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Vadose Zone Remediation Assessment: M-Area Process Sewer Soil Vapor Extraction Units 782-5M, 782-7M and 782-8M

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Executive Summary

This study focuses on the status of the vadose zone remediation along 1600 ft of the process sewer line between the M-Area security fence and the M-Area settling basin. Three soil vapor extraction (SVE) units 782-5M, 782-7M, and 782-8M, connected to 4 vertical wells and 3 horizontal wells have been addressing the vadose zone volatile organic contamination (VOC) since 1995. The specific objectives of this study were to obtain soil gas and sediment samples, evaluate SVE units and vadose zone remediation, and make recommendations to address further remediation needs.

The three SVE units have removed approximately 91,500 lbs of contamination from the vadose zone along the process sewer line. The SVE has effectively cleaned up the central sandy unit (320 to 265 ft msl) with contaminant removal from the lower permeability units dictated by mass transfer limitations. Units 782-5M and 782-8M have been shut down due to low contaminant removal rates. Unit 782-7M is currently operating with a removal rate of about 25 lbs/week.

Concentration measurements were made on 60 existing vadose zone monitoring points in the area. Twenty cone penetrometer characterization borings were completed in November of 2000 for soil gas and sediment sampling. A total of 282 sediment samples and 155 soil gas samples were collected.

The following results are drawn from evaluating the concentrations and three dimensional digital images of the sediment and soil gas data:

- A significant amount of contamination has been removed from the vadose zone.
- DNAPL does not exist in the zones sampled (<200,000 μg/kg TCE and <50,000 μg/kg PCE)
- Residual contamination remains in the fine grain zones, which are not directly addressed by SVE (above and below the central sandy unit).
- Low permeability zones, perched water and cemented zones in the lower fine grain zone (270 foot clay) reduce the effectiveness of SVE from approximately 100 ft down to the water table.
- The remediation between wells MVE-7 and AMH-2 is not being addressed adequately by the current SVE systems.
- The horizontal wells associated with SVE Unit 782-8M have not fully addressed the vadose zone contamination.

In general, the following recommendations address residual contamination that remains in the fine grain sediments where remediation is regulated by mass transfer rates:

- Transfer wells associated with SVE Unit 782-5M to passive soil vapor extraction (PSVE).
- Perform a PSVE treatability study using wells associated with SVE Unit 782-7M.
- Install three vent wells to increase subsurface flow along the sewer line towards the basin to enhance remediation and provide a ‘pressure barrier’ between the basin and the PSVE systems.
- Continue to evaluate alternative remediation techniques.

Introduction

This study focuses on the status of the vadose zone remediation along 1600 ft of the process sewer line between the M-Area security fence and the M-Area settling basin. Three soil vapor extraction (SVE) units 782-5M, 782-7M, and 782-8M, connected to 4 vertical wells and 3 horizontal wells have been addressing the vadose zone volatile organic contamination (VOC) in these areas since 1995. This report will address removal rates of the current soil vapor extraction systems, compare initial and current contamination profiles, and propose methods to control and remediate the remaining contamination. A plan view of the study area is shown in Figure 1. This map shows the location of the old process sewer, initial and current sampling locations, monitoring wells and vapor extraction wells with corresponding SVE units.

Objectives

The primary objective of this assessment was to evaluate the vadose zone remediation along the M-Area process sewer line according to the A/M Area Vadose Zone Monitoring Plan (Jarosch et al., 1998). The specific objectives were to:

- Obtain soil gas and sediment samples to evaluate vadose zone remediation
  - Borings were located along the process sewer where worst case contamination was expected.
  - Borings were located at apparent data gaps.
  - Borings were located near pre-remediation borings for comparison.
  - The fine grained layers were targeted for sediment samples since these zones are not directly addressed by SVE and serve to trap residual VOCs.
  - At each location soil gas samples were taken at approximately 10 ft intervals.
  - Target sampling depth was 120 ft.
- Evaluate remediation effectiveness by comparing historical sediment and soil gas concentration data to data collected during the last quarter of 2000.
- Evaluate contaminant removal by the SVE units.
- Make recommendations to address further remediation needs.

A three-dimensional image showing the locations of the cone penetrometer borings and sediment samples in relation to the process sewer and remediation wells is provided in Figure 2 for reference.

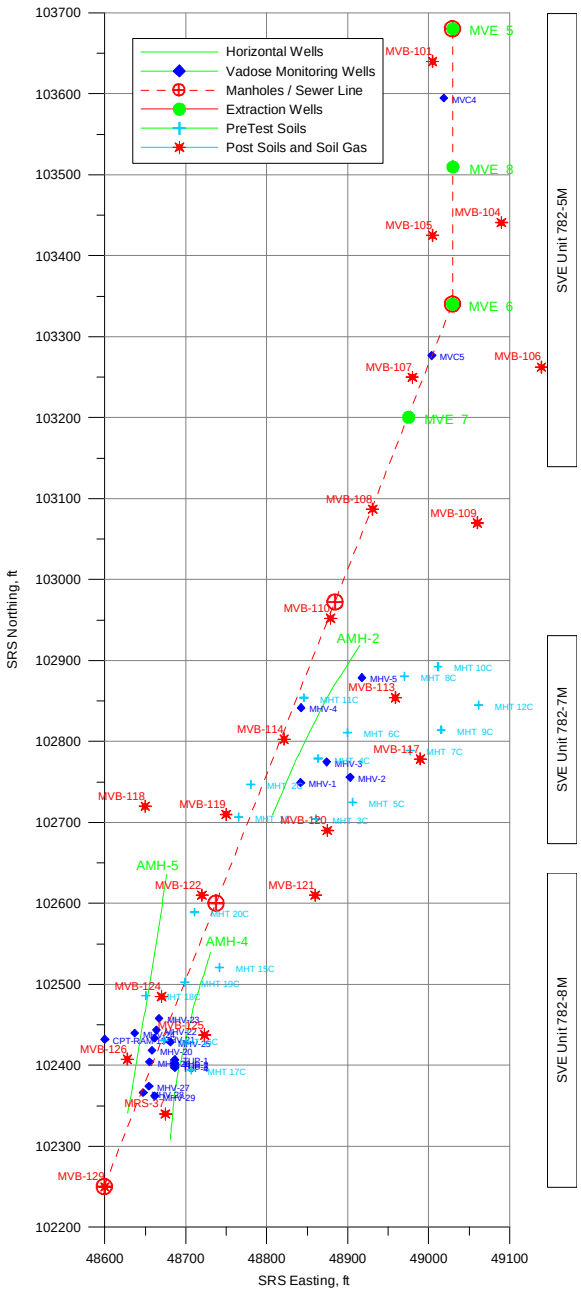

Figure 1 – Boring and Well Locations

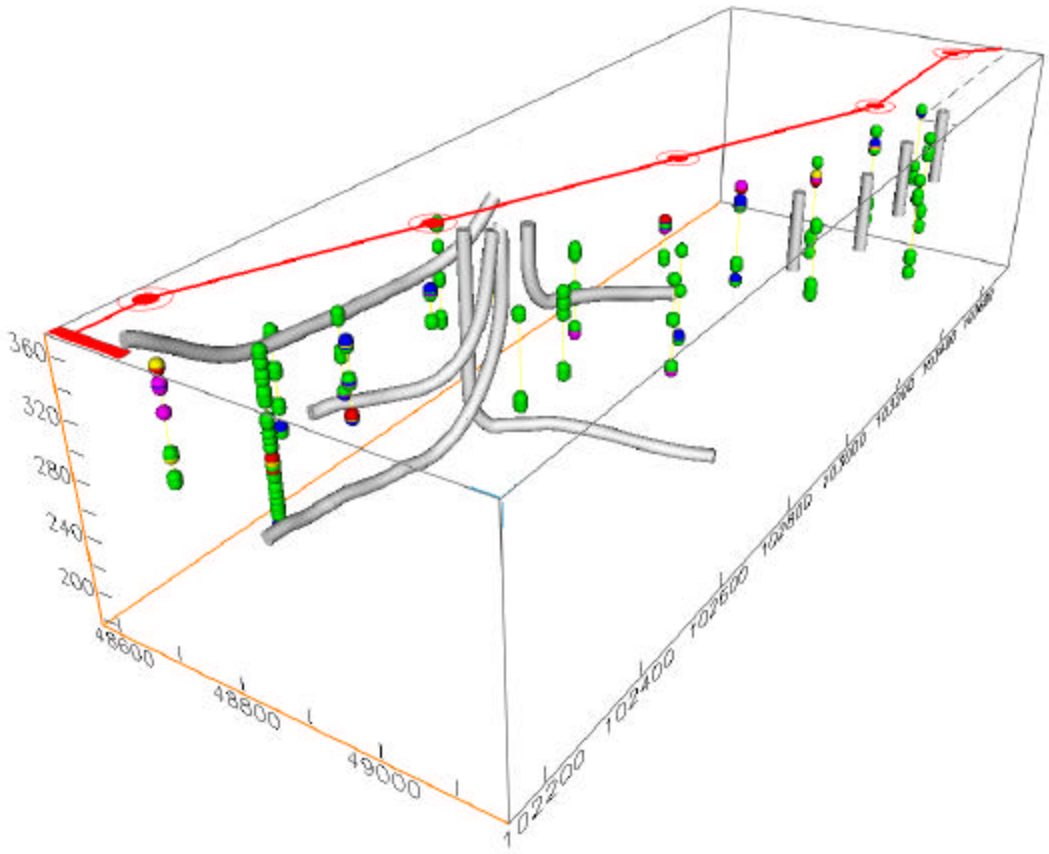

Figure 2 – Three Dimensional Image of Boring and Sediment Sample Locations

Background

History

The Savannah River Site (SRS) is a Department of Energy (DOE) facility located in South Carolina on the Savannah River. Previous operations and waste disposal in the Administration and Metallurgical fabrication areas (A/M Areas) at SRS resulted in the release of chlorinated solvents to the subsurface. The contaminants are primarily trichloroethylene (TCE) and tetrachloroethylene (PCE). Previous investigations document and provide additional Information on the release, characterization, and remediation history of the M-Area vadose zone.(Jarosch et al., 1997; Jarosch et al., 1998)

Hydrogeology

The sediments within the A/M Area vadose zone consist of sand, sandy clay, clayey sand, and clay deposited from the middle to upper Eocene in shallow marine, lagoonal, or fluvial environments. These lithologies while typically deposited as layers or wedges are often discontinuous due to depositional or post depositional processes (i.e. erosion).

