2500000 J**
	OXIN01A1041204	04/12/2004		FPA	**630**	200	**49000**	200	**2100**	200	**1300**	340	<190	270	**640000**	270	**1200**	130	**3800000 J**
	OXIN01A1041304	04/13/2004		FPA	**380**	400	**35000**	400	**1500**	400	**840**	680	<380	540	**520000**	540	**610**	260	**1500000 J**
	OXIN01A1041404	04/14/2004		FPA	**250**	200	**19000**	200	**1000**	200	**410**	340	<190	270	**350000**	270	**350**	130	**330000 J**
	OXIN02A1041504	04/15/2004	Field Dup	FPA	**1800**	200	**100000**	200	**5100**	200	**1500**	340	<190	270	**780000**	270	**3800**	130	**3900000 J**
	OXIN01A1041604	04/16/2004		FPA	**590**	200	**51000**	200	**2400**	200	**910**	340	<190	270	**410000**	270	**1500**	130	**3600000 J**
	OXIN01A1041904	04/19/2004		FPA	**830**	200	**57000**	200	**2800**	200	**1400**	340	<190	270	**680000**	270	**1200**	130	**6800000 J**
	OXIN01A1042004	04/20/2004		FPA	**1400**	200	**98000**	200	**4900**	200	**2000**	340	<190	270	**770000**	270	**2700**	130	**8600000 J**
	OXIN01A1042104	04/21/2004		FPA	**1300**	200	**87000**	200	**4400**	200	**2200**	340	<190	270	**830000**	270	**1700**	130	**7800000 J**
	OXIN01A1042204	04/22/2004		FPA	**1100**	800	**87000**	800	**4600**	800	**2600**	1360	<760	1080	**1300000**	1080	**1400**	520	**8900000 J**
	OXIN02A1042204	04/22/2004	Field Dup	FPA	**1700**	474	**130000**	474	**6700**	474	**4200**	806	<450.3	639.9	**1600000**	639.9	**2900**	308.1	**20000000 J**
	OXIN01A1042304	04/23/2004		FPA	**1400**	400	**73000**	400	**4200**	400	**2300**	680	<380	540	**910000**	540	**1500**	260	**9400000 J**
	OXIN01A1042604	04/26/2004		FPA	**1900**	400	**87000**	400	**6000**	400	**2300**	680	<380	540	**730000**	540	**2300**	260	**7100000 J**
	OXIN01A1042704	04/27/2004		FPA	**2500**	400	**110000**	400	**7800**	400	**3000**	680	<380	540	**910000**	540	**2600**	260	**7500000 J**
	OXIN01A1042804	04/28/2004		FPA	**1600**	200	**64000**	200	**4400**	200	**3000**	340	<190	270	**950000**	270	**1200**	130	**6600000 J**
	OXIN01A1042904	04/29/2004		FPA	**1500**	200	**67000**	200	**4400**	200	**2600**	340	<190	270	590000 **U**	270	**1900**	130	**8200000 J**
	OXIN01A1043004	04/30/2004		FPA	**1900**	200	**75000**	200	**5600**	200	**2700**	340	<190	270	**640000**	270	**2200**	130	**9300000 J**
	OXIN01A1050304	05/03/2004		FPA	**2800**	200	**85000**	200	**6600**	200	**2000**	340	<190	270	**530000**	270	**2600**	130	**19000000 J**
	OXIN01A1050404	05/04/2004		FPA	**1700**	200	**57000**	200	**4200**	200	**1900**	340	<190	270	**480000**	270	**1800**	130	**12000000 J**
	OXIN01A1050504	05/05/2004		FPA	**1300**	200	**54000**	200	**3800**	200	**1300**	340	<190	270	**390000**	270	**1600**	130	**15000000 J**
	OXIN01A1050604	05/06/2004		FPA	**1900**	200	**61000**	200	**4800**	200	**2100**	340	<190	270	**480000**	270	**2000**	130	**16000000 J**
	OXIN01A1050704	05/07/2004		FPA	**2200**	200	**69000**	200	**5100**	200	**2300**	340	<190	270	**490000**	270	**2100**	130	**24000000 J**
	OXIN01A1051004	05/10/2004		FPA	**3100**	800	**100000**	800	**9200**	800	**9600**	1360	<760	1080	**1200000**	1080	**3400**	520	**38000000 J**
	OXIN02A1051004	05/10/2004	Field Dup	FPA	**7000**	504	**210000**	504	**19000**	504	**7400**	857	<478.8	680.4	**1600000**	680.4	**7200**	327.6	**87000000 J**
	OXIN02A1051004	05/10/2004	Lab Dup	FPA	**6900**	504	**180000**	504	**17000**	504	**6100**	857	<478.8	680.4	**1900000**	680.4	**7200**	327.6	**34000000**

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
OXIN01A1	OXIN03A1051004	05/10/2004	Split	CAS	<810	17000	**110000**	17000	<540	17000	<1500	17000	<1400	17000	**1400000**	17000	<1400	17000	-
	OXIN01A1051104	05/11/2004		FPA	**3400**	200	**85000**	200	**8800**	200	**1800**	340	<190	270	**430000**	270	**2300**	130	**31000000 J**
	OXIN01A1051204	05/12/2004		FPA	**1600**	200	**48000**	200	**4400**	200	**1400**	340	<190	270	**360000**	270	**1600**	130	**22000000 J**
	OXIN01A1051304	05/13/2004		FPA	**1100**	200	**35000**	200	**3100**	200	**980**	340	<190	270	**280000**	270	**1100**	130	**15000000 J**
	OXIN01A1051704	05/17/2004		FPA	**720**	200	**23000**	200	**2300**	200	**490**	340	<190	270	**160000**	270	**890**	130	**9700000 J**
	OXIN01A1051804	05/18/2004		FPA	**1300**	200	**30000**	200	**3200**	200	**670**	340	<190	270	**180000**	270	**1100**	130	**17000000 J**
	OXIN01A1051904	05/19/2004		FPA	**1800**	200	**39000**	200	**4400**	200	**820**	340	<190	270	**220000**	270	**1800**	130	**19000000 J**
	OXIN01A1052004	05/20/2004		FPA	**1600**	200	**37000**	200	**4100**	200	**800**	340	<190	270	**190000**	270	**1400**	130	**18000000 J**
	OXIN01A1052104	05/21/2004		FPA	**1100**	200	**24000**	200	**2700**	200	**460**	340	<190	270	**140000**	270	**1000**	130	**14000000 J**
	OXIN01A1052104	05/21/2004	Lab Dup	FPA	**1100**	200	**27000**	200	**3000**	200	**430**	340	<190	270	**140000**	270	**990**	130	**14000000**
	OXIN01A1052404	05/24/2004		FPA	**2900**	200	**62000**	200	**7300**	200	**570**	340	<190	270	**190000**	270	**2200**	130	**9600000 J**
	OXIN01A1052404	05/24/2004	Lab Dup	FPA	**2900**	200	**62000**	200	**7400**	200	**550**	340	<190	270	**190000**	270	**2000**	130	**9800000**
	OXIN01A1052504	05/25/2004		FPA	**2800**	200	**61000**	200	**6900**	200	**770**	340	<190	270	**230000**	270	**2600**	130	**14000000 J**
	OXIN01A1052704	05/27/2004		FPA	**3300**	200	**64000**	200	**7600**	200	**550**	340	<190	270	**200000**	270	**2500**	130	**11000000 J**
	OXIN01A1052704	05/27/2004	Lab Dup	FPA	**3400**	200	**64000**	200	**7800**	200	**490**	340	<190	270	**190000**	270	**2500**	130	**11000000**
	OXIN01A1052804	05/28/2004		FPA	**2900**	200	**67000**	200	**7300**	200	**760**	340	<190	270	**250000**	270	**2700**	130	**12000000 J**
	OXIN01A1060104	06/01/2004		FPA	**1700**	200	**34000**	200	**3800**	200	**520**	340	<190	270	**170000**	270	**1500**	130	**8500000 J**
	OXIN01A1060204	06/02/2004		FPA	**1900**	200	**40000**	200	**4600**	200	**550**	340	<190	270	**210000**	270	**1800**	130	**11000000 J**
	OXIN01A1060304	06/03/2004		FPA	**1400**	200	**32000**	200	**3500**	200	**560**	340	<190	270	**200000**	270	**1100**	130	**9700000 J**
	OXIN01A1060304	06/03/2004	Lab Dup	FPA	**1700**	200	**38000**	200	**3900**	200	**590**	340	<190	270	**220000**	270	**1500**	130	**9900000**
	OXIN01A1060404	06/04/2004		FPA	**850**	200	**21000**	200	**2300**	200	**330**	340	<190	270	**120000**	270	**920**	130	**6800000 J**
	OXIN01A1060404	06/04/2004	Lab Dup	FPA	**830**	200	**21000**	200	**2200**	200	**310**	340	<190	270	**120000**	270	**970**	130	**6700000**
	OXIN01A1060704	06/07/2004		FPA	**1500**	200	**28000**	200	**3100**	200	**320**	340	<190	270	**120000**	270	**1200**	130	**7900000 J**
	OXIN01A1060804	06/08/2004		FPA	**1800**	200	**34000**	200	**4000**	200	**370**	340	<190	270	**150000**	270	**1500**	130	**8400000 J**
	OXIN01A1060904	06/09/2004		FPA	**2500**	200	**48000**	200	**5500**	200	**670**	340	<190	270	**220000**	270	**2700**	130	**14000000 J**
	OXIN01A1060904	06/09/2004	Lab Dup	FPA	**2800**	200	**51000**	200	**5800**	200	**700**	340	<190	270	**210000**	270	**2800**	130	**14000000**
	OXIN01A1061004	06/10/2004		FPA	**2000**	200	**43000**	200	**4600**	200	**540**	340	<190	270	**190000**	270	**2000**	130	**10000000 J**
	OXIN01A1061104	06/11/2004		FPA	**1900**	200	**46000**	200	**4400**	200	**530**	340	<190	270	**160000**	270	**2100**	130	**15000000 J**
	OXIN01A1061404	06/14/2004		FPA	**2200**	200	**53000**	200	**5000**	200	**540**	340	<190	270	**200000**	270	**2100**	130	**12000000 J**
	OXIN01A1061504	06/15/2004		FPA	**3100**	200	**65000**	200	**6500**	200	**860**	340	<190	270	**280000**	270	**2400**	130	**9800000 J**
	OXIN01A1061504	06/15/2004	Lab Dup	FPA	**3100**	200	**66000**	200	**6800**	200	**870**	340	<190	270	**270000**	270	**2300**	130	**10000000**
	OXIN01A1061604	06/16/2004		FPA	**3600**	200	**70000**	200	**7400**	200	**890**	340	<190	270	**310000**	270	**3600**	130	**13000000 J**
	OXIN01A1061704	06/17/2004		FPA	**4200**	200	**79000**	200	**8400**	200	**950**	340	<190	270	**320000**	270	**3200**	130	**12000000 J**
	OXIN01A1061704	06/17/2004	Lab Dup	FPA	**4700**	200	**80000**	200	**8300**	200	**890**	340	<190	270	**290000**	270	**3000**	130	**13000000**
	OXIN01A1061804	06/18/2004		FPA	**5100**	200	**100000**	200	**11000**	200	**970**	340	<190	270	**290000**	270	**3700**	130	**12000000 J**
	OXIN01A1062104	06/21/2004		FPA	**3400**	200	**76000**	200	**7500**	200	**790**	340	<190	270	**250000**	270	**3100**	130	**17000000 J**
	OXIN01A1062204	06/22/2004		FPA	**3700**	200	**84000**	200	**8600**	200	**1700**	340	<190	270	**380000**	270	**3100**	130	**19000000 J**
	OXIN02A1062204	06/22/2004	Field Dup	FPA	**4600**	200	**93000**	200	**9700**	200	**1700**	340	<190	270	**380000**	270	**3700**	130	**19000000 J**
	OXIN01A1062304	06/23/2004		FPA	**3400**	200	**75000**	200	**7500**	200	**1300**	340	<190	270	**310000**	270	**3900**	130	**19000000 J**
	OXIN01A1062404	06/24/2004		FPA	**2800**	200	**65000**	200	**6800**	200	**1100**	340	<190	270	**270000**	270	**2900**	130	**17000000 J**
	OXIN01A1062404	06/24/2004	Lab Dup	FPA	**3100**	200	**70000**	200	**7000**	200	**1100**	340	<190	270	**260000**	270	**3000**	130	**17000000**
	OXIN01A1062504	06/25/2004		FPA	**2200**	200	**50000**	200	**4900**	200	**690**	340	<190	270	**220000**	270	**2500**	130	**13000000 J**
	OXIN01A1062504	06/25/2004	Lab Dup	FPA	**2200**	200	**48000**	200	**4800**	200	**750**	340	<190	270	**210000**	270	**2600**	130	**13000000**
	OXIN01A1062804	06/28/2004		FPA	**950**	200	**28000**	200	**2600**	200	**350 J**	340	<190	270	**120000**	270	**1700**	130	**23000000 J**
	OXIN01A1062804	06/28/2004	Lab Dup	FPA	**980**	200	**30000**	200	**2800**	200	**320**	340	<190	270	**110000**	270	**1900**	130	**23000000**
	OXIN01A1062904	06/29/2004		FPA	**1000**	200	**28000**	200	**2600**	200	**280**	340	<190	270	**150000**	270	**1500**	130	**17000000 J**
	OXIN01A1063004	06/30/2004		FPA	**2000 J**	200	**48000 J**	200	**4600 J**	200	**650 J**	340	<190 **UJ**	270	**190000 J**	270	**3300 J**	130	ND
	OXIN01A1063004	06/30/2004	Lab Dup	FPA	**2000**	200	**46000**	200	**4300**	200	**630**	340	<190	270	**190000**	270	**3000**	130	ND
	OXIN01A1070104	07/01/2004		FPA	**1400**	200	**31000**	200	**3200**	200	**350**	340	<190	270	**150000**	270	**1500**	130	**7000000 J**
	OXIN01A1070204	07/02/2004		FPA	**1200**	200	**26000**	200	**2800**	200	**360**	340	<190	270	**140000**	270	**1100**	130	**16000000 J**
	OXIN01A1070604	07/06/2004		FPA	**2800**	200	**88000**	200	**8600**	200	**660**	340	<190	270	**290000**	270	**5400**	130	**50000000 J**
	OXIN01A1070704	07/07/2004		FPA	**3000 J**	200	**83000 J**	200	**8500 J**	200	**940 J**	340	<190 **UJ**	270	**290000 J**	270	**5600 J**	130	-

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
OXIN01A1	OXIN01A1070804	07/08/2004		FPA	**1200 J**	200	**26000 J**	200	**3100 J**	200	**380 J**	340	<190 **UJ**	270	**120000 J**	270	**1300 J**	130	-
	OXIN02A1070804	07/08/2004	Field Dup	FPA	**900 J**	200	**23000 J**	200	**2800 J**	200	**400 J**	340	<190 **UJ**	270	**110000 J**	270	**1100 J**	130	-
	OXIN01A1070904	07/09/2004		FPA	**1600 J**	200	**35000 J**	200	**4100 J**	200	**550 J**	340	<190 **UJ**	270	**140000 J**	270	**2400 J**	130	-
	OXIN01A1070904	07/09/2004	Lab Dup	FPA	**1600**	200	**34000**	200	**4000**	200	**460**	340	<190	270	**140000**	270	**2300**	130	-
	OXIN01A1071204	07/12/2004		FPA	**970 J**	200	**23000 J**	200	**2400 J**	200	<240 **UJ**	340	<190 **UJ**	270	**140000 J**	270	**1400 J**	130	-
	OXIN01A1071304	07/13/2004		FPA	**3700**	200	**91000**	200	**10000**	200	**530**	340	<190	270	**260000**	270	**6300**	130	**24000000 J**
	OXIN01A1071404	07/14/2004		FPA	**1400**	200	**37000**	200	**3500**	200	<240	340	<190	270	**190000**	270	**1400**	130	**21000000 J**
	OXIN01A1071404	07/14/2004	Lab Dup	FPA	**1300**	200	**35000**	200	**3800**	200	**240**	340	<190	270	**180000**	270	**1300**	130	**21000000**
	OXIN01A1071504	07/15/2004		FPA	**2600**	200	**71000**	200	**7800**	200	**410**	340	<190	270	**200000**	270	**4500**	130	-
	OXIN01A1071604	07/16/2004		FPA	**1200**	200	**33000**	200	**3100**	200	<240	340	<190	270	**150000**	270	**940**	130	-
	OXIN01A1071904	07/19/2004		FPA	**1100**	200	**33000**	200	**3500**	200	<240	340	<190	270	**100000**	270	**2500**	130	**37000000 J**
	OXIN01A1072004	07/20/2004		FPA	**1100**	200	**35000**	200	**3500**	200	<240	340	<190	270	**120000**	270	**2300**	130	**41000000 J**
	OXIN02A1072004	07/20/2004	Field Dup	FPA	**1000**	200	**33000**	200	**3100**	200	<240	340	<190	270	**110000**	270	**2100**	130	**46000000 J**
	OXIN01A1072104	07/21/2004		FPA	**1800 J**	200	**69000 J**	200	**6100 J**	200	**280 J**	340	<190 **UJ**	270	**150000 J**	270	**3300 J**	130	-
	OXIN01A1072104	07/21/2004	Lab Dup	FPA	**1700**	200	**64000**	200	**5900**	200	**280**	340	<190	270	**140000**	270	**3600**	130	-
	OXIN01A1072204	07/22/2004		FPA	**1900 J**	200	**52000 J**	200	**5100 J**	200	**350 J**	340	<190 **UJ**	270	**150000 J**	270	**2300 J**	130	**42000000 J**
	OXIN01A1072204	07/22/2004	Lab Dup	FPA	**1700**	200	**49000**	200	**4800**	200	**260**	340	<190	270	**140000**	270	**2300**	130	**43000000**
	OXIN01A1072304	07/23/2004		FPA	**1200 J**	200	**36000 J**	200	**3800 J**	200	<240 **UJ**	340	<190 **UJ**	270	**130000 J**	270	**1800 J**	130	**28000000 J**
	OXIN01A1072604	07/26/2004		FPA	**800**	200	**25000**	200	**2300**	200	<240	340	<190	270	**110000**	270	**890**	130	**17000000 J**
	OXIN01A1072604	07/26/2004	Lab Dup	FPA	**690**	200	**21000**	200	**2000**	200	<240	340	<190	270	**87000**	270	**910**	130	**17000000**
	OXIN01A1072704	07/27/2004		FPA	**770**	200	**26000**	200	**2300**	200	<240	340	<190	270	**130000**	270	**1100**	130	**20000000 J**
	OXIN02A1072704	07/27/2004	Field Dup	FPA	**730**	200	**25000**	200	**2200**	200	<240	340	<190	270	**130000**	270	**770**	130	**18000000 J**
	OXIN01A1072804	07/28/2004		FPA	**830**	200	**28000**	200	**2500**	200	<240	340	<190	270	**120000**	270	**1300**	130	**22000000 J**
	OXIN01A1072904	07/29/2004		FPA	**850**	200	**30000**	200	**2800**	200	<240	340	<190	270	**140000**	270	**1000**	130	**20000000 J**
	OXIN01A1072904	07/29/2004	Lab Dup	FPA	**870**	200	**28000**	200	**2400**	200	<240	340	<190	270	**130000**	270	**1200**	130	**20000000**
	OXIN01A1073004	07/30/2004		FPA	**750**	200	**23000**	200	**2100**	200	<240	340	<190	270	**110000**	270	**820**	130	**18000000 J**
	OXIN01A1073004	07/30/2004	Lab Dup	FPA	**780**	200	**23000**	200	**2100**	200	<240	340	<190	270	**100000**	270	**860**	130	**18000000**
	OXIN01A1080204	08/02/2004		FPA	**740**	200	**24000**	200	**2000**	200	<240	340	<190	270	**110000**	270	**890**	130	**19000000 J**
	OXIN01A1080304	08/03/2004		FPA	**870**	200	**29000**	200	**2300**	200	<240	340	<190	270	**130000**	270	**1000**	130	**16000000 J**
	OXIN01A1080304	08/03/2004	Lab Dup	FPA	**830**	200	**27000**	200	**2200**	200	<240	340	<190	270	**120000**	270	**1000**	130	**16000000**
	OXIN01A1080404	08/04/2004		FPA	**580**	200	**20000**	200	**1600**	200	<240	340	<190	270	**110000**	270	**580**	130	**13000000 J**
	OXIN02A1080404	08/04/2004	Field Dup	FPA	**440**	200	**18000**	200	**1500**	200	<240	340	<190	270	**100000**	270	**540**	130	**17000000 J**

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
OXSS01A1	D3120905	12/09/2003		FPA	<140	200	**350 J**	200	**190**	200	<240	340	<190	270	**370 J**	270	<90	130	ND
	D3120905	12/09/2003	Lab Dup	FPA	<140	200	**330**	200	**180**	200	<240	340	<190	270	**370**	270	<90	130	ND
	D3120907	12/09/2003	Field Dup	FPA	<140	200	**330 J**	200	**190**	200	<240	340	<190	270	**360 J**	270	<90	130	ND
	D3121009	12/10/2003		FPA	<140	200	**390**	200	**210**	200	<240	340	<190	270	**980**	270	<90	130	ND
	D3121009	12/10/2003	Lab Dup	FPA	<140	200	**360**	200	**170**	200	<240	340	<190	270	**929.5**	270	<90	130	ND
	OXSS01A1121503	12/15/2003		FPA	<140	200	**210**	200	<140	200	<240	340	<190	270	**430**	270	<90	130	ND
	OXSS01A1121603	12/16/2003		FPA	<140	200	**150**	200	<140	200	<240	340	<190	270	**310**	270	<90	130	ND
	OXSS01A1121703	12/17/2003		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1121803	12/18/2003		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1121903	12/19/2003		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**310**	270	<90	130	ND
	OXSS01A1121903	12/19/2003	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**290**	270	<90	130	ND
	OXSS01A1122203	12/22/2003		FPA	<140	200	**1300**	200	<140	200	<240	340	<190	270	**15000**	270	<90	130	ND
	OXSS01A1122203	12/22/2003	Lab Dup	FPA	<140	200	**1300**	200	<140	200	<240	340	<190	270	**16000**	270	<90	130	ND
	OXSS01A1122303	12/23/2003		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**4500**	270	<90	130	ND
	OXSS02A1122303	12/23/2003	Field Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**2900**	270	<90	130	ND
	OXSS01A1122403	12/24/2003		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1000**	270	<90	130	ND
	OXSS01A1122403	12/24/2003	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1200**	270	<90	130	ND
	OXSS01A1122903	12/29/2003		FPA	**190**	200	**390**	200	**220**	200	<240	340	<190	270	**650**	270	**180**	130	ND
	OXSS01A1123003	12/30/2003		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	870 **U**	270	<90	130	ND
	OXSS01A1123103	12/31/2003		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**700**	270	<90	130	ND
	OXSS01A1123103	12/31/2003	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**700**	270	<90	130	ND
	0XSS01A1011404	01/14/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**2600**	270	<90	130	ND
	0XSS01A1011404	01/14/2004	Lab Dup	FPA	<140	200	**140**	200	<140	200	<240	340	<190	270	**2700**	270	<90	130	ND
	OXSS01A1011504	01/15/2004		FPA	<140	200	**390**	200	<140	200	<240	340	<190	270	**2100**	270	<90	130	ND
	OXSS01A1011504	01/15/2004	Lab Dup	FPA	<140	200	**200**	200	<140	200	<240	340	<190	270	**2000**	270	<90	130	ND
	OXSS01A1011604	01/16/2004		FPA	<140	200	**160**	200	<140	200	<240	340	<190	270	**2900**	270	<90	130	ND
	OXSS01A1011604	01/16/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**2700**	270	<90	130	ND
	OXSS01A1011904	01/19/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1000**	270	<90	130	ND
	OXSS01A1011904	01/19/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1100**	270	<90	130	ND
	OXSS01A1012004	01/20/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**640**	270	<90	130	ND
	OXSS01A1012004	01/20/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**580**	270	<90	130	ND
	OXSS01A1012104	01/21/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**520**	270	<90	130	ND
	OXSS01A1012104	01/21/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**480**	270	<90	130	ND
	OXSS01A1012204	01/22/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**480**	270	<90	130	ND
	OXSS01A1012204	01/22/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**450**	270	<90	130	ND
	OXSS01A1012304	01/23/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1000**	270	<90	130	ND
	OXSS01A1012304	01/23/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1100**	270	<90	130	ND
	OXSS01A1012704	01/27/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**760**	270	<90	130	ND
	OXSS01A1012704	01/27/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**750**	270	<90	130	ND
	OXSS01A1012804	01/28/2004		FPA	<140	200	**260**	200	<140	200	<240	340	<190	270	**2200**	270	<90	130	ND
	OXSS01A1012904	01/29/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**870**	270	<90	130	ND
	OXSS01A1013004	01/30/2004		FPA	<140	200	**330**	200	<140	200	<240	340	<190	270	**2700**	270	<90	130	ND
	OXSS01A1020204	02/02/2004		FPA	<140	200	**1000**	200	<140	200	<240	340	<190	270	**8300**	270	<90 **UJ**	130	**1400000 J**
	OXSS01A1020204	02/02/2004	Lab Dup	FPA	<140	200	**1000**	200	<140	200	<240	340	<190	270	**7900**	270	<90	130	**1400000**
	OXSS01A1020304	02/03/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**460**	270	<90 **UJ**	130	ND
	OXSS01A1020304	02/03/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**540**	270	<90	130	ND
	OXSS01A1020404	02/04/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**320**	270	<90 **UJ**	130	ND
	OXSS01A1020404	02/04/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**320**	270	<90	130	ND
	OXSS01A1020504	02/05/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**280**	270	<90 **UJ**	130	ND
	OXSS01A1020504	02/05/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**270**	270	<90	130	ND
	OXSS01A1020604	02/06/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**310**	270	<90 **UJ**	130	ND
	OXSS01A1020904	02/09/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**240**	270	<90 **UJ**	130	ND

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
OXSS01A1	OXSS01A1020904	02/09/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**240**	270	<90	130	ND
	OXSS01A1021004	02/10/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**370**	270	<90 **UJ**	130	ND
	OXSS01A1021004	02/10/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**360**	270	<90	130	ND
	OXSS01A1021104	02/11/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**640**	270	<90 **UJ**	130	ND
	OXSS01A1021104	02/11/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**580**	270	<90	130	ND
	OXSS01A1021204	02/12/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**430**	270	<90 **UJ**	130	ND
	OXSS01A1021304	02/13/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1100**	270	<90 **UJ**	130	ND
	OXSS01A1021304	02/13/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1100**	270	<90	130	ND
	OXSS01A1021604	02/16/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1000**	270	<90 **UJ**	130	ND
	OXSS01A1021604	02/16/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**950**	270	<90	130	ND
	OXSS01A1021704	02/17/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**550**	270	<90 **UJ**	130	ND
	OXSS01A1021704	02/17/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**530**	270	<90	130	ND
	OXSS01A1021804	02/18/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**730**	270	<90 **UJ**	130	ND
	OXSS01A1021804	02/18/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**710**	270	<90	130	ND
	OXSS01A1021904	02/19/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**690**	270	<90	130	ND
	OXSS01A1021904	02/19/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**650**	270	<90	130	ND
	OXSS01A1022004	02/20/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**930**	270	<90	130	ND
	OXSS01A1022004	02/20/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**960**	270	<90	130	ND
	OXSS01A1022304	02/23/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**820**	270	<90	130	ND
	OXSS01A1022304	02/23/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**780**	270	<90	130	ND
	OXSS01A1022404	02/24/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**530**	270	<90	130	ND
	OXSS01A1022404	02/24/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**520**	270	<90	130	ND
	OXSS01A1022504	02/25/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1100**	270	<90	130	ND
	OXSS01A1022504	02/25/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1100**	270	<90	130	ND
	OXSS01A1022504	02/25/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1100**	270	<90	130	ND
	OXSS01A1022604	02/26/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**880**	270	<90	130	ND
	OXSS01A1022604	02/26/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**850**	270	<90	130	ND
	OXSS01A1022704	02/27/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**630**	270	<90	130	ND
	OXSS01A1022704	02/27/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**630**	270	<90	130	ND
	OXSS01A1030104	03/01/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1100**	270	<90	130	ND **UJ**
	OXSS01A1030104	03/01/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1100**	270	<90	130	ND
	OXSS01A1030204	03/02/2004		FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	<190 **UJ**	270	<90 **UJ**	130	ND **UJ**
	OXSS01A1030204	03/02/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS03A1030204	03/02/2004	Split	CAS	**1.1**	1	**11**	1	**8.4**	1	<0.091	1	<0.082	1	210	1	**2.4**	1	-
	OXSS01A1030204	03/02/2004		FPA	<946.4 **UJ**	1352	<946.4 **UJ**	1352	<946.4 **UJ**	1352	<1622.4 **UJ**	2298.4	<1284.4 **UJ**	1825.2	<1284.4 **UJ**	1825.2	<608.4 **UJ**	879	ND **UJ**
	OXSS01A1030204	03/02/2004	Lab Dup	FPA	<946.4	1352	<946.4	1352	<946.4	1352	<1622.4	2298.4	<1284.4	1825.2	<1284.4	1825.2	<608.4	879	ND
	OXSS01A1030304	03/03/2004		FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	**1300 J**	270	<90 **UJ**	130	ND **UJ**
	OXSS01A1030304	03/03/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1300**	270	<90	130	ND
	OXSS01A1030404	03/04/2004		FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	**630 J**	270	<90 **UJ**	130	ND **UJ**
	OXSS01A1030404	03/04/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**630**	270	<90	130	ND
	OXSS03A1030404	03/04/2004	Split	CAS	**3.3**	2	**35**	2	**27**	2	<0.18	2	<0.16	2	**680**	2	6.4	2	-
	OXSS01A1030404	03/04/2004		FPA	<208.6 **UJ**	298	<208.6 **UJ**	298	<208.6 **UJ**	298	<357.6 **UJ**	506.6	<283.1 **UJ**	402.3	**1100 J**	402.3	<134.1 **UJ**	193.7	ND **UJ**
	OXSS01A1030404	03/04/2004	Lab Dup	FPA	<208.6	298	<208.6	298	<208.6	298	<357.6	506.6	<283.1	402.3	**1100**	402.3	<134.1	193.7	ND
	OXSS01A1030504	03/05/2004		FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	**1300 J**	270	<90 **UJ**	130	ND **UJ**
	OXSS01A1030504	03/05/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1300**	270	<90	130	ND
	OXSS01A1030804	03/08/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**950**	270	<90	130	ND **UJ**
	OXSS01A1030804	03/08/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**940**	270	<90	130	ND
	OXSS01A1030904	03/09/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1200**	270	<90	130	ND **UJ**
	OXSS01A1030904	03/09/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1000**	270	<90	130	ND
	OXSS01A1031004	03/10/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1100**	270	<90	130	ND **UJ**
	OXSS01A1031004	03/10/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1000**	270	<90	130	ND
	OXSS01A1031104	03/11/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1300**	270	<90	130	ND **UJ**
	OXSS01A1031104	03/11/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1300**	270	<90	130	ND

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
OXSS01A1	OXSS01A1031204	03/12/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1900**	270	<90	130	ND **UJ**
	OXSS01A1031204	03/12/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1800**	270	<90	130	ND
	OXSS01A1031704	03/17/2004		FPA	<204.4	292	<204.4	292	<204.4	292	<350.4	496.4	<277.4	394.2	**1300**	394.2	<131.4	189.8	ND **UJ**
	OXSS03A1031704	03/17/2004	Lab Dup	FPA	<204.4	292	<204.4	292	<204.4	292	<350.4	496.4	<277.4	394.2	**1300**	394.2	<131.4	189.8	ND
	OXSS03A1031704	03/17/2004	Split	CAS	**3.1**	2	**25**	2	**19**	2	<0.18	2	<0.16	2	**750**	2	4.6	2	-
	OXSS01A1032204	03/22/2004		FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	**1700 J**	270	<90 **UJ**	130	ND **UJ**
	OXSS01A1032304	03/23/2004		FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	**2500 J**	270	<90 **UJ**	130	ND **UJ**
	OXSS01A1032304	03/23/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**2500**	270	<90	130	ND
	OXSS01A1032404	03/24/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**3800**	270	<90	130	ND **UJ**
	OXSS01A1032404	03/24/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**3700**	270	<90	130	ND
	OXSS01A1032504	03/25/2004		FPA	<140 **R**	200	<140 **R**	200	<140 **R**	200	<240 **R**	340	<190 **R**	270	1200 **R**	270	<90 **R**	130	ND **UJ**
	OXSS01A1032504	03/25/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1200**	270	<90	130	ND
	OXSS02A1032504	03/25/2004	Field Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1500**	270	<90	130	ND **UJ**
	OXSS01A1032604	03/26/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1400**	270	<90	130	ND **UJ**
	OXSS01A1032604	03/26/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1300**	270	<90	130	ND
	OXSS01A1033104	03/31/2004		FPA	<194.6	278	<194.6	278	<194.6	278	<333.6	472.6	<264.1	375.3	**1500**	375.3	<125.1	180.7	ND **UJ**
	OXSS01A1040504	04/05/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1600**	270	<90	130	ND **UJ**
	OXSS01A1040604	04/06/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1900**	270	<90	130	ND **UJ**
	OXSS01A1040604	04/06/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1900**	270	<90	130	ND
	OXSS01A1040704	04/07/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	1900 **U**	270	<90	130	ND **UJ**
	OXSS01A1040704	04/07/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1900**	270	<90	130	ND
	OXSS01A1040804	04/08/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1600**	270	<90	130	ND **UJ**
	OXSS01A1040804	04/08/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1600**	270	<90	130	ND
	OXSS01A1040904	04/09/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1400**	270	<90	130	ND **UJ**
	OXSS01A1040904	04/09/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1500**	270	<90	130	ND
	OXSS01A1041204	04/12/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1700**	270	<90	130	ND **UJ**
	OXSS01A1041204	04/12/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1600**	270	<90	130	ND
	OXSS01A1041304	04/13/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1100**	270	<90	130	ND **UJ**
	OXSS01A1041304	04/13/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1100**	270	<90	130	ND
	OXSS01A1041404	04/14/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1100**	270	<90	130	ND **UJ**
	OXSS01A1041504	04/15/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**2100**	270	<90	130	ND **UJ**
	OXSS01A1041504	04/15/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**2100**	270	<90	130	ND
	OXSS01A1041604	04/16/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**810**	270	<90	130	ND **UJ**
	OXSS01A1041604	04/16/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**770**	270	<90	130	ND
	OXSS01A1041904	04/19/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1600**	270	<90	130	ND **UJ**
	OXSS01A1041904	04/19/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1500**	270	<90	130	ND
	OXSS01A1042004	04/20/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1900**	270	<90	130	ND **UJ**
	OXSS01A1042004	04/20/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1900**	270	<90	130	ND
	OXSS01A1042104	04/21/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1700**	270	<90	130	ND **UJ**
	OXSS01A1042104	04/21/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1700**	270	<90	130	ND
	OXSS01A1042204	04/22/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1800**	270	<90	130	ND **UJ**
	OXSS01A1042204	04/22/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1800**	270	<90	130	ND
	OXSS02A1042204	04/22/2004	Field Dup	FPA	<194.6	278	<194.6	278	<194.6	278	<333.6	472.6	<264.1	375.3	**2000**	375.3	<125.1	180.7	ND **UJ**
	OXSS02A1042204	04/22/2004	Lab Dup	FPA	<194.6	278	<194.6	278	<194.6	278	<333.6	472.6	<264.1	375.3	**2100**	375.3	<125.1	180.7	ND
	OXSS01A1042304	04/23/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**2100**	270	<90	130	ND **UJ**
	OXSS01A1042304	04/23/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**2100**	270	<90	130	ND
	OXSS01A1042604	04/26/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1100**	270	<90	130	ND **UJ**
	OXSS01A1042604	04/26/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1200**	270	<90	130	ND
	OXSS01A1042704	04/27/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1500**	270	<90	130	ND **UJ**
	OXSS01A1042804	04/28/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**770**	270	<90	130	ND **UJ**
	OXSS01A1042804	04/28/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**760**	270	<90	130	ND
	OXSS01A1042904	04/29/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**960**	270	<90	130	ND **UJ**