Eddy and others (Eddy et al., 1991) identified four semi-confining/confining zones in this area. The upper three zones are semi-confining, clay rich or interbedded zones all above or within the M-Area aquifer zone. These are from the top down the “325 foot clay”, “300 foot clay”, and “270 ft clay” zones. The 325 foot clay and 300 foot clay are in the vadose zone and impact the flow of gasses above the water table and recharge of air and water from the ground surface. The 270 foot clay is an interbedded zone that extends below the water table. The fourth, lowermost zone is named the “200 foot clay” confining zone and corresponds to the “Green Clay” confining zone of the Steed Pond aquifer. The Green Clay separates the M-Area or water table aquifer from the Lost Lake aquifer zone. A schematic diagram of the A/M Area vadose zone is provided in Figure 3(Jarosch et al., 1997).

Recent lithologic and facies mapping studies have examined the lateral continuity and vertical competency of these units. (Parker et al., 1999) In this investigation, structure contours and isopach maps of the vadose zone lithologic units were developed. Within each unit the distribution of mud fraction was examined using qualitative and quantitative techniques. The distribution of the arithmetic average mud fraction within each unit was used to provide information on the lateral continuity. The vertical competency was evaluated based upon the distribution of the geometric mean and the standard deviation in mud fraction in the vertical direction. With the exception of the “230-foot clay”, Smits and others (1999) follow the previous lithologic nomenclature (Eddy et al., 1991) for the vadose zone.

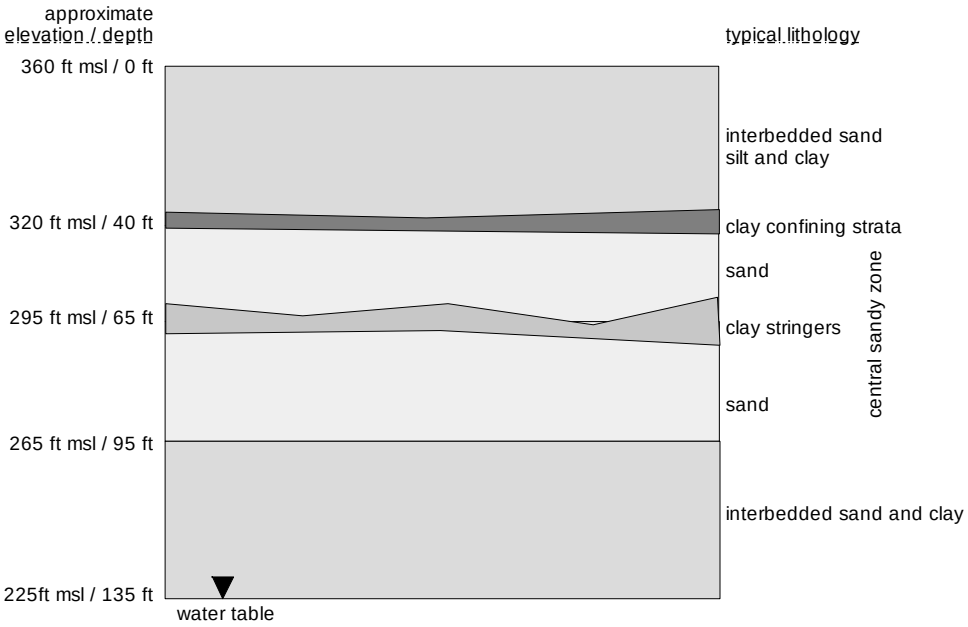

Figure 3 – Schematic of the A/M Area Vadose Zone

Methods

Existing Vadose Zone Monitoring Well Sampling

Concentration measurements were made on 60 existing vadose zone monitoring points prior to determining cone penetrometer (CPT) characterization locations. These monitoring points consisted of a variety of well types with six multilevel sample points associated with SVE unit 782-5M, 19 points associated with 782-7M, and 35 points associated with 782-8M. The well locations and concentrations are provided in Appendix A. Well vapor was sampled and analyzed in the field using an Innova Model 1312 photo-acoustic infrared gas analyzer (new model of the Bruel and Kjaer Model 1302). The instrument was calibrated to measure trichloroethylene (TCE), tetrachloroethylene (PCE), and carbon dioxide, (CO_2).

CPT Characterization

Twenty CPT characterization borings were completed in November of 2000 for soil gas and sediment sampling. A total of 282 sediment samples and 155 soil gas samples were collected.

Sediment Sampling and Analysis

The DOE CPT was used with the CPT wireline sampling system. Applied Research Associates (ARA, INC.) developed the CPT wireline system with funding from the Department of Energy's National Energy Technology Laboratory (NETL). The system was purchased and is one of the tools available on the DOE CPT truck. The wireline soil sampling tool uses 2 inch diameter rods with a removable core barrel with a locking mechanism that fits inside the push rods. The 1 ft long by 1 inch internal diameter core barrel is deployed and retrieved using a wire tether. This new method provides a significant time and cost savings over traditional CPT soil sampling that requires the retrieval of the cone rods for each sample.

After the core is brought to the surface, an approximate 2 cubic centimeter (cc) plug sample was collected using a modified plastic syringe. The plug was transferred to a 22 ml glass headspace vial and 5 ml of nano-pure water was added. The vial was then sealed with a crimped Teflon-lined septum top for head-space analysis. Duplicate samples were collected at each depth and all samples were stored at 4°C until analyzed. In the field, the samples were described as sand, clay, or sand and clay mix.

The technique used to prepare and analyze soil samples for VOC analysis is a modified version of EPA Method 5021 which has been used successfully at the SRS since 1991. Each sample is weighed and then analyzed on the HP 5890 Series II gas chromatograph using an automated head space sampler at 70 C for equivalent water concentrations. The GC is equipped with an electron capture and flame ionization detector connected in parallel. The column is a Supelco - VOCOL™ megabore borosilicate glass (60 m x 0.76 mm ID x 1.5 µm film thickness) specifically developed for volatile priority pollutants (EPA Methods 502, 602, and 8240). Mass

soil concentrations (ppb, µg/kg) are calculated based on an equal head space volume from 7.5 ml of water standards and nominal 7 ml of water/soil matrix and are corrected for the mass difference between the soil and water. The gas chromatograph is calibrated using purchased certified mixtures in methanol that are diluted in deionized water to specific concentrations. Two reagent blanks of pure deionized water are included to ensure the transfer lines and column are being adequately flushed of residual solvents. The standard concentrations used for each head space sample run are: 3, 5, 10, 50, 100, 1,000, and 10,000 ppb (µg/l). The samples were analyzed for vinyl chloride, Freon-11, Freon-113, 1,1-dichloroethylene (1,1-DCE), trands-dichloroethylene (trans-DCE), cis-dichloroethylene (cis-DCE), chloroform, 1,1,1-Trichloroethane (TCA), carbon tetrachloride (CCl_4), trichloroethylene (TCE), and perchloroethylene (PCE). Approximately 25 percent of the duplicate samples were analyzed.

Soil Gas Sampling and Analysis

For soil gas sampling, the wireline push tip was withdrawn from the rods leaving the rods open at the bottom and soil gas was pumped directly through the rods using a dual head Teflon diaphragm pump. The use of the rods of the wire line tool for the collection of soil gas provides a significant amount of flow (up to 1.5 ft^3/minute (cfm) with the pump used) compared to running tubing from a sample port in the cone tip. Soil gas samples were collected at depth intervals of about every 10 ft. The soil gas was analyzed in the field using an Innova Model 1312 photo-acoustic infrared gas analyzer (new model of the Bruel and Kjaer Model 1302). The instrument was calibrated to measure TCE, PCE, and carbon dioxide (CO_2). The results from the soil gas sampling are provided in Appendix C.

Results and Discussion

Soil Vapor Extraction Units

The three SVE units have removed approximately 91,500 lbs of contamination from the vadose zone along the process sewer line. The SVE has primarily addressed the central sandy unit (320 to 265 ft msl) with contaminant removal from the lower permeability units dictated by mass transfer limitations. The contaminant removal rates are decreasing exponentially as expected. Each of the units is discussed below and measures to address future remediation will be discussed in a later section.

SVE Unit 782-5M

SVE Unit 782-5M was connected to vertical wells MVE-5 through MVE-8 and has been removed due to low contaminant removal rates. This unit began operating in April 1995. The SVE wells are screened in the sand region below the 320 ft clay down into the 265 ft clay. Wells MVE-5 and MVE-6 were installed directly at the location of manholes from the old process sewer. Testing was done to evaluate the transient and sustained rebound extraction rates. Production rates from the unit are below the 40 lbs/week. The unit was shut down for two 90 day periods and restarted with little production rebound. As seen in Figure 4, after the first restart, production rates increased but then decreased within 3 months. During the second restart, production did not rebound significantly and production rates dropped to less than 30 lbs/week within one week. Remediation using passive soil vapor extraction (barometric pumping) is proposed based on the diminishing returns of the active system (Amari, 2000).

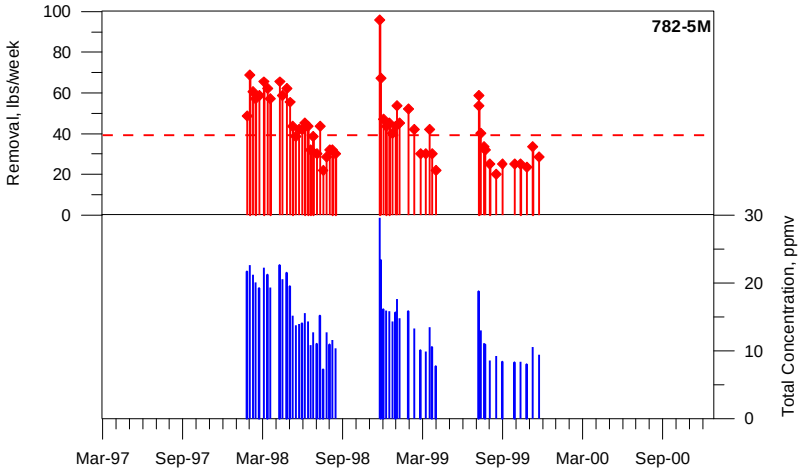

Figure 4 – Concentration and Removal Rates for SVE Unit 782-5M

SVE Unit 782-7M

SVE Unit 782-7M is connected to horizontal well AMH-2 and is currently removing approximately 25 lbs/week. Well AMH-2 is screened across the 300 ft clay from approximately 310 ft msl to 285 ft msl. The unit has been in operation since 1997 with flow rates of approximately 320 cfm. AMH-2 was used for the in-situ air stripping and bioremediation demonstrations prior to operations with SVE Unit 782-7M. The concentration and removal rates are shown in Figure 5.

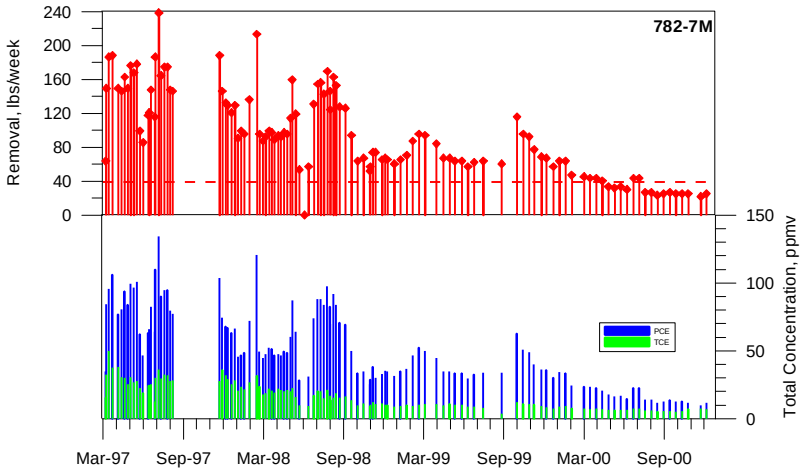

Figure 5 – Concentration and Removal Rates for SVE Unit 782-7M

SVE Unit 782-8M

SVE Unit 782-8M is connected to horizontal wells AMH-4 and AMH-5 and is not currently operating due to low contaminant removal rates. Well AMH-4 was installed as a demonstration of horizontal drilling technologies and was placed in the deep vadose zone at approximately 100 ft depth. The screen zone is approximately 150 ft long and is screened primarily in fine grain materials. This well was known to have some clogging and the areas of open screen zones are not known. Well AMH-5 was used for the radio frequency heating demonstration and is screened in a clay layer at approximately 40 ft depth. The screen length is approximately 300 ft. Portions of the screen zone may be melted and the radio frequency heating antennae remains in the well. The unit produced approximately 160 cfm of flow from the two wells. Lower flow rates were expected since both wells are screened in the fine grain sediments. Two attempts were made to redevelop the wells to increase flow rates. The operation history for the unit is provided in Table 1 and the contaminant removal rates and vapor concentrations are shown in Figure 6. The remediation in this area is limited by well performance. Additional wells will be proposed to accelerate the remediation in this area of the process sewer line.

Table 1– SVE Unit 782-8M Operation History

Dates	Activity
4/97	8M starts operations
5/97	Wells Clogged
6/97	Wells Redeveloped and 8M restarted
9/24/97	Last time the loading to the unit was above 40 lb/week
2/27/98	8M shut down due to low contaminant loading (below 40 lb/week)
5/98 - 6/98	Wells Redeveloped
6/11/98	8M restarted
6/11/98 - 7/14/98	Mechanical Problems
7/14/98	8M restarted
8/20/98	8M shut down due to low contaminant loading (below 40 lb/week)
11/24/98	8M restarted
12/17/98	8M shut down due to low contaminant loading (below 40 lb/week)

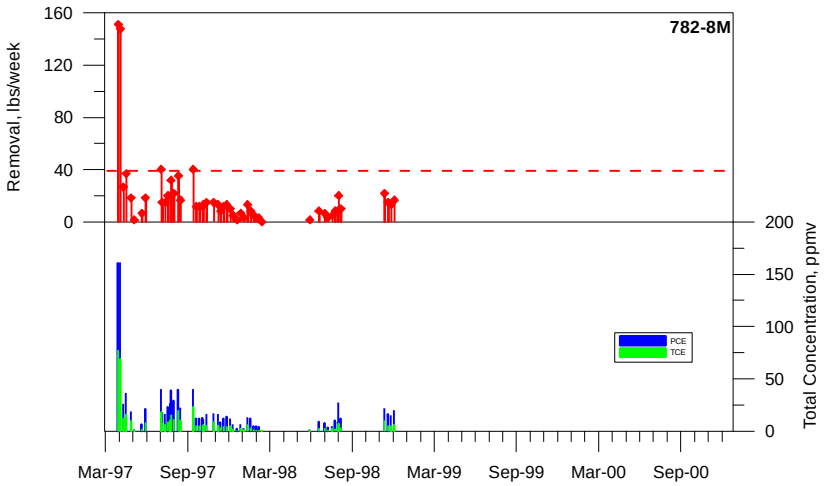

Figure 6 – Concentration and Removal Rates for SVE Unit 782-8M

Contaminant Profiles

The figures in this section illustrate the pre-remediation and current soil gas and sediment concentrations. Plan views showing the initial and current maximum sediment concentration (total of PCE and TCE) for each boring are provided in Figures 7 and 8. Initial sediment concentrations in the northern section of the study were not available. The figures show that contamination greater than 1,000 ug/kg still remains along the process sewer line. These higher concentrations correspond to the fine grain units above and below the central sandy unit that are not readily addressed by SVE.

The initial and current soil gas and sediment profiles for both TCE and PCE are depicted in Figures 9-12. These figures are three-dimensional images with a horizontal view from the southeast. See the three-dimensional image in Figure 2 for spatial reference. The extraction wells are shown in white. The screen sections of the directional wells are along the horizontal sections of the wells. For the vertical wells, just the screen section is shown. The black horizontal lines correspond to the lithology schematic in Figure 3 (Parker et al., 1999). The background covers the vertical extent of the vadose zone and shows the percent clay increasing from yellow to orange. The two deep horizontal wells extend below the water table; this extension is not shown. The data used for these images are provided in the appendices. See Table 2 for a list and description of the appendices.

Table 2 – Tabulated Data Descriptions

Appendix	Title	Description
A	Vapor Concentrations of Existing Wells	Initial and current concentration measurements of 60 existing vadose zone monitoring wells
B	Current Sediment Concentrations	Current PCE and TCE sediment concentrations with sediment type CPT refusal depths
C	Current CPT Soil Gas Concentrations	Current PCE, TCE and CO_2 soil gas concentrations from CPT characterization
D	Initial Sediment Concentrations	Initial PCE and TCE sediment concentrations, only around SVE Units 7M and 8M
E	Boring and Well Coordinates	SRS coordinates, elevations, and screen zones where applicable

The following results can be drawn from the data and these images:

- A significant amount of contamination has been removed from the vadose zone.
- DNAPL does not exist in the zones sampled (<200,000 µg/kg TCE and <50,000 µg/kg PCE) (Cohen and Mercer, 1993).
- Residual contamination remains in the fine grain zones, which are not directly addressed by SVE (above and below the central sandy unit).
- Low permeability zones, perched water and cemented zones in the lower fine grain zone (270 foot clay) drastically reduce the effectiveness of SVE from approximately 100 ft down to the water table.
- The remediation between wells MVE-7 and AMH-2 is not being addressed well by the current SVE systems.
- The horizontal wells associated with SVE Unit 782-8M have not adequately addressed the vadose zone contamination.