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
OXSS01A1	OXSS01A1042904	04/29/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**960**	270	<90	130	ND
	OXSS01A1043004	04/30/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1000**	270	<90	130	ND **UJ**
	OXSS01A1043004	04/30/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**1100**	270	<90	130	ND
	OXSS01A1050304	05/03/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**760**	270	<90	130	ND **UJ**
	OXSS01A1050304	05/03/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**730**	270	<90	130	ND
	OXSS01A1050404	05/04/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**930**	270	<90	130	ND **UJ**
	OXSS01A1050404	05/04/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**800**	270	<90	130	ND
	OXSS01A1050504	05/05/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**610**	270	<90	130	ND **UJ**
	OXSS01A1050504	05/05/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**600**	270	<90	130	ND
	OXSS01A1050604	05/06/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**600**	270	<90	130	ND **UJ**
	OXSS02A1050604	05/06/2004	Field Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**610**	270	<90	130	ND **UJ**
	OXSS01A1050704	05/07/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**600**	270	<90	130	ND **UJ**
	OXSS01A1050704	05/07/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**530**	270	<90	130	ND
	OXSS01A1051004	05/10/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**850**	270	<90	130	ND **UJ**
	OXSS01A1051004	05/10/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**810**	270	<90	130	ND
	OXSS01A1051104	05/11/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**620**	270	<90	130	ND **UJ**
	OXSS01A1051104	05/11/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**640**	270	<90	130	ND
	OXSS01A1051204	05/12/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**470**	270	<90	130	ND **UJ**
	OXSS01A1051204	05/12/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**460**	270	<90	130	ND
	OXSS01A1051304	05/13/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**300**	270	<90	130	ND **UJ**
	OXSS02A1051304	05/13/2004	Field Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**330**	270	<90	130	ND **UJ**
	OXSS02A1051304	05/13/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**320**	270	<90	130	ND
	OXSS01A1051704	05/17/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1051704	05/17/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1051804	05/18/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1051804	05/18/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**190**	270	<90	130	ND
	OXSS01A1051904	05/19/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1051904	05/19/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1052004	05/20/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	**190**	270	<90	130	ND **UJ**
	OXSS01A1052004	05/20/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1052104	05/21/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1052104	05/21/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1052404	05/24/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1052504	05/25/2004		FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	<190 **UJ**	270	<90 **UJ**	130	ND **UJ**
	OXSS01A1052504	05/25/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1052704	05/27/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1052804	05/28/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1052804	05/28/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1060104	06/01/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1060104	06/01/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1060204	06/02/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1060204	06/02/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1060304	06/03/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1060404	06/04/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1060404	06/04/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1060704	06/07/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1060704	06/07/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1060804	06/08/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1060804	06/08/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1060904	06/09/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1060904	06/09/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1061004	06/10/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
OXSS01A1	OXSS01A1061004	06/10/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1061104	06/11/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1061404	06/14/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1061404	06/14/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1061504	06/15/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1061604	06/16/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1061604	06/16/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1061704	06/17/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1061804	06/18/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1062104	06/21/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1062204	06/22/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1062304	06/23/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1062304	06/23/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1062404	06/24/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1062504	06/25/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1062504	06/25/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1062804	06/28/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1062904	06/29/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1062904	06/29/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1063004	06/30/2004		FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	<190 **UJ**	270	<90 **UJ**	130	ND
	OXSS01A1070104	07/01/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1070204	07/02/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1070604	07/06/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1070604	07/06/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1070604	07/06/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1070704	07/07/2004		FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	<190 **UJ**	270	<90 **UJ**	130	ND **UJ**
	OXSS01A1070804	07/08/2004		FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	<190 **UJ**	270	<90 **UJ**	130	-
	OXSS01A1071204	07/12/2004		FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	<190 **UJ**	270	<90 **UJ**	130	-
	OXSS01A1071304	07/13/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	-
	OXSS02A1071304	07/13/2004	Field Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	-
	OXSS01A1071404	07/14/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	-
	OXSS01A1071504	07/15/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	-
	OXSS01A1071604	07/16/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	-
	OXSS01A1071904	07/19/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1072004	07/20/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1072104	07/21/2004		FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	<190 **UJ**	270	<90 **UJ**	130	ND **UJ**
	OXSS01A1072204	07/22/2004		FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	<190 **UJ**	270	<90 **UJ**	130	ND **UJ**
	OXSS01A1072304	07/23/2004		FPA	<140 **UJ**	200	<140 **UJ**	200	<140 **UJ**	200	<240 **UJ**	340	<190 **UJ**	270	<190 **UJ**	270	<90 **UJ**	130	ND **UJ**
	OXSS01A1072604	07/26/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1072704	07/27/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1072704	07/27/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1072804	07/28/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1072904	07/29/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1073004	07/30/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1080204	08/02/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1080204	08/02/2004	Lab Dup	FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND
	OXSS01A1080304	08/03/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**
	OXSS01A1080404	08/04/2004		FPA	<140	200	<140	200	<140	200	<240	340	<190	270	<190	270	<90	130	ND **UJ**

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
PAM01A1	PAM01A1012204	01/22/2004		CAS	<0.004	0.033	<0.004	0.033	<0.0053	0.033	0.097 **U**	0.033	**0.14**	0.033	**0.2**	0.033	<0.0079	0.013	-
	PAM01A1012204	01/22/2004	Lab Dup	CAS	<0.004	0.033	<0.004	0.033	<0.0053	0.033	**0.096**	0.033	**0.14**	0.033	**0.2**	0.033	<0.0079	0.013	-
	PAM01A1012704	01/27/2004		CAS	<0.0046	0.038	**0.073**	0.038	<0.0061	0.038	0.072 **U**	0.038	**0.14**	0.038	**0.64**	0.038	<0.0092	0.015	-
	PAM01A1012804	01/28/2004		CAS	<0.0046	0.038	<0.0046	0.038	<0.0061	0.038	0.043 **U**	0.038	**0.13**	0.038	0.089 **U**	0.038	<0.0091	0.015	-
	PAM01A1031504	03/15/2004		CAS	<0.0059	0.05	<0.0059	0.05	<0.0079	0.05	<0.0079	0.05	**0.13**	0.05	**0.39**	0.05	<0.012	0.02	-
	PAM01A1031504	03/15/2004	Lab Dup	CAS	<0.0059	0.05	<0.0059	0.05	<0.0079	0.05	<0.0079	0.05	**0.13**	0.05	**0.38**	0.05	<0.012	0.02	-
	PAM01A1 043004	04/30/2004		CAS	<0.0046	0.038	<0.0046	0.038	<0.0061	0.038	**0.17**	0.038	**0.16**	0.038	**0.23**	0.038	<0.0092	0.015	-
	PAM01A1031504	04/30/2004	Lab Dup	CAS	<0.0046	0.038	<0.0046	0.038	<0.0061	0.038	**0.17**	0.038	**0.17**	0.038	**0.23**	0.038	<0.0092	0.015	-
	PAM01A1 060704	06/07/2004		CAS	<0.0046	0.038	<0.0046	0.038	<0.0061	0.038	**0.072**	0.038	**0.13**	0.038	**0.19**	0.038	<0.0092	0.015	-
	PAM01A1063004	06/30/2004		CAS	<0.0043	0.036	<0.0043	0.036	<0.0057	0.036	**0.06**	0.036	**0.13**	0.036	**0.11**	0.036	<0.0086	0.014	-
PAM02A1	PAM02A1012204	01/22/2004		CAS	<0.0039	0.033	<0.0039	0.033	<0.0052	0.033	0.085 **U**	0.033	**0.14**	0.033	**0.14**	0.033	<0.0079	0.013	-
	PAM02A1012704	01/27/2004		CAS	<0.0045	0.037	<0.0045	0.037	<0.006	0.037	0.067 **U**	0.037	**0.14**	0.037	**0.16**	0.037	<0.0089	0.015	-
	PAM02A1012804	01/28/2004		CAS	<0.0045	0.038	**0.044**	0.038	<0.006	0.038	0.045 **U**	0.038	**0.14**	0.038	**0.45**	0.038	<0.009	0.015	-
	PAM02A1031504	03/15/2004		CAS	<0.0036	0.03	<0.0036	0.03	<0.0048	0.03	**0.038**	0.03	**0.12**	0.03	**0.064**	0.03	<0.0072	0.012	-
	PAM02A1 043004	04/30/2004		CAS	<0.0043	0.036	**0.049**	0.036	<0.0057	0.036	**0.18**	0.036	**0.17**	0.036	**0.58**	0.036	**0.04**	0.014	-
	PAM02A1 060704	06/07/2004		CAS	<0.0045	0.038	**0.094**	0.038	<0.006	0.038	**0.068**	0.038	**0.13**	0.038	**0.57**	0.038	<0.009	0.015	-
	PAM02A1 060704	06/07/2004	Lab Dup	CAS	<0.0045	0.038	**0.094**	0.038	<0.006	0.038	**0.069**	0.038	**0.13**	0.038	**0.58**	0.038	<0.009	0.015	-
	PAM02A1063004	06/30/2004		CAS	<0.004	0.033	**0.32**	0.033	**0.057**	0.033	**0.059**	0.033	**0.13**	0.033	**1.8**	0.033	**0.023**	0.013	-
	PAM02A1063004	06/30/2004	Lab Dup	CAS	<0.004	0.033	**0.31**	0.033	**0.057**	0.033	**0.06**	0.033	**0.13**	0.033	**1.8**	0.033	**0.023**	0.013	-
	PAM07A1063004	06/30/2004	Field Dup	CAS	<0.0043	0.036	**0.31**	0.036	**0.055**	0.036	**0.063**	0.036	**0.13**	0.036	**1.7**	0.036	**0.023**	0.014	-
PAM03A1	PAM03A1012204	01/22/2004		CAS	<0.0049	0.041	**0.051**	0.041	<0.0066	0.041	0.1 **U**	0.041	**0.15**	0.041	**0.38**	0.041	<0.0098	0.016	-
	PAM03A1012704	01/27/2004		CAS	<0.0045	0.038	<0.0045	0.038	<0.006	0.038	0.07 **U**	0.038	**0.13**	0.038	**0.2**	0.038	<0.009	0.015	-
	PAM03A1012804	01/28/2004		CAS	<0.0053	0.045	<0.0053	0.045	<0.0071	0.045	0.064 **U**	0.045	**0.14**	0.045	0.12 **U**	0.045	<0.0107	0.018	-
	PAM03A1031504	03/15/2004		CAS	<0.0036	0.03	<0.0036	0.03	<0.0048	0.03	**0.04**	0.03	**0.13**	0.03	**0.1**	0.03	<0.0072	0.012	-
	PAM03A1 043004	04/30/2004		CAS	<0.0047	0.039	**0.063**	0.039	<0.0062	0.039	**0.18**	0.039	**0.16**	0.039	**0.8**	0.039	<0.0094	0.016	-
	PAM03A1 060704	06/07/2004		CAS	<0.0052	0.043	<0.0052	0.043	<0.0069	0.043	**0.076**	0.043	**0.13**	0.043	<0.0069	0.043	<0.01	0.017	-
PAM04A1	PAM04A1012204	01/22/2004		CAS	<0.004	0.034	<0.004	0.034	<0.0054	0.034	0.086 **U**	0.034	**0.14**	0.034	**0.25**	0.034	<0.008	0.013	-
	PAM04A1012704	01/27/2004		CAS	<0.0044	0.037	<0.0044	0.037	<0.0059	0.037	0.077 **U**	0.037	**0.14**	0.037	**0.2**	0.037	<0.0088	0.015	-
	PAM04A1012804	01/28/2004		CAS	<0.0045	0.038	**0.077**	0.038	<0.006	0.038	0.1 **U**	0.038	**0.14**	0.038	**0.49**	0.038	**0.012**	0.015	-
	PAM04A1031504	03/15/2004		CAS	<0.0042	0.035	<0.0042	0.035	<0.0056	0.035	**0.046**	0.035	**0.13**	0.035	**0.22**	0.035	<0.0084	0.014	-
	PAM04A1 043004	04/30/2004		CAS	<0.0053	0.044	<0.0053	0.044	<0.007	0.044	**0.17**	0.044	**0.17**	0.044	**0.51**	0.044	<0.0105	0.018	-
	PAM04A1 060704	06/07/2004		CAS	<0.0043	0.036	<0.0043	0.036	<0.0057	0.036	**0.075**	0.036	**0.13**	0.036	**0.21**	0.036	<0.0085	0.014	-
PAM05A1	PAM05A1012204	01/22/2004		CAS	<0.0041	0.034	<0.0041	0.034	<0.0054	0.034	0.084 **U**	0.034	**0.14**	0.034	0.13 **U**	0.034	<0.0081	0.014	-
	PAM05A1012704	01/27/2004		CAS	<0.004	0.033	<0.004	0.033	<0.0053	0.033	0.063 **U**	0.033	**0.13**	0.033	0.047 **U**	0.033	<0.008	0.013	-
	PAM05A1012804	01/28/2004		CAS	<0.0043	0.036	<0.0043	0.036	<0.0058	0.036	0.05 **U**	0.036	**0.14**	0.036	0.051 **U**	0.036	<0.0086	0.014	-
	PAM05A1031504	03/15/2004		CAS	<0.0041	0.034	<0.0041	0.034	<0.0055	0.034	**0.04**	0.034	**0.13**	0.034	<0.0055	0.034	<0.0082	0.014	-
	PAM05A1 043004	04/30/2004		CAS	<0.0042	0.035	**0.036**	0.035	<0.0056	0.035	**0.17**	0.035	**0.17**	0.035	**0.35**	0.035	<0.0085	0.014	-
	PAM05A1 060704	06/07/2004		CAS	<0.0046	0.039	<0.0046	0.039	<0.0062	0.039	**0.07**	0.039	**0.13**	0.039	**0.22**	0.039	<0.0092	0.015	-

Appendix H

Table 1: NAPL Area 1 Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	
PAM06A1	PAM06A1012204	01/22/2004		CAS	**0.06**	0.04	<0.0048	0.04	<0.0064	0.04	**0.29**	0.04	**0.61**	0.04	**0.19**	0.04	**0.029**	0.016	-
	PAM07A1012204	01/22/2004	Field Dup	CAS	<0.004	0.033	**0.038**	0.033	<0.0053	0.033	0.074 **U**	0.033	**0.14**	0.033	**0.23**	0.033	<0.0079	0.013	-
	PAM06A1012704	01/27/2004		CAS	<0.0046	0.038	<0.0046	0.038	<0.0061	0.038	0.072 **U**	0.038	**0.14**	0.038	**0.21**	0.038	<0.0091	0.015	-
	PAM06A1012804	01/28/2004		CAS	<0.0047	0.04	<0.0047	0.04	<0.0063	0.04	0.052 **U**	0.04	**0.14**	0.04	0.13 **U**	0.04	<0.0095	0.016	-
	PAM07A1012804	01/28/2004	Field Dup	CAS	<0.0047	0.039	<0.0047	0.039	<0.0063	0.039	0.049 **U**	0.039	**0.14**	0.039	0.12 **U**	0.039	<0.0094	0.016	-
	PAM06A1031504	03/15/2004		CAS	<0.004	0.033	**0.034**	0.033	<0.0053	0.033	**0.04**	0.033	**0.13**	0.033	**0.16**	0.033	<0.0079	0.013	-
	PAM07A1031504	03/15/2004	Field Dup	CAS	<0.0041	0.034	<0.0041	0.034	<0.0054	0.034	**0.12**	0.034	**0.13**	0.034	**0.17**	0.034	<0.0082	0.014	-
	PAM06A1 043004	04/30/2004		CAS	<0.0044	0.037	**0.053**	0.037	<0.0059	0.037	**0.18**	0.037	**0.16**	0.037	**0.7**	0.037	<0.0089	0.015	-
	PAM07A1 043004	04/30/2004	Field Dup	CAS	<0.0048	0.04	**0.054**	0.04	<0.0064	0.04	**0.19**	0.04	**0.17**	0.04	**0.67**	0.04	<0.0097	0.016	-
	PAM06A1 060704	06/07/2004		CAS	<0.0041	0.035	<0.0041	0.035	<0.0055	0.035	**0.071**	0.035	**0.13**	0.035	**0.29**	0.035	<0.0083	0.014	-
	PAM07A1 060704	06/07/2004	Field Dup	CAS	<0.0046	0.038	<0.0046	0.038	<0.0061	0.038	**0.071**	0.038	**0.12**	0.038	**0.26**	0.038	<0.0092	0.015	-
	PAM06A1063004	06/30/2004		CAS	<0.0053	0.044	**0.32**	0.044	**0.05**	0.044	**0.061**	0.044	**0.13**	0.044	**1.9**	0.044	**0.02**	0.018	-

Notes:

FPA	Field Portable Analytical, Inc.	TPH	Total petroleum hydrocarbons	Conc.	Concentration
CAS	Columbia Analytical Services, Inc.	Dup	Duplicate	MRL	Method reporting limit
µg/m^3	micrograms per cubic meter	-	Analyte not reported	<	The analyte was not detected at a concentration greater than the indicated method detection limit.

Qualifier Definitions:

U	The U qualifier indicates that the analyte must be considered to be nondetected at the concentration listed. U qualifiers added during validation are typically a result of detection of target analytes in field, trip, or laboratory blanks.
J	The J qualifier indicates that the associated result is quantitatively uncertain. J qualifiers added during validation indicate a data limitation related to a QC element that exceeds required acceptance limits.
UJ	The UJ qualifier indicates that analyte was analyzed for, but was not detected. The reported limit is approximate and may be inaccurate or imprecise.
R	The R qualifier indicates that a result has been rejected due to serious QC problems. It is not possible to definitively determine whether the analyte is present or absent in the sample.

Appendix H

Table 2: NAPL Area 1 Qualified Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date	1,1-Dichloroethene (µg/m^3)	cis-1,2-Dichloroethene (µg/m^3)	trans-1,2-Dichloroethene (µg/m^3)	Tetrachloroethene (µg/m^3)	1,1,1-Trichloroethane (µg/m^3)	Trichloroethene (µg/m^3)	Vinyl Chloride (µg/m^3)	TPH (µg/m^3)
MPED07A1	MPED0701A1071204	07/12/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**2500000 J**	<45000 **UJ**	-
MPED07A1	MPED0701A1072204	07/22/2004	<70000 **UJ**	**99000 J**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**1100000 J**	<45000 **UJ**	-
MPED07A1	MPED0702A1072204	07/22/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEE04A1	MPEE0401A1071504	07/15/2004	-	-	-	-	-	100000 **U**	-	-
MPEE05A1	MPEE0501A1071504	07/15/2004	-	-	-	-	-	300000 **U**	-	-
MPEE05A1	MPEE0502A1071504	07/15/2004	-	-	-	-	-	410000 **U**	-	-
MPEF03A1	MPEF0301A1072204	07/22/2004	<70000 **UJ**	**560000 J**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**670000 J**	<45000 **UJ**	-
MPEF03A1	MPEF0301A1072304	07/23/2004	<70000 **UJ**	**210000 J**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**150000 J**	<45000 **UJ**	-
MPEF04A1	MPEF0401A1071504	07/15/2004	-	-	-	-	-	450000 **U**	-	-
MPEF04A1	MPEF0401A1072304	07/23/2004	<70000 **UJ**	**110000 J**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**97000 J**	<45000 **UJ**	-
MPEF04A1	MPEF0402A1072304	07/23/2004	<70000 **UJ**	**220000 J**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**220000 J**	<45000 **UJ**	-
MPEF05A1	MPEF0501A1071204	07/12/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEF05A1	MPEF0501A1072204	07/22/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEF09A1	MPEF0901A1072104	07/21/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEF11A1	MPEF1101A1071204	07/12/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEF11A1	MPEF1101A1072104	07/21/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEF12A1	MPEF1201A1072104	07/21/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEF13A1	MPEF1301A1071204	07/12/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEF13A1	MPEF1301A1072104	07/21/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEF14A1	MPEF1401A1072304	07/23/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEF15A1	MPEF1501A1072104	07/21/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEG03A1	MPEG0301A1071204	07/12/2004	<70000 **UJ**	**100000 J**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**110000 J**	<45000 **UJ**	-
MPEG03A1	MPEG0301A1072204	07/22/2004	<70000 **UJ**	**330000 J**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**260000 J**	<45000 **UJ**	-
MPEG03A1	MPEG0301A1072304	07/23/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEG04A1	MPEG0401A1071204	07/12/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**1100000 J**	<45000 **UJ**	-
MPEG05A1	MPEG0501A1071204	07/12/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEG05A1	MPEG0501A1072204	07/22/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEG05A1	MPEG0901A1072304	07/23/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEG10A1	MPEG1001A1072104	07/21/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**900000 J**	<45000 **UJ**	-
MPEG11A1	MPEG1101A1071204	07/12/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEG11A1	MPEG1101A1072104	07/21/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEG11A1	MPEG1102A1072104	07/21/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEG12A1	MPEG1201A1072104	07/21/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEG13A1	MPEG1301A1072304	07/23/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEG14A1	MPEG1401A1072104	07/21/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEH03A1	MPEH0301A1072204	07/22/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEH09A1	MPEH0901A1072104	07/21/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEH09A1	MPEH0902A1072104	07/21/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEH10A1	MPEH1001A1063004	06/30/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**640000 J**	<45000 **UJ**	-
MPEH10A1	MPEH1001A1071204	07/12/2004	<70000 **UJ**	**260000 J**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**2100000 J**	<45000 **UJ**	-
MPEH10A1	MPEH1001A1072104	07/21/2004	<70000 **UJ**	**400000 J**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**1600000 J**	<45000 **UJ**	-
MPEI02A1	MPEI0201A1071204	07/12/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEI02A1	MPEI0201A1072204	07/22/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEI03A1	MPEI0301A1071204	07/12/2004	<70000 **UJ**	**540000 J**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**1200000 J**	<45000 **UJ**	-
MPEI03A1	MPEI0302A1071204	07/12/2004	<70000 **UJ**	**190000 J**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**630000 J**	<45000 **UJ**	-
MPEI03A1	MPEI0301A1072204	07/22/2004	<70000 **UJ**	**210000 J**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**110000 J**	<45000 **UJ**	-
MPEI09A1	MPEI0901A1063004	06/30/2004	<140 **UJ**	**800000 J**	<140 **UJ**	**200000 J**	<190 **UJ**	**49000000 J**	<90 **UJ**	-
MPEI09A1	MPEI0901A1071204	07/12/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**23000000 J**	<45000 **UJ**	-
MPEI09A1	MPEI0902A101204	07/12/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**17000000 J**	<45000 **UJ**	-
MPEI09A1	MPEI0901A1072304	07/23/2004	<70000 **UJ**	**240000 J**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**25000000 J**	<45000 **UJ**	-
MPEI10A1	MPEI1001A1063004	06/30/2004	<70000 **UJ**	**200000 J**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**2900000 J**	<45000 **UJ**	-

Appendix H

Table 2: NAPL Area 1 Qualified Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date	1,1-Dichloroethene (µg/m^3)	cis-1,2-Dichloroethene (µg/m^3)	trans-1,2-Dichloroethene (µg/m^3)	Tetrachloroethene (µg/m^3)	1,1,1-Trichloroethane (µg/m^3)	Trichloroethene (µg/m^3)	Vinyl Chloride (µg/m^3)	TPH (µg/m^3)
MPEI10A1	MPEI1001A1071204	07/12/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**450000 J**	<45000 **UJ**	-
MPEI10A1	MPEI1001A1072304	07/23/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**550000 J**	<45000 **UJ**	-
MPEI12A1	MPEI1201A1072104	07/21/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 UJ	<45000 **UJ**	-
MPEI13A1	MPEI1301A1072104	07/21/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 UJ	<45000 **UJ**	-
MPEJ08A1	MPEJ0801A1063004	06/30/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**630000 J**	<45000 **UJ**	-
MPEJ08A1	MPEJ0801A1071204	07/12/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**2400000 J**	<45000 **UJ**	-
MPEJ08A1	MPEJ0801A1072304	07/23/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**830000 J**	<45000 **UJ**	-
MPEL06A1	MPEL0601A1062204	06/22/2004	<140 **R**	1300 **R**	<140 **R**	<240 **R**	<190 **R**	12000 **R**	<90 **R**	-
MPEL07A1	MPEL0701A1063004	06/30/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**7200000 J**	<45000 **UJ**	-
MPEL07A1	MPEL0701A1072304	07/23/2004	<70000 **UJ**	**190000 J**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**2800000 J**	<45000 **UJ**	-
MPEL08A1	MPEL0801A1063004	06/30/2004	<70000 **UJ**	**310000 J**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**3000000 J**	<45000 **UJ**	-
MPEL08A1	MPEL0802A1071204	07/12/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**390000 J**	<45000 **UJ**	-
MPEL08A1	MPEL0801A1072304	07/23/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**250000 J**	<45000 **UJ**	-
MPEL09A1	MPEL0901A1071204	07/12/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEM10A1	MPEM1001A1071204	07/12/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPEN05A1	MPEN0501A1071204	07/12/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	**120000 J**	<45000 **UJ**	-
MPEN07A1	MPEN0701A1071204	07/12/2004	<70000 **UJ**	<70000 **UJ**	<70000 **UJ**	<120000 **UJ**	<95000 **UJ**	<95000 **UJ**	<45000 **UJ**	-
MPENC01A1	MPENC121903	12/19/2003	-	-	-	-	-	-	-	**4200000 J**
MPENC01A1	MPENC01A1122303	12/23/2003	-	-	-	-	-	-	-	**7100000 J**
MPENC01A1	MPENC01A1123003	12/30/2003	-	-	-	-	-	-	-	**11000000 J**
MPENC01A1	MPENC01A1011504	01/15/2004	-	-	-	-	-	-	-	**29000000 J**
MPENC01A1	MPENC01A1012104	01/21/2004	-	-	-	-	-	-	-	**37000000 J**
MPENC01A1	MPENC01A1013004	01/30/2004	-	-	-	-	-	-	-	**17000000 J**
MPENC01A1	MPENC01A1020604	02/06/2004	-	-	-	-	-	-	**18000 J**	**14000000 J**
MPENC01A1	MPENC02A1020604	02/06/2004	-	-	-	-	-	-	**11000 J**	**11000000 J**
MPENC01A1	MPENC01A1021204	02/12/2004	-	-	-	-	-	**610000 J**	**17000 J**	**9000000 J**
MPENC01A1	MPENC01A1021804	02/18/2004	-	-	-	-	-	-	**11000 J**	**11000000 J**
MPENC01A1	MPENC01A1022504	02/25/2004	-	-	-	-	-	-	-	**2300000 J**
MPENC01A1	MPENC01A1031104	03/11/2004	-	-	-	-	-	-	-	**5500000 J**
MPENC01A1	MPENC01A1032204	03/22/2004	-	-	-	-	-	-	-	**1700000 J**
MPENC01A1	MPENC01A1040504	04/05/2004	-	-	-	-	-	-	-	**5200000 J**
MPENC01A1	MPENC01A1041404	04/14/2004	-	-	-	-	-	-	-	**4100000 J**
MPENC01A1	MPENC01A1042204	04/22/2004	-	-	-	-	-	-	-	**14000000 J**
MPENC01A1	MPENC01A1042704	04/27/2004	-	-	-	-	-	-	-	**9500000 J**
MPENC01A1	MPENC02A1042704	04/27/2004	-	-	-	-	-	-	-	**6200000 J**
MPENC01A1	MPENC01A1050604	05/06/2004	-	-	-	-	-	-	-	**18000000 J**
MPENC01A1	MPENC01A1051304	05/13/2004	-	-	-	-	-	-	-	**27000000 J**
MPENC01A1	MPENC01A1051804	05/18/2004	-	-	-	-	-	-	-	**22000000 J**
MPENC01A1	MPENC01A1060304	06/03/2004	-	-	-	-	-	100000 **U**	-	**22000000 J**
MPENC01A1	MPENC01A1061004	06/10/2004	-	-	-	-	-	-	-	**17000000 J**
MPENC01A1	MPENC01A1061704	06/17/2004	-	-	-	-	-	-	-	**75000000 J**
MPENC01A1	MPENC01A1062404	06/24/2004	-	-	-	-	-	-	-	**14000000 J**
MPENC01A1	MPENC01A1070704	07/07/2004	**2000 J**	**63000 J**	**6500 J**	**470 J**	<190 **UJ**	**130000 J**	**6300 J**	-
MPENC01A1	MPENC01A1071404	07/14/2004	-	-	-	-	-	-	-	**15000000 J**
MPENC01A1	MPENC01A1072104	07/21/2004	**3500 J**	**77000 J**	**9100 J**	<240 **UJ**	<190 **UJ**	**160000 J**	**5100 J**	-
MPENC01A1	MPENC01A1072904	07/29/2004	-	-	-	-	-	-	-	**21000000 J**
MPENE01A1	MPENE121903	12/19/2003	-	-	-	-	-	-	-	**3400000 J**
MPENE01A1	MPENE01A1122303	12/23/2003	-	-	-	-	-	-	-	**2000000 J**
MPENE01A1	MPENE01A1123003	12/30/2003	-	-	-	-	-	-	-	**4600000 J**
MPENE01A1	MPENE01A1011504	01/15/2004	-	-	-	-	-	-	-	**22000000 J**
MPENE01A1	MPENE01A1012104	01/21/2004	-	-	-	-	-	-	-	**8400 J**

Appendix H

Table 2: NAPL Area 1 Qualified Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date	1,1-Dichloroethene (µg/m^3)	cis-1,2-Dichloroethene (µg/m^3)	trans-1,2-Dichloroethene (µg/m^3)	Tetrachloroethene (µg/m^3)	1,1,1-Trichloroethane (µg/m^3)	Trichloroethene (µg/m^3)	Vinyl Chloride (µg/m^3)	TPH (µg/m^3)
MPENE01A1	MPENE01A1013004	01/30/2004	-	-	-	-	-	-	-	**2700000 J**
MPENE01A1	MPENE01A1020604	02/06/2004	-	-	-	-	-	-	**3500 J**	**5600000 J**
MPENE01A1	MPENE01A1021204	02/12/2004	-	-	-	-	-	-	**1800 J**	**690000 J**
MPENE01A1	MPENE01A1021804	02/18/2004	-	-	-	-	-	-	**1500 J**	**1300000 J**
MPENE01A1	MPENE01A1022504	02/25/2004	-	-	-	-	-	-	-	**1600000 J**
MPENE01A1	MPENE01A1031104	03/11/2004	-	-	-	-	-	-	-	**970000 J**
MPENE01A1	MPENE01A1032204	03/22/2004	-	-	-	-	-	-	-	**490000 J**
MPENE01A1	MPENE02A1032204	03/22/2004	-	-	-	-	-	-	-	**680000 J**
MPENE01A1	MPENE01A1040504	04/05/2004	-	-	-	-	-	-	-	**230000 J**
MPENE01A1	MPENE02A1040504	04/05/2004	-	-	-	-	-	-	-	**240000 J**
MPENE01A1	MPENE01A1041404	04/14/2004	-	-	-	-	-	-	-	**710000 J**
MPENE01A1	MPENE02A1041404	04/14/2004	-	-	-	-	-	-	-	**640000 J**
MPENE01A1	MPENE01A1042204	04/22/2004	-	-	-	-	-	-	-	**1900000 J**
MPENE01A1	MPENE01A1042704	04/27/2004	-	-	-	-	-	-	-	**2100000 J**
MPENE01A1	MPENE01A1050604	05/06/2004	-	-	-	-	-	-	-	**7500000 J**
MPENE01A1	MPENE01A1051304	05/13/2004	-	-	-	-	-	-	-	**25000000 J**
MPENE01A1	MPENE01A1051804	05/18/2004	-	-	-	-	-	-	-	**24000000 J**
MPENE01A1	MPENE01A1060304	06/03/2004	-	-	-	-	-	-	-	**5700000 J**
MPENE01A1	MPENE01A1061004	06/10/2004	-	-	-	-	-	-	-	**9000000 J**
MPENE01A1	MPENE01A1061704	06/17/2004	-	-	-	-	-	-	-	**5000000 J**
MPENE01A1	MPENE01A1062404	06/24/2004	-	-	-	-	-	-	-	**10000000 J**
MPENE01A1	MPENE01A1070704	07/07/2004	**250 J**	**13000 J**	**1300 J**	<240 **UJ**	<190 **UJ**	**30000 J**	**230 J**	-
MPENE01A1	MPENE01A1071404	07/14/2004	-	-	-	-	-	-	-	**36000000 J**
MPENE01A1	MPENE01A1072104	07/21/2004	**960 J**	**53000 J**	**4500 J**	<240 **UJ**	<190 **UJ**	**59000 J**	**2700 J**	-
MPENE01A1	MPENE02A1072104	07/21/2004	**2400 J**	**130000 J**	**12000 J**	<240 **UJ**	<190 **UJ**	**75000 J**	**8000 J**	-
MPENE01A1	MPENE01A1072904	07/29/2004	-	-	-	-	-	-	-	**51000000 J**
MPENE01A1	MPENE02A1072904	07/29/2004	-	-	-	-	-	-	-	**47000000 J**
MPENW01A1	MPENW121903	12/19/2003	-	-	-	-	-	-	-	**3000000 J**
MPENW01A1	MPENW01A1122303	12/23/2003	-	-	-	-	-	-	-	**4500000 J**
MPENW01A1	MPENW01A1123003	12/30/2003	-	-	-	-	-	-	-	**7500000 J**
MPENW01A1	MPENW01A1011504	01/15/2004	-	-	-	-	-	-	-	**38000000 J**
MPENW01A1	MPENW01A1012104	01/21/2004	-	-	-	-	-	-	-	**6300000 J**
MPENW01A1	MPENW01A1013004	01/30/2004	-	-	-	-	-	-	-	**6800000 J**
MPENW01A1	MPENW01A1020604	02/06/2004	-	-	-	-	-	-	**4000 J**	**3100000 J**
MPENW01A1	MPENW01A1021204	02/12/2004	-	-	-	-	-	-	**11000 J**	**7200000 J**
MPENW01A1	MPENW01A1021804	02/18/2004	-	-	-	-	-	-	**5600 J**	**4900000 J**
MPENW01A1	MPENW01A1022504	02/25/2004	-	-	-	-	-	-	-	**1500000 J**
MPENW01A1	MPENW01A1031104	03/11/2004	-	-	-	-	-	-	-	**4000000 J**
MPENW01A1	MPENW01A1032204	03/22/2004	-	-	-	-	-	-	-	**100000 J**
MPENW01A1	MPENW01A1040504	04/05/2004	-	-	-	-	-	-	-	**4900000 J**
MPENW01A1	MPENW01A1041404	04/14/2004	-	-	-	-	-	-	-	**5600000 J**
MPENW01A1	MPENW01A1042204	04/22/2004	-	-	-	-	-	-	-	**13000000 J**
MPENW01A1	MPENW01A1042704	04/27/2004	-	-	-	-	-	-	-	**14000000 J**
MPENW01A1	MPENW01A1050604	05/06/2004	-	-	-	-	-	-	-	**19000000 J**
MPENW01A1	MPENW01A1051304	05/13/2004	-	-	-	-	-	-	-	**22000000 J**
MPENW01A1	MPENW01A1051804	05/18/2004	-	-	-	-	-	-	-	**42000000 J**
MPENW01A1	MPENW02A1051804	05/18/2004	-	-	-	-	-	-	-	**23000000 J**
MPENW01A1	MPENW01A1060304	06/03/2004	-	-	-	-	-	-	-	**4600000 J**
MPENW01A1	MPENW02A1060304	06/03/2004	-	-	-	-	-	-	-	**9600000 J**
MPENW01A1	MPENW01A1061004	06/10/2004	-	-	-	-	-	-	-	**4400000 J**
MPENW01A1	MPENW02A1061004	06/10/2004	-	-	-	-	-	-	-	**10000000 J**