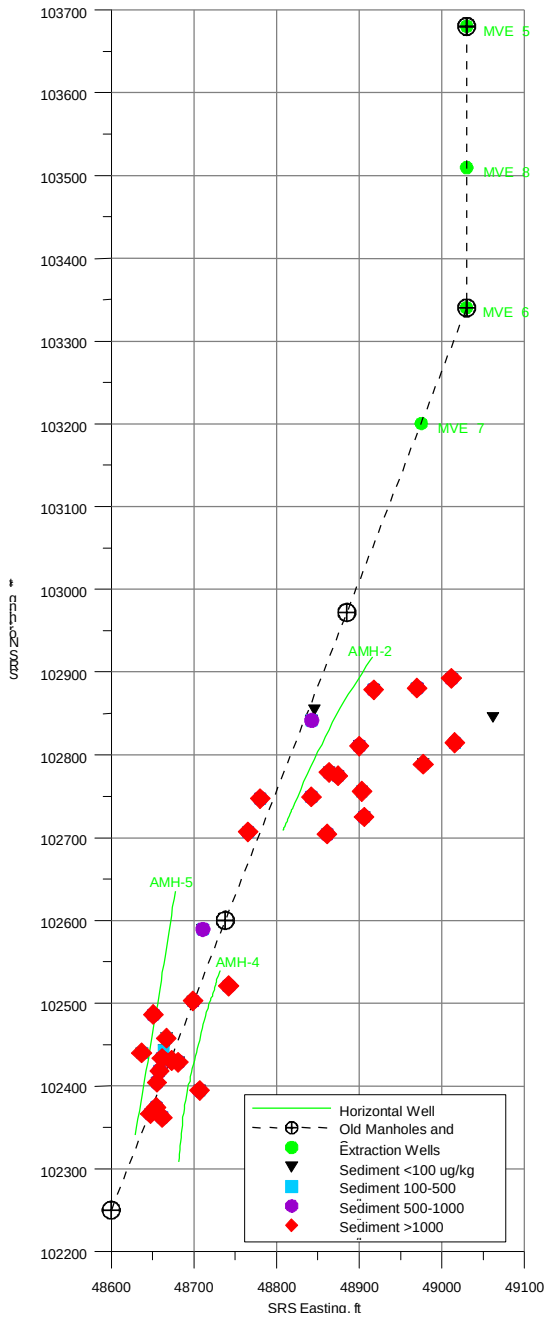

Figure 7 – Initial Maximum Total Sediment Concentration

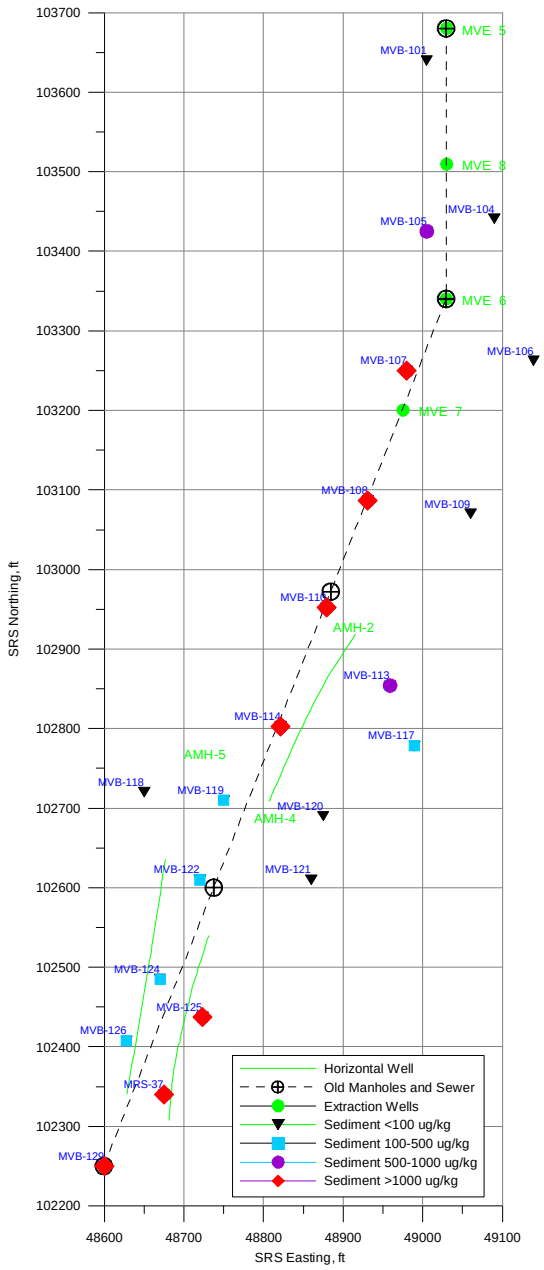

Figure 8 – Current Maximum Total Sediment Concentration

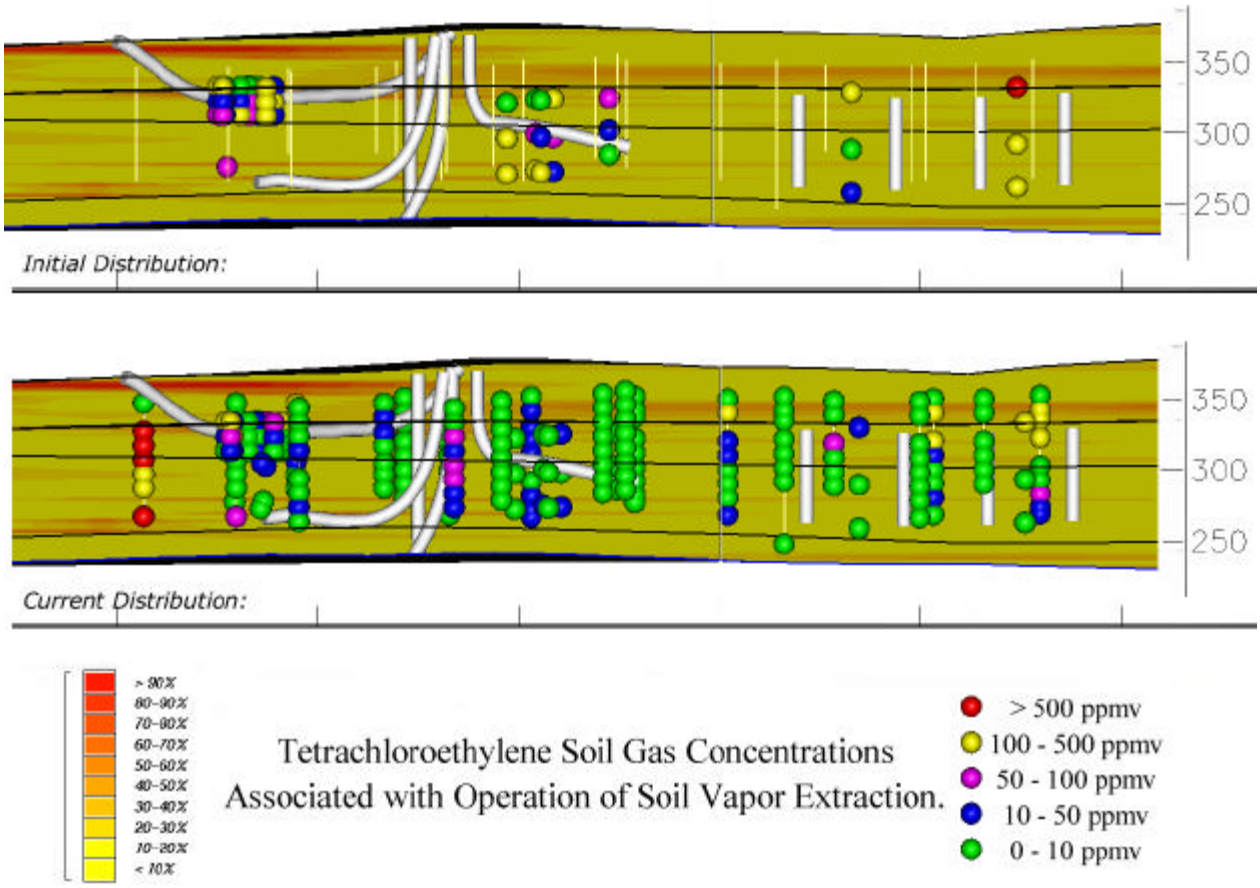

Figure 9 – PCE Soil Gas Concentration

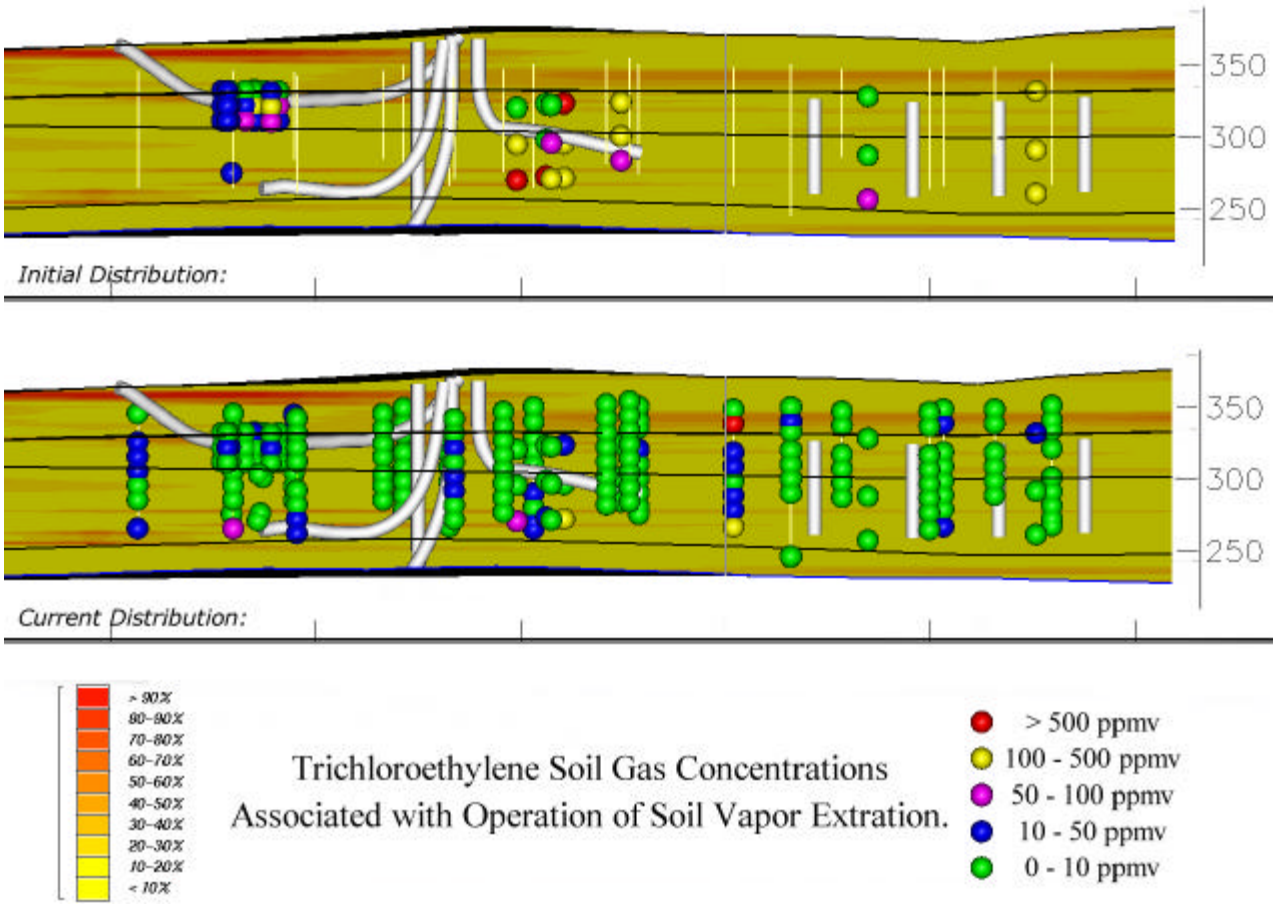

Figure 10 – TCE Soil Gas Concentration

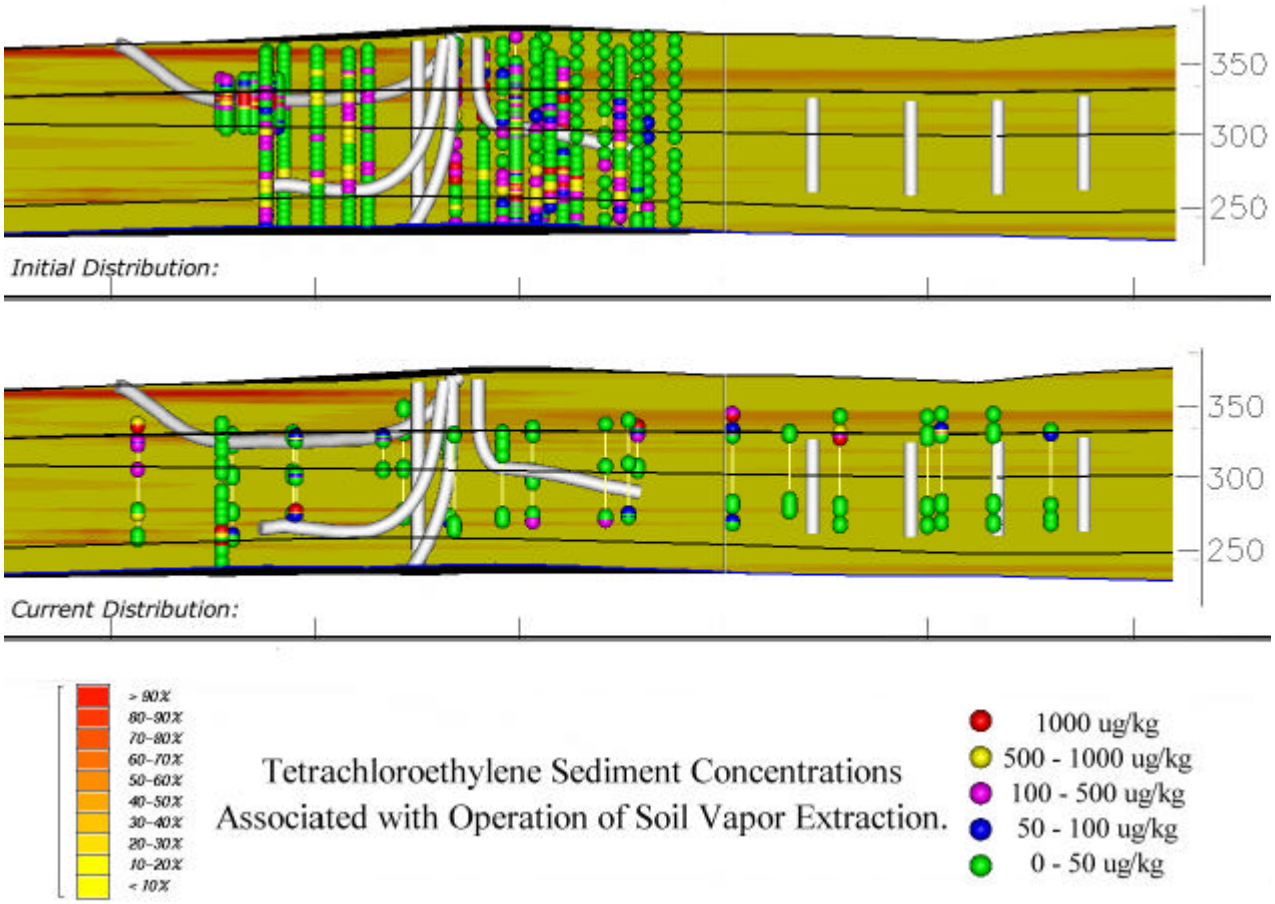

Figure 11 – PCE Sediment Concentration

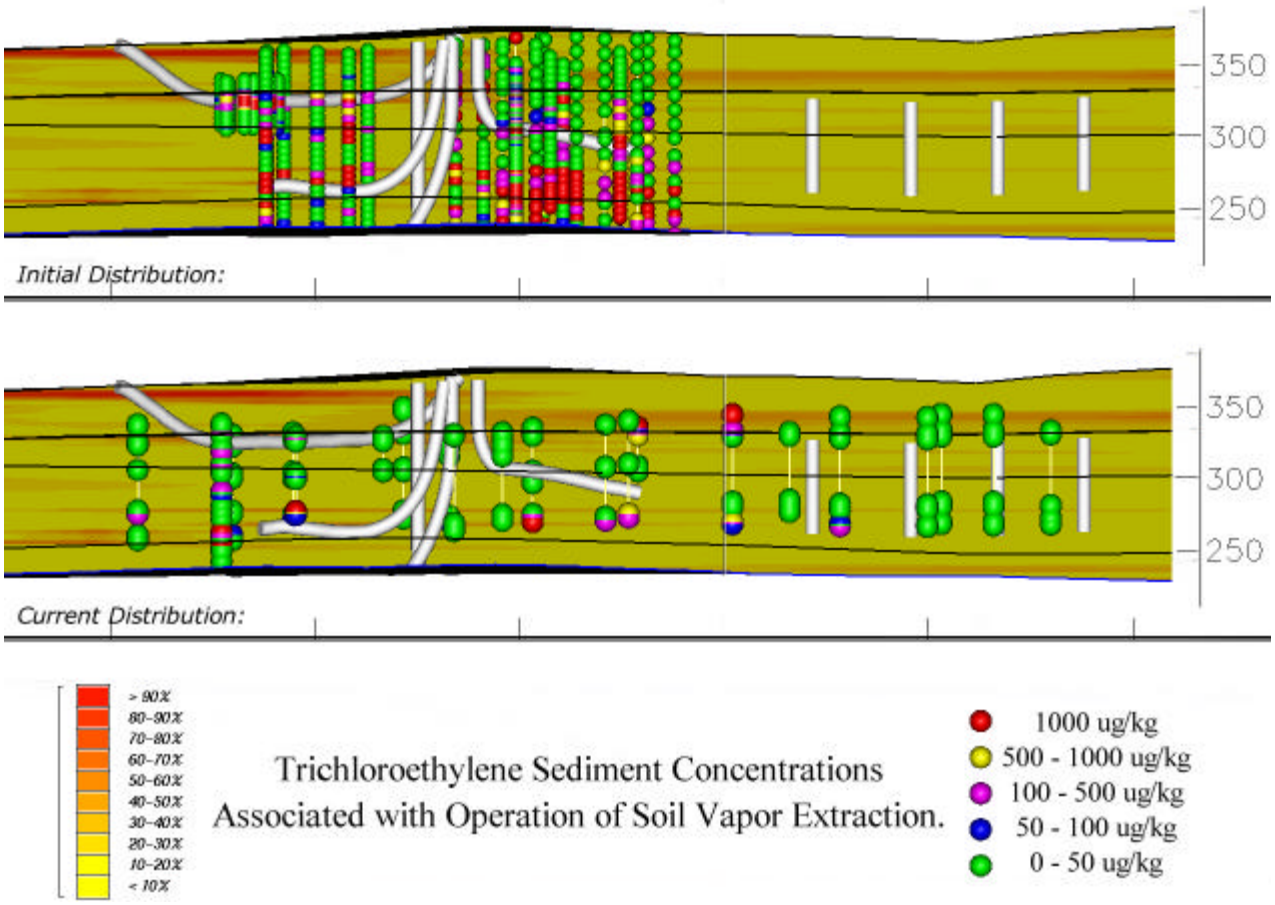

Figure 12 – TCE Sediment Concentration

Recommendations

The recommendations will be addressed by current SVE Unit name and zone as described in Figure 1. In general, the recommendations address residual contamination that remains in the fine grain sediments where remediation is regulated by mass transfer rates.

Unit 782-5M: Transfer to Passive Soil Vapor Extraction

Use wells MVE-5 through MVE-8 for passive soil vapor extraction (PSVE) wells with BaroBall™ check valves. These wells correspond to SVE Unit 782-5M that has low contaminant removal rates. PSVE will address the current contaminant profile along the northern section of the study area. When the coarser sediments have been remediated, barometric pumping has proven to remove VOC contamination above the rate of release from the fine grained sediments at SRS. This trend has been observed as decreasing soil gas concentrations and plume size at both the Miscellaneous Chemical Basin and MetLab PSVE remediation sites (Riha et al., 1999a; Riha et al., 1999b; Riha et al., 2000)

Two flow measurements were made on well MVE-5 during January 2000. The vapor flows were measured at 15 and 50 cfm and are significantly higher than those measured from the two inch direct push wells at the current SRS PSVE remediation sites. The average vapor flow from the two inch direct push wells is approximately 2 cfm. PSVE well vapor flows are a function of well size, screen length, screen zone, gravel pack, and differential pressure magnitude dictated by impermeable zones and barometric pressure fluctuations(Rossabi, 1999). The 4 inch diameter wells will provide a significant amount of flow. A discussion of barometric pumping flow and mass removal rates is provided in Appendix F.

Periodic vapor sampling from MVE-5 through MVE-8 and MVC-4 and MVC-5 monitoring points is proposed to verify removal of contamination above the rate of release from the fine grain sediments. This will be demonstrated by a decrease in concentration over time.

The remediation between MVE-7 and AMH-2 is not being addressed adequately by the current remediation systems. Two 4 inch diameter wells are proposed near MVB-108 and near MVB-110 for use as PSVE wells. The wells will be installed with screens that address the upper and lower fine grain zones as well as the central sandy zone. These wells will be included in the PSVE monitoring plan that addresses the 5M unit.

Unit 782-7M: Passive Soil Vapor Extraction Treatability Study

Due to decreasing removal rates from 782-7M, initiate a barometric pumping treatability study using the current AMH-2 horizontal well and four existing vertical wells. SVE Unit 782-7M and well AMH-2 are currently addressing the central sandy zone. The vertical wells are screened across the upper and lower fine grain zones where the contamination remains. Wells MHV-6 and MHV-7 are screened

continuously from 10 ft down to approximately 115 below the surface. Wells MHV-8 and MHV-9 have short multiple screens. Well construction details are provided in Table 3 and the wells are shown on the map in Figure 13. Based on the previous PSVE studies, these wells should adequately address the contaminant removal at the release rates expected from the fine grain zones.

A one year treatability study is proposed to determine the effectiveness of remediation using PSVE in this area. Monthly vapor sampling from the extraction wells and monitoring of selected monitoring points (MHV-1 to MHV-5) is proposed to verify removal of contamination above the rate of release from the fine grain sediments. This will be demonstrated by a decrease in concentration over time. Average well flow rates will also be determined. At the end of the study, a comparison between the active and passive removal rates will be made and it will be determined if active extraction should be reinstated.

Table 3 – Existing Four-Inch Diameter Wells Near 782-7M

Well ID	SRS North	SRS East	Screen Top ft msl	Screen Bottom ft msl	Surface ft msl	Effective Depth ft
MHV-6	102780.1	48891.5	358.8	253.8	368.1	114.6
MHV-7	102811.5	48878.1	358.2	253.2	368.2	117.1
MHV-8	102610.3	48846.3	323.4	321.1	357.7	117.4
			303.8	301.5		
			296.5	294.2		
			285.2	282.9		
			268.9	266.7		
			254.7	252.4		
			243.5	241.2		
MHV-9	102830.1	49046.7	343.5	341.2	367.7	123.6
			318.8	316.5		
			303.5	301.2		
			292.2	290		
			281	278.7		
			268.7	266.4		
			255.3	253		