Appendix H

Table 2: NAPL Area 1 Qualified Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date	1,1-Dichloroethene (µg/m^3)	cis-1,2-Dichloroethene (µg/m^3)	trans-1,2-Dichloroethene (µg/m^3)	Tetrachloroethene (µg/m^3)	1,1,1-Trichloroethane (µg/m^3)	Trichloroethene (µg/m^3)	Vinyl Chloride (µg/m^3)	TPH (µg/m^3)
MPENW01A1	MPENW01A1061704	06/17/2004	-	-	-	-	-	-	-	**27000000 J**
MPENW01A1	MPENW02A1061704	06/17/2004	-	-	-	-	-	-	-	**18000000 J**
MPENW01A1	MPENW01A1062404	06/24/2004	-	-	-	-	-	-	-	**23000000 J**
MPENW01A1	MPENW01A1070704	07/07/2004	**2800 J**	**130000 J**	**13000 J**	**540 J**	<190 **UJ**	**180000 J**	**13000 J**	-
MPENW01A1	MPENW01A1071404	07/14/2004	-	-	-	-	-	-	-	**87000000 J**
MPENW01A1	MPENW02A1071404	07/14/2004	-	-	-	-	-	-	-	**82000000 J**
MPENW01A1	MPENW01A1072104	07/21/2004	**820 J**	**60000 J**	**5000 J**	**3600 J**	<190 **UJ**	**110000 J**	**1300 J**	-
MPENW01A1	MPENW01A1072904	07/29/2004	-	-	-	-	-	-	-	**100000000 J**
MPESC01A1	MPESC121903	12/19/2003	-	-	-	-	-	-	-	**320000 J**
MPESC01A1	MPESC01A1122303	12/23/2003	-	-	-	-	-	-	-	**240000 J**
MPESC01A1	MPESC01A1123003	12/30/2003	-	-	-	-	-	-	-	**1300000 J**
MPESC01A1	MPESC01A1011504	01/15/2004	-	-	-	-	-	-	-	**7500000 J**
MPESC01A1	MPESC01A1012104	01/21/2004	-	-	-	-	-	-	-	**690000 J**
MPESC01A1	MPESC01A13004	01/30/2004	-	-	-	-	-	-	-	**1200000 J**
MPESC01A1	MPESC01A1020604	02/06/2004	-	-	-	-	-	-	**1900 J**	**700000 J**
MPESC01A1	MPESC01A1021204	02/12/2004	-	-	-	-	-	-	**1600 J**	**440000 J**
MPESC01A1	MPESC01A1021804	02/18/2004	-	-	-	-	-	-	**1200 J**	**740000 J**
MPESC01A1	MPESC01A1022504	02/25/2004	-	-	-	-	-	-	-	**360000 J**
MPESC01A1	MPESC01A1031104	03/11/2004	-	-	-	-	-	-	-	**380000 J**
MPESC01A1	MPESC01A1032204	03/22/2004	-	-	-	-	-	-	-	**290000 J**
MPESC01A1	MPESC01A1040504	04/05/2004	-	-	-	-	-	-	-	**2600000 J**
MPESC01A1	MPESC01A1041404	04/14/2004	-	-	-	-	-	-	-	**2500000 J**
MPESC01A1	MPESC01A1042204	04/22/2004	-	-	-	-	-	-	-	**5700000 J**
MPESC01A1	MPESC01A1042704	04/27/2004	-	-	-	-	-	-	-	**5400000 J**
MPESC01A1	MPESC01A1050604	05/06/2004	-	-	-	-	-	-	-	**11000000 J**
MPESC01A1	MPESC01A1051304	05/13/2004	-	-	-	-	-	-	-	**42000000 J**
MPESC01A1	MPESC01A1051804	05/18/2004	-	-	-	-	-	-	-	**33000000 J**
MPESC01A1	MPESC01A1060304	06/03/2004	-	-	-	-	-	-	-	**6200000 J**
MPESC01A1	MPESC01A1061004	06/10/2004	-	-	-	-	-	-	-	**5700000 J**
MPESC01A1	MPESC01A1061704	06/17/2004	-	-	-	-	-	-	-	**9700000 J**
MPESC01A1	MPESC01A1062404	06/24/2004	-	-	-	-	-	-	-	**3300000 J**
MPESC01A1	MPESC01A1070704	07/07/2004	**4100 J**	**36000 J**	**5900 J**	**1400 J**	<190 **UJ**	**390000 J**	**1300 J**	-
MPESC01A1	MPESC01A1071404	07/14/2004	-	-	-	-	-	**940000 J**	-	**8000000 J**
MPESC01A1	MPESC01A1072104	07/21/2004	**530 J**	**16000 J**	**1300 J**	<240 **UJ**	<190 **UJ**	**120000 J**	**130 J**	-
MPESC01A1	MPESC01A1072904	07/29/2004	-	-	-	-	-	-	-	**5900000 J**
MPESE01A1	MPESE121903	12/19/2003	-	-	-	-	-	-	-	**910000 J**
MPESE01A1	MPESE01A1123003	12/30/2003	-	-	-	-	-	-	-	**2400000 J**
MPESE01A1	MPESE01A1011504	01/15/2004	-	-	-	-	-	-	-	**39000000 J**
MPESE01A1	MPESE01A1012104	01/21/2004	-	-	-	-	-	-	-	**1700000 J**
MPESE01A1	MPESE01A1013004	01/30/2004	-	-	-	-	-	-	-	**510000 J**
MPESE01A1	MPESE01A1020604	02/06/2004	-	-	-	-	-	-	<90 **UJ**	**330000 J**
MPESE01A1	MPESE01A1021204	02/12/2004	**170 J**	-	-	-	-	-	<90 **UJ**	**720000 J**
MPESE01A1	MPESE01A1021804	02/18/2004	-	-	-	-	-	-	<360 **UJ**	**1600000 J**
MPESE01A1	MPESE01A1022504	02/25/2004	-	-	-	-	-	-	-	**430000 J**
MPESE01A1	MPESE01A1031104	03/11/2004	-	-	-	-	-	-	-	**240000 J**
MPESE01A1	MPESE01A1032204	03/22/2004	-	-	-	-	-	-	-	**220000 J**
MPESE01A1	MPESE01A1040504	04/05/2004	-	-	-	-	-	-	-	**210000 J**
MPESE01A1	MPESE01A1041404	04/14/2004	-	-	-	-	-	-	-	**240000 J**
MPESE01A1	MPESE01A1042204	04/22/2004	-	-	-	-	-	-	-	**1400000 J**
MPESE01A1	MPESE01A1042704	04/27/2004	-	-	-	-	-	-	-	**3000000 J**
MPESE01A1	MPESE01A1050604	05/06/2004	-	-	-	-	-	-	-	**9700000 J**

Appendix H

Table 2: NAPL Area 1 Qualified Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date	1,1-Dichloroethene (µg/m^3)	cis-1,2-Dichloroethene (µg/m^3)	trans-1,2-Dichloroethene (µg/m^3)	Tetrachloroethene (µg/m^3)	1,1,1-Trichloroethane (µg/m^3)	Trichloroethene (µg/m^3)	Vinyl Chloride (µg/m^3)	TPH (µg/m^3)
MPESE01A1	MPESE01A1051304	05/13/2004	-	-	-	-	-	-	-	**9300000 J**
MPESE01A1	MPESE01A1051804	05/18/2004	-	-	-	-	-	-	-	**22000000 J**
MPESE01A1	MPESE01A1060304	06/03/2004	-	-	-	-	-	-	-	**1200000 J**
MPESE01A1	MPESE01A1061004	06/10/2004	-	-	-	-	-	-	-	**700000 J**
MPESE01A1	MPESE01A1061704	06/17/2004	-	-	-	-	-	-	-	**5100000 J**
MPESE01A1	MPESE01A1062404	06/24/2004	-	-	-	-	-	-	-	**3700000 J**
MPESE01A1	MPESE01A1071404	07/14/2004	-	-	-	-	-	-	-	**10000000 J**
MPESE01A1	MPESE01A1072104	07/21/2004	**3500 J**	**23000 J**	**4900 J**	**540 J**	<190 **UJ**	**180000 J**	**320 J**	-
MPESE01A1	MPESE01A1072904	07/29/2004	-	-	-	-	-	-	-	**430000 J**
MPESW01A1	MPESW121903	12/19/2003	-	-	-	-	-	-	-	**890000 J**
MPESW01A1	MPESW01A1122303	12/23/2003	-	-	-	-	-	-	-	**560000 J**
MPESW01A1	MPESW01A1123003	12/30/2003	-	-	-	-	-	-	-	**4400000 J**
MPESW01A1	MPESW01A1011504	01/15/2004	-	-	-	-	-	-	-	**15000000 J**
MPESW01A1	MPESW01A1012104	01/21/2004	-	-	-	-	-	-	-	**6000000 J**
MPESW01A1	MPESW01A1013004	01/30/2004	-	-	-	-	-	-	-	**3900000 J**
MPESW01A1	MPESW01A1020604	02/06/2004	-	-	-	-	-	-	**1600 J**	**760000 J**
MPESW01A1	MPESW01A1021204	02/12/2004	-	-	-	-	-	-	**1900 J**	**410000 J**
MPESW01A1	MPESW01A1021804	02/18/2004	-	-	-	-	-	-	**1500 J**	**670000 J**
MPESW01A1	MPESW01A1022504	02/25/2004	-	-	-	-	-	-	-	**220000 J**
MPESW01A1	MPESW01A1031104	03/11/2004	-	-	-	-	-	-	-	**29000 J**
MPESW01A1	MPESW01A1032204	03/22/2004	-	-	-	-	-	-	-	**100000 J**
MPESW01A1	MPESW01A1040504	04/05/2004	-	-	-	-	-	-	-	**1100000 J**
MPESW01A1	MPESW01A1041404	04/14/2004	-	-	-	-	-	-	-	**1900000 J**
MPESW01A1	MPESW01A1042204	04/22/2004	-	-	-	-	-	-	-	**4900000 J**
MPESW01A1	MPESW01A1042704	04/27/2004	-	-	-	-	-	-	-	**4300000 J**
MPESW01A1	MPESW01A1050604	05/06/2004	-	-	-	-	-	-	-	**7700000 J**
MPESW01A1	MPESW01A1051304	05/13/2004	-	-	-	-	-	-	-	**11000000 J**
MPESW01A1	MPESW01A1051804	05/18/2004	-	-	-	-	-	-	-	**7500000 J**
MPESW01A1	MPESW01A1060304	06/03/2004	-	-	-	-	-	-	-	**2800000 J**
MPESW01A1	MPESW01A1061004	06/10/2004	-	-	-	-	-	-	-	**1800000 J**
MPESW01A1	MPESW01A1061704	06/17/2004	-	-	-	-	-	-	-	**1100000 J**
MPESW01A1	MPESW01A1062404	06/24/2004	-	-	-	-	-	-	-	**440000 J**
MPESW01A1	MPESW01A1070704	07/07/2004	**620 J**	**13000 J**	**1000 J**	<240 **UJ**	<190 **UJ**	**52000 J**	**1200 J**	-
MPESW01A1	MPESW01A1071404	07/14/2004	-	-	-	-	-	-	-	**2000000 J**
MPESW01A1	MPESW01A1072104	07/21/2004	**6500 J**	**66000 J**	**11000 J**	**1500 J**	<190 **UJ**	**640000 J**	**1800 J**	-
MPESW01A1	MPESW01A1072904	07/29/2004	-	-	-	-	-	-	-	**1700000 J**
MSTS01A1	MSTS01A1123003	12/30/2003	-	-	-	-	-	640 **U**	-	-
MSTS01A1	MSTS01A1020504	02/05/2004	-	-	-	-	-	-	<90 **UJ**	-
MSTS01A1	MSTS01A1021204	02/12/2004	-	-	-	-	-	-	<90 **UJ**	-
MSTS01A1	MSTS02A1021204	02/12/2004	-	-	-	-	-	-	<90 **UJ**	-
MSTS01A1	MSTS01A1021704	02/17/2004	-	-	-	<240 **UJ**	-	-	<90 **UJ**	-
MSTS01A1	MSTS01A1030504	03/05/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1031104	03/11/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1031704	03/17/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1032204	03/22/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1033104	03/31/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1040504	04/05/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS02A1040504	04/05/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1041404	04/14/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1042204	04/22/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1042704	04/27/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	<190 **UJ**	<90 **UJ**	ND **UJ**

Appendix H

Table 2: NAPL Area 1 Qualified Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date	1,1-Dichloroethene (µg/m^3)	cis-1,2-Dichloroethene (µg/m^3)	trans-1,2-Dichloroethene (µg/m^3)	Tetrachloroethene (µg/m^3)	1,1,1-Trichloroethane (µg/m^3)	Trichloroethene (µg/m^3)	Vinyl Chloride (µg/m^3)	TPH (µg/m^3)
MSTS01A1	MSTS01A1042904	04/29/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1050604	05/06/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1051304	05/13/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1051804	05/18/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1052704	05/27/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1060304	06/03/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1061004	06/10/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1061704	06/17/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1062404	06/24/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1070104	07/01/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1070204	07/02/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1070704	07/07/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	<190 **UJ**	<90 **UJ**	ND **UJ**
MSTS01A1	MSTS02A1070704	07/07/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	<190 **UJ**	<90 **UJ**	ND **UJ**
MSTS01A1	MSTS01A1072104	07/21/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	**320 J**	<90 **UJ**	-
MSTS01A1	MSTS01A1072804	07/28/2004	-	-	-	-	-	-	-	ND **UJ**
MSTS01A1	MSTS01A1080404	08/04/2004	-	-	-	-	-	-	-	ND **UJ**
MWL07A1VAPOR	MWL07 VAPOR	04/06/2004	-	-	-	-	-	-	-	ND **UJ**
OXIN01A1	OXIN01A1121603	12/16/2003	-	-	-	-	-	-	-	**5100000 J**
OXIN01A1	OXIN01A1121703	12/17/2003	-	-	-	-	-	-	-	**7400000 J**
OXIN01A1	OXIN01A1121803	12/18/2003	-	-	-	-	-	-	-	**7600000 J**
OXIN01A1	OXIN01A1121903	12/19/2003	-	-	-	**310 J**	-	-	-	**5200000 J**
OXIN01A1	OXIN01A1122203	12/22/2003	-	-	-	-	-	-	-	**1100000 J**
OXIN01A1	OXIN01A1122303	12/23/2003	-	-	-	-	-	-	-	**1200000 J**
OXIN01A1	OXIN01A1122403	12/24/2003	-	-	-	-	-	-	-	**650000 J**
OXIN01A1	OXIN01A1122903	12/29/2003	-	-	-	-	-	-	-	**4100000 J**
OXIN01A1	OXIN01A1122303	12/30/2003	-	-	-	-	-	-	-	**2400000 J**
OXIN01A1	OXIN01A1123103	12/31/2003	-	-	-	-	-	-	-	**8100000 J**
OXIN02A1	OXIN02A1123103	12/31/2003	-	-	-	-	-	-	-	**8500000 J**
OXIN01A1	OXIN01A1012004	01/20/2004	-	-	-	-	-	-	-	**7600000 J**
OXIN01A1	OXIN01A1012104	01/21/2004	-	-	-	-	-	-	-	**5300000 J**
OXIN01A1	OXIN01A1012204	01/22/2004	-	-	-	-	-	-	-	**6200000 J**
OXIN01A1	OXIN01A1012304	01/23/2004	-	-	-	-	-	-	-	**4800000 J**
OXIN01A1	OXIN01A1012704	01/27/2004	-	-	-	-	-	-	-	**3900000 J**
OXIN01A1	OXIN01A1012804	01/28/2004	-	-	-	-	-	-	-	**7100000 J**
OXIN01A1	OXIN01A1012904	01/29/2004	-	-	-	-	-	-	-	**5600000 J**
OXIN01A1	OXIN01A1013004	01/30/2004	-	-	-	-	-	-	-	**5200000 J**
OXIN01A1	OXIN02A1013004	01/30/2004	-	-	-	-	-	-	-	**6200000 J**
OXIN01A1	OXIN01A1020204	02/02/2004	-	-	-	-	-	-	**5000 J**	**5300000 J**
OXIN01A1	OXIN01A1020304	02/03/2004	-	-	-	-	-	-	**4300 J**	**8300000 J**
OXIN01A1	OXIN01A1020404	02/04/2004	-	-	-	-	-	-	**3500 J**	**8400000 J**
OXIN01A1	OXIN01A1020504	02/05/2004	-	-	-	-	-	-	**3000 J**	**6400000 J**
OXIN01A1	OXIN01A1020604	02/06/2004	-	-	-	-	-	-	**4300 J**	**6300000 J**
OXIN01A1	OXIN01A1020904	02/09/2004	-	-	-	-	-	-	**2600 J**	**4500000 J**
OXIN01A1	OXIN01A1021004	02/10/2004	-	-	-	-	-	-	**4700 J**	**3900000 J**
OXIN01A1	OXIN01A1021104	02/11/2004	-	-	-	-	-	-	**9900 J**	**3800000 J**
OXIN01A1	OXIN01A1021204	02/12/2004	-	-	-	-	-	-	**3800 J**	**3700000 J**
OXIN01A1	OXIN01A1021304	02/13/2004	**320 J**	-	-	-	-	-	**3400 J**	**2000000 J**
OXIN01A1	OXIN01A1021604	02/16/2004	-	-	-	-	-	-	**7500 J**	**2700000 J**
OXIN01A1	OXIN01A1021704	02/17/2004	**310 J**	-	-	-	-	-	**2200 J**	**1900000 J**
OXIN01A1	OXIN02A1021704	02/17/2004	-	-	-	-	-	-	**2400 J**	**2200000 J**
OXIN01A1	OXIN01A1021804	02/18/2004	-	-	-	-	-	-	**2300 J**	**2600000 J**

Appendix H

Table 2: NAPL Area 1 Qualified Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date	1,1-Dichloroethene (µg/m^3)	cis-1,2-Dichloroethene (µg/m^3)	trans-1,2-Dichloroethene (µg/m^3)	Tetrachloroethene (µg/m^3)	1,1,1-Trichloroethane (µg/m^3)	Trichloroethene (µg/m^3)	Vinyl Chloride (µg/m^3)	TPH (µg/m^3)
OXIN01A1	OXIN01A1021904	02/19/2004	-	-	-	-	-	-	-	**3400000 J**
OXIN01A1	OXIN01A1022004	02/20/2004	-	-	-	-	-	-	-	**1400000 J**
OXIN01A1	OXIN01A1022304	02/23/2004	-	-	-	-	-	-	-	**760000 J**
OXIN01A1	OXIN01A1022404	02/24/2004	-	-	-	-	-	-	-	**1200000 J**
OXIN01A1	OXIN01A1022504	02/25/2004	-	-	-	-	-	-	-	**230000 J**
OXIN01A1	OXIN01A1022604	02/26/2004	**340 J**	**42000 J**	**1300 J**	**700 J**	<190 **UJ**	**340000 J**	**2200 J**	**2600000 J**
OXIN01A1	OXIN01A1022704	02/27/2004	**260 J**	**43000 J**	**1300 J**	**560 J**	<190 **UJ**	**290000 J**	**2200 J**	**3300000 J**
OXIN01A1	OXIN01A1030104	03/01/2004	**310 J**	**44000 J**	**1400 J**	**600 J**	<190 **UJ**	**330000 J**	**2300 J**	**2000000 J**
OXIN01A1	OXIN01A1030204	03/02/2004	**310 J**	**37000 J**	**1500 J**	**490 J**	<190 **UJ**	**260000 J**	**2200 J**	**2300000 J**
OXIN01A1	OXIN01A1030304	03/03/2004	**250 J**	**34000 J**	**1400 J**	**450 J**	<190 **UJ**	**270000 J**	**1900 J**	**1600000 J**
OXIN01A1	OXIN01A1030404	03/04/2004	**640 J**	**55000 J**	**2500 J**	**640 J**	<190 **UJ**	**380000 J**	**3100 J**	**1300000 J**
OXIN01A1	OXIN01A1030504	03/05/2004	**400 J**	**48000 J**	**1900 J**	**540 J**	<190 **UJ**	**440000 J**	**2700 J**	**470000 J**
OXIN01A1	OXIN01A1030804	03/08/2004	-	-	-	-	-	-	-	**2700000 J**
OXIN01A1	OXIN01A1030904	03/09/2004	-	-	-	-	-	-	-	**350000 J**
OXIN01A1	OXIN01A1031004	03/10/2004	-	-	-	-	-	-	-	**590000 J**
OXIN01A1	OXIN01A1031104	03/11/2004	-	-	-	-	-	-	-	**690000 J**
OXIN01A1	OXIN01A1031204	03/12/2004	-	-	-	-	-	-	-	**640000 J**
OXIN01A1	OXIN01A1031704	03/17/2004	-	-	-	-	-	-	-	**1400000 J**
OXIN01A1	OXIN01A1032204	03/22/2004	**400 J**	**56000 J**	**2100 J**	**1300 J**	<190 **UJ**	**630000 J**	**2500 J**	**2000000 J**
OXIN01A1	OXIN01A1032304	03/23/2004	**1200 J**	**71000 J**	**3100 J**	**2100 J**	<190 **UJ**	**880000 J**	**2900 J**	**2400000 J**
OXIN01A1	OXIN01A1032404	03/24/2004	-	-	-	-	-	-	-	**3500000 J**
OXIN01A1	OXIN01A1032504	03/25/2004	370 **R**	48000 **R**	1600 **R**	1200 **R**	<190 **R**	510000 **R**	1700 **R**	1600000 **R**
OXIN01A1	OXIN02A1032504	03/25/2004	-	-	-	-	-	-	-	**5500000 J**
OXIN01A1	OXIN01A1032604	03/26/2004	-	-	-	-	-	-	-	**5000000 J**
OXIN01A1	OXIN01A1033104	03/31/2004	-	-	-	-	-	-	-	**3900000 J**
OXIN01A1	OXIN01A1040504	04/05/2004	-	-	-	-	-	-	-	**1300000 J**
OXIN01A1	OXIN01A1040604	04/06/2004	-	-	-	-	-	-	-	**2500000 J**
OXIN01A1	OXIN01A1040704	04/07/2004	-	-	-	-	-	-	-	**2200000 J**
OXIN01A1	OXIN01A1040804	04/08/2004	-	-	-	-	-	-	-	**730000 J**
OXIN01A1	OXIN01A1040904	04/09/2004	-	-	-	-	-	-	-	**2500000 J**
OXIN01A1	OXIN01A1041204	04/12/2004	-	-	-	-	-	-	-	**3800000 J**
OXIN01A1	OXIN01A1041304	04/13/2004	-	-	-	-	-	-	-	**1500000 J**
OXIN01A1	OXIN01A1041404	04/14/2004	-	-	-	-	-	-	-	**330000 J**
OXIN01A1	OXIN02A1041504	04/15/2004	-	-	-	-	-	-	-	**3900000 J**
OXIN01A1	OXIN01A1041604	04/16/2004	-	-	-	-	-	-	-	**3600000 J**
OXIN01A1	OXIN01A1041904	04/19/2004	-	-	-	-	-	-	-	**6800000 J**
OXIN01A1	OXIN01A1042004	04/20/2004	-	-	-	-	-	-	-	**8600000 J**
OXIN01A1	OXIN01A1042104	04/21/2004	-	-	-	-	-	-	-	**7800000 J**
OXIN01A1	OXIN01A1042204	04/22/2004	-	-	-	-	-	-	-	**8900000 J**
OXIN01A1	OXIN02A1042204	04/22/2004	-	-	-	-	-	-	-	**20000000 J**
OXIN01A1	OXIN01A1042304	04/23/2004	-	-	-	-	-	-	-	**9400000 J**
OXIN01A1	OXIN01A1042604	04/26/2004	-	-	-	-	-	-	-	**7100000 J**
OXIN01A1	OXIN01A1042704	04/27/2004	-	-	-	-	-	-	-	**7500000 J**
OXIN01A1	OXIN01A1042804	04/28/2004	-	-	-	-	-	-	-	**6600000 J**
OXIN01A1	OXIN01A1042904	04/29/2004	-	-	-	-	-	590000 **U**	-	**8200000 J**
OXIN01A1	OXIN01A1043004	04/30/2004	-	-	-	-	-	-	-	**9300000 J**
OXIN01A1	OXIN01A1050304	05/03/2004	-	-	-	-	-	-	-	**19000000 J**
OXIN01A1	OXIN01A1050404	05/04/2004	-	-	-	-	-	-	-	**12000000 J**
OXIN01A1	OXIN01A1050504	05/05/2004	-	-	-	-	-	-	-	**15000000 J**
OXIN01A1	OXIN01A1050604	05/06/2004	-	-	-	-	-	-	-	**16000000 J**
OXIN01A1	OXIN01A1050704	05/07/2004	-	-	-	-	-	-	-	**24000000 J**

Appendix H

Table 2: NAPL Area 1 Qualified Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date	1,1-Dichloroethene (µg/m^3)	cis-1,2-Dichloroethene (µg/m^3)	trans-1,2-Dichloroethene (µg/m^3)	Tetrachloroethene (µg/m^3)	1,1,1-Trichloroethane (µg/m^3)	Trichloroethene (µg/m^3)	Vinyl Chloride (µg/m^3)	TPH (µg/m^3)
OXIN01A1	OXIN01A1051004	05/10/2004	-	-	-	-	-	-	-	**38000000 J**
OXIN01A1	OXIN02A1051004	05/10/2004	-	-	-	-	-	-	-	**87000000 J**
OXIN01A1	OXIN01A1051104	05/11/2004	-	-	-	-	-	-	-	**31000000 J**
OXIN01A1	OXIN01A1051204	05/12/2004	-	-	-	-	-	-	-	**22000000 J**
OXIN01A1	OXIN01A1051304	05/13/2004	-	-	-	-	-	-	-	**15000000 J**
OXIN01A1	OXIN01A1051704	05/17/2004	-	-	-	-	-	-	-	**9700000 J**
OXIN01A1	OXIN01A1051804	05/18/2004	-	-	-	-	-	-	-	**17000000 J**
OXIN01A1	OXIN01A1051904	05/19/2004	-	-	-	-	-	-	-	**19000000 J**
OXIN01A1	OXIN01A1052004	05/20/2004	-	-	-	-	-	-	-	**18000000 J**
OXIN01A1	OXIN01A1052104	05/21/2004	-	-	-	-	-	-	-	**14000000 J**
OXIN01A1	OXIN01A1052404	05/24/2004	-	-	-	-	-	-	-	**9600000 J**
OXIN01A1	OXIN01A1052504	05/25/2004	-	-	-	-	-	-	-	**14000000 J**
OXIN01A1	OXIN01A1052704	05/27/2004	-	-	-	-	-	-	-	**11000000 J**
OXIN01A1	OXIN01A1052804	05/28/2004	-	-	-	-	-	-	-	**12000000 J**
OXIN01A1	OXIN01A1060104	06/01/2004	-	-	-	-	-	-	-	**8500000 J**
OXIN01A1	OXIN01A1060204	06/02/2004	-	-	-	-	-	-	-	**11000000 J**
OXIN01A1	OXIN01A1060304	06/03/2004	-	-	-	-	-	-	-	**9700000 J**
OXIN01A1	OXIN01A1060404	06/04/2004	-	-	-	-	-	-	-	**6800000 J**
OXIN01A1	OXIN01A1060704	06/07/2004	-	-	-	-	-	-	-	**7900000 J**
OXIN01A1	OXIN01A1060804	06/08/2004	-	-	-	-	-	-	-	**8400000 J**
OXIN01A1	OXIN01A1060904	06/09/2004	-	-	-	-	-	-	-	**14000000 J**
OXIN01A1	OXIN01A1061004	06/10/2004	-	-	-	-	-	-	-	**10000000 J**
OXIN01A1	OXIN01A1061104	06/11/2004	-	-	-	-	-	-	-	**15000000 J**
OXIN01A1	OXIN01A1061404	06/14/2004	-	-	-	-	-	-	-	**12000000 J**
OXIN01A1	OXIN01A1061504	06/15/2004	-	-	-	-	-	-	-	**9800000 J**
OXIN01A1	OXIN01A1061604	06/16/2004	-	-	-	-	-	-	-	**13000000 J**
OXIN01A1	OXIN01A1061704	06/17/2004	-	-	-	-	-	-	-	**12000000 J**
OXIN01A1	OXIN01A1061804	06/18/2004	-	-	-	-	-	-	-	**12000000 J**
OXIN01A1	OXIN01A1062104	06/21/2004	-	-	-	-	-	-	-	**17000000 J**
OXIN01A1	OXIN01A1062204	06/22/2004	-	-	-	-	-	-	-	**19000000 J**
OXIN01A1	OXIN02A1062204	06/22/2004	-	-	-	-	-	-	-	**19000000 J**
OXIN01A1	OXIN01A1062304	06/23/2004	-	-	-	-	-	-	-	**19000000 J**
OXIN01A1	OXIN01A1062404	06/24/2004	-	-	-	-	-	-	-	**17000000 J**
OXIN01A1	OXIN01A1062504	06/25/2004	-	-	-	-	-	-	-	**13000000 J**
OXIN01A1	OXIN01A1062804	06/28/2004	-	-	-	**350 J**	-	-	-	**23000000 J**
OXIN01A1	OXIN01A1062904	06/29/2004	-	-	-	-	-	-	-	**17000000 J**
OXIN01A1	OXIN01A1063004	06/30/2004	**2000 J**	**48000 J**	**4600 J**	**650 J**	<190 **UJ**	**190000 J**	**3300 J**	-
OXIN01A1	OXIN01A1070104	07/01/2004	-	-	-	-	-	-	-	**7000000 J**
OXIN01A1	OXIN01A1070204	07/02/2004	-	-	-	-	-	-	-	**16000000 J**
OXIN01A1	OXIN01A1070604	07/06/2004	-	-	-	-	-	-	-	**50000000 J**
OXIN01A1	OXIN01A1070704	07/07/2004	**3000 J**	**83000 J**	**8500 J**	**940 J**	<190 **UJ**	**290000 J**	**5600 J**	-
OXIN01A1	OXIN01A1070804	07/08/2004	**1200 J**	**26000 J**	**3100 J**	**380 J**	<190 **UJ**	**120000 J**	**1300 J**	-
OXIN01A1	OXIN02A1070804	07/08/2004	**900 J**	**23000 J**	**2800 J**	**400 J**	<190 **UJ**	**110000 J**	**1100 J**	-
OXIN01A1	OXIN01A1070904	07/09/2004	**1600 J**	**35000 J**	**4100 J**	**550 J**	<190 **UJ**	**140000 J**	**2400 J**	-
OXIN01A1	OXIN01A1071204	07/12/2004	**970 J**	**23000 J**	**2400 J**	<240 **UJ**	<190 **UJ**	**140000 J**	**1400 J**	-
OXIN01A1	OXIN01A1071304	07/13/2004	-	-	-	-	-	-	-	**24000000 J**
OXIN01A1	OXIN01A1071404	07/14/2004	-	-	-	-	-	-	-	**21000000 J**
OXIN01A1	OXIN01A1071904	07/19/2004	-	-	-	-	-	-	-	**37000000 J**
OXIN01A1	OXIN01A1072004	07/20/2004	-	-	-	-	-	-	-	**41000000 J**
OXIN01A1	OXIN02A1072004	07/20/2004	-	-	-	-	-	-	-	**46000000 J**
OXIN01A1	OXIN01A1072104	07/21/2004	**1800 J**	**69000 J**	**6100 J**	**280 J**	<190 **UJ**	**150000 J**	**3300 J**	-