			248	245.7		

Unit 782-8M: Increase Flow to Well AMH-6 as an Interim Measure

The horizontal wells associated with SVE Unit 782-8M have not addressed the vadose zone contamination adequately. Initial SVE modeling work done by Clemson University shows the zone of capture from horizontal well AMH-6 under the basin reaches to SRS Northing 102500 (Falta, 2001). This means the subsurface in this area is under vacuum conditions and barometric pumping is not viable. This negative pressure condition has been measured in existing piezometers.

Remediation in this area can be enhanced by increasing the subsurface flow along the sewer line to well AMH-6. Flow can be increased by installing additional vadose zone wells to allow surface air inflow that will sweep the contaminants through the more permeable zones to AMH-6.

These wells will also create a 'pressure barrier' between the basin and the northern sewer area and will allow the natural pressure fluctuations to occur which drives PSVE. The wells will be installed with screens that address the upper and lower fine grain zones as well as the central sandy zone. The three proposed wells are shown in Figure 13 near the 102500 SRS Northing line. Existing monitoring points will be used to evaluate the effectiveness of this strategy and wells can be used for active vapor extraction if necessary. This strategy is proposed as an interim measure contingent on the remedial design chosen for the M-Area Basin. An additional well is proposed near MVB-119 for PSVE to complete coverage of the process sewer line.

Evaluate Alternative Remediation Techniques

In general contamination remains in the upper fine grain, low permeability zone that is not directly addressed by active SVE. Heating and methods for increasing permeability should be evaluated to increase the remediation from these zones.

Low permeability zones, perched water and cemented zones are located in the lower fine grain zone, located approximately 100 ft down to the water table. Additional characterization needs to be done in this zone to determine the contaminant distribution. A literature search can be done to find methods for remediating VOC plumes in these types of sediments and in the capillary fringe.

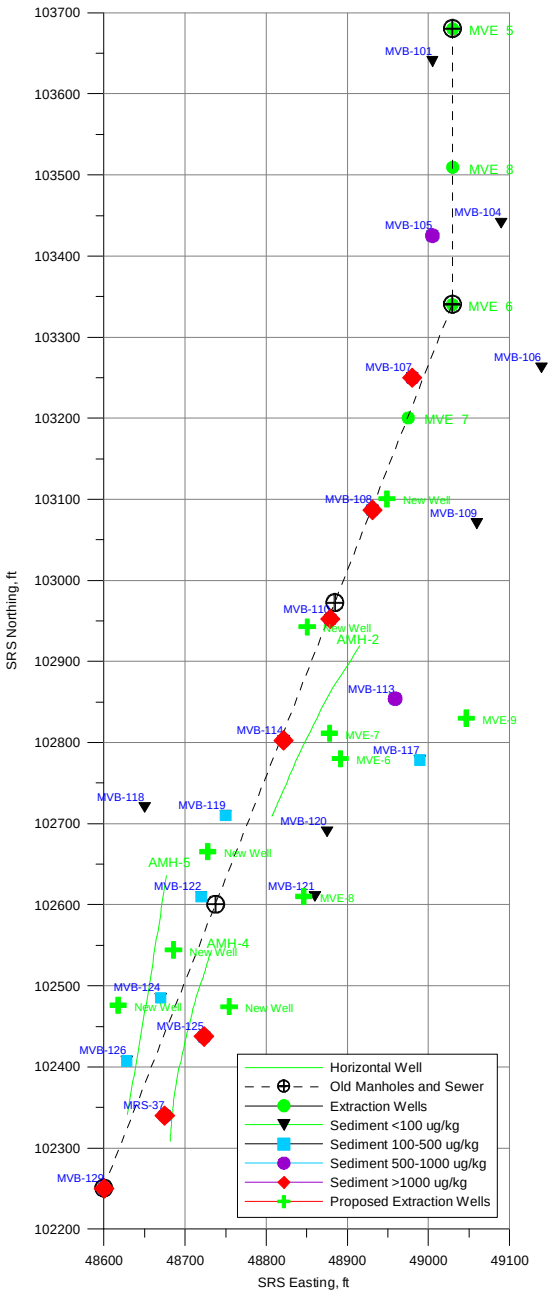

Figure 13 – Proposed Locations for New Vadose Zone Wells

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Appendix A – Vapor Concentrations of Existing Wells