Appendix H

Table 2: NAPL Area 1 Qualified Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date	1,1-Dichloroethene (µg/m^3)	cis-1,2-Dichloroethene (µg/m^3)	trans-1,2-Dichloroethene (µg/m^3)	Tetrachloroethene (µg/m^3)	1,1,1-Trichloroethane (µg/m^3)	Trichloroethene (µg/m^3)	Vinyl Chloride (µg/m^3)	TPH (µg/m^3)
OXIN01A1	OXIN01A1072204	07/22/2004	**1900 J**	**52000 J**	**5100 J**	**350 J**	<190 **UJ**	**150000 J**	**2300 J**	**42000000 J**
OXIN01A1	OXIN01A1072304	07/23/2004	**1200 J**	**36000 J**	**3800 J**	<240 **UJ**	<190 **UJ**	**130000 J**	**1800 J**	**28000000 J**
OXIN01A1	OXIN01A1072604	07/26/2004	-	-	-	-	-	-	-	**17000000 J**
OXIN01A1	OXIN01A1072704	07/27/2004	-	-	-	-	-	-	-	**20000000 J**
OXIN01A1	OXIN02A1072704	07/27/2004	-	-	-	-	-	-	-	**18000000 J**
OXIN01A1	OXIN01A1072804	07/28/2004	-	-	-	-	-	-	-	**22000000 J**
OXIN01A1	OXIN01A1072904	07/29/2004	-	-	-	-	-	-	-	**20000000 J**
OXIN01A1	OXIN01A1073004	07/30/2004	-	-	-	-	-	-	-	**18000000 J**
OXIN01A1	OXIN01A1080204	08/02/2004	-	-	-	-	-	-	-	**19000000 J**
OXIN01A1	OXIN01A1080304	08/03/2004	-	-	-	-	-	-	-	**16000000 J**
OXIN01A1	OXIN01A1080404	08/04/2004	-	-	-	-	-	-	-	**13000000 J**
OXIN01A1	OXIN02A1080404	08/04/2004	-	-	-	-	-	-	-	**17000000 J**
OXSS01A1	D3120905	12/09/2003	-	**350 J**	-	-	-	**370 J**	-	-
OXSS01A1	D3120907	12/09/2003	-	**330 J**	-	-	-	**360 J**	-	-
OXSS01A1	OXSS01A1123003	12/30/2003	-	-	-	-	-	870 **U**	-	-
OXSS01A1	OXSS01A1020204	02/02/2004	-	-	-	-	-	-	<90 **UJ**	**1400000 J**
OXSS01A1	OXSS01A1020304	02/03/2004	-	-	-	-	-	-	<90 **UJ**	-
OXSS01A1	OXSS01A1020404	02/04/2004	-	-	-	-	-	-	<90 **UJ**	-
OXSS01A1	OXSS01A1020504	02/05/2004	-	-	-	-	-	-	<90 **UJ**	-
OXSS01A1	OXSS01A1020604	02/06/2004	-	-	-	-	-	-	<90 **UJ**	-
OXSS01A1	OXSS01A1020904	02/09/2004	-	-	-	-	-	-	<90 **UJ**	-
OXSS01A1	OXSS01A1021004	02/10/2004	-	-	-	-	-	-	<90 **UJ**	-
OXSS01A1	OXSS01A1021104	02/11/2004	-	-	-	-	-	-	<90 **UJ**	-
OXSS01A1	OXSS01A1021204	02/12/2004	-	-	-	-	-	-	<90 **UJ**	-
OXSS01A1	OXSS01A1021304	02/13/2004	-	-	-	-	-	-	<90 **UJ**	-
OXSS01A1	OXSS01A1021604	02/16/2004	-	-	-	-	-	-	<90 **UJ**	-
OXSS01A1	OXSS01A1021704	02/17/2004	-	-	-	-	-	-	<90 **UJ**	-
OXSS01A1	OXSS01A1021804	02/18/2004	-	-	-	-	-	-	<90 **UJ**	-
OXSS01A1	OXSS01A1030104	03/01/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1030204	03/02/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	<190 **UJ**	<90 **UJ**	ND **UJ**
OXSS01A1	OXSS01A1030204	03/02/2004	<946.4 **UJ**	<946.4 **UJ**	<946.4 **UJ**	<1622.4 **UJ**	<1284.4 **UJ**	<1284.4 **UJ**	<608.4 **UJ**	ND **UJ**
OXSS01A1	OXSS01A1030304	03/03/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	**1300 J**	<90 **UJ**	ND **UJ**
OXSS01A1	OXSS01A1030404	03/04/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	**630 J**	<90 **UJ**	ND **UJ**
OXSS01A1	OXSS01A1030404	03/04/2004	<208.6 **UJ**	<208.6 **UJ**	<208.6 **UJ**	<357.6 **UJ**	<283.1 **UJ**	**1100 J**	<134.1 **UJ**	ND **UJ**
OXSS01A1	OXSS01A1030504	03/05/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	**1300 J**	<90 **UJ**	ND **UJ**
OXSS01A1	OXSS01A1030804	03/08/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1030904	03/09/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1031004	03/10/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1031104	03/11/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1031204	03/12/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1031704	03/17/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1032204	03/22/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	**1700 J**	<90 **UJ**	ND **UJ**
OXSS01A1	OXSS01A1032304	03/23/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	**2500 J**	<90 **UJ**	ND **UJ**
OXSS01A1	OXSS01A1032404	03/24/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1032504	03/25/2004	<140 **R**	<140 **R**	<140 **R**	<240 **R**	<190 **R**	1200 **R**	<90 **R**	ND **UJ**
OXSS01A1	OXSS02A1032504	03/25/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1032604	03/26/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1033104	03/31/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1040504	04/05/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1040604	04/06/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1040704	04/07/2004	-	-	-	-	-	1900 **U**	-	ND **UJ**

Appendix H

Table 2: NAPL Area 1 Qualified Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date	1,1-Dichloroethene (µg/m^3)	cis-1,2-Dichloroethene (µg/m^3)	trans-1,2-Dichloroethene (µg/m^3)	Tetrachloroethene (µg/m^3)	1,1,1-Trichloroethane (µg/m^3)	Trichloroethene (µg/m^3)	Vinyl Chloride (µg/m^3)	TPH (µg/m^3)
OXSS01A1	OXSS01A1040804	04/08/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1040904	04/09/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1041204	04/12/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1041304	04/13/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1041404	04/14/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1041504	04/15/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1041604	04/16/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1041904	04/19/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1042004	04/20/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1042104	04/21/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1042204	04/22/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS02A1042204	04/22/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1042304	04/23/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1042604	04/26/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1042704	04/27/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1042804	04/28/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1042904	04/29/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1043004	04/30/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1050304	05/03/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1050404	05/04/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1050504	05/05/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1050604	05/06/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS02A1050604	05/06/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1050704	05/07/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1051004	05/10/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1051104	05/11/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1051204	05/12/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1051304	05/13/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS02A1051304	05/13/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1051704	05/17/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1051804	05/18/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1051904	05/19/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1052004	05/20/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1052104	05/21/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1052404	05/24/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1052504	05/25/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	<190 **UJ**	<90 **UJ**	ND **UJ**
OXSS01A1	OXSS01A1052704	05/27/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1052804	05/28/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1060104	06/01/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1060204	06/02/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1060304	06/03/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1060404	06/04/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1060704	06/07/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1060804	06/08/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1060904	06/09/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1061004	06/10/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1061104	06/11/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1061404	06/14/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1061504	06/15/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1061604	06/16/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1061704	06/17/2004	-	-	-	-	-	-	-	ND **UJ**

Appendix H

Table 2: NAPL Area 1 Qualified Analytical Results from Air Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date	1,1-Dichloroethene (µg/m^3)	cis-1,2-Dichloroethene (µg/m^3)	trans-1,2-Dichloroethene (µg/m^3)	Tetrachloroethene (µg/m^3)	1,1,1-Trichloroethane (µg/m^3)	Trichloroethene (µg/m^3)	Vinyl Chloride (µg/m^3)	TPH (µg/m^3)
OXSS01A1	OXSS01A1061804	06/18/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1062104	06/21/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1062204	06/22/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1062304	06/23/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1062404	06/24/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1062504	06/25/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1062804	06/28/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1062904	06/29/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1063004	06/30/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	<190 **UJ**	<90 **UJ**	-
OXSS01A1	OXSS01A1070104	07/01/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1070204	07/02/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1070604	07/06/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1070704	07/07/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	<190 **UJ**	<90 **UJ**	ND **UJ**
OXSS01A1	OXSS01A1070804	07/08/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	<190 **UJ**	<90 **UJ**	-
OXSS01A1	OXSS01A1071204	07/12/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	<190 **UJ**	<90 **UJ**	-
OXSS01A1	OXSS01A1071904	07/19/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1072004	07/20/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1072104	07/21/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	<190 **UJ**	<90 **UJ**	ND **UJ**
OXSS01A1	OXSS01A1072204	07/22/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	<190 **UJ**	<90 **UJ**	ND **UJ**
OXSS01A1	OXSS01A1072304	07/23/2004	<140 **UJ**	<140 **UJ**	<140 **UJ**	<240 **UJ**	<190 **UJ**	<190 **UJ**	<90 **UJ**	ND **UJ**
OXSS01A1	OXSS01A1072604	07/26/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1072704	07/27/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1072804	07/28/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1072904	07/29/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1073004	07/30/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1080204	08/02/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1080304	08/03/2004	-	-	-	-	-	-	-	ND **UJ**
OXSS01A1	OXSS01A1080404	08/04/2004	-	-	-	-	-	-	-	ND **UJ**
PAM01A1	PAM01A1012204	01/22/2004	-	-	-	0.097 **U**	-	-	-	-
PAM01A1	PAM01A1012704	01/27/2004	-	-	-	0.072 **U**	-	-	-	-
PAM01A1	PAM01A1012804	01/28/2004	-	-	-	0.043 **U**	-	0.089 **U**	-	-
PAM02A1	PAM02A1012204	01/22/2004	-	-	-	0.085 **U**	-	-	-	-
PAM02A1	PAM02A1012704	01/27/2004	-	-	-	0.067 **U**	-	-	-	-
PAM02A1	PAM02A1012804	01/28/2004	-	-	-	0.045 **U**	-	-	-	-
PAM03A1	PAM03A1012204	01/22/2004	-	-	-	0.1 **U**	-	-	-	-
PAM03A1	PAM03A1012704	01/27/2004	-	-	-	0.07 **U**	-	-	-	-
PAM03A1	PAM03A1012804	01/28/2004	-	-	-	0.064 **U**	-	0.12 **U**	-	-
PAM04A1	PAM04A1012204	01/22/2004	-	-	-	0.086 **U**	-	-	-	-
PAM04A1	PAM04A1012704	01/27/2004	-	-	-	0.077 **U**	-	-	-	-
PAM04A1	PAM04A1012804	01/28/2004	-	-	-	0.1 **U**	-	-	-	-
PAM05A1	PAM05A1012204	01/22/2004	-	-	-	0.084 **U**	-	0.13 **U**	-	-
PAM05A1	PAM05A1012704	01/27/2004	-	-	-	0.063 **U**	-	0.047 **U**	-	-
PAM05A1	PAM05A1012804	01/28/2004	-	-	-	0.05 **U**	-	0.051 **U**	-	-
PAM07A1	PAM07A1012204	01/22/2004	-	-	-	0.074 **U**	-	-	-	-
PAM06A1	PAM06A1012704	01/27/2004	-	-	-	0.072 **U**	-	-	-	-
PAM06A1	PAM06A1012804	01/28/2004	-	-	-	0.052 **U**	-	0.13 **U**	-	-
PAM07A1	PAM07A1012804	01/28/2004	-	-	-	0.049 **U**	-	0.12 **U**	-	-

Notes:

µg/m^3	micrograms per cubic meter
TPH	Total petroleum hydrocarbons
-	Analytical result not qualified

Qualifier Definitions:

U	The U qualifier indicates that the analyte must be considered to be nondetected at the concentration listed. U qualifiers added during validation are typically a result of detection of target analytes in field, trip, or laboratory blanks.
J	The J qualifier indicates that the associated result is quantitatively uncertain. J qualifiers added during validation indicate a data limitation related to a QC element that exceeds required acceptance limits.
UJ	The UJ qualifier indicates that analyte was analyzed for, but was not detected. The reported limit is approximate and may be inaccurate or imprecise.
R	The R qualifier indicates that a result has been rejected due to serious QC problems. It is not possible to definitively determine whether the analyte is present or absent in the sample.

Appendix H

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
BAKERBEIGE	BAKERBEIGE121803	12/18/2003		FPA	<8.0	20	490	20	<8.0	20	<8.0	20	<8.0 UJ	20	1000	20	<8.0 UJ	20	ND	-
DRUMWATER	DRUMWATER1040804	04/08/2004		FPA	<2.0	5.0	190	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	8.1	5.0	<2.0	5.0	ND	-
HCW01A1	HCW0101A1110503	11/05/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	34	5.0	<2.0	5.0	-	-
HCW01A1	HCW01A1121903	12/19/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	16	5.0	<2.0 UJ	5.0	ND	-
HCW01A1	HCW01A1121903	12/19/2003	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	16	5.0	<2.0	5.0	ND	-
HCW01A1	HCW01A1122403	12/24/2003		FPA	<2.0	5.0	2.3	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	11	5.0	<2.0	5.0	ND	-
HCW01A1	HCW01A1122403	12/24/2003	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	8.1	5.0	<2.0	5.0	ND	-
HCW01A1	HCW01A1123103	12/31/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	12 J	5.0	<2.0	5.0	ND	-
HCW01A1	HCW01A1011404	01/14/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.6 J	5.0	<2.0	5.0	ND	-
HCW01A1	HCW01A1012004	01/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.9	5.0	<2.0	5.0	ND	-
HCW01A1	HCW01A1012704	01/27/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.9 J	5.0	<2.0	5.0	ND	-
HCW01A1	HCW01A1020304	02/03/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.7	5.0	<2.0	5.0	ND	-
HCW01A1	HCW01A1021004	02/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.4 J	5.0	<2.0	5.0	ND	-
HCW01A1	HCW01A1021604	02/16/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	2.4	5.0	<2.0	5.0	ND	-
HCW01A1	HCW01A1022404	02/24/2004		FPA	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	2.6 J	5.0	<2.0 UJ	5.0	ND	-
HCW01A1	HCW01A1030104	03/01/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.1	5.0	<2.0	5.0	ND	-
HCW01A1	HCW101A1030904	03/09/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.8	5.0	<2.0	5.0	-	-
HCW0102A1	HCW102A1030904	03/09/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.6	5.0	<2.0	5.0	ND	-
HCW01A1	HCW1030904	03/09/2004	Split	CAS	<0.12	0.50	0.45	0.50	<0.14	0.50	<0.11	0.50	<0.12	0.50	4.9	0.50	<0.22	0.50	ND	-
HCW01A1	HCW0101A1032304	03/23/2004		FPA	<2.0	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	4.3	5.0	<2.0	5.0	ND	-
HCW01A1	HCW0101A1040504	04/05/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	9.9 U	5.0	<2.0	5.0	ND	-
HCW01A1	HCW0101A1040804	04/08/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.0	5.0	<2.0	5.0	ND	-
HCW01A1	HCW0101A1040804	04/08/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.5	5.0	<2.0	5.0	ND	-
HCW01A1	HCW0101A1041304	04/13/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.4	5.0	<2.0	5.0	ND	-
HCW01A1	HCW0101A1041904	04/19/2004		FPA	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	3.0	5.0	<2.0	5.0	ND	-
HCW01A1	HCW0101A1042604	04/26/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.2	5.0	<2.0	5.0	ND	-
HCW01A1	HCW0101A1050304	05/03/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.0	5.0	<2.0 J	5.0	ND	-
HCW01A1	HCW0101A1051004	05/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW01A1	HCW0101A1051704	05/17/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW01A1	HCW0101A1052704	05/27/2004		FPA	<2.0	5.0	7.3	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.4	5.0	<2.0	5.0	ND	-
HCW01A1	HCW0101A1060104	06/01/2004		FPA	<2.0	5.0	5.1	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.5	5.0	<2.0	5.0	ND	-
HCW01A1	HCW0101A1060704	06/07/2004		FPA	<2.0 UJ	5.0	9.1	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	5.4	5.0	<2.0	5.0	ND	-
HCW01A1	HCW0101A1060704	06/07/2004	Lab Dup	FPA	<2.0	5.0	9.1	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.4	5.0	<2.0	5.0	ND	-
HCW02A1	HCW0201A1110603	11/06/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	-	-
HCW02A1	HCW02A1121903	12/19/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	6.8	5.0	<2.0 UJ	5.0	ND	-
HCW02A1	HCW02A1122403	12/24/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.3	5.0	<2.0	5.0	ND	-
HCW02A1	HCW02A1123103	12/31/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW02A1011404	01/14/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW02A1012004	01/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW02A1012704	01/27/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW02A1020304	02/03/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW02A1021004	02/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW02A1021604	02/16/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW02A1022404	02/24/2004		FPA	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 J	5.0	<2.0 UJ	5.0	ND	-
HCW02A1	HCW02A1030104	03/01/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW201A1030904	03/09/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW0201A1032304	03/23/2004		FPA	<2.0	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW0201A1040504	04/05/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	4.4 U	5.0	<2.0	5.0	ND	-
HCW02A1	HCW0201A1040804	04/08/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.1	5.0	<2.0	5.0	ND	-
HCW02A1	HCW0201A1041304	04/13/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW0201A1041904	04/19/2004		FPA	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW0201A1042604	04/26/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW0201A1050304	05/03/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.1	5.0	<2.0 J	5.0	ND	-
HCW02A1	HCW0201A1051004	05/10/2004		FPA	<2.0	5.0	15	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	9.9	5.0	<2.0	5.0	ND	-

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
HCW02A1	HCW0201A1051704	05/17/2004		FPA	<2.0	5.0	6.5	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW0201A1060704	06/07/2004		FPA	<2.0 UJ	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	2.4	5.0	<2.0	5.0	ND	-
HCW02A1	HCW0201A1061404	06/14/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.6	5.0	<2.0	5.0	ND	-
HCW02A1	HCW0201A1062104	06/21/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	ND	-
HCW02A1	HCW0201A1062104	06/21/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW0201A1062804	06/28/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW0201A1070604	07/06/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW201A1071504	07/15/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW201A1071504	07/15/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW0201A1072104	07/21/2004		FPA	<2.0	5.0	2.1	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW0201A1072804	07/28/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW02A1	HCW201A1080404	08/04/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW03A1	HCW0301A1110603	11/06/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	-	-
HCW03A1	HCW03A1121903	12/19/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	3.5	5.0	<2.0 UJ	5.0	ND	-
HCW03A1	HCW03A1122403	12/24/2003		FPA	<2.0	5.0	3.3	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.9	5.0	<2.0	5.0	ND	-
HCW03A1	HCW03A1123103	12/31/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.2 J	5.0	<2.0	5.0	ND	-
HCW03A1	HCW03A1011404	01/14/2004		FPA	<2.0	5.0	7.2	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	18 J	5.0	<2.0	5.0	ND	-
HCW03A1	HCW03A1012004	01/20/2004		FPA	<2.0	5.0	7.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	17	5.0	<2.0	5.0	ND	-
HCW03A1	HCW03A1012704	01/27/2004		FPA	<2.0	5.0	3.5	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.9 J	5.0	<2.0	5.0	ND	-
HCW03A1	HCW0301A1060704	06/07/2004		FPA	<2.0 UJ	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW03A1	HCW0301A1061404	06/14/2004		FPA	<2.0	5.0	2.3	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.9	5.0	<2.0	5.0	ND	-
HCW03A1	HCW0301A1062104	06/21/2004		FPA	<2.0	5.0	6.8	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.4	5.0	<2.0 UJ	5.0	ND	-
HCW03A1	HCW0301A1062804	06/28/2004		FPA	<2.0	5.0	3.4	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.3	5.0	<2.0	5.0	ND	-
HCW03A1	HCW0301A1070604	07/06/2004		FPA	<2.0	5.0	2.3	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW03A1	HCW301A1071504	07/15/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW0302A1	HCW302A1071504	07/15/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW03A1	HCW0301A1072104	07/21/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW03A1	HCW0301A1072804	07/28/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW03A1	HCW301A1080404	08/04/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW0302A1	HCW302A1080404	08/04/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW04A1	HCW0401A1110703	11/07/2003		FPA	<2.0	5.0	120	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	86	5.0	<2.0	5.0	-	-
HCW04A1	HCW04A1022404	02/24/2004		FPA	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	5.1 J	5.0	<2.0 UJ	5.0	ND	-
HCW04A1	HCW04A1030104	03/01/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.4	5.0	<2.0	5.0	ND	-
HCW04A1	HCW401A1030904	03/09/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.4	5.0	<2.0	5.0	ND	-
HCW04A1	HW0401A1032304	03/23/2004		FPA	<2.0	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	6.8	5.0	<2.0	5.0	ND	-
HCW0402A1	HCW0402A1032304	03/23/2004	Field Dup	FPA	<2.0	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	6.6	5.0	<2.0	5.0	ND	-
HCW04A1	HCW0401A1040504	04/05/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	13 U	5.0	<2.0	5.0	ND	-
HCW0402A1	HCW0402A1040504	04/05/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	12 U	5.0	<2.0	5.0	ND	-
HCW04A1	HCW0401A1040804	04/08/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.9	5.0	<2.0	5.0	ND	-
HCW0402A1	HCW0402A1040804	04/08/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.8	5.0	<2.0	5.0	ND	-
HCW04A1	HCW0401A1041304	04/13/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.0	5.0	<2.0	5.0	ND	-
HCW04A1	HCW0401A1042604	04/26/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.9	5.0	<2.0	5.0	ND	-
HCW04A1	HCW0401A1051904	05/19/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.1	5.0	<2.0	5.0	ND	-
HCW05A1	HCW0501A1110703	11/07/2003		FPA	<2.0	5.0	260	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	1200 J	5.0	<2.0	5.0	-	-
HCW06A1	HCW0601A1110703	11/07/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	34 J	5.0	<2.0	5.0	-	-
HCW07A1	HCW0701A1041904	04/19/2004		FPA	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	2.6	5.0	<2.0	5.0	ND	-
HCW07A1	HCW0701A1042604	04/26/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.6	5.0	<2.0	5.0	ND	-
HCW07A1	HCW0701A1042704	04/27/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.4	5.0	<2.0	5.0	ND	-
HCW07A1	HCW0701A1042804	04/28/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.2	5.0	<2.0	5.0	ND	-
HCW07A1	HCW0701A1042904	04/29/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW07A1	HCW0701A1043004	04/30/2004		FPA	<2.0	5.0	<2.0 J	5.0	<2.0 J	5.0	<2.0 J	5.0	<2.0	5.0	<2.0 J	5.0	<2.0 J	5.0	ND	-
HCW07A1	HCW0701A1050304	05/03/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.8	0.20	<0.10 J	0.20	ND	-
HCW07A1	HCW0701A1050404	05/04/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.4	0.20	<0.10 J	0.20	ND	-
HCW07A1	HCW0701A1050504	05/05/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.4	0.20	<0.10 J	0.20	ND	-
HCW07A1	HCW0701A1050604	05/06/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.3	0.20	<0.10	0.20	ND	-
HCW07A1	HCW0701A1050704	05/07/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
HCW07A1	HCW0701A1051004	05/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.2 J	0.20	<0.10	0.20	ND	-
HCW07A1	HCW0701A1051104	05/11/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.2 J	0.20	<0.10	0.20	ND	-
HCW07A1	HCW0701A1051204	05/12/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.1 J	0.20	<0.10	0.20	ND	-
HCW07A1	HCW0701A1051304	05/13/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	0.10	0.20	<2.0	5.0	1.1 J	0.20	<0.10	0.20	ND	-
HCW07A1	HCW0701A1051404	05/14/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
HCW07A1	HCW0701A1051704	05/17/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.2	0.20	<0.10	0.20	ND	-
HCW07A1	HCW0701A1051804	05/18/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.1	0.20	<0.10	0.20	ND	-
HCW07A1	HCW0701A1051904	05/19/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.99	0.20	<0.10	0.20	ND	-
HCW07A1	HCW0701A1052004	05/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.0	0.20	<0.10	0.20	ND	-
HCW07A1	HCW0701A1052004	05/20/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.1	0.20	<0.10	0.20	ND	-
HCW07A1	HCW0701A1060104	06/01/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10 J	0.20	<2.0	5.0	1.0 J	0.20	<0.10	0.20	ND	-
HCW07A1	HCW0701A1060104	06/01/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0			<2.0	5.0					ND	-
HCW08A1	HCW0801A1041904	04/19/2004		FPA	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	2.7	5.0	<2.0	5.0	ND	-
HCW08A1	HCW0801A1042604	04/26/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.1	5.0	<2.0	5.0	ND	-
HCW08A1	HCW0801A1042704	04/27/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.3	5.0	<2.0	5.0	ND	-
HCW08A1	HCW0801A1042804	04/28/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.4	5.0	<2.0	5.0	ND	-
HCW08A1	HCW0801A042904	04/29/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.2	5.0	<2.0	5.0	ND	-
HCW08A1	HCW0801A1043004	04/30/2004		FPA	<2.0	5.0	<2.0 J	5.0	<2.0 J	5.0	<2.0 J	5.0	<2.0	5.0	2.5 J	5.0	<2.0 J	5.0	ND	-
HCW08A1	HCW0801A1050304	05/03/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	2.2	0.20	<0.10 J	0.20	ND	-
HCW08A1	HCW0801A1050404	05/04/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.8	0.20	<0.10 J	0.20	ND	-
HCW08A1	HCW0801A1050504	05/05/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.9	0.20	<0.10 J	0.20	ND	-
HCW08A1	HCW0801A1050604	05/06/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.9	0.20	<0.10	0.20	ND	-
HCW08A1	HCW0801A1050704	05/07/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.3	5.0	<2.0	5.0	ND	-
HCW08A1	HCW0801A1051004	05/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.8 J	0.20	<0.10	0.20	ND	-
HCW08A1	HCW0801A1051104	05/11/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.8 J	0.20	<0.10	0.20	ND	-
HCW08A1	HCW0801A1051204	05/12/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.7 J	0.20	<0.10	0.20	ND	-
HCW08A1	HCW0801A1051204	05/12/2004	Lab Dup	FPA							<0.10	0.20			1.6	0.20	<0.10	0.20	-	-
HCW08A1	HCW0801A1051304	05/13/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.8 J	0.20	<0.10	0.20	ND	-
HCW08A1	HCW0801A1051404	05/14/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.1	5.0	<2.0	5.0	ND	-
HCW08A1	HCW0801A1051704	05/17/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.7	0.20	<0.10	0.20	ND	-
HCW08A1	HCW0801A1051804	05/18/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.7	0.20	<0.10	0.20	ND	-
HCW08A1	HCW0801A1051904	05/19/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.7	0.20	<0.10	0.20	ND	-
HCW08A1	HCW0801A1052004	05/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	2.1	5.0	<0.10	0.20	ND	-
INJ01A1	INJ01A1121103	12/11/2003		FPA	<2.0	5.0	<2.0	5.0	2.4	5.0	<0.10	0.20	<2.0	5.0	0.14	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1121103	12/11/2003	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1121903	12/19/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0 UJ	5.0	<0.10	0.20	<0.10 UJ	0.20	ND	-
INJ01A1	INJ01A1122303	12/23/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.16	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1122303	12/23/2003	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.15	0.20	<0.10	0.20	ND	-
INJ02A1	INJ02A1122303	12/23/2003	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.14	0.20	<0.10	0.20	ND	-
INJ01A1	INJ03A1122303	12/23/2003	Split	CAS	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	-	-
INJ01A1	INJ01A1123103	12/31/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1123103	12/31/2003	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1011403	01/14/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1011403	01/14/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ03A1011404	01/14/2004	Split	CAS	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	-	-
INJ01A1	INJ01A1012004	01/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1012004	01/20/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1012704	01/27/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1012704	01/27/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ03A101270404	01/27/2004	Split	CAS	<0.12	0.50	<0.12	0.50	<0.14	0.50	<0.11	0.50	<0.12	0.50	<0.12	0.50	<0.22	0.50	-	-
INJ01A1	INJ01A1020304	02/03/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1020304	02/03/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1021004	02/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1021004	02/10/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1021604	02/16/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0 J	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1021604	02/16/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
INJ01A1	INJ01A1022404	02/24/2004		FPA	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<0.10 UJ	0.20	<2.0 UJ	5.0	<0.10 UJ	0.20	<0.10 UJ	0.20	ND	-
INJ01A1	INJ01A1022404	02/24/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ03A1022404	02/24/2004	Split	CAS	<0.12	0.50	<0.12	0.50	<0.14	0.50	<0.11	0.50	<0.12	0.50	<0.12	0.50	<0.22	0.50	-	-
INJ01A1	INJ01A1030104	03/01/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1030104	03/01/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ03A1030104	03/01/2004	Split	CAS	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	-	-
INJ01A1	INJ01A1030904	03/09/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1030904	03/09/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1031804	03/18/2004		FPA	<2.0	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ02A1	INJ02A1031804	03/18/2004	Field Dup	FPA	<2.0	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ03A1031804	03/18/2004	Split	CAS	<0.12	0.50	<0.12	0.50	<0.14	0.50	<0.11	0.50	<0.12	0.50	<0.12	0.50	<0.22	0.50	-	-
INJ01A1	INJ01A1032304	03/23/2004		FPA	<2.0	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<0.10	0.20	<2.0	5.0	0.19 J	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1032304	03/23/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.20	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1033004	03/30/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1033004	03/30/2004	Lab Dup	FPA	-	-	-	-	-	-	<0.10	0.20	-	-	<0.10	0.20	<0.10	0.20	-	-
INJ01A1	INJ01A1040504	04/05/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10 R	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1040504	04/05/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ03A1	INJ03A1040504	04/05/2004	Split	CAS	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	-	-
INJ01A1	INJ01A1041304	04/13/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
INJ01A1	INJ01A1041304	04/13/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
INJ01A1	INJ01A1041904	04/19/2004		FPA	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	8.9	5.0	<2.0	5.0	ND	-
INJ01A1	INJ01A1041904	04/19/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	8.6	5.0	<2.0	5.0	ND	-
INJ02A1	INJ02A1041904	04/19/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 R	5.0	<2.0	5.0	ND	-
INJ02A1	INJ02A1041904	04/19/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
INJ01A1	INJ901A1042604	04/26/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	3.2	0.20	<0.10	0.20	ND	-
INJ01A1	INJ901A1042604	04/26/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	4.1	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1042704	04/27/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
INJ01A1	INJ01A1042704	04/27/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
INJ01A1	INJ01A1042804	04/28/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.5	5.0	<2.0	5.0	ND	-
INJ01A1	INJ01A1042904	04/29/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
INJ01A1	INJ01A1042904	04/29/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
INJ01A1	INJ01A1043004	04/30/2004		FPA	<2.0	5.0	<2.0 J	5.0	<2.0 J	5.0	<2.0 J	5.0	<2.0	5.0	<2.0 J	5.0	<2.0 J	5.0	ND	-
INJ01A1	INJ01A1043004	04/30/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
INJ01A1	INJ01A1050304	05/03/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.97	0.20	<0.10 J	0.20	ND	-
INJ01A1	INJ01A1050304	05/03/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.71	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1050404	05/04/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.74	0.20	<0.10 J	0.20	ND	-
INJ01A1	INJ01A1050504	05/05/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.23	0.20	<0.10 J	0.20	ND	-
INJ01A1	INJ01A1050504	05/05/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
INJ01A1	INJ01A1050604	05/06/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.38	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1050604	05/06/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.37	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1050704	05/07/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
INJ01A1	INJ01A1051004	05/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.35 J	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1051004	05/10/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0			<2.0	5.0					ND	-
INJ01A1	INJ01A1051104	05/11/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10 J	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1051104	05/11/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
INJ01A1	INJ01A1051204	05/12/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.12 J	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1051204	05/12/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
INJ01A1	INJ01A1051304	05/13/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10 J	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1051304	05/13/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1051404	05/14/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
INJ01A1	INJ01A1051704	05/17/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.76	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1051704	05/17/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
INJ01A1	INJ01A1051804	05/18/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.13	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1051804	05/18/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
INJ01A1	INJ01A1051904	05/19/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1051904	05/19/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
INJ01A1	INJ01A1052004	05/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.12	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1052104	05/21/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.34	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1052104	05/21/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.36	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1052704	05/27/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.42	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1052704	05/27/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.41	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1060104	06/01/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10 J	0.20	<2.0	5.0	0.12 J	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1060104	06/01/2004	Lab Dup	FPA	-	-	-	-	-	-	<0.10	0.20	-	-	0.10	0.20	<0.10	0.20	-	-
INJ01A1	INJ01A1060704	06/07/2004		FPA	<2.0 UJ	5.0	<2.0	5.0	<2.0 UJ	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1060704	06/07/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1061404	06/14/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10 UJ	0.20	<2.0	5.0	0.15	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1061404	06/14/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.11	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1062104	06/21/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10 UJ	0.20	<2.0	5.0	0.13	0.20	<0.10 UJ	0.20	ND	-
INJ01A1	INJ01A1062104	06/21/2004	Lab Dup	FPA	-	-	-	-	-	-	<0.10	0.20	-	-	0.11	0.20	<0.10	0.20	-	-
INJ01A1	INJ01A1062804	06/28/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1062804	06/28/2004	Lab Dup	FPA	-	-	-	-	-	-	<0.10	0.20	-	-	<0.10	0.20	<0.10	0.20	-	-
INJ01A1	INJ01A1070604	07/06/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1070604	07/06/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1071504	07/15/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1071504	07/15/2004	Lab Dup	FPA	-	-	-	-	-	-	<0.10	0.20	-	-	<0.10	0.20	<0.10	0.20	-	-
INJ01A1	INJ01A1072104	07/21/2004		FPA	-	-	-	-	-	-	<0.10	0.20	-	-	<0.10	0.20	<0.10	0.20	-	-
INJ01A1	INJ01A1072204	07/22/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
INJ01A1	INJ01A1072604	07/26/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.17	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1072604	07/26/2004	Lab Dup	FPA	-	-	-	-	-	-	<0.10	0.20	-	-	0.13	0.20	<0.10	0.20	-	-
INJ01A1	INJ01A1080404	08/04/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
INJ01A1	INJ01A1080404	08/04/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	<0.10	0.20	<0.10	0.20	ND	-
LC20101A1	LC20101A1011404	01/14/2004		FPA	<2.0	5.0	560	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	610	5.0	4.6	5.0	ND	-
LC20101A1	LC20101A1011404	01/14/2004	Lab Dup	FPA	<2.0	5.0	530	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	570	5.0	4.6	5.0	ND	-
LC20101A1	LC20101A1012704	01/27/2004		FPA	<4.0	10	1600	10	5.8	10	<4.0	10	<4.0	10	1100 J	10	18 J	10	ND	-
LC20101A1	LC20101A1021104	02/11/2004		FPA	<20	50	6400	50	<20 J	50	<20	50	<20	50	1200	50	310	50	ND	-
LC20101A1	LC20101A1022404	02/24/2004		FPA	<20 UJ	50	1200 J	50	<20 UJ	50	<20 UJ	50	<20 UJ	50	470 J	50	28 J	50	ND	-
LC20101A1	LC20101A1022404	02/24/2004	Lab Dup	FPA	<2.0	5.0	1200	5.0	8.7	5.0	<2.0	5.0	<2.0	5.0	440	5.0	25	5.0	ND	-
LC20101A1	LC20103A1022404	02/24/2004	Split	CAS	<1.2	5.0	2000	25	23	5.0	<1.1	5.0	<1.2	5.0	850	25	33	5.0	-	-
LC20101A1	LC20101A1030904	03/09/2004		FPA	<4.0	10	610	10	6.3	10	<4.0	10	<4.0	10	940	10	<4.0	10	ND	-
LC20101A1	LC20101A1032404	03/24/2004		FPA	<2.0	5.0	140	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	470	5.0	<2.0	5.0	ND	-
LC20101A1	LC20103A1032404	03/24/2004	Split	CAS	0.36	1.0	240	10	3.7	1.0	0.32	1.0	<0.23	1.0	710	10	0.80	1.0	-	-
LC20101A1	LC20101A1040704	04/07/2004		FPA	<2.0	5.0	85	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	260	5.0	<2.0	5.0	ND	-
LC20103A1	LCZ0103A1040704	04/07/2004	Split	CAS	<0.50	0.50	110	5.0	2.4	0.50	<0.50	0.50	<0.50	0.50	370	5.0	<0.50	0.50	-	-
LC20101A1	LC20101A1042004	04/20/2004		FPA	<2.0	5.0	28	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	110	5.0	<2.0	5.0	ND	-
LC20102A1	MWT0102A1042004	04/20/2004	Field Dup	FPA	<2.0	5.0	29	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	110	5.0	<2.0	5.0	ND	-
LC20101A1	LC20101A1042804	04/28/2004		FPA	<4.0	10	32	10	<4.0	10	<4.0	10	<4.0	10	96	10	<4.0	10	ND	-
LC20101A1	LC20101A1050404	05/04/2004		FPA	<2.0	5.0	21	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	56	5.0	<2.0 J	5.0	ND	-
LC20101A1	LC20101A1050404	05/04/2004	Lab Dup	FPA	<2.0	5.0	20	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	56	5.0	<2.0	5.0	ND	-
LC20101A1	LC20101A1051904	05/19/2004		FPA	<2.0	5.0	140	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	180	5.0	<2.0	5.0	ND	-
LC20101A1	LC20101A1052704	05/27/2004		FPA	<2.0	5.0	61	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	95	5.0	<2.0	5.0	ND	-
LC20101A1	LC20101A1060104	06/01/2004		FPA	<2.0	5.0	110	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	230	5.0	<2.0	5.0	ND	-
LC20101A1	LC20101A1061704	06/17/2004		FPA	<2.0	5.0	110	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	130	5.0	<2.0	5.0	ND	-
LC20101A1	LC20101A1061704	06/17/2004	Lab Dup	FPA	<2.0	5.0	120	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	140	5.0	<2.0	5.0	ND	-
LC20101A1	LC20101A1062104	06/21/2004		FPA	<2.0	5.0	97	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	340	5.0	<2.0 UJ	5.0	ND	-
LC20101A1	LC20101A1062804	06/28/2004		FPA	<2.0	5.0	120	5.0	2.4	5.0	<2.0	5.0	<2.0	5.0	240	5.0	<2.0	5.0	ND	-
LC20101A1	LC20101A1062804	06/28/2004	Lab Dup	FPA	<2.0	5.0	120	5.0	2.5	5.0	<2.0	5.0	<2.0	5.0	250	5.0	<2.0	5.0	ND	-
LC20101A1	LC20101A1070704	07/07/2004		FPA	<2.0	5.0	47	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	47	5.0	<2.0	5.0	ND	-
LC20101A1	LC20101A1070704	07/07/2004	Lab Dup	FPA	<2.0	5.0	48	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	49	5.0	<2.0	5.0	ND	-
LC20101A1	LC20101A1071504	07/15/2004		FPA	<2.0	5.0	55	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	61	5.0	<2.0	5.0	ND	-
LC20101A1	LC20101A1072004	07/20/2004		FPA	<2.0	5.0	170	5.0	2.9	5.0	<2.0	5.0	<2.0	5.0	190	5.0	<2.0	5.0	ND	-
LC20101A1	LC2010A1080404	08/04/2004		FPA	<2.0	5.0	99	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	180	5.0	<2.0	5.0	ND	-
LC20201A1	LC20201A1011404	01/14/2004		FPA	<20	50	1100	50	<20	50	<20	50	<20	50	2200	50	<20	50	ND	-

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
LC20201A1	LC20201A1042804	04/28/2004		FPA	<4.0	10	53	10	<4.0	10	<4.0	10	<4.0	10	120	10	<4.0	10	ND	-
LC20301A1	LC20301A1011404	01/14/2004		FPA	<20	50	1100	50	<20	50	<20	50	<20	50	3500	50	<20	50	ND	-
LC20301A1	LC20301A1042804	04/28/2004		FPA	<4.0	10	730	10	22	10	<4.0	10	<4.0	10	300	10	4.4	10	ND	-
LC20401A1	LC20401A111304	01/13/2004		FPA	<20	50	920	50	<20	50	<20	50	<20	50	4400	50	<20	50	ND	-
LC20401A1	LC20401A1042804	04/28/2004		FPA	<20	50	850	50	<20	50	<20	50	<20	50	670	50	<20	50	ND	-
LC20501A1	LC20501A111304	01/13/2004		FPA	<2.0	5.0	360	5.0	3.4	5.0	<2.0	5.0	<2.0	5.0	140	5.0	<2.0	5.0	ND	-
LC20501A1	LC20501A1042804	04/28/2004		FPA	<4.0	10	450	10	15	10	<4.0	10	<4.0	10	340	10	8.9	10	ND	-
LC20601A1	LC20601A111304	01/13/2004		FPA	4.7	5.0	900	5.0	7.8	5.0	<2.0	5.0	<2.0	5.0	29	5.0	340	5.0	ND	-
LC20601A1	LC20601A1042804	04/28/2004		FPA	<4.0	10	400	10	5.6	10	<4.0	10	<4.0	10	290	10	84	10	ND	-
LC20701A1	LC20701A1011204	01/12/2004		FPA	39	50	8100	50	70	50	<20	50	<20	50	7400	50	1600	50	ND	-
LC20701A1	LC20701A1042804	04/28/2004		FPA	<20	50	200	50	<20	50	<20	50	<20	50	260	50	<20	50	ND	-
LC20801A1	LC20801A1011404	01/14/2004		FPA	<2.0	5.0	6.3	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	330	5.0	<2.0	5.0	ND	-
LC20801A1	LC20801A1011404	01/14/2004	Lab Dup	FPA	<2.0	5.0	7.2	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	320	5.0	<2.0	5.0	ND	-
LC20801A1	LC20801A1021104	02/11/2004		FPA	<2.0	5.0	29	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	810	5.0	<2.0	5.0	ND	-
LC20801A1	LC20801A1022404	02/24/2004		FPA	<2.0 UJ	5.0	14 J	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	640 J	5.0	<2.0 UJ	5.0	ND	-
LC20801A1	LC20801A1030904	03/09/2004		FPA	<2.0	5.0	13	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	1300	5.0	<2.0	5.0	ND	-
LC20801A1	LC20801A1030904	03/09/2004	Lab Dup	FPA	<2.0	5.0	11	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	1200	5.0	<2.0	5.0	ND	-
LC20801A1	LC20801A1032404	03/24/2004		FPA	<2.0	5.0	8.8	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	950	5.0	<2.0	5.0	ND	-
LC20801A1	LC20801A1032404	03/24/2004	Lab Dup	FPA	<4.0	10	8.3	10	<4.0	10	<4.0	10	<4.0	10	960	10	<4.0	10	ND	-
LC20801A1	LC20801A1040704	04/07/2004		FPA	<8.0	20	<8.0	20	<8.0	20	<8.0	20	<8.0	20	670	20	<8.0	20	ND	-
LC20802A1	MWT0102A1040704	04/07/2004	Field Dup	FPA	<8.0	20	<8.0	20	<8.0	20	<8.0	20	<8.0	20	670	20	<8.0	20	ND	-
LC20801A1	LC20801A1042004	04/20/2004		FPA	<4.0	10	<4.0	10	<4.0	10	<4.0	10	<4.0	10	710	10	<4.0	10	ND	-
LC20801A1	LC20801A1050404	05/04/2004		FPA	<2.0	5.0	5.8	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	400	5.0	<2.0 J	5.0	ND	-
LC20801A1	LC20801A1051904	05/19/2004		FPA	<2.0	5.0	3.6	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	390	5.0	<2.0	5.0	ND	-
LC20801A1	LC20801A1060104	06/01/2004		FPA	<2.0	5.0	2.4	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	340	5.0	<2.0	5.0	ND	-
LC20802A1	MWT0102A1060104	06/01/2004	Field Dup	FPA	<2.0	5.0	2.4	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	340	5.0	<2.0	5.0	ND	-
LC20801A1	LC20801A1061704	06/17/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	200	5.0	<2.0	5.0	ND	-
LC20801A1	LC20801A1062804	06/28/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	170	5.0	<2.0	5.0	ND	-
LC20801A1	LC20801A1071504	07/15/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	140	5.0	<2.0	5.0	ND	-
LC20801A1	LC20801A1071504	07/15/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	130	5.0	<2.0	5.0	ND	-
LC20801A1	LC20801A1072004	07/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	140	5.0	<2.0	5.0	ND	-
LC20801A1	LC20801A1080404	08/04/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	130	5.0	<2.0	5.0	ND	-
LC20901A1	LC20901A111304	01/13/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	390	5.0	<2.0	5.0	ND	-
LC20902A1	LC21601A111304	01/13/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	410	5.0	<2.0	5.0	ND	-
LC20902A1	LC21601A111304	01/13/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	400	5.0	<2.0	5.0	ND	-
LC20901A1	LC20901A1021104	02/11/2004		FPA	<2.0	5.0	12	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	300	5.0	<2.0	5.0	ND	-
LC20901A1	LC20901A1022404	02/24/2004		FPA	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	250 J	5.0	<2.0 UJ	5.0	ND	-
LC20901A1	LC20901A1030904	03/09/2004		FPA	<2.0	5.0	3.1	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	210	5.0	<2.0	5.0	ND	-
LC20902A1	LC20902A1030904	03/09/2004	Field Dup	FPA	<2.0	5.0	2.9	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	200	5.0	<2.0	5.0	ND	-
LC20901A1	LC20903030904	03/09/2004	Split	CAS	<0.12	0.50	3.2	0.50	<0.14	0.50	0.22	0.50	<0.12	0.50	250	2.5	<0.22	0.50	-	-
LC20901A1	LC20901A1032404	03/24/2004		FPA	<2.0	5.0	2.2	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	300	5.0	<2.0	5.0	ND	-
LC20901A1	LC20901A1040804	04/08/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	240	5.0	<2.0	5.0	ND	-
LC20901A1	LC20901A1042104	04/21/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	200	5.0	<2.0	5.0	ND	-
LC20901A1	LC20901A1050404	05/04/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	150	5.0	<2.0 J	5.0	ND	-
LC20901A1	LC20901A1052004	05/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	210	5.0	<2.0	5.0	ND	-
LC20901A1	LC20901A1060104	06/01/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	180	5.0	<2.0	5.0	ND	-
LC20901A1	LC20901A1061704	06/17/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	150	5.0	<2.0	5.0	ND	-
LC20901A1	LC20901A1062804	06/28/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	190	5.0	<2.0	5.0	ND	-
LC20901A1	LC20901A1071504	07/15/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	120	5.0	<2.0	5.0	ND	-
LC20901A1	LC20901A1072004	07/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	130	5.0	<2.0	5.0	ND	-
LC20902A1	MWT0202A1072004	07/20/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	120	5.0	<2.0	5.0	ND	-
LC20901A1	LC20901A1080404	08/04/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	120	5.0	<2.0	5.0	ND	-
LC20901A1	LC20901A1080404	08/04/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	110	5.0	<2.0	5.0	ND	-
LC21001A1	LC21001A111304	01/13/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	220	5.0	<2.0	5.0	ND	-
LC21001A1	LC21001A1032404	03/24/2004		FPA	<2.0	5.0	3.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	470	5.0	<2.0	5.0	ND	-
LC21001A1	LC21001A1040704	04/07/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	260	5.0	<2.0	5.0	ND	-

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
LC21001A1	LC21001A1042104	04/21/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	170	5.0	<2.0	5.0	ND	-
LC21001A1	LC21001A1042104	04/21/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	180	5.0	<2.0	5.0	ND	-
LC21001A1	LC21001A1050404	05/04/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	180	5.0	<2.0 J	5.0	ND	-
LC21001A1	LC21001A1051904	05/19/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	240	5.0	<2.0	5.0	ND	-
LC21001A1	LC21001A1060104	06/01/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	210	5.0	<2.0	5.0	ND	-
LC21001A1	LC21001A1061804	06/17/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	200	5.0	<2.0	5.0	ND	-
LC21001A1	LC21001A1062804	06/28/2004		FPA	<2.0	5.0	3.4	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	250	5.0	<2.0	5.0	ND	-
LC21001A1	LC21001A1062804	06/28/2004	Lab Dup	FPA	<2.0	5.0	4.2	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	260	5.0	<2.0	5.0	ND	-
LC21001A1	LC21001A1071504	07/15/2004		FPA	<2.0	5.0	9.7	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	310 J	5.0	<2.0	5.0	ND	-
LC21002A1	LC21002A1071504	07/15/2004	Field Dup	FPA	<2.0	5.0	8.1	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	290	5.0	<2.0	5.0	ND	-
LC21001A1	LC21001A1072004	07/20/2004		FPA	<2.0	5.0	8.5	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	240	5.0	<2.0	5.0	ND	-
LC21002A1	MWT0102A1072004	07/20/2004	Field Dup	FPA	<2.0	5.0	9.4	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	260	5.0	<2.0	5.0	ND	-
LC21001A1	LC21001A1080404	08/04/2004		FPA	<2.0	5.0	6.9	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	230	5.0	<2.0	5.0	ND	-
LC21101A1	LC21101A1011204	01/12/2004		FPA	<2.0	5.0	11	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	58	5.0	<2.0	5.0	ND	-
LC21101A1	LC21101A1042804	04/28/2004		FPA	<20	50	71	50	<20	50	<20	50	<20	50	66	50	<20	50	ND	-
LC21201A1	LC21201A1011204	01/12/2004		FPA	<2.0	5.0	11	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	18	5.0	<2.0	5.0	ND	-
LC21201A1	LC21201A1042804	04/28/2004		FPA	<2.0	5.0	350	5.0	5.7	5.0	<2.0	5.0	<2.0	5.0	40	5.0	41	5.0	ND	-
LC21301A1	LC21301A1011204	01/12/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.4	5.0	<2.0	5.0	ND	-
LC21301A1	LC21301A1011204	01/12/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.4	5.0	<2.0	5.0	ND	-
LC21301A1	LC21301A1042804	04/28/2004		FPA	<2.0	5.0	150	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	17	5.0	28	5.0	ND	-
LC21301A1	LC21301A1051104	05/11/2004		FPA	<2.0	5.0	390	5.0	3.7	5.0	<2.0	5.0	<2.0	5.0	23	5.0	100	5.0	ND	-
LC21302A1	MWT0102A1051104	05/11/2004	Field Dup	FPA	<2.0	5.0	400	5.0	3.4	5.0	<2.0	5.0	<2.0	5.0	22	5.0	100	5.0	ND	-
LC21301A1	LC21301A1052004	05/20/2004		FPA	<2.0	5.0	400	5.0	2.5	5.0	<2.0	5.0	<2.0	5.0	16	5.0	74	5.0	ND	-
LC21301A1	LC21301A1052704	05/27/2004		FPA	<2.0	5.0	380	5.0	4.1	5.0	<2.0	5.0	<2.0	5.0	12	5.0	41	5.0	ND	-
LC21301A1	LC21301A1060104	06/01/2004		FPA	5.6	5.0	330	5.0	3.8	5.0	<2.0	5.0	<2.0	5.0	12	5.0	33	5.0	ND	-
LC21301A1	LC21301A1060704	06/07/2004		FPA	<2.0 UJ	5.0	190	5.0	2.2 J	5.0	<2.0	5.0	<2.0	5.0	10	5.0	23	5.0	ND	-
LC21301A1	LC21301A1061704	06/17/2004		FPA	<2.0	5.0	160	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	11	5.0	15	5.0	ND	-
LC21301A1	LC21301A1062104	06/21/2004		FPA	<2.0	5.0	170	5.0	2.8	5.0	<2.0	5.0	<2.0	5.0	15	5.0	12 J	5.0	ND	-
LC21301A1	LC21301A1062804	06/28/2004		FPA	<2.0	5.0	62	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	15	5.0	<2.0	5.0	ND	-
LC21301A1	LC21301A1070804	07/08/2004		FPA	<2.0	5.0	120	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	23	5.0	<2.0	5.0	ND	-
LC21302A1	T0102A1070804	07/08/2004	Field Dup	FPA	<2.0	5.0	140	5.0	2.5	5.0	<2.0	5.0	<2.0	5.0	26	5.0	<2.0	5.0	ND	-
LC21301A1	LC21301A1071504	07/15/2004		FPA	<2.0	5.0	100	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	18	5.0	<2.0	5.0	ND	-
LC21301A1	LC21301A1072004	07/20/2004		FPA	<2.0	5.0	84	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	13	5.0	<2.0	5.0	ND	-
LC21301A1	LC21301A1080404	08/04/2004		FPA	<2.0	5.0	49	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	11	5.0	<2.0	5.0	ND	-
LC21302A1	LCT0102A1080404	08/04/2004	Field Dup	FPA	2.8	5.0	56	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	13	5.0	<2.0	5.0	ND	-
LC21401A1	LC21401A1011204	01/12/2004		FPA	<2.0	5.0	4.3	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.6	5.0	<2.0	5.0	ND	-
LC21501A1	LC21501A1011404	01/14/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
LC21502A1	LC21701A1011404	01/14/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
LC21501A1	LC21501A1021104	02/11/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	9.9	5.0	<2.0	5.0	ND	-
LC21501A1	LC21501A1022404	02/24/2004		FPA	<2.0 UJ	5.0	140 J	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	260 J	5.0	<2.0 UJ	5.0	ND	-
LC21501A1	LC21503A1022404	02/24/2004	Split	CAS	<0.24	1.0	220	5.0	2.1	1.0	<0.22	1.0	<0.23	1.0	500	5.0	<0.43	1.0		-
LC21501A1	LC21501A1030904	03/09/2004		FPA	<2.0	5.0	81	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	240	5.0	<2.0	5.0	ND	-
LC21502A1	LC21502A1030904	03/09/2004	Field Dup	FPA	<2.0	5.0	71	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	220	5.0	<2.0	5.0	ND	-
LC21501A1	LC21503030904	03/09/2004	Split	CAS	0.13	0.50	100	2.5	1.0	0.50	0.15	0.50	<0.12	0.50	280	2.5	0.47	0.50		-
LC21501A1	LC21501A1032404	03/24/2004		FPA	<2.0	5.0	26	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	190	5.0	<2.0	5.0	ND	-
LC21501A1	LC21503A1032404	03/24/2004	Split	CAS	<0.12	0.50	42	0.50	1.1	0.50	0.21	0.50	<0.12	0.50	270	5.0	0.32	0.50		-
LC21501A1	LC21501A1040704	04/07/2004		FPA	<2.0	5.0	2.2	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	78	5.0	<2.0	5.0	ND	-
LC21503A1	LCZ1503A1040704	04/07/2004	Split	CAS	<0.50	0.50	3.0	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	100	5.0	<0.50	0.50		-
LC21501A1	LC21501A1042004	04/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	22	5.0	<2.0	5.0	ND	-
LC21502A1	MWT0202A1042004	04/20/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	18	5.0	<2.0	5.0	ND	-
LC21501A1	LC21501A1050404	05/04/2004		FPA	<2.0	5.0	2.6	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	96	5.0	<2.0 J	5.0	ND	-
LC21501A1	LC21501A1051904	05/19/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.2	5.0	<2.0	5.0	ND	-
LC21501A1	LC21501A1060104	06/01/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.9	5.0	<2.0	5.0	ND	-
LC21501A1	LC21501A1061704	06/17/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.0	5.0	<2.0	5.0	ND	-
LC21501A1	LC21501A1062804	06/28/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.0	5.0	<2.0	5.0	ND	-
LC21501A1	LC21501A1071504	07/15/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.4	5.0	<2.0	5.0	ND	-

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
LC21501A1	LC21501A1072004	07/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.3	5.0	<2.0	5.0	ND	-
LC21501A1	LC21501A1080404	08/04/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.6	5.0	<2.0	5.0	ND	-
MPENC01A1	MPENC01A1122303	12/23/2003		CAS	<2.5	2.5	790	25	9.0	2.5	<2.5	2.5	<2.5	2.5	1100	25	19	2.5	-	-
MPENC01A1	MPENC01A1040904	04/09/2004		CAS	<0.50	0.50	24	0.50	0.79	0.50	<0.50	0.50	<0.50	0.50	87	2.5	<0.50	0.50	-	-
MPENE01A1	MPENE01A1122303	12/23/2003		CAS	<0.50	0.50	210	5.0	4.4	0.50	<0.50	0.50	<0.50	0.50	140	5.0	3.7	0.50	-	-
MPENE01A1	MPENE01A1040904	04/09/2004		CAS	<0.50	0.50	28	0.50	0.57	0.50	<0.50	0.50	<0.50	0.50	51	2.5	<0.50	0.50	-	-
MPENW01A1	MPENW01A1122303	12/23/2003		CAS	<2.5	2.5	1300	25	11	2.5	<2.5	2.5	<2.5	2.5	1100	25	15	2.5	-	-
MPENW01A1	MPENW01A1040904	04/09/2004		CAS	<0.50	0.50	56	5.0	1.3	0.50	<0.50	0.50	<0.50	0.50	270	5.0	0.53	0.50	-	-
MPESC01A1	MPESC01A1122303	12/23/2003		CAS	<2.5	2.5	650	25	89	2.5	<2.5	2.5	<2.5	2.5	1100	25	<2.5	2.5	-	-
MPESC01A1	MPESC01A1040904	04/09/2004		CAS	<2.0	2.0	55	2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0	670	25	<2.0	2.0	-	-
MPESE01A1	MPESE01A1122303	12/23/2003		CAS	<250	250	4400	250	<250	250	<250	250	<250	250	370000	2500	<250	250	-	-
MPESE01A1	MPESE01A1040904	04/09/2004		CAS	<0.50	0.50	24	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	160	5.0	<0.50	0.50	-	-
MPESW01A1	MPESW01A1122303	12/23/2003		CAS	<5.0	5.0	2200	50	8.9	5.0	<5.0	5.0	<5.0	5.0	1300	50	10	5.0	-	-
MPESW01A1	MPESW01A1040904	04/09/2004		CAS	<0.50	0.50	40	0.50	0.70	0.50	<0.50	0.50	<0.50	0.50	140	5.0	<0.50	0.50	-	-
MSTINW01A1	MSTINW01AQ1011404	01/14/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.9 J	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1012004	01/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	7.0	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1012704	01/27/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.3 J	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1020304	02/03/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.8	5.0	<2.0	5.0	ND	-
MSTINW02A1	MSTINW02A1020304	02/03/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.8	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1021004	02/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.2 J	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1021604	02/16/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1022404	02/24/2004		FPA	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	3.6 J	5.0	<2.0 UJ	5.0	ND	-
MSTINW02A1	MSTINW02A1022404	02/24/2004	Field Dup	FPA	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	3.2 J	5.0	<2.0 UJ	5.0	ND	-
MSTINW01A1	MSTINW01A1030104	03/01/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.7	5.0	<2.0	5.0	ND	-
MSTINW02A1	MSTINW02A1030104	03/01/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.6	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1030904	03/09/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.1	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1032304	03/23/2004		FPA	<2.0	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	4.5	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1040504	04/05/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	11 U	5.0	<2.0	5.0	ND	-
MSTINW02A1	MSTINW02A1040504	04/05/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	12 U	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1041304	04/13/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.9	5.0	<2.0	5.0	ND	-
MSTINW02A1	MSTINW02A1041304	04/13/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.8	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1041904	04/19/2004		FPA	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	2.3	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1042604	04/26/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.9	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1050304	05/03/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 J	5.0	ND	-
MSTINW01A1	MSTINW01A1051004	05/10/2004		FPA	<2.0	5.0	3.7	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.9	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1051704	05/17/2004		FPA	<2.0	5.0	3.1	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1052704	05/27/2004		FPA	<2.0	5.0	7.3	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.5	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1060104	06/01/2004		FPA	<2.0	5.0	3.4	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.3	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1060704	06/07/2004		FPA	<2.0 UJ	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTIN01A1061417	06/14/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.5	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1062104	06/21/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	ND	-
MSTINW01A1	MSTINW01A1062804	06/28/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW01A1070604	07/06/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTINW0A1071504	07/15/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTIN01A1072104	07/21/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTIN01A1072804	07/28/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MSTINW01A1	MSTIN01A1080404	08/04/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWB09A1	B0901A1111803	11/18/2003		FPA	<40	100	380	100	<40	100	2.6	0.20	<40	100	2800	100	0.59	0.20	ND	-
MWB09A1	B0901A1111803	11/18/2003	Lab Dup	FPA	<40	100	400	100	<40	100	3.0	0.20	<40	100	2800	100	0.86	0.20	<40	100
MWB09A1	MWB0901A1122303	12/23/2003		FPA	<2.0	5.0	37	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	170	5.0	<2.0	5.0	ND	-
MWB09A1	MWB0901A1011304	01/13/2004		FPA	<2.0	5.0	9.2	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	66 J	5.0	<2.0	5.0	ND	-
MWB09A1	MWB0901A1012704	01/27/2004		FPA	<2.0	5.0	6.8	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	34 J	5.0	<2.0	5.0	ND	-
MWB09A1	MWB0901A1021004	02/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	18	5.0	<2.0	5.0	ND	-
MWB09A1	MWB0901A1022304	02/23/2004		FPA	<2.0	5.0	2.0 J	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	18	5.0	<2.0	5.0	ND	-
MWB09A1	MWB0901A1030904	03/09/2004		FPA	<2.0	5.0	2.4	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	17	5.0	<2.0	5.0	ND	-
MWB09A1	MWB0901A1032404	03/24/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	19	5.0	<2.0	5.0	ND	-

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
MWB0902A1	MWT0102A1032404	03/24/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	20	5.0	<2.0	5.0	ND	-
MWB09A1	MWB0901A1040804	04/08/2004		FPA	<2.0	5.0	7.5	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	18	5.0	<2.0	5.0	ND	-
MWB09A1	MWB0901A1042004	04/20/2004		FPA	<2.0	5.0	36	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	26	5.0	18	5.0	ND	-
MWB09A1	MWB0901A1042004	04/20/2004	Lab Dup	FPA	<2.0	5.0	37	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	27	5.0	18	5.0	ND	-
MWB09A1	MWB0901A1042804	04/28/2004		FPA	<2.0	5.0	150	5.0	3.1	5.0	<2.0	5.0	<2.0	5.0	38	5.0	130	5.0	ND	-
MWB0902A1	MWT0102A1042804	04/28/2004	Field Dup	FPA	<2.0	5.0	130	5.0	2.3	5.0	<2.0	5.0	<2.0	5.0	30	5.0	110	5.0	ND	-
MWB09A1	MWB0901A1050404	05/04/2004		FPA	<2.0	5.0	160	5.0	2.2	5.0	<2.0	5.0	<2.0	5.0	28	5.0	80 J	5.0	ND	-
MWB09A1	MWB0901A1051004	05/10/2004		FPA	<2.0	5.0	300	5.0	3.5	5.0	<2.0	5.0	<2.0	5.0	66	5.0	35	5.0	ND	-
MWB09A1	MWB0901A1051804	05/18/2004		FPA	2.4	5.0	650	5.0	7.7	5.0	<2.0	5.0	<2.0	5.0	100	5.0	45	5.0	ND	-
MWB09A1	MWB0901A1052404	05/24/2004		FPA	<2.0	5.0	560	5.0	8.9	5.0	<2.0	5.0	<2.0	5.0	200	5.0	32	5.0	ND	-
MWB09A1	MWB0901A1060204	06/02/2004		FPA	<2.0	5.0	360	5.0	5.0	5.0	<2.0	5.0	<2.0	5.0	82	5.0	12	5.0	ND	-
MWB09A1	MWB0901A1060204	06/02/2004	Lab Dup	FPA	<2.0	5.0	400	5.0	4.4	5.0	<2.0	5.0	<2.0	5.0	91	5.0	12	5.0	ND	-
MWB09A1	MWB0901A1060704	06/07/2004		FPA	<2.0 UJ	5.0	260	5.0	2.8 J	5.0	<2.0	5.0	<2.0	5.0	54	5.0	7.0	5.0	ND	-
MWB09A1	MWB0901A1061621	06/16/2004		FPA	<2.0	5.0	150	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	29	5.0	2.5	5.0	ND	-
MWB09A1	MWB0901A1062204	06/22/2004		FPA	<2.0	5.0	220	5.0	2.1	5.0	<2.0	5.0	<2.0	5.0	45 J	5.0	5.4	5.0	ND	-
MWB09A1	MWB0901A1062204	06/22/2004	Lab Dup	FPA	<2.0	5.0	220	5.0	2.3	5.0	<2.0	5.0	<2.0	5.0	46	5.0	6.2	5.0	ND	-
MWB09A1	MWB0901A1063004	06/30/2004		FPA	<2.0	5.0	240	5.0	4.2	5.0	<2.0	5.0	<2.0	5.0	73	5.0	4.0	5.0	ND	-
MWB0902A1	MWT0102A1063004	06/30/2004	Field Dup	FPA	<2.0	5.0	220	5.0	3.4	5.0	<2.0	5.0	<2.0	5.0	60	5.0	4.5	5.0	ND	-
MWB09A1	MWB0901A1070704	07/07/2004		FPA	<2.0	5.0	250	5.0	3.6	5.0	<2.0	5.0	<2.0	5.0	73	5.0	5.8	5.0	ND	-
MWB0902A1	MWB0902A1070704	07/07/2004	Field Dup	FPA	<2.0	5.0	240	5.0	3.9	5.0	<2.0	5.0	<2.0	5.0	74	5.0	5.8	5.0	ND	-
MWB09A1	MWB0901A1071204	07/12/2004		FPA	<2.0	5.0	240	5.0	4.4	5.0	<2.0	5.0	<2.0	5.0	90	5.0	6.8 J	5.0	ND	-
MWB09A1	MWB0901A1071904	07/19/2004		FPA	<2.0	5.0	280	5.0	4.6	5.0	<2.0	5.0	<2.0	5.0	100	5.0	11 J	5.0	ND	-
MWB0902A1	MWT0102A1071904	07/19/2004	Field Dup	FPA	<2.0	5.0	260	5.0	4.5	5.0	<2.0	5.0	<2.0	5.0	96	5.0	9.3 J	5.0	ND	-
MWB09A1	MWB0901A1072804	07/28/2004		FPA	<2.0	5.0	160	5.0	3.4	5.0	<2.0	5.0	<2.0	5.0	110	5.0	11	5.0	ND	-
MWB09A1	MWB0901A1072804	07/28/2004	Lab Dup	FPA	<2.0	5.0	160	5.0	3.5	5.0	<2.0	5.0	<2.0	5.0	100	5.0	11	5.0	ND	-
MWB09A1	MWB0901A1080304	08/03/2004		FPA	<2.0	5.0	170	5.0	4.2	5.0	<2.0	5.0	<2.0	5.0	160	5.0	17	5.0	ND	-
MWC08A1	C0801A1111803	11/18/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	4.6	5.0	<0.10	0.20	ND	-
MWC08A1	MWC0801A1120203	12/02/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.72	0.20	<0.10	0.20	ND	-
MWC08A1	MWC081A1121803	12/18/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	3.2	5.0	<2.0 UJ	5.0	ND	-
MWC08A1	MWC0801A1011304	01/13/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWC08A1	MWC0801A1021004	02/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWC08A1	MWC0801A1021004	02/10/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWC08A1	MWC0801A1022304	02/23/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	4.9 J	5.0	<2.0	5.0	ND	-
MWC08A1	MWC0801A1031104	03/11/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWC08A1	MWC0801A1032404	03/24/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWC08A1	MWC0801A1032404	03/24/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWC08A1	MWC0801A1042104	04/21/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWD03A1	D0301A1111103	11/11/2003		FPA	<2.0	5.0	8.9	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	15	5.0	5.0	0.20	ND	-
MWD03A1	MWD0301A1122303	12/23/2003		FPA	<2.0	5.0	3.1	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	8.7	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1011304	01/13/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	7.2 J	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1020904	02/09/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	7.1	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1020904	02/09/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.7	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1022304	02/23/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	7.1	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1022304	02/23/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	7.2	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1031004	03/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	7.4	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1040604	04/06/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	14 U	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1041404	04/14/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	5.7	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1041904	04/19/2004		FPA	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	5.3	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1050504	05/05/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.0	5.0	<2.0 J	5.0	ND	-
MWD03A1	MWD0301A1051804	05/18/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.4	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1052504	05/25/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.7	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1052504	05/25/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	7.4	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1060204	06/02/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.5	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1061604	06/16/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.7	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1062904	06/29/2004		FPA	<2.0	5.0	3.8	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.0	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1071204	07/12/2004		FPA	<2.0	5.0	27	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.3	5.0	<2.0	5.0	ND	-