SVE Unit	Well ID	Oct-00 PCE ppmv	Oct-00 TCE ppmv	Oct-00 CO_2 ppmv	Initial PCE ppmv	Initial TCE ppmv	Initial Sample Date	SRS Easting	SRS Northing	Ground Elevation ft, msl	Screen Top Elevation ft, msl	Screen Bottom Elevation ft, msl
5-M	MVC-4A	2.4	4.5	11500	363.8	362.3	Nov-94	49018.8	103594.6	366.1	256.5	256.3
	MVC-4B	4.1	2.1	3100	260.4	145.0	Nov-94	49018.8	103594.6	366.1	286.9	286.7
	MVC-4C	376.0	19.8	10900	1009.1	173.7	Nov-94	49018.8	103594.6	366.1	327.3	327.1
	MVC-5A	0.9	5.3	9330	17.8	89.2	Jun-97	49004.1	103276.8	362.1	252.6	252.3
	MVC-5B[a]	0.0	0.5	377				49004.1	103276.8	362.1	262.8	262.6
	MVC-5C	0.5	1.1	5830	1.9	0.9	Jun-97	49004.1	103276.8	362.1	283.1	282.9
	MVC-5D	31.1	0.6	5960	191.2	1.1	Sep-97	49004.1	103276.8	362.1	323.5	323.3
7-M	MHV-1A	9.3	54.6	12300	346.0	656.0	Jul-90	48842	102749.3	365.6	270.6	265.6
	MHV-1B	0.8	4.6	4910	233.0	173.0	Jul-90	48842	102749.3	365.6	295.6	290.6
	MHV-1C[a]	0.1	0.2	343	5.0	2.6	Jul-90	48842	102749.3	365.6	321.6	315.6
	MHV-2A	3.6	5.5	13100	108.0	209.0	Jul-90	48903.2	102755.9	366.4	271.4	266.4
	MHV-2B	1.4	1.0	13900	40.0	70.5	Jul-90	48903.2	102755.9	366.4	296.4	291.4
	MHV-2C	0.6	0.6	13700	2.3	1.2	Jul-90	48903.2	102755.9	366.4	322.4	317.4
	MHV-3A	14.2	15.2	9370	225.0	532.0	Jul-90	48874.1	102774.7	368.2	273.2	268.2
	MHV-3B	0.2	0.7	2670	59.8	5.0	Jul-90	48874.1	102774.7	368.2	298.8	293.8
	MHV-3C	1.4	3.6	11700	0.5	0.2	Jul-90	48874.1	102774.7	368.2	323.2	318.2
	MHV-4A	20.1	134.0	10900	22.9	207.0	Jul-90	48842.5	102841.7	366.1	272.1	267.1
	MHV-4B	0.5	1.0	6920	57.2	352.0	Jul-90	48842.5	102841.7	366.1	296.1	291.1
	MHV-4C	42.0	42.9	12100	386.7	731.0	Jul-90	48842.5	102841.7	366.1	323.6	318.6
	MHV-5A	0.5	0.9	5160	9.1	61.3	Jul-90	48917.5	102878.8	369.2	284.2	279.2
	MHV-5B	0.7	1.1	9500	21.6	320.0	Jul-90	48917.5	102878.8	369.2	301.2	296.2
	MHV-5C	3.5	6.2	20400	89.6	268.0	Jul-90	48917.5	102878.8	369.2	324.2	319.2
	MHV-6	0.0	0.3	11900				48891.5	102780.1	368.1	358.8	253.8
	MHV-7	0.0	0.5	5590				48878.1	102811.5	368.2	358.2	253.2
	MHV-8[a, b]	0.5	1.3	1860				48846.3	102610.3	357.7	323.4	241.2
	MHV-9[b]	0.3	0.2	20200				49046.7	102830.1	367.7	343.5	245.7

a – low CO_2 usually indicates poor sample recovery
b – wells have multiple screen zones
c – bottom of wells were measured with probable screen lengths of 5-10 ft

SVE Unit	Well ID	Oct-00 PCE ppmv	Oct-00 TCE ppmv	Oct-00 CO_2 ppmv	Initial PCE ppmv	Initial TCE ppmv	Initial Sample Date	SRS Easting	SRS Northing	Ground Elevation ft, msl	Screen Top Elevation ft, msl	Screen Bottom Elevation ft, msl
8-M	MHV-20A	13.6	0.8	9950	63.4	33.0	Feb-93	48658.3	102418.4	359.6	311.6	306.7
	MHV-20B	2.5	1.1	16400	88.0	132.5	Feb-93	48658.3	102418.4	359.6	321.6	316.7
	MHV-20C	16.9	16.1	19300	0.0	0.0	Feb-93	48658.3	102418.4	359.6	331.6	326.7
	MHV-21A	5.6	4.2	20800	23.8	16.3	Feb-93	48661.5	102433.6	359.7	311.7	306.8
	MHV-21B	52.7	52.6	18400	25.0	38.2	Feb-93	48661.5	102433.6	359.7	321.7	316.8
	MHV-21C	17.6	0.0	21900	0.0	0.0	Feb-93	48661.5	102433.6	359.7	331.7	326.8
	MHV-22A	1.0	1.3	18500	74.7	46.1	Feb-93	48663.8	102443.5	359.7	311.7	306.8
	MHV-22B	17.6	4.3	6720	143.9	66.9	Feb-93	48663.8	102433.5	359.7	321.7	316.8
	MHV-22C	68.7	0.9	22600	0.0	0.0	Feb-93	48663.8	102433.5	359.7	331.7	326.8
	MHV-23A	3.6	2.6	19500	37.8	26.6	Feb-93	48666.9	102458.0	359.7	311.7	306.8
	MHV-23B[a]	0.2	0.7	487	155.0	77.6	Feb-93	48666.9	102458.0	359.7	321.7	316.8
	MHV-23C	113.0	0.5	24500	30.5	3.7	Feb-93	48666.9	102458.0	359.7	331.7	326.8
	MHV-24A[a]	0.2	0.3	1100	25.5	13.6	Feb-93	48636.9	102439.8	360.5	312.5	307.6
	MHV-24B	13.9	9.5	19900	30.0	26.9	Feb-93	48636.9	102439.8	360.5	322.5	317.6
	MHV-24C	0.3	0.2	20200	1.1	0.0	Feb-93	48636.9	102439.8	360.5	332.5	327.6
	MHV-25A	1.4	0.9	12400	169.8	78.1	Feb-93	48681	102428.9	359.1	311.1	306.2
	MHV-25B	30.2	19.7	21400	259.1	370.9	Feb-93	48681	102428.9	359.1	321.1	316.2
	MHV-25C	83.8	0.5	21800	135.8	12.8	Feb-93	48681	102428.9	359.1	331.1	326.2
	MHV-26A	1.0	0.4	6050	150.4	73.9	Feb-93	48655.3	102404.2	359.8	311.8	306.9
	MHV-26B	6.9	4.7	13600	32.7	18.3	Feb-93	48655.3	102404.2	359.8	321.8	316.9
	MHV-26C	0.4	0.1	13800	1.3	0.0	Feb-93	48655.3	102404.2	359.8	331.8	326.9
	MHV-27A	19.8	1.1	12900	19.5	10.6	Feb-93	48654.5	102374.3	359.9	311.9	307.0
	MHV-27B	165.0	29.0	12000	29.7	13.8	Feb-93	48654.5	102374.3	359.9	321.9	317.0
	MHV-27C	30.9	0.8	20400	0.6	0.0	Feb-93	48654.5	102374.3	359.9	331.9	327.0
	MHV-28A	0.7	0.2	3430	52.7	32.0	Feb-93	48647.6	102366.3	359.9	311.9	307.0
	MHV-28B	24.9	1.7	11600	48.1	13.2	Feb-93	48647.6	102366.3	359.9	321.9	317.0
	MHV-28C	114.0	0.3	30600	136.8	13.9	Feb-93	48647.6	102366.3	359.9	331.9	327.0
	MHV-29A	28.6	1.3	12200	51.4	25.9	Feb-93	48661.8	102362.2	359.6	311.6	306.7
	MHV-29B	68.2	12.4	9610	16.8	10.0	Feb-93	48661.8	102362.2	359.6	321.6	316.7
	MHV-29C	107.0	0.6	33600	224.4	18.8	Feb-93	48661.8	102362.2	359.6	331.6	326.7
	CPTRAM15[c]	0.0	0.6	11800	53.7	40.4	Mar-94	48600	102432.1	360.6	Unknown	270.6
	TUP-1[c]	36.9	5.6	15700				48686.4	102407.0	360.0	Unknown	294.0
	TUP-2[c]	7.2	1.9	13200				48686.4	102402.5	360.0	Unknown	269.0
	TUP-3[c]	30.2	4.8	13500				48686.4	102399.8	360.0	Unknown	296.2
	TUP-4[c]	3.5	0.9	14600				48686.4	102397.3	360.0	Unknown	264.0

a – low CO_2 usually indicates poor sample recovery
b – wells have multiple screen zones
c – bottom of wells were measured with probable screen lengths of 5 or 10 ft