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
MWD0302A1	MWT0102A1071204	07/12/2004	Field Dup	FPA	<2.0	5.0	23	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.5	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1071904	07/19/2004		FPA	<2.0	5.0	26	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.3	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1080204	08/02/2004		FPA	<2.0	5.0	27	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	7.0	5.0	<2.0	5.0	ND	-
MWD03A1	MWD0301A1080204	08/02/2004	Lab Dup	FPA	<2.0	5.0	22	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.2	5.0	<2.0	5.0	ND	-
MWD14A1	D1401A1111803	11/18/2003		FPA	<2.0	5.0	280	5.0	3.7	5.0	<0.10	0.20	<2.0	5.0	190	5.0	0.40	0.20	ND	-
MWD14A1	MWD1401A1122303	12/23/2003		FPA	<8.0	20	1500	20	12	20	<8.0	20	<8.0	20	4500	20	16	20	ND	-
MWD14A1	MWD1401A1011304	01/13/2004		FPA	<20	50	1700	50	<20	50	<20	50	<20	50	6800 J	50	<20	50	ND	-
MWD14A1	MWD1401A1012604	01/26/2004		FPA	<20	50	1000	50	<20	50	<20	50	<20	50	3300	50	<20	50	ND	-
MWD14A1	MWD1401A1021004	02/10/2004		FPA	<8.0	20	170	20	<8.0	20	<8.0	20	<8.0	20	1000	20	<8.0	20	ND	-
MWD14A1	MWD1401A1021004	02/10/2004	Lab Dup	FPA	<4.0	10	170	10	<4.0	10	<4.0	10	<4.0	10	1000	10	<4.0	10	ND	-
MWD14A1	MWD1401A1022304	02/23/2004		FPA	<2.0	5.0	240	5.0	3.2 J	5.0	<2.0	5.0	<2.0 UJ	5.0	930	5.0	4.7 J	5.0	ND	-
MWD14A1	MWD1401A1030904	03/09/2004		FPA	<8.0	20	1600	20	12	20	<8.0	20	<8.0	20	2500	20	21	20	ND	-
MWD14A1	MWD1401A1032404	03/24/2004		FPA	<4.0	10	930	10	7.8	10	<4.0	10	<4.0	10	1200	10	4.7	10	ND	-
MWD14A1	MWD1401A1040804	04/08/2004		FPA	<4.0	10	500	10	8.3	10	<4.0	10	<4.0	10	800	10	12	10	ND	-
MWD14A1	MWD1401A1042004	04/20/2004		FPA	<4.0	10	240	10	5.6	10	<4.0	10	<4.0	10	690	10	<4.0	10	ND	-
MWD14A1	MWD1401A1042804	04/28/2004		FPA	6.3	10	570	10	18	10	<4.0	10	<4.0	10	730	10	<4.0	10	ND	-
MWD14A1	MWD1401A1042804	04/28/2004	Lab Dup	FPA	7.7	10	530	10	16	10	<4.0	10	<4.0	10	700	10	<4.0	10	ND	-
MWD14A1	MWD1401A1050404	05/04/2004		FPA	<2.0	5.0	200	5.0	4.2	5.0	<2.0	5.0	<2.0	5.0	520	5.0	<2.0 J	5.0	ND	-
MWD1402A1	MWT0102A1050404	05/04/2004	Field Dup	FPA	<2.0	5.0	220	5.0	4.6	5.0	<2.0	5.0	<2.0	5.0	550	5.0	<2.0 J	5.0	ND	-
MWD14A1	MWD1401A1051004	05/10/2004		FPA	<2.0	5.0	460	5.0	9.6	5.0	<2.0	5.0	<2.0	5.0	480	5.0	11	5.0	ND	-
MWD14A1	MWD1401A1051804	05/18/2004		FPA	<2.0	5.0	280	5.0	5.3	5.0	<2.0	5.0	<2.0	5.0	610	5.0	<2.0	5.0	ND	-
MWD14A1	MWD1401A1052504	05/25/2004		FPA	<2.0	5.0	180	5.0	3.4	5.0	<2.0	5.0	<2.0	5.0	410	5.0	<2.0	5.0	ND	-
MWD14A1	MWD1401A1060204	06/02/2004		FPA	<2.0	5.0	140	5.0	2.9	5.0	<2.0	5.0	<2.0	5.0	340	5.0	<2.0	5.0	ND	-
MWD14A1	MWD1401A1060704	06/07/2004		FPA	<2.0 UJ	5.0	110	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	300	5.0	<2.0	5.0	ND	-
MWD14A1	MWD1401A1061604	06/16/2004		FPA	<2.0	5.0	150	5.0	3.2	5.0	<2.0	5.0	<2.0	5.0	400	5.0	<2.0	5.0	ND	-
MWD14A1	MWD1401A1062204	06/22/2004		FPA	<2.0	5.0	180	5.0	3.9	5.0	<2.0	5.0	<2.0	5.0	390 J	5.0	<2.0	5.0	ND	-
MWD14A1	MWD1401A1062204	06/22/2004	Lab Dup	FPA	<2.0	5.0	190	5.0	3.8	5.0	<2.0	5.0	<2.0	5.0	420	5.0	<2.0	5.0	ND	-
MWD14A1	MWD1401A1063004	06/30/2004		FPA	<2.0	5.0	170	5.0	4.5	5.0	<2.0	5.0	<2.0	5.0	320	5.0	<2.0	5.0	ND	-
MWD14A1	MWD1401A1063004	06/30/2004	Lab Dup	FPA	<2.0	5.0	180	5.0	4.1	5.0	<2.0	5.0	<2.0	5.0	340	5.0	<2.0	5.0	ND	-
MWD14A1	MWD1401A1070704	07/07/2004		FPA	<2.0	5.0	170	5.0	4.3	5.0	<2.0	5.0	<2.0	5.0	320	5.0	<2.0	5.0	ND	-
MWD14A1	MWD1401A1071404	07/14/2004		FPA	<2.0	5.0	150	5.0	4.4	5.0	<2.0	5.0	<2.0	5.0	390	5.0	<2.0	5.0	ND	-
MWD14A1	MWD1401A1071904	07/19/2004		FPA	<2.0	5.0	160	5.0	3.1	5.0	<2.0	5.0	<2.0	5.0	490	5.0	<2.0	5.0	ND	-
MWD14A1	MWD1401A1071904	07/19/2004	Lab Dup	FPA	<2.0	5.0	140	5.0	2.7	5.0	<2.0	5.0	<2.0	5.0	460	5.0	<2.0	5.0	ND	-
MWD14A1	MWD1401A1072804	07/28/2004		FPA	<2.0	5.0	75	5.0	2.2	5.0	<2.0	5.0	<2.0	5.0	890	5.0	<2.0	5.0	ND	-
MWD14A1	MWD1401A1080304	08/03/2004		FPA	<2.0	5.0	51	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	830	5.0	<2.0	5.0	ND	-
MWE07A1	E0701A1111903	11/19/2003		FPA	<20	50	2100	50	<20	50	2.5	0.20	<20	50	2700	50	28	50	ND	-
MWE07A1	E0701A1111903	11/19/2003	Split	CAS	<10	10	3100	100	28	10	<10	10	<10	10	3400	100	44	10	-	-
MWE07A1	MWE0703A1121803	12/18/2003	Split	CAS	<2.5	2.5	550	25	5.3	2.5	<2.5	2.5	<2.5	2.5	610	25	19	2.5	ND	-
MWE07A1	MWE0701A1121803	12/18/2003		FPA	<8.0	20	490	20	<8.0	20	<8.0	20	<8.0 UJ	20	450	20	16 J	20	-	-
MWE07A1	MWE0701A1030304	03/03/2004		FPA	<2.0	5.0	8.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	85	5.0	<2.0	5.0	ND	-
MWE07A1	MWE0701A1030304	03/03/2004	Lab Dup	FPA	<2.0	5.0	9.1	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	87	5.0	<2.0	5.0	ND	-
MWE07A1	MWE0701A1031104	03/11/2004		FPA	<2.0	5.0	7.8	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	74	5.0	<2.0	5.0	ND	-
MWE07A1	MWE0701A1031104	03/11/2004	Lab Dup	FPA	<2.0	5.0	7.9	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	75	5.0	<2.0	5.0	ND	-
MWE07A1	MWE0701A1040704	04/07/2004		FPA	<8.0	20	48	20	<8.0	20	18	20	<8.0	20	3000	20	<8.0	20	ND	-
MWE07A1	MWE0701A1042904	04/29/2004		FPA	<8.0	20	25	20	<8.0	20	<8.0	20	<8.0	20	440	20	<8.0	20	ND	-
MWE07A1	MWE0701A1051204	05/12/2004		FPA	<2.0	5.0	34	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	81	5.0	3.2	5.0	ND	-
MWE07A1	MWE0701A1052804	05/28/2004		FPA	<2.0	5.0	16	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	38	5.0	<2.0	5.0	ND	-
MWE07A1	MWE0701A1060904	06/09/2004		FPA	<2.0	5.0	4.1	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	11	5.0	<2.0	5.0	ND	-
MWE07A1	MWE0701A1060904	06/09/2004	Lab Dup	FPA	<2.0	5.0	4.1	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	12	5.0	<2.0	5.0	ND	-
MWE07A1	MPE0701A1061504	06/15/2004		FPA	<2.0 UJ	5.0	3.9	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	13	5.0	<2.0	5.0	ND	-
MWE07A1	MPE0701A1061504	06/15/2004	Lab Dup	FPA	<2.0	5.0	3.6	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	12	5.0	<2.0	5.0	ND	-
MWE07A1	MWE0701A1062304	06/23/2004		FPA	<2.0	5.0	39	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	140 J	5.0	<2.0	5.0	ND	-
MWE07A1	MWE0701A1062904	06/29/2004		FPA	<2.0	5.0	13	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	35	5.0	<2.0	5.0	ND	-
MWE07A1	MWE0701A1070704	07/07/2004		FPA	<2.0	5.0	3.6	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	24	5.0	<2.0	5.0	ND	-
MWE07A1	MWE0701A1071304	07/13/2004		FPA	<2.0	5.0	16	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	160	5.0	<2.0	5.0	ND	-
MWE07A1	MWE0701A1071304	07/13/2004	Lab Dup	FPA	<2.0	5.0	16	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	140	5.0	<2.0	5.0	ND	-

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
MWE07A1	MWE0701A1072004	07/20/2004		FPA	<2.0	5.0	11	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	59	5.0	<2.0	5.0	ND	-
MWE07A1	MWE0701A1072704	07/27/2004		FPA	<2.0	5.0	2.8	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	14	5.0	<2.0	5.0	ND	-
MWE07A1	MWE0701A1072704	07/27/2004	Lab Dup	FPA	<2.0	5.0	3.1	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	15	5.0	<2.0	5.0	ND	-
MWE07A1	MWE0701A1080204	08/02/2004		FPA	<2.0	5.0	7.5	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	26	5.0	<2.0	5.0	ND	-
MWF03A1	F0301A1111103	11/11/2003		FPA	<2.0	5.0	2.5	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	5.7	5.0	<0.10	0.20	ND	-
MWF03A1	MWF0301A1121703	12/17/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	3.9	5.0	<2.0 UJ	5.0	ND	-
MWF03A1	MWF0301A1030304	03/03/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.0	5.0	<2.0	5.0	ND	-
MWF03A1	MWF0301A1041604	04/16/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	2.7	5.0	<2.0	5.0	ND	-
MWF03A1	MWF0301A1042904	04/29/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.6	5.0	<2.0	5.0	ND	-
MWF03A1	MWF0301A1051104	05/11/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.9	5.0	<2.0	5.0	ND	-
MWF03A1	MWF0301A1052804	05/28/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.7	5.0	<2.0	5.0	ND	-
MWF03A1	MWF0301A1052804	05/28/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.4	5.0	<2.0	5.0	ND	-
MWF03A1	MWF0301A1060804	06/08/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	14 J	5.0	<2.0	5.0	ND	-
MWF0302A1	MWT0202A1060804	06/08/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	14 J	5.0	<2.0	5.0	ND	-
MWF03A1	MWF0301A1061504	06/15/2004		FPA	<2.0 UJ	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	17	5.0	<2.0	5.0	ND	-
MWF03A1	MWF0301A1062304	06/23/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	24 J	5.0	<2.0	5.0	ND	-
MWF03A1	MWF0301A1062904	06/29/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	52	5.0	<2.0	5.0	ND	-
MWF03A1	MWF0301A1070704	07/07/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.4	5.0	<2.0	5.0	350	5.0	<2.0	5.0	ND	-
MWF03A1	MWF0301A1071304	07/13/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	160	5.0	<2.0	5.0	ND	-
MWF03A1	MWF0301A1072004	07/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	95	5.0	<2.0	5.0	ND	-
MWF03A1	MWF0301A1072704	07/27/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	42	5.0	<2.0	5.0	ND	-
MWF03A1	MWF0301A1080204	08/02/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	41	5.0	<2.0	5.0	ND	-
MWF11A1	F1101A1111803	11/18/2003		FPA	<2.0	5.0	3.8	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	430	5.0	<0.10	0.20	ND	-
MWF11A1	F1101A1111803	11/18/2003	Split	CAS	<1.0	1.0	2.2	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0	500	10	<1.0	1.0	-	-
MWF11A1	MWF1101A1121803	12/18/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	160	5.0	<2.0 UJ	5.0	ND	-
MWF11A1	MWF1103A1121803	12/18/2003	Split	CAS	<0.50	0.50	0.60	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	200	5.0	<0.50	0.50	-	-
MWF11A1	MWF1101A1021104	02/11/2004		FPA	<2.0	5.0	26	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	670	5.0	<2.0	5.0	ND	-
MWF11A1	MWF1103A1021104	02/11/2004	Split	CAS	<0.60	2.5	39	2.5	0.80	2.5	0.90	2.5	<0.57	2.5	980	25	<1.1	2.5	-	-
MWF11A1	MWF1101A1022304	02/23/2004		FPA	<2.0	5.0	8.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	300	5.0	<2.0	5.0	ND	-
MWF11A1	MWF1101A1031004	03/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	81	5.0	<2.0	5.0	ND	-
MWF11A1	MWF1101A1032404	03/24/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	41	5.0	<2.0	5.0	ND	-
MWF11A1	MWF1101A1040704	04/07/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	43	5.0	<2.0	5.0	ND	-
MWF11A1	MWF1101A1042104	04/21/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	40	5.0	<2.0	5.0	ND	-
MWF11A1	MWF1101A1050504	05/05/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	34	5.0	<2.0 J	5.0	ND	-
MWF11A1	MWF1101A1052004	05/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	42	5.0	<2.0	5.0	ND	-
MWF1102A1	MWT0102A1052004	05/20/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	47	5.0	<2.0	5.0	ND	-
MWF11A1	MWF1101A1060204	06/02/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	72	5.0	<2.0	5.0	ND	-
MWF11A1	MWF1101A1061604	06/16/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	88	5.0	<2.0	5.0	ND	-
MWF11A1	MWF1101A1061604	06/16/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	88	5.0	<2.0	5.0	ND	-
MWF11A1	MWF1101A1062904	06/29/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	73	5.0	<2.0	5.0	ND	-
MWF1102A1	MWT0202A1062904	06/29/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	70	5.0	<2.0	5.0	ND	-
MWF11A1	MWF1101A1071404	07/14/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	97	5.0	<2.0	5.0	ND	-
MWF11A1	MWF1101A1072004	07/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	120 J	5.0	<2.0	5.0	ND	-
MWF11A1	MWF1101A1072004	07/20/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	120	5.0	<2.0	5.0	ND	-
MWF11A1	MWF1101A1080304	08/03/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	100	5.0	<2.0	5.0	ND	-
MWF12A1	F1201A1112003	11/20/2003		FPA	<2.0	5.0	3.2	5.0	<2.0	5.0	0.44	0.20	<2.0	5.0	300	5.0	<0.10	0.20	ND	-
MWF12A1	MWF1201A1121803	12/18/2003		FPA	<4.0	10	66	10	<4.0	10	<4.0	10	<4.0 UJ	10	1200	10	<4.0 UJ	10	ND	-
MWF12A1	MWF1201A1011304	01/13/2004		FPA	<2.0	5.0	120	5.0	<2.0	5.0	2.1 J	5.0	<2.0	5.0	1200 J	5.0	<2.0	5.0	ND	-
MWF12A1	MWF1203A1011304	01/13/2004	Split	CAS	<2.5	2.5	160	2.5	<2.5	2.5	2.6	2.5	<2.5	2.5	1900	25	<2.5	2.5	-	-
MWF12A1	MWF1201A1020904	02/09/2004		FPA	<2.0	5.0	19	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	990	5.0	<2.0	5.0	ND	-
MWF12A1	MWF1201A1022404	02/24/2004		FPA	<2.0 UJ	5.0	15 J	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	500 J	5.0	<2.0 UJ	5.0	ND	-
MWF12A1	MWF1201A1031004	03/10/2004		FPA	<2.0	5.0	15	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	490	5.0	<2.0	5.0	ND	-
MWF12A1	MWF1201A1032304	03/23/2004		FPA	<2.0	5.0	11 UJ	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	300	5.0	<2.0	5.0	ND	-
MWF12A1	MWF1201A1040704	04/07/2004		FPA	<2.0	5.0	8.8	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	190	5.0	<2.0	5.0	ND	-
MWF12A1	MWF1201A1042104	04/21/2004		FPA	<2.0	5.0	6.6	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	150	5.0	<2.0	5.0	ND	-
MWF12A1	MWF1201A1050504	05/05/2004		FPA	<2.0	5.0	2.7	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	79	5.0	<2.0 J	5.0	ND	-

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
MWF12A1	MWF1201A1052004	05/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	58	5.0	<2.0	5.0	ND	-
MWF12A1	MWF1201A1060204	06/02/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	48	5.0	<2.0	5.0	ND	-
MWF12A1	MWF1201A1061604	06/16/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	31	5.0	<2.0	5.0	ND	-
MWF12A1	MWF1201A1061604	06/16/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	29	5.0	<2.0	5.0	ND	-
MWF12A1	MWF1201A1062904	06/29/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	26	5.0	<2.0	5.0	ND	-
MWF12A1	MWF1201A1071504	07/15/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	14	5.0	<2.0	5.0	ND	-
MWF12A1	MWF1201A1072004	07/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	18	5.0	<2.0	5.0	ND	-
MWF12A1	MWF1201A1080304	08/03/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	21	5.0	<2.0	5.0	ND	-
MWF1202A1	MWT0102A1080304	08/03/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	19	5.0	<2.0	5.0	ND	-
MWF14A1	F1401A1112003	11/20/2003		FPA	<2.0	5.0	110	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	95	5.0	0.25	0.20	ND	-
MWF14A1	MWF1401A1121803	12/18/2003		FPA	<2.0	5.0	310	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	230	5.0	<2.0 UJ	5.0	ND	-
MWF14A1	MWF1401A1030204	03/02/2004		FPA	<2.0	5.0	470	5.0	3.6	5.0	<2.0	5.0	<2.0	5.0	400	5.0	2.6	5.0	ND	-
MWF1402A1	MWF1402A1030204	03/02/2004	Field Dup	FPA	<2.0	5.0	480	5.0	3.8	5.0	<2.0	5.0	<2.0	5.0	410	5.0	2.3	5.0	ND	-
MWF14A1	MWF1403A1030204	03/02/2004	Split	CAS	1.5	0.50	730	13	9.6	0.50	<0.50	0.50	<0.50	0.50	560	13	2.3	0.50	-	-
MWF14A1	MWF1401A1040704	04/07/2004		FPA	<2.0	5.0	7.6	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	36	5.0	<2.0	5.0	ND	-
MWF14A1	MWF1401A1042904	04/29/2004		FPA	<2.0	5.0	2.5	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	15	5.0	<2.0	5.0	ND	-
MWF1402A1	MWT0102A1042904	04/29/2004	Field Dup	FPA	<2.0	5.0	2.7	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	14	5.0	<2.0	5.0	ND	-
MWF14A1	MWF1401A1051104	05/11/2004		FPA	<2.0	5.0	31	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	43	5.0	<2.0	5.0	ND	-
MWF14A1	MWF1401A1052804	05/28/2004		FPA	<2.0	5.0	12	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	20	5.0	<2.0	5.0	ND	-
MWF14A1	MWF1401A1060804	06/08/2004		FPA	<2.0	5.0	21	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	24 J	5.0	<2.0	5.0	ND	-
MWF14A1	MWF1401A1061504	06/15/2004		FPA	<2.0 UJ	5.0	34	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	37	5.0	<2.0	5.0	ND	-
MWF14A1	MWF1401A1062304	06/23/2004		FPA	<2.0	5.0	23	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	33 J	5.0	<2.0	5.0	ND	-
MWF14A1	MWF1401A1062904	06/29/2004		FPA	<2.0	5.0	32	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	42	5.0	<2.0	5.0	ND	-
MWF14A1	MWF1401A1062904	06/29/2004	Lab Dup	FPA	<2.0	5.0	33	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	42	5.0	<2.0	5.0	ND	-
MWF14A1	MWF1401A1070704	07/07/2004		FPA	<2.0	5.0	15	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	22	5.0	<2.0	5.0	ND	-
MWF14A1	MWF1401A1071404	07/14/2004		FPA	<2.0	5.0	19	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	44	5.0	<2.0	5.0	ND	-
MWF1402A1	MWF1402A1071404	07/14/2004	Field Dup	FPA	<2.0	5.0	20	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	43	5.0	<2.0	5.0	ND	-
MWF14A1	MWF1401A1072004	07/20/2004		FPA	<2.0	5.0	21	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	56	5.0	<2.0	5.0	ND	-
MWF14A1	MWF1401A1072704	07/27/2004		FPA	<2.0	5.0	12	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	100	5.0	<2.0	5.0	ND	-
MWF14A1	MWF1401A1080204	08/02/2004		FPA	<2.0	5.0	15	5.0	2.2	5.0	3.0	5.0	<2.0	5.0	860	5.0	<2.0	5.0	ND	-
MWF14A1	MWF1401A1080204	08/02/2004	Lab Dup	FPA	<2.0	5.0	14	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	820	5.0	<2.0	5.0	ND	-
MWH06A1	H0601A1111203	11/12/2003		FPA	<10	25	80	25	<10	25	3.9	0.20	<10	25	2400	25	0.30	0.20	ND	-
MWH06A1	MWH0601A1121703	12/17/2003		FPA	<8.0	20	120	20	<8.0	20	<8.0	20	<8.0 UJ	20	880	20	<8.0 UJ	20	ND	-
MWH0602A1	MWH0602A1121703	12/17/2003	Field Dup	FPA	<8.0	20	120	20	<8.0	20	<8.0	20	<8.0 UJ	20	920	20	<8.0 UJ	20	ND	-
MWH06A1	MWH0601A1030204	03/02/2004		FPA	<2.0	5.0	5.4	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	82	5.0	<2.0	5.0	ND	-
MWH06A1	MWH0601A1040704	04/07/2004		FPA	<2.0	5.0	2.5	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	380	5.0	<2.0	5.0	ND	-
MWH06A1	MWH0601A1043004	04/30/2004		FPA	<2.0	5.0	6.2 J	5.0	<2.0 J	5.0	<2.0 J	5.0	<2.0	5.0	34 J	5.0	<2.0 J	5.0	ND	-
MWH06A1	MWH0601A1051204	05/12/2004		FPA	3.2	5.0	72	5.0	10	5.0	7.7	5.0	<2.0	5.0	1200	5.0	<2.0	5.0	ND	-
MWH06A1	MWH0601A1060804	06/08/2004		FPA	<4.0	10	6.1	10	<4.0	10	<4.0	10	<4.0	10	110 J	10	<4.0	10	ND	-
MWH06A1	MWH0601A1060804	06/08/2004	Lab Dup	FPA	<2.0	5.0	6.9	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	100	5.0	<2.0	5.0	ND	-
MWH06A1	MWH0601A1061504	06/15/2004		FPA	<2.0 UJ	5.0	9.0	5.0	2.3 J	5.0	<2.0	5.0	<2.0	5.0	110	5.0	<2.0	5.0	ND	-
MWH06A1	MWH0601A1062304	06/23/2004		FPA	<2.0	5.0	5.1	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.9 J	5.0	<2.0	5.0	ND	-
MWH06A1	MWH0601A1062904	06/29/2004		FPA	<2.0	5.0	3.1	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.9	5.0	<2.0	5.0	ND	-
MWH06A1	MWH0601A1070704	07/07/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWH0602A1	MWH0602A1070704	07/07/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWH06A1	MWH0601A1071304	07/13/2004		FPA	<2.0	5.0	7.5	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWH06A1	MWH0601A1072004	07/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWH06A1	MWH0601A1072704	07/27/2004		FPA	<2.0	5.0	4.3	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.2	5.0	<2.0	5.0	ND	-
MWH06A1	MWH0601A1080204	08/02/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWH15A1	H1501A1111303	11/13/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	3.4 J	0.20	<0.10	0.20	ND	-
MWH15A1	MWH1501A1120203	12/02/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.9	0.20	<0.10	0.20	ND	-
MWH15A1	MWH1501A1121803	12/18/2003		FPA	<2.0	5.0	3.3	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	2.7	5.0	<2.0 UJ	5.0	ND	-
MWH15A1	MWH1501A1011304	01/13/2004		FPA	<2.0	5.0	2.8	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.8 J	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1011304	01/13/2004	Lab Dup	FPA	<2.0	5.0	3.7	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.2	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1021104	02/11/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.7	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1021104	02/11/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.5	5.0	<2.0	5.0	ND	-

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
MWH1502A1	MWT0102A1021104	02/11/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.6 J	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1022304	02/23/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	2.5 J	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1031004	03/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.2	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1032304	03/23/2004		FPA	<2.0	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	2.4	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1040804	04/08/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.8	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1042004	04/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.5	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1042804	04/28/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.9	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1050404	05/04/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.6	5.0	<2.0 J	5.0	ND	-
MWH15A1	MWH1501A1051004	05/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.7	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1051904	05/19/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.4	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1051904	05/19/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.5	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1052504	05/25/2004		FPA	<2.0	5.0	2.7	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.8	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1060204	06/02/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.7	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1060704	06/07/2004		FPA	<2.0 UJ	5.0	2.3	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	3.6	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1061604	06/16/2004		FPA	<2.0	5.0	11	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.3	5.0	<2.0	5.0	ND	-
MWH1502A1	MWT0202A1061604	06/16/2004	Field Dup	FPA	<2.0	5.0	11	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.6	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1062204	06/22/2004		FPA	<2.0	5.0	15	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.7 J	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1063004	06/30/2004		FPA	<2.0	5.0	25	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.3	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1070604	07/06/2004		FPA	<2.0	5.0	27	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.3	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1071404	07/14/2004		FPA	<2.0	5.0	17	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1071904	07/19/2004		FPA	<2.0	5.0	23	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWH15A1	MWH1501A1080304	08/03/2004		FPA	<2.0	5.0	27	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWI07A1	I0701A1111203	11/12/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	11	5.0	<0.10	0.20	ND	-
MWI07A1	I0701A1111Z03	11/12/2003	Split	CAS	<0.50	0.50	0.93	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	13	0.50	<0.50	0.50	-	-
MWI07A1	MWI0701A1121703	12/17/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	4.8	5.0	<2.0 UJ	5.0	ND	-
MWI07A1	MWI0703A1121703	12/17/2003	Split	CAS	<0.50	0.50	0.81	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	7.1	0.50	<0.50	0.50	-	-
MWI07A1	MWI0701A1011304	01/13/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.2 J	5.0	<2.0	5.0	ND	-
MWI07A1	MWI0701A1021004	02/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.9 J	5.0	<2.0	5.0	ND	-
MWI07A1	MWI0703A1021004	02/10/2004	Split	CAS	<0.12	0.50	0.53	0.50	<0.14	0.50	<0.11	0.50	<0.12	0.50	7.3	0.50	<0.22	0.50	-	-
MWI07A1	MWI0701A1022404	02/24/2004		FPA	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	7.5 J	5.0	<2.0 UJ	5.0	ND	-
MWI07A1	MWI0701A1031104	03/11/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	8.1	5.0	<2.0	5.0	ND	-
MWI07A1	MWI0701A1032304	03/23/2004		FPA	<2.0	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	10	5.0	<2.0	5.0	ND	-
MWI07A1	MWI0701A1042104	04/21/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.5	5.0	<2.0	5.0	ND	-
MWI07A1	MWI0701A1052004	05/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWI07A1	MWI0701A1061604	06/16/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWI08A1	I0801A1111203	11/12/2003		FPA	18	10	220	10	<4.0	10	0.28	0.20	<4.0	10	720	10	0.32	0.20	ND	-
MWI08A1	MWI0801A1121703	12/17/2003		FPA	<4.0	10	2000	10	11	10	<4.0	10	<4.0 UJ	10	2100	10	40 J	10	ND	-
MWI08A1	MWI0801A1030204	03/02/2004		FPA	<8.0	20	1300	20	<8.0	20	<8.0	20	<8.0	20	1500	20	34	20	ND	-
MWI08A1	MWI0801A1040704	04/07/2004		FPA	<40	100	1400	100	<40	100	<40	100	<40	100	22000	100	<40	100	ND	-
MWI08A1	MWI0801A1042904	04/29/2004		FPA	<80	200	240	200	<80	200	<80	200	<80	200	13000	200	<80	200	ND	-
MWI08A1	MWI0801A1051104	05/11/2004		FPA	<200	500	260	500	<200	500	<200	500	<200	500	19000	500	<200	500	ND	-
MWI08A1	MWI0801A1051104	05/11/2004	Lab Dup	FPA	<40	100	290	100	<40	100	<40	100	<40	100	18000	100	<40	100	ND	-
MWI08A1	MWI0801A1052404	05/24/2004		FPA	<80	200	<80	200	<80	200	<80	200	<80	200	6600	200	<80	200	ND	-
MWI08A1	MWI0801A1060804	06/08/2004		FPA	<40	100	74	100	<40	100	<40	100	<40	100	3200 J	100	<40	100	ND	-
MWI08A1	MWI0801A1061504	06/15/2004		FPA	<20 UJ	50	140	50	<20 UJ	50	<20	50	<20	50	13000 J	50	21	50	ND	-
MWI08A1	MWI0801A1061704	06/17/2004		FPA	<40	100	160	100	<40	100	<40	100	<40	100	13000	100	<40	100	ND	-
MWI08A1	MWI0801A1061704	06/17/2004	Lab Dup	FPA	<40	100	140	100	<40	100	<40	100	<40	100	12000	100	<40	100	ND	-
MWI08A1	MWI0801A1062304	06/23/2004		FPA	<40	100	140	100	<40	100	<40	100	<40	100	15000 J	100	<40	100	ND	-
MWI08A1	MWI0801A1062904	06/29/2004		FPA	<100	250	<100	250	<100	250	<100	250	<100	250	2600	250	<100	250	ND	-
MWI08A1	MWI0801A1070704	07/07/2004		FPA	<40	100	86	100	<40	100	<40	100	<40	100	4200	100	<40	100	ND	-
MWI08A1	MWI0801A1071505	07/15/2004		FPA	<40	100	70	100	<40	100	<40	100	<40	100	3800	100	<40	100	ND	-
MWI08A1	MWI0801A1072004	07/20/2004		FPA	<20	50	48	50	<20	50	<20	50	<20	50	1500	50	<20	50	ND	-
MWI08A1	MWI0801A1072704	07/27/2004		FPA	<2.0	5.0	3.6	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	240	5.0	<2.0	5.0	ND	-
MWI0802A1	MWI0802A1072704	07/27/2004	Field Dup	FPA	<2.0	5.0	2.9	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	220	5.0	<2.0	5.0	ND	-
MWI08A1	MWI0801A1080204	08/02/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	190	5.0	<2.0	5.0	ND	-
MWI0802A1	MWT0102A1080204	08/02/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	200	5.0	<2.0	5.0	ND	-

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
MWJ01A1	J0101A1111003	11/10/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	5.4	5.0	<0.10	0.20	ND	-
MWJ01A1	MWJ0101A1121503	12/15/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	2.9	0.20	<0.10	0.20	ND	-
MWJ01A1	MWJ0101A1121503	12/15/2003	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	2.7	0.20	<0.10	0.20	ND	-
MWJ01A1	MWJ0101A1011204	01/12/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.6 J	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1011204	01/12/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.3	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1012604	01/26/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.6	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1012604	01/26/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.4	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1020904	02/09/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.3 J	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1022304	02/23/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	3.4 J	5.0	<2.0	5.0	ND	-
MWJ0102A1	MWT0101A1022304	02/23/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	3.3 J	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1031004	03/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.0	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1031004	03/10/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.8	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1040604	04/06/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	8.7 U	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1041404	04/14/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	2.8	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1042004	04/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1042004	04/20/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.0	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1050504	05/05/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.0	5.0	<2.0 J	5.0	ND	-
MWJ01A1	MWJ0101A1051904	05/19/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.1	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1052504	05/25/2004		FPA	<2.0	5.0	6.2	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	9.5	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ01A1060204	06/02/2004		FPA	<2.0	5.0	18	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	14	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1060804	06/08/2004		FPA	<2.0	5.0	14	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	8.6 J	5.0	<2.0	5.0	ND	-
MWJ0102A1	MWT0102A1060804	06/08/2004	Field Dup	FPA	<2.0	5.0	15	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	9.5 J	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1061604	06/16/2004		FPA	<2.0	5.0	4.8	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.9	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1062204	06/22/2004		FPA	<2.0	5.0	4.9	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.4 J	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1062904	06/29/2004		FPA	<2.0	5.0	6.7	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.1	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1070604	07/06/2004		FPA	<2.0	5.0	16	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	7.3	5.0	<2.0	5.0	ND	-
MWJ0102A1	MWJ0102A1070604	07/06/2004	Field Dup	FPA	<2.0	5.0	14	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	7.2	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1071204	07/12/2004		FPA	<2.0	5.0	19	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	8.7	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ0101A1071904	07/19/2004		FPA	<2.0	5.0	21	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.7	5.0	<2.0	5.0	ND	-
MWJ01A1	MWJ1401A1080304	08/03/2004		FPA	<2.0	5.0	14	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.5	5.0	<2.0	5.0	ND	-
MWJ04A1	J0401A1111103	11/11/2003		FPA	<2.0	5.0	15	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	150	5.0	<0.10	0.20	ND	-
MWJ04A1	MWJ0401A1121703	12/17/2003		FPA	<2.0	5.0	8.4	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	42	5.0	<2.0 UJ	5.0	ND	-
MWJ04A1	MWJ0401A1121703	12/17/2003	Lab Dup	FPA	<2.0	5.0	9.2	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	42	5.0	<2.0	5.0	ND	-
MWJ04A1	MWJ0401A1030304	03/03/2004		FPA	<2.0	5.0	3.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	51	5.0	<2.0	5.0	ND	-
MWJ04A1	MWJ0401A1041604	04/16/2004		FPA	<40	100	310	100	43	100	72 J	100	<40	100	20000	100	57	100	ND	-
MWJ04A1	MWJ0401A1042904	04/29/2004		FPA	<80	200	<80	200	<80	200	<80	200	<80	200	590	200	<80	200	ND	-
MWJ04A1	MWJ0401A1051204	05/12/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	87	5.0	<2.0	5.0	ND	-
MWJ04A1	MWJ0401A1051204	05/12/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	78	5.0	<2.0	5.0	ND	-
MWJ0402A1	MWT0102A1051204	05/12/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	33	5.0	<2.0	5.0	ND	-
MWJ04A1	MWJ0401A1052804	05/28/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	33	5.0	<2.0	5.0	ND	-
MWJ04A1	MWJ0401A1060804	06/08/2004		FPA	<2.0	5.0	8.2	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	160 J	5.0	<2.0	5.0	ND	-
MWJ04A1	MWJ0401A1061504	06/15/2004		FPA	<2.0 UJ	5.0	2.1	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	60	5.0	<2.0	5.0	ND	-
MWJ04A1	MWJ0401A1062304	06/23/2004		FPA	<2.0	5.0	2.3	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	36 J	5.0	<2.0	5.0	ND	-
MWJ04A1	MWJ0401A1062904	06/29/2004		FPA	<2.0	5.0	13	5.0	2.6	5.0	<2.0	5.0	<2.0	5.0	78	5.0	<2.0	5.0	ND	-
MWJ04A1	MWJ0401A1070704	07/07/2004		FPA	<2.0	5.0	24	5.0	2.8	5.0	<2.0	5.0	<2.0	5.0	93	5.0	<2.0	5.0	ND	-
MWJ04A1	MWJ0401A1070704	07/07/2004	Lab Dup	FPA	<2.0	5.0	21	5.0	2.8	5.0	<2.0	5.0	<2.0	5.0	89	5.0	<2.0	5.0	ND	-
MWJ04A1	MWJ0401A1071304	07/13/2004		FPA	<2.0	5.0	31	5.0	2.8	5.0	<2.0	5.0	<2.0	5.0	86	5.0	<2.0	5.0	ND	-
MWJ04A1	MWJ0401A1072004	07/20/2004		FPA	3.8	5.0	42	5.0	3.5	5.0	<2.0	5.0	<2.0	5.0	71	5.0	<2.0	5.0	ND	-
MWJ04A1	MWJ0401A1072004	07/20/2004	Lab Dup	FPA	4.3	5.0	40	5.0	3.2	5.0	<2.0	5.0	<2.0	5.0	68	5.0	<2.0	5.0	ND	-
MWJ04A1	MWJ0401A1072704	07/27/2004		FPA	<2.0	5.0	33	5.0	2.2	5.0	<2.0	5.0	<2.0	5.0	41	5.0	<2.0	5.0	ND	-
MWJ04A1	MWJ0401A1080204	08/02/2004		FPA	<2.0	5.0	45	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	43	5.0	<2.0	5.0	ND	-
MWJ10A1	J1001A1111303	11/13/2003		FPA	<2.0	5.0	72	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	63	5.0	<0.10	0.20	ND	-
MWJ10A1	MWJ1001A1121803	12/18/2003		FPA	<2.0	5.0	270	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	120	5.0	<2.0 UJ	5.0	ND	-
MWJ10A1	MWJ1001A1121803	12/18/2003	Lab Dup	FPA	<2.0	5.0	260	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	120	5.0	<2.0	5.0	ND	-
MWJ10A1	MWJ1001A1030204	03/02/2004		FPA	<2.0	5.0	30	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	220	5.0	<2.0	5.0	ND	-
MWJ10A1	MWJ1001A1040704	04/07/2004		FPA	<2.0	5.0	20	5.0	<2.0	5.0	3.7 J	5.0	<2.0	5.0	790	5.0	<2.0	5.0	ND	-

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
MWJ10A1	MWJ1001A1042904	04/29/2004		FPA	<20	50	<20	50	<20	50	<20	50	<20	50	120	50	<20	50	ND	-
MWJ10A1	MWJ1001A1051204	05/12/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 J	5.0	<2.0	5.0	100	5.0	<2.0	5.0	ND	-
MWJ10A1	MWJ1001A1060904	06/09/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWJ10A1	MWJ1001A1061504	06/15/2004		FPA	<2.0 UJ	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	2.7	5.0	<2.0	5.0	ND	-
MWJ10A1	MWJ1001A1062304	06/23/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	31 J	5.0	<2.0	5.0	ND	-
MWJ10A1	MWJ1001A1062904	06/29/2004		FPA	<2.0	5.0	2.8	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	230	5.0	<2.0	5.0	ND	-
MWJ10A1	MWJ1001A1070704	07/07/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	56	5.0	<2.0	5.0	ND	-
MWJ10A1	MWJ1001A1071304	07/13/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	9.7	5.0	<2.0	5.0	ND	-
MWJ10A1	MWJ1001A1072004	07/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.2	5.0	<2.0	5.0	ND	-
MWJ10A1	MWJ1001A1072704	07/27/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.3	5.0	<2.0	5.0	ND	-
MWJ10A1	MWJ1001A1080204	08/02/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	16	5.0	<2.0	5.0	ND	-
MWL07A1	L0701A1111103	11/11/2003		FPA	<8.0	20	37	20	<8.0	20	0.78	0.20	<8.0	20	1500	20	<0.10	0.20	ND	-
MWL07A1	MWL0701A1121603	12/16/2003		FPA	5.0	10	110	10	13	10	9.1	10	14	10	860	10	<4.0	10	ND	-
MWL07A1	MWL0703A1121603	12/16/2003	Split	CAS	<2.5	2.5	97	2.5	<2.5	2.5	<2.5	2.5	<2.5	2.5	940	25	<2.5	2.5	-	-
MWL07A1	MWL0701A1030204	03/02/2004		FPA	<20	50	400	50	<20	50	<20	50	<20	50	15000	50	<20	50	ND	-
MWL07A1	MWL0701A1040704	04/07/2004		FPA	<2000	5000	<2000	5000	<2000	5000	<2000	5000	<2000	5000	950000	5000	<2000	5000	ND	-
MWL07A1	MWL0701A1042904	04/29/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.9	5.0	<2.0	5.0	410	5.0	<2.0	5.0	ND	-
MWL07A1	MWL0701A1051204	05/12/2004		FPA	<8.0	20	14	20	<8.0	20	8.3	20	<8.0	20	2200	20	<8.0	20	ND	-
MWL07A1	MWL0701A1052404	05/24/2004		FPA	<20	50	98	50	<20	50	<20	50	<20	50	7300	50	<20	50	ND	-
MWL07A1	MWL0701A1052804	05/28/2004		FPA	<20	50	140	50	31	50	<20	50	<20	50	7600	50	<20	50	ND	-
MWL0702A1	MWT0101A1052804	05/28/2004	Field Dup	FPA	<20	50	140	50	31	50	<20	50	<20	50	7300	50	<20	50	ND	-
MWL07A1	MWL0701A1060804	06/08/2004		FPA	<8.0	20	<8.0	20	<8.0	20	<8.0	20	<8.0	20	88 J	20	<8.0	20	ND	-
MWL07A1	MWL0701A1060804	06/08/2004	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	89	5.0	<2.0	5.0	ND	-
MWL07A1	MWL0701A1061504	06/15/2004		FPA	<2.0 UJ	5.0	4.6	5.0	<2.0 UJ	5.0	3.2	5.0	<2.0	5.0	1000	5.0	<2.0	5.0	ND	-
MWL07A1	MWL0701A1062304	06/23/2004		FPA	<8.0	20	<8.0	20	<8.0	20	<8.0	20	<8.0	20	79 J	20	<8.0	20	ND	-
MWL07A1	MWL0701A1062304	06/23/2004	Lab Dup	FPA	<2.0	5.0	5.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	68	5.0	<2.0	5.0	ND	-
MWL07A1	MWL0701A1062904	06/29/2004		FPA	<8.0	20	<8.0	20	<8.0	20	<8.0	20	<8.0	20	23	20	<8.0	20	ND	-
MWL07A1	MWL0701A1070704	07/07/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	38	5.0	<2.0	5.0	ND	-
MWL07A1	MWL0701A1071404	07/14/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	7.8	5.0	<2.0	5.0	ND	-
MWL07A1	MWL0701A1072004	07/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	17	5.0	<2.0	5.0	ND	-
MWL07A1	MWL0701A1072704	07/27/2004		FPA	<2.0	5.0	3.2	5.0	<2.0	5.0	2.9	5.0	<2.0	5.0	120	5.0	<2.0	5.0	ND	-
MWL07A1	MWL0701A1080204	08/02/2004		FPA	<2.0	5.0	7.4	5.0	<2.0	5.0	2.4	5.0	<2.0	5.0	140	5.0	<2.0	5.0	ND	-
MWL10A1	L1001A1111103	11/11/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	4.4 J	0.20	<0.10	0.20	ND	-
MWL10A1	L1001A1111103	11/11/2003	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	3.8 J	0.20	<0.10	0.20	<2.0	5.0
MWL10A1	MWL1001A1120203	12/02/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	16	5.0	<0.10	0.20	ND	-
MWL10A1	MWL1001A1121603	12/16/2003		FPA	<2.0	5.0	9.8	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	12	5.0	<2.0	5.0	ND	-
MWL1002A1	MWL1002A1121603	12/16/2003	Field Dup	FPA	<2.0	5.0	9.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	12	5.0	<2.0	5.0	ND	-
MWL10A1	MWL1001A1030204	03/02/2004		FPA	<8.0	20	<8.0	20	<8.0	20	<8.0	20	<8.0	20	2500	20	<8.0	20	ND	-
MWL10A1	MWL1001A1040504	04/05/2004		FPA	<8.0	20	<8.0	20	<8.0	20	<8.0 UJ	20	<8.0	20	250	20	<8.0	20	ND	-
MWL10A1	MWL1001A1040504	04/05/2004	Lab Dup	FPA	<8.0	20	<8.0	20	<8.0	20	<8.0	20	<8.0	20	250	20	<8.0	20	ND	-
MWL10A1	MWL1001A1042904	04/29/2004		FPA	<8.0	20	<8.0	20	<8.0	20	<8.0	20	<8.0	20	52	20	<8.0	20	ND	-
MWL10A1	MWL1001A1051204	05/12/2004		FPA	<2.0	5.0	16	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	170	5.0	<2.0	5.0	ND	-
MWL10A1	MWL1001A1060804	06/08/2004		FPA	<2.0	5.0	16	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	270 J	5.0	<2.0	5.0	ND	-
MWL10A1	MWL1001A1061504	06/15/2004		FPA	<2.0 UJ	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	9.5	5.0	<2.0	5.0	ND	-
MWL10A1	MWL1001A1062304	06/23/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	7.7 J	5.0	<2.0	5.0	ND	-
MWL10A1	MWL1001A1062904	06/29/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	9.6	5.0	<2.0	5.0	ND	-
MWL1002A1	MWT0102A1062904	06/29/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.8	5.0	<2.0	5.0	ND	-
MWL10A1	MWL1001A1070704	07/07/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	8.2	5.0	<2.0	5.0	ND	-
MWL10A1	MWL1001A1071404	07/14/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWL10A1	MWL1001A1072004	07/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.4	5.0	<2.0	5.0	ND	-
MWL10A1	MWL1001A1072704	07/27/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	8.7	5.0	<2.0	5.0	ND	-
MWL10A1	MWL1001A1080204	08/02/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	11	5.0	<2.0	5.0	ND	-
MWM12A1	M1201A1111003	11/10/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.69 J	0.20	<0.10	0.20	ND	-
MWM12A1	MWM1201A1120203	12/02/2003	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	0.95	0.20	<0.10	0.20	ND	-
MWM12A1	MWM1201A1120203	12/02/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.1	0.20	<0.10	0.20	ND	-
MWM12A1	MWM1201A1121603	12/16/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-

Appendix H

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
MWM12A1	MWM1201A1011304	01/13/2004		FPA	<2.0	5.0	7.7	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	7.4 J	5.0	<2.0	5.0	ND	-
MWM12A1	MWM1201A1020904	02/09/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWM12A1	MWM1201A1022304	02/23/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	2.3 J	5.0	<2.0	5.0	ND	-
MWM12A1	MWM1201A1031004	03/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWM12A1	MWM1201A1040804	04/08/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWM12A1	MWM1201A1042004	04/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWM12A1	MWM1201A1050404	05/04/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 J	5.0	ND	-
MWM12A1	MWM1201A1051904	05/19/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWM1202A1	MWT0102A1051904	05/19/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWM12A1	MWM1201A1052504	05/25/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWM12A1	MWM1201A1060204	06/02/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWM12A1	MWM1201A1061604	06/16/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.1	5.0	<2.0	5.0	ND	-
MWM1202A1	MWT0102A1061604	06/16/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.8	5.0	<2.0	5.0	ND	-
MWM12A1	MWM1201A1063004	06/30/2004		FPA	<2.0	5.0	7.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWM12A1	MWM1201A1070604	07/06/2004		FPA	<2.0	5.0	3.2	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWM12A1	MWM1201A1071304	07/13/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWM12A1	MWM1201A1071904	07/19/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWM12A1	MWM1201A1080304	08/03/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWN02A1	N0201A1111003	11/10/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	2.0 J	0.20	<0.10	0.20	ND	-
MWN02A1	MWN0201A1120203	12/02/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	2.0	0.20	<0.10	0.20	ND	-
MWN02A1	MWN0201A1121503	12/15/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	1.6	0.20	<0.10	0.20	ND	-
MWN02A1	MWN0201A1011204	01/12/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.8 J	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1012604	01/26/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWN0202A1	MWT0102A1012604	01/26/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1020904	02/09/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1022304	02/23/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1031004	03/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.1	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1040804	04/08/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.6	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1042004	04/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.3	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1050504	05/05/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 J	5.0	ND	-
MWN02A1	MWN0201A1051904	05/19/2004		FPA	<2.0	5.0	17	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	8.7	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1052504	05/25/2004		FPA	<2.0	5.0	5.2	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.4	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1060204	06/02/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.0	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1060804	06/08/2004		FPA	<2.0	5.0	22	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	20 J	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1060804	06/08/2004	Lab Dup	FPA	<2.0	5.0	23	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	20	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1061604	06/16/2004		FPA	<2.0	5.0	36	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	51	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1062204	06/22/2004		FPA	<2.0	5.0	41	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	22 J	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1063004	06/30/2004		FPA	<2.0	5.0	110	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	16	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1070604	07/06/2004		FPA	<2.0	5.0	73	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	12	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1071204	07/12/2004		FPA	<2.0	5.0	42	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	7.4	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1071204	07/12/2004	Lab Dup	FPA	<2.0	5.0	39	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	7.4	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1071904	07/19/2004		FPA	<2.0	5.0	43	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.1	5.0	<2.0	5.0	ND	-
MWN02A1	MWN0201A1080304	08/03/2004		FPA	<2.0	5.0	26	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	7.1	5.0	<2.0	5.0	ND	-
MWP07A1	P0701A1111003	11/10/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	2.7 J	0.20	<0.10	0.20	ND	-
MWP07A1	MWP0701A1120203	12/02/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<0.10	0.20	<2.0	5.0	2.4	0.20	<0.10	0.20	ND	-
MWP07A1	MWP0701A1121603	12/16/2003		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	9.1	5.0	<2.0	5.0	ND	-
MWP07A1	MWP0701A1121603	12/16/2003	Lab Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	8.5	5.0	<2.0	5.0	ND	-
MWP07A1	MWP0701A1011204	01/12/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.9 J	5.0	<2.0	5.0	ND	-
MWP0702A1	MWT0102A1011204	01/12/2004	Field Dup	FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.4 J	5.0	<2.0	5.0	ND	-
MWP07A1	MWP0701A1020904	02/09/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.3 J	5.0	<2.0	5.0	ND	-
MWP07A1	MWP0701A1022304	02/23/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	2.4 J	5.0	<2.0	5.0	ND	-
MWP07A1	MWP0701A1031004	03/10/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.0	5.0	<2.0	5.0	ND	-
MWP07A1	MWP0701A1040804	04/08/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.5	5.0	<2.0	5.0	ND	-
MWP07A1	MWP0701A1042004	04/20/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
MWP07A1	MWP0701A1050504	05/05/2004		FPA	<2.0	5.0	2.6	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	11	5.0	<2.0 J	5.0	ND	-
MWP0702A1	MWT0102A1050504	05/05/2004	Field Dup	FPA	<2.0	5.0	2.4	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	10	5.0	<2.0 J	5.0	ND	-

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
					Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
MWP07A1	MWP0701A1051904	05/19/2004		FPA	<2.0	5.0	11	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.5	5.0	<2.0	5.0	ND	-
MWP07A1	MWP0701A1052504	05/25/2004		FPA	<2.0	5.0	9.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.6	5.0	<2.0	5.0	ND	-
MWP07A1	MWP0701A1060204	06/02/2004		FPA	<2.0	5.0	5.7	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.2	5.0	<2.0	5.0	ND	-
MWP07A1	MWP0701A1061617	06/16/2004		FPA	<2.0	5.0	22	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	82	5.0	<2.0	5.0	ND	-
MWP07A1	MWP0701A1063004	06/30/2004		FPA	<2.0	5.0	17	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	14	5.0	<2.0	5.0	ND	-
MWP07A1	MWP0701A1070604	07/06/2004		FPA	<2.0	5.0	26	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	15	5.0	<2.0	5.0	ND	-
MWP07A1	MWP0701A1071304	07/13/2004		FPA	<2.0	5.0	12	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.0	5.0	<2.0	5.0	ND	-
MWP07A1	MWP0701A1071904	07/19/2004		FPA	<2.0	5.0	12	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.5	5.0	<2.0	5.0	ND	-
MWP07A1	MWP0701A1080304	08/03/2004		FPA	<2.0	5.0	9.3	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	2.6	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1121903	12/19/2003		FPA	<4.0	10	160	10	<4.0	10	<4.0	10	<4.0 UJ	10	240	10	<4.0 UJ	10	ND	-
NSTDW01A1	NSTDW01A1122303	12/23/2003		FPA	<8.0	20	230	20	<8.0	20	<8.0	20	<8.0	20	2200	20	<8.0	20	ND	-
NSTDW01A1	NSTDW01A1123103	12/31/2003		FPA	<8.0	20	130	20	<8.0	20	<8.0	20	<8.0	20	440 J	20	<8.0	20	ND	-
NSTDW01A1	NSTDW01A1011404	01/14/2004		FPA	<2.0	5.0	480	5.0	2.6	5.0	<2.0	5.0	<2.0	5.0	1200 J	5.0	5.4	5.0	ND	-
NSTDW01A1	NSTDW01A1012004	01/20/2004		FPA	<4.0	10	290	10	<4.0	10	<4.0	10	<4.0	10	900	10	<4.0	10	ND	-
NSTDW02A1	NSTDW02A1012004	01/20/2004	Field Dup	FPA	<4.0	10	290	10	<4.0	10	<4.0	10	<4.0	10	870	10	<4.0	10	ND	-
NSTDW01A1	NSTDW01A1012704	01/27/2004		FPA	<2.0	5.0	13	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	38 J	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1020304	02/03/2004		FPA	<2.0	5.0	110	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	150	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1021004	02/10/2004		FPA	<2.0	5.0	19	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	6.0	5.0	<2.0	5.0	ND	-
NSTDW02A1	NSTDW02A1021004	02/10/2004	Field Dup	FPA	<2.0	5.0	19	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.6	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1021604	02/16/2004		FPA	<2.0	5.0	140	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	190	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1022404	02/24/2004		FPA	<2.0 UJ	5.0	25 J	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	44 J	5.0	<2.0 UJ	5.0	ND	-
NSTDW01A1	NSTDW01A1030104	03/01/2004		FPA	<2.0	5.0	12	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	31	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1030904	03/09/2004		FPA	<2.0	5.0	66	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	210	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1032304	03/23/2004		FPA	<2.0	5.0	22 J	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	140	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1040504	04/05/2004		FPA	<2.0	5.0	11	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	35	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1041304	04/13/2004		FPA	<2.0	5.0	8.9	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	35	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1041904	04/19/2004		FPA	<2.0	5.0	16 J	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	68	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1042604	04/26/2004		FPA	<2.0	5.0	9.6	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	31	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1050304	05/03/2004		FPA	<2.0	5.0	9.2	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	24	5.0	<2.0 J	5.0	ND	-
NSTDW01A1	NSTDW01A10-51004	05/10/2004		FPA	<2.0	5.0	3.2	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	12	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1051704	05/17/2004		FPA	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1052704	05/27/2004		FPA	<2.0	5.0	11	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	13	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1060104	06/01/2004		FPA	<2.0	5.0	3.3	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.4	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1060704	06/07/2004		FPA	<2.0 UJ	5.0	3.3	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	5.2	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1061404	06/14/2004		FPA	<2.0	5.0	4.9	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	8.4	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1062104	06/21/2004		FPA	<2.0	5.0	3.8	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.2	5.0	<2.0 UJ	5.0	ND	-
NSTDW01A1	NSTDW01A1062804	06/28/2004		FPA	<2.0	5.0	3.9	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.0	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1070604	07/06/2004		FPA	<2.0	5.0	5.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.1	5.0	<2.0	5.0	ND	-
NSTDW02A1	NSTDW02A1070604	07/06/2004	Field Dup	FPA	<2.0	5.0	5.6	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	3.7	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1071504	07/15/2004		FPA	<2.0	5.0	6.1	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	5.6	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1072104	07/21/2004		FPA	<2.0	5.0	8.7	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.4	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1072804	07/28/2004		FPA	<2.0	5.0	5.2	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.8	5.0	<2.0	5.0	ND	-
NSTDW01A1	NSTDW01A1080404	08/04/2004		FPA	<2.0	5.0	3.6	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.3	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1121903	12/19/2003		FPA	<8.0	20	1200	20	<8.0	20	<8.0	20	<8.0 UJ	20	3100	20	<8.0 UJ	20	ND	-
OWSDW01A1	OWSDW01A1122303	12/23/2003		FPA	<40	100	960	100	<40	100	<40	100	<40	100	140000	100	<40	100	ND	-
OWSDW01A1	OWSDW01A1123103	12/31/2003		FPA	<40	100	660	100	<40	100	<40	100	<40	100	3800 J	100	<40	100	ND	-
OWSDW01A1	OWSDW01A1011404	01/14/2004		FPA	<10	25	720	25	<10	25	<10	25	<10	25	2500 J	25	12	25	ND	-
OWSDW01A1	OWSDW01A1012004	01/20/2004	Lab Dup	FPA	<8.0	20	270	20	<8.0	20	<8.0	20	<8.0	20	830	20	<8.0	20	ND	-
OWSDW01A1	OWSDW01A1012004	01/20/2004		FPA	<8.0	20	270	20	<8.0	20	<8.0	20	<8.0	20	850	20	<8.0	20	ND	-
OWSDW01A1	OWSDW01A1012704	01/27/2004		FPA	<2.0	5.0	180	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	870 J	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1020304	02/03/2004		FPA	<2.0	5.0	290	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	510	5.0	3.1	5.0	ND	-
OWSDW01A1	OWSDW01A1021004	02/10/2004		FPA	<2.0	5.0	150	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	72	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1021604	02/16/2004		FPA	<2.0	5.0	140	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	130	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1022404	02/24/2004		FPA	<2.0 UJ	5.0	60 J	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	<2.0 UJ	5.0	130 J	5.0	<2.0 UJ	5.0	ND	-
OWSDW01A1	OWSDW01A1030104	03/01/2004		FPA	<2.0	5.0	76	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	260	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1030904	03/09/2004		FPA	<2.0	5.0	68	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	280	5.0	<2.0	5.0	ND	-

Table 3: NAPL Area 1 Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date	Laboratory	1,1-Dichloroethene (µg/m^3)		cis-1,2-Dichloroethene (µg/m^3)		trans-1,2-Dichloroethene (µg/m^3)		Tetrachloroethene (µg/m^3)		1,1,1-Trichloroethane (µg/m^3)		Trichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		TPH (µg/m^3)	
				Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL	Conc.	MRL
OWSDW01A1	OWSDW01A1031804	03/18/2004	FPA	<2.0	5.0	140 J	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	200	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1032304	03/23/2004	FPA	<2.0	5.0	97 J	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	660	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1033004	03/30/2004	FPA	<2.0	5.0	100	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	250 R	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1040504	04/05/2004	FPA	<2.0	5.0	88	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	280	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1041304	04/13/2004	FPA	<2.0	5.0	68	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	280	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1041904	04/19/2004	FPA	<2.0	5.0	70 J	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	340	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1042604	04/26/2004	FPA	<2.0	5.0	62	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	280	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1050304	05/03/2004	FPA	<2.0	5.0	40	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	120	5.0	<2.0 J	5.0	ND	-
OWSDW01A1	OWSDW01A1051004	05/10/2004	FPA	<2.0	5.0	21	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	94	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1051704	05/17/2004	FPA	<2.0	5.0	9.5	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	13	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1052704	05/27/2004	FPA	<2.0	5.0	19	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	24	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1060104	06/01/2004	FPA	<2.0	5.0	16	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	27	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1060704	06/07/2004	FPA	<2.0 UJ	5.0	10	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	22	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1061418	06/14/2004	FPA	<2.0	5.0	18	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	33	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1062104	06/21/2004	FPA	<2.0	5.0	15	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	20	5.0	<2.0 UJ	5.0	ND	-
OWSDW01A1	OWSDW01A1062804	06/28/2004	FPA	<2.0	5.0	13	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	17	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1070604	07/06/2004	FPA	<2.0	5.0	17	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	15	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1071504	07/15/2004	FPA	<2.0	5.0	11	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	9.7	5.0	<2.0	5.0	ND	-
OWSDW01A1	OWSDW01A1080404	08/04/2004	FPA	<2.0	5.0	4.8	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	4.9	5.0	<2.0	5.0	ND	-
OWSDW02A1	OWSDW02A1012704	01/27/2004	FPA	<2.0	5.0	190	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	900 J	5.0	<2.0	5.0	ND	-
OWSDW02A1	OWSDW02A1021604	02/16/2004	FPA	<2.0	5.0	140	5.0	<2.0	5.0	<2.0	5.0	<2.0 UJ	5.0	140	5.0	<2.0	5.0	ND	-
OWSDW02A1	OWSDW02A1041904	04/19/2004	FPA	<2.0	5.0	75 J	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	360	5.0	<2.0	5.0	ND	-
OWSDW02A1	OWSDW02A1042604	04/26/2004	FPA	<2.0	5.0	64	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	290	5.0	<2.0	5.0	ND	-
OWSDW02A1	OWSDW02A1050304	05/03/2004	FPA	<2.0	5.0	42	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	120	5.0	<2.0 J	5.0	ND	-
OWSDW02A1	OWSDW02A1051004	05/10/2004	FPA	<2.0	5.0	22	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	88	5.0	<2.0	5.0	ND	-
OWSDW02A1	OWSDW02A1051704	05/17/2004	FPA	<2.0	5.0	9.2	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	13	5.0	<2.0	5.0	ND	-
OWSDW02A1	OWSDW02A1052704	05/27/2004	FPA	<2.0	5.0	21	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	29	5.0	<2.0	5.0	ND	-
OWSDW02A1	OWSDW02A1060104	06/01/2004	FPA	<2.0	5.0	16	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	26	5.0	<2.0	5.0	ND	-
OWSDW02A1	OWSDW02A1060704	06/07/2004	FPA	<2.0 UJ	5.0	11	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	23	5.0	<2.0	5.0	ND	-
OWSDW02A1	OWSDW02A1061404	06/14/2004	FPA	<2.0	5.0	17	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	33	5.0	<2.0	5.0	ND	-
OWSDW02A1	OWSDW02A1062104	06/21/2004	FPA	<2.0	5.0	13	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	18	5.0	<2.0 UJ	5.0	ND	-
OWSDW02A1	OWSDW02A1062804	06/28/2004	FPA	<2.0	5.0	11	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	15	5.0	<2.0	5.0	ND	-
OWSIN01A1	OWSIN01A1121103	12/11/2003	FPA	<2.0	5.0	850	5.0	5.1	5.0	0.21	0.20	<2.0	5.0	790	5.0	7.8	5.0	ND	-
SCRWASH1	SCRWASH1061504	06/15/2004	FPA	<2.0 UJ	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-
SCRWASH2	SCRWASH2061504	06/15/2004	FPA	<2.0 UJ	5.0	<2.0	5.0	<2.0 UJ	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	<2.0	5.0	ND	-

Notes:

FPA	Field Portable Analytical, Inc.	TPH	Total petroleum hydrocarbons	Conc.	Concentration
CAS	Columbia Analytical Services, Inc.	Dup	Duplicate	MRL	Method reporting limit
µg/m^3	micrograms per cubic meter	-	Analyte not reported	<	The analyte was not detected at a concentration greater than the indicated method detection limit.

Qualifier Definitions:

U	The U qualifier indicates that the analyte must be considered to be nondetected at the concentration listed. U qualifiers added during validation are typically a result of detection of target analytes in field, trip, or laboratory blank
J	The J qualifier indicates that the associated result is quantitatively uncertain. J qualifiers added during validation indicate a data limitation related to a QC element that exceeds required acceptance limit
UJ	The UJ qualifier indicates that analyte was analyzed for, but was not detected. The reported limit is approximate and may be inaccurate or imprecise
R	The R qualifier indicates that a result has been rejected due to serious QC problems. It is not possible to definitively determine whether the analyte is present or absent in the sampl

Appendix H

Table 4: NAPL Area 1 Qualified Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		1,1-Dichloroethene (µg/L)	cis-1,2-Dichloroethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	Tetrachloroethene (µg/L)	1,1,1-Trichloroethane (µg/L)	Trichloroethene (µg/L)	Vinyl Chloride (µg/L)
BAKERBEIGE	BAKERBEIGE121803	12/18/2003		-	-	-	-	<8.0 **UJ**	-	<8.0 **UJ**
HCW01A1	HCW01A1121903	12/19/2003		-	-	-	-	<2.0 **UJ**	-	<2.0 **UJ**
HCW01A1	HCW01A1123103	12/31/2003		-	-	-	-	-	**12 J**	-
HCW01A1	HCW01A1011404	01/14/2004		-	-	-	-	-	**4.6 J**	-
HCW01A1	HCW01A1012704	01/27/2004		-	-	-	-	-	**2.9 J**	-
HCW01A1	HCW01A1021004	02/10/2004		-	-	-	-	-	**3.4 J**	-
HCW01A1	HCW01A1021604	02/16/2004		-	-	-	-	<2.0 **UJ**	-	-
HCW01A1	HCW01A1022404	02/24/2004		<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	**2.6 J**	<2.0 **UJ**
HCW01A1	HCW0101A1032304	03/23/2004		-	<2.0 **UJ**	<2.0 **UJ**	-	-	-	-
HCW01A1	HCW0101A1040504	04/05/2004		-	-	-	<2.0 **UJ**	-	9.9 **U**	-
HCW01A1	HCW0101A1041904	04/19/2004		-	<2.0 **UJ**	-	<2.0 **UJ**	-	-	-
HCW01A1	HCW0101A1050304	05/03/2004		-	-	-	-	-	-	<2.0 **UJ**
HCW01A1	HCW0101A1060704	06/07/2004		<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-
HCW02A1	HCW02A1121903	12/19/2003		-	-	-	-	<2.0 **UJ**	-	<2.0 **UJ**
HCW02A1	HCW02A1021604	02/16/2004		-	-	-	-	<2.0 **UJ**	-	-
HCW02A1	HCW02A1022404	02/24/2004		<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**
HCW02A1	HCW0201A1032304	03/23/2004		-	<2.0 **UJ**	<2.0 **UJ**	-	-	-	-
HCW02A1	HCW0201A1040504	04/05/2004		-	-	-	<2.0 **UJ**	-	4.4 **U**	-
HCW02A1	HCW0201A1041904	04/19/2004		-	<2.0 **UJ**	-	<2.0 **UJ**	-	-	-
HCW02A1	HCW0201A1050304	05/03/2004		-	-	-	-	-	-	<2.0 **UJ**
HCW02A1	HCW0201A1060704	06/07/2004		<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-
HCW02A1	HCW0201A1062104	06/21/2004		-	-	-	-	-	-	<2.0 **UJ**
HCW03A1	HCW03A1121903	12/19/2003		-	-	-	-	<2.0 **UJ**	-	<2.0 **UJ**
HCW03A1	HCW03A1011404	01/14/2004		-	-	-	-	-	**18 J**	-
HCW03A1	HCW03A1012704	01/27/2004		-	-	-	-	-	**5.9 J**	-
HCW03A1	HCW0301A1060704	06/07/2004		<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-
HCW03A1	HCW0301A1062104	06/21/2004		-	-	-	-	-	-	<2.0 **UJ**
HCW04A1	HCW04A1022404	02/24/2004		<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	**5.1 J**	<2.0 **UJ**
HCW04A1	HW0401A1032304	03/23/2004		-	<2.0 **UJ**	<2.0 **UJ**	-	-	-	-
HCW04A1	HCW0402A1032304	03/23/2004	Field Dup	-	<2.0 **UJ**	<2.0 **UJ**	-	-	-	-
HCW04A1	HCW0401A1040504	04/05/2004		-	-	-	<2.0 **UJ**	-	13 **U**	-
HCW04A1	HCW0402A1040504	04/05/2004	Field Dup	-	-	-	<2.0 **UJ**	-	12 **U**	-
HCW05A1	HCW0501A1110703	11/07/2003		-	-	-	-	-	**1200 J**	-
HCW06A1	HCW0601A1110703	11/07/2003		-	-	-	-	-	**34 J**	-
HCW07A1	HCW0701A1041904	04/19/2004		-	<2.0 **UJ**	-	<2.0 **UJ**	-	-	-
HCW07A1	HCW0701A1042804	04/28/2004		-	-	<2.0	-	-	-	-
HCW07A1	HCW0701A1042904	04/29/2004		-	-	<2.0	-	-	-	-
HCW07A1	HCW0701A1043004	04/30/2004		-	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	-	<2.0 **UJ**	<2.0 **UJ**
HCW07A1	HCW0701A1050304	05/03/2004		-	-	-	-	-	-	<0.10 **UJ**
HCW07A1	HCW0701A1050404	05/04/2004		-	-	-	-	-	-	<0.10 **UJ**
HCW07A1	HCW0701A1050504	05/05/2004		-	-	-	-	-	-	<0.10 **UJ**
HCW07A1	HCW0701A1051004	05/10/2004		-	-	-	-	-	**1.2 J**	-
HCW07A1	HCW0701A1051104	05/11/2004		-	-	-	-	-	**1.2 J**	-
HCW07A1	HCW0701A1051204	05/12/2004		-	-	-	-	-	**1.1 J**	-
HCW07A1	HCW0701A1051304	05/13/2004		-	-	-	-	-	**1.1 J**	-
HCW07A1	HCW0701A1060104	06/01/2004		-	-	-	<0.10 **UJ**	-	**1.0 J**	-
HCW07A1	HCW0701A1060104	06/01/2004		-	-	-	<0.10 **UJ**	-	**1.0 J**	-
HCW08A1	HCW0801A1041904	04/19/2004		-	<2.0 **UJ**	-	<2.0 **UJ**	-	-	-
HCW08A1	HCW0801A042904	04/29/2004		-	-	-	-	-	-	<2.0 **UJ**
HCW08A1	HCW0801A1043004	04/30/2004		-	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	-	**2.5 J**	<0.10 **UJ**
HCW08A1	HCW0801A1050304	05/03/2004		-	-	-	-	-	-	<0.10 **UJ**
HCW08A1	HCW0801A1050404	05/04/2004		-	-	-	-	-	-	<0.10 **UJ**
HCW08A1	HCW0801A1051004	05/10/2004		-	-	-	-	-	**1.8 J**	-
HCW08A1	HCW0801A1051104	05/11/2004		-	-	-	-	-	**1.8 J**	-

Table 4: NAPL Area 1 Qualified Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		1,1-Dichloroethene (µg/L)	cis-1,2-Dichloroethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	Tetrachloroethene (µg/L)	1,1,1-Trichloroethane (µg/L)	Trichloroethene (µg/L)	Vinyl Chloride (µg/L)
HCW08A1	HCW0801A1051204	05/12/2004		-	-	-	-	-	**1.6**	-
HCW08A1	HCW0801A1051304	05/12/2004		-	-	-	-	-	**1.7 J**	-
HCW08A1	HCW0801A1051304	05/13/2004		-	-	-	-	-	**1.8 J**	-
INJ01A1	INJ01A1121903	12/19/2003		-	-	-	-	<2.0 **UJ**	-	<0.10 **UJ**
INJ01A1	INJ01A1021604	02/16/2004		-	-	-	-	<2.0 **UJ**	-	-
INJ01A1	INJ01A1022404	02/24/2004		<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	<0.10 **UJ**	<2.0 **UJ**	<0.10 **UJ**	<0.10 **UJ**
INJ01A1	INJ01A1031804	03/18/2004		-	<2.0 **UJ**	<2.0 **UJ**	-	-	-	-
INJ01A1	INJ02A1031804	03/18/2004	Field Dup	-	<2.0 **UJ**	<2.0 **UJ**	-	-	-	-
INJ01A1	INJ01A1032304	03/23/2004		-	<2.0 **UJ**	<2.0 **UJ**	-	-	**0.19 J**	-
INJ01A1	INJ01A1040504	04/05/2004		-	-	-	-	-	<0.10 **R**	-
INJ01A1	INJ01A1041304	04/13/2004		-	-	-	<2.0 **UJ**	-	-	-
INJ01A1	INJ01A1041904	04/19/2004		-	<2.0 **UJ**	-	-	-	-	-
INJ01A1	INJ02A1041904	04/19/2004	Field Dup	-	-	-	-	-	<2.0 **R**	-
INJ01A1	INJ01A1043004	04/30/2004		-	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	-	<2.0 **UJ**	<2.0 **UJ**
INJ01A1	INJ01A1050304	05/03/2004		-	-	-	-	-	-	<0.10 **UJ**
INJ01A1	INJ01A1050404	05/04/2004		-	-	-	-	-	-	<0.10 **UJ**
INJ01A1	INJ01A1050504	05/05/2004		-	-	-	-	-	-	<0.10 **UJ**
INJ01A1	INJ01A1051004	05/10/2004	Lab Dup	-	-	-	-	-	**0.35 J**	-
INJ01A1	INJ01A1051104	05/11/2004	Lab Dup	-	-	-	-	-	<0.10 **UJ**	-
INJ01A1	INJ01A1051204	05/12/2004	Lab Dup	-	-	-	-	-	**0.12 J**	-
INJ01A1	INJ01A1051304	05/13/2004	Lab Dup	-	-	-	-	-	<0.10 **UJ**	-
INJ01A1	INJ01A1052704	05/27/2004		-	-	-	-	-	**0.12 J**	-
INJ01A1	INJ01A1060104	06/01/2004		-	-	-	<0.10 **UJ**	-	-	-
INJ01A1	INJ01A1060704	06/07/2004		<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-
INJ01A1	INJ01A1061404	06/14/2004		-	-	-	<0.10 **UJ**	-	-	-
INJ01A1	INJ01A1062104	06/21/2004		-	-	-	<0.10 **UJ**	-	-	<0.10 **UJ**
LC201A1	LC20101A1012704	01/27/2004		-	-	-	-	-	**1100 J**	**18 J**
LC201A1	LC20101A1021104	02/11/2004		-	-	<20 **UJ**	-	-	-	-
LC201A1	LC20101A1022404	02/24/2004		<20 **UJ**	**1200 J**	<20 **UJ**	<20 **UJ**	<20 **UJ**	**470 J**	**28 J**
LC201A1	LC20101A1040704	04/07/2004		-	-	-	<2.0 **UJ**	-	-	-
LC201A1	LC20101A1050404	05/04/2004		-	-	-	-	-	-	<2.0 **UJ**
LC201A1	LC20101A1062104	06/21/2004		-	-	-	-	-	-	<2.0 **UJ**
LC208A1	LC20801A1022404	02/24/2004		<2.0 **UJ**	**14 J**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	**640 J**	<2.0 **UJ**
LC208A1	LC20801A1050404	05/04/2004		-	-	-	-	-	-	<2.0 **UJ**
LC209A1	LC20901A1022404	02/24/2004		<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	**250 J**	<2.0 **UJ**
LC209A1	LC20901A1050404	05/04/2004		-	-	-	-	-	-	<2.0 **UJ**
LC210A1	LC21001A1050404	05/04/2004		-	-	-	-	-	-	<2.0 **UJ**
LC210A1	LC21001A1071504	07/15/2004		-	-	-	-	-	**310 J**	-
LC213A1	LC21301A1060704	06/07/2004		<2.0 **UJ**	-	**2.2 J**	-	-	-	-
LC213A1	LC21301A1062104	06/21/2004		-	-	-	-	-	-	**12 J**
LC215A1	LC21501A1022404	02/24/2004		<2.0 **UJ**	**140 J**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	**260 J**	<2.0 **UJ**
LC215A1	LC21501A1040704	04/07/2004		-	-	-	<2.0 **UJ**	-	-	-
LC215A1	LC21501A1050404	05/04/2004		-	-	-	-	-	-	<2.0 **UJ**
MSTINW01A1	MSTINW01AQ1011404	01/14/2004		-	-	-	-	-	**6.9 J**	-
MSTINW01A1	MSTINW01A1012704	01/27/2004		-	-	-	-	-	**4.3 J**	-
MSTINW01A1	MSTINW01A1021004	02/10/2004		-	-	-	-	-	**2.2 J**	-
MSTINW01A1	MSTINW01A1021604	02/16/2004		-	-	-	-	<2.0 **UJ**	-	-
MSTINW01A1	MSTINW01A1022404	02/24/2004		<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	**3.6 J**	<2.0 **UJ**
MSTINW01A1	MSTINW02A1022404	02/24/2004	Field Dup	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	**3.2 J**	<2.0 **UJ**
MSTINW01A1	MSTINW01A1032304	03/23/2004		-	<2.0 **UJ**	<2.0 **UJ**	-	-	-	-
MSTINW01A1	MSTINW01A1040504	04/05/2004		-	-	-	<2.0 **UJ**	-	11 **U**	-
MSTINW01A1	MSTINW02A1040504	04/05/2004	Field Dup	-	-	-	<2.0 **UJ**	-	12 **U**	-
MSTINW01A1	MSTINW01A1041904	04/19/2004		-	<2.0 **UJ**	-	<2.0 **UJ**	-	-	-
MSTINW01A1	MSTINW01A1050304	05/03/2004		-	-	-	-	-	-	<2.0 **UJ**

Table 4: NAPL Area 1 Qualified Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		1,1-Dichloroethene (µg/L)	cis-1,2-Dichloroethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	Tetrachloroethene (µg/L)	1,1,1-Trichloroethane (µg/L)	Trichloroethene (µg/L)	Vinyl Chloride (µg/L)
MSTINW01A1	MSTINW01A1060704	06/07/2004		<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-
MSTINW01A1	MSTINW01A1062104	06/21/2004		-	-	-	-	-	-	<2.0 **UJ**
MWB09A1	MWB0901A1011304	01/13/2004		-	-	-	-	-	**66 J**	-
	MWB0901A1012704	01/27/2004		-	-	-	-	-	**34 J**	-
	MWB0901A1022304	02/23/2004		-	2.0 **J**	-	-	<2.0 **UJ**	-	-
	MWB0901A1050404	05/04/2004		-	-	-	-	-	-	**80 J**
	MWB0901A1060704	06/07/2004		<2.0 **UJ**	-	**2.8 J**	-	-	-	-
	MWB0901A1062204	06/22/2004		-	-	-	-	-	**45 J**	-
	MWB0901A1071204	07/12/2004		-	-	-	-	-	-	**6.8 J**
	MWB0901A1071904	07/19/2004		-	-	-	-	-	-	**11 J**
	MWT0102A1071904	07/19/2004	Field Dup	-	-	-	-	-	-	**9.3 J**
	MWC081A1121803	12/18/2003		-	-	-	-	<2.0 **UJ**	-	<2.0 **UJ**
	MWC0801A1022304	02/23/2004		-	-	-	-	<2.0 **UJ**	**4.9 J**	-
	MWD0301A1011304	01/13/2004		-	-	-	-	-	**7.2 J**	-
	MWD0301A1022304	02/23/2004		-	-	-	-	<2.0 **UJ**	-	-
	MWD0301A1040604	04/06/2004		-	-	-	<2.0 **UJ**	-	14 **U**	-
	MWD0301A1041404	04/14/2004		-	-	-	<2.0 **UJ**	-	-	-
	MWD0301A1041904	04/19/2004		-	<2.0 **UJ**	-	<2.0 **UJ**	-	-	-
	MWD0301A1050504	05/05/2004		-	-	-	-	-	-	<2.0 **UJ**
	MWD1401A1011304	01/13/2004		-	-	-	-	-	**6800 J**	-
	MWD1401A1022304	02/23/2004		-	-	**3.2 J**	-	<2.0 **UJ**	-	**4.7 J**
	MWD1401A1050404	05/04/2004		-	-	-	-	-	-	<2.0 **UJ**
	MWT0102A1050404	05/04/2004	Field Dup	-	-	-	-	-	-	<2.0 **UJ**
	MWD1401A1060704	06/07/2004		<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-
	MWD1401A1062204	06/22/2004		-	-	-	-	-	**390 J**	-
	MWE0701A1121803	12/18/2003		-	-	-	-	<8.0 **UJ**	-	**16 J**
	MPE0701A1061504	06/15/2004		<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-
	MWE0701A1062304	06/23/2004		-	-	-	-	-	**140 J**	-
	MWF0301A1121703	12/17/2003		-	-	-	-	<2.0 **UJ**	-	<2.0 **UJ**
	MWF0301A1041604	04/16/2004		-	-	-	<2.0 **UJ**	-	-	-
	MWF0301A1060804	06/08/2004		-	-	-	-	-	**14 J**	-
	MWT0202A1060804	06/08/2004	Field Dup	-	-	-	-	-	**14 J**	-
	MWF0301A1061504	06/15/2004		<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-
	MWF0301A1062304	06/23/2004		-	-	-	-	-	**24 J**	-
	MWF1101A1121803	12/18/2003		-	-	-	-	<2.0 **UJ**	-	<2.0 **UJ**
	MWF1101A1022304	02/23/2004		-	-	-	-	<2.0 **UJ**	-	-
	MWF1101A1040704	04/07/2004		-	-	-	<2.0 **UJ**	-	-	-
	MWF1101A1050504	05/05/2004		-	-	-	-	-	-	<2.0 **UJ**
	MWF1101A1072004	07/20/2004		-	-	-	-	-	**120 J**	-
	MWF1201A1121803	12/18/2003		-	-	-	-	<4.0 **UJ**	-	<4.0 **UJ**
	MWF1201A1011304	01/13/2004		-	-	-	**2.1 J**	-	**1200 J**	-
	MWF1201A1022404	02/24/2004		<2.0 **UJ**	**15 J**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	**500 J**	<2.0 **UJ**
	MWF1201A1032304	03/23/2004		-	**11 UJ**	<2.0 **UJ**	-	-	-	-
	MWF1201A1050504	05/05/2004		-	-	-	-	-	-	<2.0 **UJ**
	MWF1401A1121803	12/18/2003		-	-	-	-	<2.0 **UJ**	-	<2.0 **UJ**
	MWF1401A1060804	06/08/2004		-	-	-	-	-	**24 J**	-
	MWF1401A1061504	06/15/2004		<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-
	MWF1401A1062304	06/23/2004		-	-	-	-	-	**33 J**	-
	MWH0601A1121703	12/17/2003		-	-	-	-	<8.0 **UJ**	-	<8.0 **UJ**
	MWH0602A1121703	12/17/2003	Field Dup	-	-	-	-	<8.0 **UJ**	-	<8.0 **UJ**
	MWH0601A1040704	04/07/2004		-	-	-	<2.0 **UJ**	-	-	-
	MWH0601A1043004	04/30/2004		-	**6.2 J**	<2.0 **UJ**	<2.0 **UJ**	-	**34 J**	<2.0**UJ**
	MWH0601A1060804	06/08/2004		-	-	-	-	-	**110 J**	-
	MWH0601A1061504	06/15/2004		<2.0 **UJ**	-	**2.3 J**	-	-	-	-
	MWH0601A1062304	06/23/2004		-	-	-	-	-	**3.9 J**	-

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Site ID	Sample ID	Sample Date		1,1-Dichloroethene (µg/L)	cis-1,2-Dichloroethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	Tetrachloroethene (µg/L)	1,1,1-Trichloroethane (µg/L)	Trichloroethene (µg/L)	Vinyl Chloride (µg/L)
MWH15A1	H1501A1111303	11/13/2003		-	-	-	-	-	**3.4 J**	-
	MWH1501A1121803	12/18/2003		-	-	-	-	<2.0 **UJ**	-	<2.0 **UJ**
	MWH1501A1011304	01/13/2004		-	-	-	-	-	**4.8 J**	-
	MWT0102A1021104	02/11/2004	Field Dup	-	-	-	-	-	**4.6 J**	-
	MWH1501A1022304	02/23/2004		-	-	-	-	<2.0 **UJ**	**2.5 J**	-
	MWH1501A1032304	03/23/2004		-	<2.0 **UJ**	**<2.0 UJ**	-	-	-	-
	MWH1501A1050404	05/04/2004		-	-	-	-	-	-	<2.0 **UJ**
	MWH1501A1060704	06/07/2004		<2.0 **UJ**	-	**<2.0 UJ**	-	-	-	-
	MWH1501A1062204	06/22/2004		-	-	-	-	-	**2.7 J**	-
	MWI0701A1121703	12/17/2003		-	-	-	-	<2.0 **UJ**	-	<2.0 **UJ**
	MWI0701A1011304	01/13/2004		-	-	-	-	-	**5.2 J**	-
	MWI0701A1021004	02/10/2004		-	-	-	-	-	**4.9 J**	-
	MWI0701A1022404	02/24/2004		<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	**7.5 J**	<2.0 **UJ**
	MWI0701A1032304	03/23/2004		-	<2.0 **UJ**	<2.0 **UJ**	-	-	-	-
	MWI0801A1121703	12/17/2003		-	-	-	-	<4.0 **UJ**	-	**40 J**
	MWI0801A1060804	06/08/2004		-	-	-	-	-	**3200 J**	-
	MWI0801A1061504	06/15/2004		<20 **UJ**	-	<20 **UJ**	-	-	**13000 J**	-
	MWI0801A1062304	06/23/2004		-	-	-	-	-	**15000 J**	-
	MWJ0101A1011204	01/12/2004		-	-	-	-	-	**3.6 J**	-
	MWJ0101A1020904	02/09/2004		-	-	-	-	-	**3.3 J**	-
	MWJ0101A1022304	02/23/2004		-	-	-	-	<2.0 **UJ**	**3.4 J**	-
	MWT0101A1022304	02/23/2004	Field Dup	-	-	-	-	<2.0 **UJ**	**3.3 J**	-
	MWJ0101A1040604	04/06/2004		-	-	-	<2.0 **UJ**	-	8.7 **U**	-
	MWJ0101A1041404	04/14/2004		-	-	-	<2.0 **UJ**	-	-	-
	MWJ0101A1050504	05/05/2004		-	-	-	-	-	-	<2.0 **UJ**
	MWJ0101A1060804	06/08/2004		-	-	-	-	-	**8.6 J**	-
	MWT0102A1060804	06/08/2004	Field Dup	-	-	-	-	-	**9.5 J**	-
	MWJ0101A1062204	06/22/2004		-	-	-	-	-	**3.4 J**	-
	MWT0102A1060804	06/08/2004	Field Dup	-	-	-	-	-	**9.5 J**	-
	MWJ0101A1062204	06/22/2004		-	-	-	-	-	**3.4 J**	-
	MWJ0401A1121703	12/17/2003		-	-	-	-	<2.0 **UJ**	-	<2.0 **UJ**
	MWJ0401A1041604	04/16/2004		-	-	-	72 **J**	-	-	-
	MWJ0401A1060804	06/08/2004		-	-	-	-	-	**160 J**	-
	MWJ0401A1061504	06/15/2004		<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-
	MWJ0401A1062304	06/23/2004		-	-	-	-	-	**36 J**	-
	MWJ1001A1121803	12/18/2003		-	-	-	-	<2.0 **UJ**	-	<2.0 **UJ**
	MWJ1001A1040704	04/07/2004		-	-	-	3.7 **J**	-	-	-
	MWJ1001A1051204	05/12/2004		-	-	-	<2.0 **UJ**	-	-	-
	MWJ1001A1061504	06/15/2004		<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-
	MWJ1001A1062304	06/23/2004		-	-	-	-	-	**31 J**	-
	MWL0701A1060804	06/08/2004		-	-	-	-	-	**88 J**	-
	MWL0701A1061504	06/15/2004		<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-
	MWL0701A1062304	06/23/2004		-	-	-	-	-	**79 J**	-
MWL10A1	L1001A1111103	11/11/2003		-	-	-	-	-	**4.4 J**	-
	L1001A1111103	11/11/2003	Lab Dup	-	-	-	-	-	**3.8 J**	-
	MWL1001A1040504	04/05/2004		-	-	-	<8.0 **UJ**	-	-	-
	MWL1001A1060804	06/08/2004		-	-	-	-	-	**270 J**	-
	MWL1001A1061504	06/15/2004		<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-
	MWL1001A1062304	06/23/2004		-	-	-	-	-	**7.7 J**	-

Appendix H

Table 4: NAPL Area 1 Qualified Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		1,1-Dichloroethene (µg/L)	cis-1,2-Dichloroethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	Tetrachloroethene (µg/L)	1,1,1-Trichloroethane (µg/L)	Trichloroethene (µg/L)	Vinyl Chloride (µg/L)
MWM12A1	M1201A1111003	11/10/2003		-	-	-	-	-	**0.69 J**	-
	MWM1201A1011304	01/13/2004		-	-	-	-	-	**7.4 J**	-
	MWM1201A1022304	02/23/2004		-	-	-	-	<2.0 **UJ**	**2.3 J**	-
	MWM1201A1050404	05/04/2004		-	-	-	-	-	-	<2.0 **UJ**
MWN02A1	N0201A1111003	11/10/2003		-	-	-	-	-	**2.0 J**	-
	MWN0201A1011204	01/12/2004		-	-	-	-	-	**2.8 J**	-
	MWN0201A1022304	02/23/2004		-	-	-	-	<2.0 **UJ**	-	-
	MWN0201A1050504	05/05/2004		-	-	-	-	-	-	<2.0 **UJ**
	MWN0201A1060804	06/08/2004		-	-	-	-	-	**20 J**	-
	MWN0201A1062204	06/22/2004		-	-	-	-	-	**22 J**	-
MWP07A1	P0701A1111003	11/10/2003		-	-	-	-	-	**2.7 J**	-
	MWP0701A1011204	01/12/2004		-	-	-	-	-	**4.9 J**	-
	MWT0102A1011204	01/12/2004	Field Dup	-	-	-	-	-	**4.4 J**	-
	MWP0701A1020904	02/09/2004		-	-	-	-	-	**2.3 J**	-
	MWP0701A1022304	02/23/2004		-	-	-	-	<2.0 **UJ**	**2.4 J**	-
	MWP0701A1050504	05/05/2004		-	-	-	-	-	-	<2.0 **UJ**
	MWT0102A1050504	05/05/2004	Field Dup	-	-	-	-	-	-	<2.0 **UJ**
NSTDW01A1	NSTDW01A1121903	12/19/2003		-	-	-	-	<4.0 **UJ**	-	<4.0 **UJ**
	NSTDW01A1123103	12/31/2003		-	-	-	-	-	**440 J**	-
	NSTDW01A1011404	01/14/2004		-	-	-	-	-	**1200 J**	-
	NSTDW01A1012704	01/27/2004		-	-	-	-	-	**38 J**	-
	NSTDW01A1021604	02/16/2004		-	-	-	-	<2.0 **UJ**	-	-
	NSTDW01A1022404	02/24/2004		<2.0 **UJ**	**25 J**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	**44 J**	<2.0 **UJ**
	NSTDW01A1032304	03/23/2004		-	**22 J**	<2.0 **UJ**	-	-	-	-
	NSTDW01A1040504	04/05/2004		-	-	-	<2.0 **UJ**	-	-	-
	NSTDW01A1041904	04/19/2004		-	**16 J**	-	<2.0 **UJ**	-	-	-
	NSTDW01A1050304	05/03/2004		-	-	-	-	-	-	<2.0 **UJ**
	NSTDW01A1060704	06/07/2004		<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-
	NSTDW01A1062104	06/21/2004		-	-	-	-	-	-	<2.0 **UJ**
OWSDW01A1	OWSDW01A1121903	12/19/2003		-	-	-	-	<8.0 **UJ**	-	<8.0 **UJ**
	OWSDW01A1123103	12/31/2003		-	-	-	-	-	**3800 J**	-
	OWSDW01A1011404	01/14/2004		-	-	-	-	-	**2500 J**	-
	OWSDW01A1012704	01/27/2004		-	-	-	-	-	**870 J**	-
	OWSDW02A1012704	01/27/2004	Field Dup	-	-	-	-	-	**900 J**	-
	OWSDW01A1021604	02/16/2004		-	-	-	-	<2.0 **UJ**	-	-
	OWSDW02A1021604	02/16/2004	Field Dup	-	-	-	-	<2.0 **UJ**	-	-
	OWSDW01A1022404	02/24/2004		<2.0 **UJ**	**60 J**	<2.0 **UJ**	<2.0 **UJ**	<2.0 **UJ**	**130 J**	<2.0 **UJ**
	OWSDW01A1031804	03/18/2004		-	**140 J**	<2.0 **UJ**	-	-	-	-
	OWSDW01A1032304	03/23/2004		-	**97 J**	<2.0 **UJ**	-	-	-	-
	OWSDW01A1033004	03/30/2004		-	-	-	-	-	**250 R**	-
	OWSDW01A1040504	04/05/2004		-	-	-	<2.0 **UJ**	-	-	-
	OWSDW01A1041304	04/13/2004		-	-	-	<2.0 **UJ**	-	-	-
	OWSDW01A1041904	04/19/2004		-	**70 J**	-	<2.0 **UJ**	-	-	-
	OWSDW02A1041904	04/19/2004	Field Dup	-	**75 J**	-	<2.0 **UJ**	-	-	-
	OWSDW01A1050304	05/03/2004		-	-	-	-	-	-	<2.0 **UJ**
	OWSDW02A1050304	05/03/2004	Field Dup	-	-	-	-	-	-	<2.0**UJ**
	OWSDW01A1060704	06/07/2004		<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-
	OWSDW02A1060704	06/07/2004	Field Dup	<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-
	OWSDW01A1062104	06/21/2004		-	-	-	-	-	-	<2.0 **UJ**
	OWSDW02A1062104	06/21/2004	Field Dup	-	-	-	-	-	-	<2.0 **UJ**

Appendix H

Table 4: NAPL Area 1 Qualified Analytical Results from Water Samples Analyzed by FPA and CAS

Site ID	Sample ID	Sample Date		1,1-Dichloroethene (µg/L)	cis-1,2-Dichloroethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	Tetrachloroethene (µg/L)	1,1,1-Trichloroethane (µg/L)	Trichloroethene (µg/L)	Vinyl Chloride (µg/L)
OWSIN01A1	OWSIN01A1121103	12/11/2003		-	-	-	-	-	-	-
SCRWASH1	SCRWASH1061504	06/15/2004		<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-
SCRWASH2	SCRWASH2061504	06/15/2004		<2.0 **UJ**	-	<2.0 **UJ**	-	-	-	-

Notes:

µg/m^3	micrograms per cubic meter
TPH	Total petroleum hydrocarbons
-	Analytical result not qualified

Qualifier Definitions:

U	The U qualifier indicates that the analyte must be considered to be nondetected at the concentration listed. U qualifiers added during validation are typically a result of detection of target analytes in field, trip, or laboratory blanks.
J	The J qualifier indicates that the associated result is quantitatively uncertain. J qualifiers added during validation indicate a data limitation related to a QC element that exceeds required acceptance limits.
UJ	The UJ qualifier indicates that analyte was analyzed for, but was not detected. The reported limit is approximate and may be inaccurate or imprecise.
R	The R qualifier indicates that a result has been rejected due to serious QC problems. It is not possible to definitively determine whether the analyte is present or absent in the sample

APPENDIX I

Hazardous Waste Manifests

DD FORM 1348-1A, JUL 91 (EG) ISSUE RELEASE/RECEIPT DOCUMENT

1	2	3	4	5	6	7	23	24	25	26	27	28	29	15	16	17	18	19	20	21	22	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

DOC IDENTIFIER	RI FROM	MAS	UNIT ISSUE	QUANTITY	SUPPLEMENTARY ADDRESS	STG	FND	DISTRIBUTION	PROJECT	PRI	REQD DELIV DATE	ADV	RI	SUPP CODE	MOT	UNIT PRICE DOLLARS	UNIT PRICE CTS	DOLLARS	CTS
			LB	00002		4					N/A	NA		H		001		849	92

1. TOTAL PRICE

SHIP FROM

3. SHIP TO

4 MARK FOR HW

24. DOCUMENT NUMBER & SUFFIX (30-44)

Doc Number: W90Y5542379300

D018 D039 D040 F001 F002 F003 F005

HAZARDOUS WASTE, SOLID, N.O.S. (TRICHLORETHENE, BENZENE), 9, NA3077, PG III

EGDY, LANDFILL 2, THERMAL TREATMENT NAPL W/DEBRIS & PPE 20FEB04

5. DOC DATE	6. NMFC	7 FRT RATE	8. TYPE CARGO	9 PS

10. QTY. REC'D	11. UP	12 UNIT WEIGHT	13 UNIT CUBE	14. UFC	15

16. FREIGHT CLASSIFICATION NOMENCLATURE

17. ITEM NOMENCLATURE

18. TY CONT	19. NO CONT	20. TOTAL WEIGHT	21. TOTAL CUBE
55	2	1,000 lbs 170	

22. RECEIVED BY

23. DATE RECEIVED 8/24/04

25. NATIONAL STOCK NO. & ADD (18-22)

Stock Number: 9999 00FLWCERCLA

W68NE6

PW, ENRD, DERA PRG.

RICH
WILSON
253-966-1803

26. REC (1-6) UI (23-24) QTY (25-29) CON CODE (71) DIST (55-56) UP (74-80)

DO 2(55)

1924 1925
1 1
66 104

D018 D039 D040 F001 F002 F003 F005 W902

see SAMPLE#

see HWPS# 033-030-001

CLIN# 9504CD

see MSDS#

BLDG 0000

see GP # LW12KAA2702

ACC. DATE 5/26/2004

Storage Loc: 01210 E07080 1AD

27. ADDITIONAL DATA

Ship From:
EPA # WA9214053465
PW - BLDG 1210
FT LEWIS, WA 98433-
206-967-4786

Ship To:
EPA # WA9214053465
SZ3380 DRMO LEWIS
FT LEWIS, WA 98433-
206-967-7896

THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED & LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE APPLICABLE LAWS & REGULATIONS

W028

101

DD FORM 1348-1A, JUL 91 (EG) ISSUE RELEASE/RECEIPT DOCUMENT

1	2	3	4	5	6	7	23	24	25	26	27	28	29	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

DOCUMENT NO.	RI FROM	M&S	UNIT	QUANTITY	SER	SUPPLEMENTARY ADDRESS	SIG	FUND	DISTRIBUTION	PROJECT	PRI	REQD DELIV DATE	ADV	RI	O/P	COND	MGT	UNIT PRICE DOLLARS	UNIT PRICE CTS	DOLLARS	CTS
			LB	00001			4					N/A	NA		H			0	01	404	96

1. TOTAL PRICE

2. SHIP FROM

3. SHIP TO

4. MARK FOR HW

Doc Number: W90Y5541749300

D018 D039 D040 F001 F002 F003 F005

HAZARDOUS WASTE, SOLID, N.O.S. (TRICHLORETHENE, BENZENE), 9, NA3077, PG III

EGDY, LANDFILL 2, THERMAL TREATMENT NAPL W/DEBRIS & PE 20FEB04

24. DOCUMENT NUMB & SUFFIX (30-44)

5. DOC DATE	6. NMFC	7. FRT RATE	8. TYPE CARGO	9. PS

10. QTY. REC'D	11. UP	12. UNIT WEIGHT	13. UNIT CUBE	14. UFC	15. SL
1					

16. FREIGHT CLASSIFICATION NOMENCLATURE

17. ITEM NOMENCLATURE

18. TY CONT	19. NO CONT	20. TOTAL WEIGHT	21. TOTAL CUBE
	1	~~500 lbs~~ 69	

22. RECEIVED BY

23. DATE RECEIVED 6/24/04

25. NATIONAL STOCK NO. & ADD (6-22)

Stock Number: 9999 00FLWCERCLA

W68NE6

PW, ENRD, DERA PRG.

RICH
WILSON
253-966-1803

26. RIC (4-6) UI (23-24) QTY (25-29) CON CODE (71) DIST (55-56) UP (74-80)

DO 1(55)

2073

D018 D039 D040 F001 F002 F003 F005

CLIN# 9504 CD

see SAMPLE#

see HWPS# 033-030-001

see MSDS#

BLDG 0000

see GP # LW12KAA2656

ACC. DATE 6/14/2004

WP02

E020301A0

Storage Loc: 01210

27. ADDITIONAL DATA

Ship From:
EPA # WA9214053465
PW - BLDG 1210
FT LEWIS, WA 98433-
206-967-4786

Ship To:
EPA # WA9214053465
SZ3380 DRMO LEWIS
FT LEWIS, WA 98433-
206-967-7896

THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED & LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE APPLICABLE LAWS & REGULATIONS

PREVIOUS EDITION MAY BE USED

PerFORM (DLA)

DD FORM 1348-1A, JUL 91 (EG) ISSUE RELEASE/RECEIPT DOCUMENT

1	2	3	4	5	6	7	23	24	25	26	27	28	29	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
DLA COG TIZTO	RI FROM	M/S	UI	QUANTITY			SUPPLEMENTARY ADDRESS		SIG	FCD	DISTRIBUTION	PROJECT	PRI	REQUISITION DATE	ADV		RI	SUPP CONDITION	CMT	UNIT PRICE DOLLARS	UNIT PRICE CTS	1. TOTAL PRICE DOLLARS	1. TOTAL PRICE CTS	2. SHIP FROM		3. SHIP TO																							
			LB	00001					4					N/A	NA			H		0	01	404	96	4. MARK FOR HW																							

PREVIOUS EDITION MAY BE USED

24. DOCUMENT NUMBER & SUFFIX (30-44): Doc Number: W90Y5541479300

D018 D039 D040 F001 F002 F003 F005

HAZARDOUS WASTE, SOLID, N.O.S. (TRICHLORETHENE, BENZENE), 9, NA3077, PG III

EGDY, LANDFILL 2, THERMAL TREATMENT NAPL W/DEBRIS & PPE 20FEB04

6650 00 TRICH

Stock Number: 9999 ~~COFLWCEROLA~~

5. DOC DATE	6. NMFC	7. FRT RATE	8. TYPE CARGO	9. PS

10. QTY. REC'D	11. UP	12. UNIT WEIGHT	13. UNIT CUBE	14. UFC	15. SL

16. FREIGHT CLASSIFICATION NOMENCLATURE

17. ITEM NOMENCLATURE

18. TY CONT	19. NO CONT	20. TOTAL WEIGHT	21. TOTAL CUBE
	1	500 lbs 99	

22. RECEIVED BY | 23. DATE RECEIVED

25. NATIONAL STOCK NO. & ADD (6-22): W68NE6

PW, ENRD, DERA PRG.

RICH
WILSON
253-966-1803

E020B30

DO 1(55)

26. RIC (4-5) UI (23-24) QTY (25-29) CON CODE (71) DIST (55-59) UP (74-80): 0509

D018 D039 D040 F001 F002 F003 F005

WP02

see SAMPLE#
see HWPS# 033-030-001
CLIN# 9504 CD
see MSDS#

BLDG 0000
see GP #
LW12KAA2656

ACC. DATE
2/11/2004

Storage Loc: 01210

27. ADDITIONAL DATA

Ship From:
EPA # WA9214053465
PW - BLDG 1210
FT LEWIS, WA 98433-
206-967-4786

Ship To:
EPA # WA9214053465
SZ3380 DRMO LEWIS
FT LEWIS, WA 98433-
206-967-7896

THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED & LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE APPLICABLE LAWS & REGULATIONS

PerFORM (DLA)

DD FORM 1348-1A, JUL 91 (EG) ISSUE RELEASE/RECEIPT DOCUMENT

1	2	3	4	5	6	7	23	24	25	26	27	28	29	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
DOC NUMBER	RI FROM	MIPR	UNIT	QUANTITY	SUPPLEMENTARY ADDRESS	SIG	FUND	DISTRIBUTION	PROJECT	PRI	REQD DATE	ADV	RI	QTY	DOC CONT	MGT
			LB	00002		4				N/A	NA		H			

1. TOTAL PRICE			2. SHIP FROM	3. SHIP TO
UNIT PRICE	DOLLARS	CTS		
0.01	743.09			
4. MARK FOR HW				

PREVIOUS EDITION MAY BE USED

Doc Number: W90Y5541199300

D018 D039 D040 F001 F002 F003 F005

HAZARDOUS WASTE, SOLID, N.O.S. (TRICHLORETHENE, BENZENE), 9, NA3077, PG III

EGDY, LANDFILL 2, THERMAL TREATMENT NCPL 20FEB04

5. DOC DATE	6. NMFC	7. FRT RATE	8. TYPE CARGO	9. PS

10. QTY. RECD	11. UP	12. UNIT WEIGHT	13. UNIT CUBE	14. UFC	15. SL

16. FREIGHT CLASSIFICATION NOMENCLATURE

17. ITEM NOMENCLATURE

18. TY CONT	19. NO CONT	20. TOTAL WEIGHT	21. TOTAL CUBE
	2	917 lbs 308	

22. RECEIVED BY | 23. DATE RECEIVED

21. DOCUMENT NUMBER & SUFFIX (30-44)

23. NATIONAL STOCK NO. & ADD (6-22)

Stock Number: 9999 00FLWCERCLA

W68NE6

PW, ENRD, DERA PRG.

RICH
WILSON
253-966-1803

E020304AG

26. RIC (1-5) UI (23-24) QTY (25-29) DIST (55-70) UP (74-80)

DR 2(55)

0434 0435

D018 D039 D040 F001 F002 F003 F005 WP02

see SAMPLE#
see HWPS# 033-030-001
CLIN# 9504 CD
see MSDS#

BLDG 0000
see GP #
LW12KAA2656

ACC. DATE
2/4/2004

Storage Loc: 09673

27. ADDITIONAL DATA

Ship From:
EPA # WA9214053465
PW - BLDG 1210
FT LEWIS, WA 98433-
206-967-4786

Ship To:
EPA # WA9214053465
SZ3380 DRMO LEWIS
FT LEWIS, WA 98433-
206-967-7896

THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED & LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE APPLICABLE LAWS & REGULATIONS

PerFORM (DLA)

111 4342

4123469844

1	2	3	4	5	6	7	23 24	25 26	27 28	29	45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
DOD UIC	RI FROM	M S P	UNIT OF ISS	QUANTITY	SUPPLEMENTARY ADDRESS		SIG	FUND	DISTRIBUTION	PROJECT	PRI	REQD DELIV DATE	ADV	RI	O/P	SPCL HDLG CODE	M/S
			LB	00002			4					N/A	NA		H		

UNIT PRICE DOLLARS	UNIT PRICE CTS	1. TOTAL PRICE DOLLARS	1. TOTAL PRICE CTS
0	01	776	51

2. SHIP FROM

3. SHIP TO

4. MARK FOR HW

DD FORM 1348-1A, JUL 91 (EG) ISSUE RELEASE/RECEIPT DOCUMENT

PREVIOUS EDITION MAY BE USED

PerFORM (DLA)

24. DOCUMENT NUMBER & SUFFIX (30-44)

Doc Number: W90Y5541069300

D018 D039 D040 F001 F002 F003 F005

HAZARDOUS WASTE, SOLID, N.O.S. (TRICHLORETHENE, BENZENE), 9, NA3077, PG III

EGDY, LANDFILL 2, THERMAL TREATMENT NCPL 20FEB04

5. DOC DATE	6. NMFC	7. FRT RATE	8. TYPE CARGO	9. PS

10. QTY. REC'D	11. UP	12. UNIT WEIGHT	13. UNIT CUBE	14. UFC	15. SL

16. FREIGHT CLASSIFICATION NOMENCLATURE

17. ITEM NOMENCLATURE

18. TY CONT	19. NO CONT	20. TOTAL WEIGHT	21. TOTAL CUBE
	2	959lbs 741	

22. RECEIVED BY

23. DATE RECEIVED

25. NATIONAL STOCK NO. & ADD (8-22)

Stock Number: 9999 00FLWCERCLA

W68NE6
PW, ENRD, DERA PRG.

RICH
WILSON
253-966-1803

26. RIC (4-6) UI (23-24) QTY (25-29) CONTROL (71) DISTRIB (76-79) UP (74-80)

DO 1(55); DR 1(55)

0436 1143
1 1
313 368

D018 D039 D040 F001 F002 F003 F005 WP02

see SAMPLE#
see HWPS# 033-030-001
CLIN# 9504 CD
see MSDS#

BLDG 0000
see GP # LW12KAA2656

Storage Loc: 01210

ED20302AD

ACC. DATE 2/4/2004

27. ADDITIONAL DATA

126

Ship From:
EPA # WA9214053465
PW - BLDG 1210
FT LEWIS, WA 98433-
206-967-4786

Ship To:
EPA # WA9214053465
SZ3360 DRMO LEWIS
FT LEWIS, WA 98433-
206-967-7896

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