APPENDIX B – Current Sediment Concentrations

Boring	Depth, ft	Elevation ft msl	PCE ug/kg	TCE ug/kg	Sediment Description	Comments
MVB-101	38	328.4	7.4	0.5	sand	
	39	327.4	5.7	0.5	sand	
	40	326.4	2.8	0.3	sand	
	41	325.4	91.6	4.2	sand	
	90	276.4	3.4	0.3	sand/clay	
	91	275.4	1.5	-	sand	
	99	267.4	2.2	0.6	sand	
	100	266.4	0.4	-	sand	
	104	262.4	5.6	2.8	sand	CPT Refusal @ 104'
MVB-104	24	339.7	1.3	0.5	sand/clay	
	25	338.7	1.0	0.5	sand/clay	
	35	328.7	3.4	0.2	sand/clay	
	36	327.7	0.8	0.4	sand/clay	
	37	326.7	0.4	0.3	sand/clay	
	38	325.7	0.9	0.2	sand/clay	
	39	324.7	0.3	0.2	sand/clay	
	40	323.7	0.4	0.2	sand/clay	
	85	278.7	0.6	0.5	sand/clay	
	86	277.7	0.5	0.5	sand	
	87	276.7	0.4	0.3	sand	
	88	275.7	0.4	0.3	sand	
	89	274.7	1.2	0.4	sand	
	99	264.7	0.3	0.2	sand	
	100	263.7	0.3	0.2	sand/clay	
	101	262.7	0.3	0.2	sand	
	102	261.7	8.1	9.5	clay	CPT Refusal @ 103'
MVB-105	24	339.8	2.5	1.2	clay	
	25	338.8	0.6	0.2	clay	
	35	328.8	54.5	1.1	sand/clay	
	36	327.8	778.9	16.2	clay	
	37	326.8	132.4	2.1	sand/clay	
	38	325.8	784.3	16.8	clay	
	39	324.8	9.7	0.3	sand/clay	
	40	323.8	15.1	6.0	sand	
	85	278.8	2.1	0.3	sand/clay	
	86	277.8	1.9	0.4	sand/clay	
	87	276.8	2.7	0.3	sand/clay	
	88	275.8	2.7	2.0	sand/clay	
	89	274.8	3.3	0.9	sand/clay	
	99	264.8	2.0	0.4	sand/clay	
	100	263.8	3.8	2.2	sand/clay	
	101	262.8	3.3	2.6	sand/clay	CPT Refusal @ 103'

Boring	Depth, ft	Elevation, ft msl	PCE, ug/kg	TCE, ug/kg	Sediment Description	Comments
MVB-106	24	337.7	0.8	-	sand/clay	
	25	336.7	0.5	-	sand/clay	
	35	326.7	9.1	0.2	sand/clay	
	36	325.7	36.2	0.2	sand/clay	
	37	324.7	19.2	0.2	sand/clay	
	38	323.7	36.6	0.2	sand/clay	
	39	322.7	1.4	-	sand/clay	
	40	321.7	3.7	-	sand/clay	
	85	276.7	0.3	-	sand/clay	
	86	275.7	0.6	-	sand/clay	
	87	274.7	0.3	-	sand/clay	
	88	273.7	0.7	-	sand/clay	
	89	272.7	1.2	0.3	clay	
	99	262.7	6.1	1.3	sand/clay	
	100	261.7	21.9	3.0	sand/clay	
	101	260.7	14.8	2.3	sand/clay	CPT Refusal @ 102'
MVB-107	24	338.2	0.7	-	sand/clay	
	25	337.2	1.9	-	sand/clay	
	35	327.2	984.9	0.2	clay	
	36	326.2	260.0	4.9	clay	
	37	325.2	437.8	1.8	clay	
	38	324.2	360.0	6.5	clay	
	39	323.2	409.8	-	clay	
	40	322.2	1,214.1	7.2	clay	
	85	277.2	1.9	0.3	sand/clay	
	86	276.2	1.2	0.6	sand/clay	
	87	275.2	2.1	7.9	clay	
	88	274.2	10.1	44.4	clay	
	89	273.2	4.2	28.7	sand	
	90	272.2	0.6	2.0	sand	
	99	263.2	4.8	60.0	sand/clay	
	100	262.2	11.0	23.7	sand/clay	
	101	261.2	9.8	120.3	sand/clay	CPT Refusal @ 102'

Boring	Depth, ft	Elevation, ft msl	PCE, ug/kg	TCE, ug/kg	Sediment Description	Comments
MVB-108	24	339.6	458.0	1,110.3	sand/clay	
	25	338.6	1,595.9	3,695.7	sand/clay	
	35	328.6	98.3	123.1	clay	
	36	327.6	77.6	131.4	sand/clay	
	37	326.6	71.7	96.3	sand/clay	
	38	325.6	47.4	54.3	clay	
	39	324.6	104.1	126.9	clay	
	40	323.6	14.9	19.9	clay	
	85	278.6	1.0	1.7	sand/clay	
	86	277.6	1.1	1.1	sand/clay	
	87	276.6	0.9	1.9	sand/clay	
	88	275.6	0.7	1.2	sand/clay	
	89	274.6	0.6	1.0	sand/clay	
	99	264.6	67.2	662.3	clay	
	100	263.6	44.7	370.5	sand/clay	
	101	262.6	6.2	69.5	sand/clay	CPT Refusal @ 102'
MVB-109	38	327.1	-	-	sandy clay	
	39	326.1	0.1	-	sandy clay	
	40	325.1	0.1	-	sandy clay	
	41	324.1	-	-	clay	
	85	280.1	-	-	sand	
	86	279.1	-	-	sand	
	87	278.1	-	-	sand	
	88	277.1	-	-	sand	
	89	276.1	-	-	sandy clay	
	90	275.1	0.6	1.2	clay	
	91	274.1	7.7	43.4	clay	
	92	273.1	0.8	6.4	sand/clay	
	93	272.1	3.6	33.5	clay	
	94	271.1	3.1	29.9	clay	CPT Refusal @ 121'
MVB-110	35	330.5	1,126.8	1,644.0	sand/clay	
	36	329.5	91.0	273.8	sand	
	37	328.5	18.3	56.4	sand	
	38	327.5	19.3	67.8	sand	
	39	326.5	24.9	89.7	sand	
	40	325.5	51.2	272.4	sand	
	41	324.5	188.5	607.5	sand/clay	
	62	303.5	-	-	sand/clay	
	63	302.5	0.8	2.6	sand/clay	
	64	301.5	3.2	12.2	sand/clay	
	65	300.5	0.5	2.9	sand/clay	
	66	299.5	33.6	12.7	sand/clay	
	95				no sample	perched water
	100				no sample	perched water

Boring	Depth, ft	Elevation, ft msl	PCE, ug/kg	TCE, ug/kg	Sediment Description	Comments
MVB-113	34	335.2	0.8	1.5	clay	
	35	334.2	0.3	0.5	sand/clay	
	64	305.2	0.4	0.7	sand/clay	
	65	304.2	0.6	0.7	sand/clay	
	99	270.2	78.6	610.0	sand/clay	
	100	269.2	22.7	159.3	sand	
	101	268.2	66.0	439.4	sand/clay	
	102	267.2	19.9	118.9	sand/clay	CPT Refusal @ 102'
MVB-114	35	330.1	5.0	1.0	sand/clay	
	36	329.1	2.3	0.7	sand/clay	
	37	328.1	2.5	0.7	sand/clay	
	38	327.1	1.5	3.3	clay	
	39	326.1	0.8	1.8	na	
	40	325.1	1.6	2.5	clay	
	41	324.1	2.6	4.9	na	
	65	300.1	0.2	0.6	sand	
	66	299.1	0.4	0.8	sand	
	67	298.1	0.3	0.5	sand	
	68	297.1	0.1	0.2	sand	
	69	296.1	0.2	0.5	sand	
	70	295.1	1.3	1.8	sand	
	71	294.1	0.2	0.4	sand	
	72	293.1	0.2	0.5	sand	
	73	292.1	0.4	4.3	sand	
	74	291.1	0.4	5.3	sand	
	95	270.1	0.6	5.7	sand	
	96	269.1	44.4	456.5	sand/clay	
	100	265.1	255.7	5,267.3	clay	
	101	264.1	298.8	6,562.7	clay	CPT Refusal @ 111'
MVB-117	35	332.1	0.5	0.2	sand/clay	
	64	303.1	0.5	0.2	sand/clay	
	65	302.1	1.1	0.4	sand/clay	
	99	268.1	0.7	1.0	sand	
	100	267.1	0.3	0.4	sand	
	101	266.1	0.4	0.4	sand	
	102	265.1	106.4	377.1	clay	CPT Refusal @ 103'

Boring	Depth, ft	Elevation, ft msl	PCE, ug/kg	TCE, ug/kg	Sediment Description	Comments
MVB-118	19	344.5	0.4	0.2	sand/clay	
	20	343.5	0.5	-	clay	
	21	342.5	0.3	-	clay	
	22	341.5	0.3	-	clay	
	37	326.5	0.3	0.2	clay	
	38	325.5	0.7	0.3	sand/clay	
	61	302.5	0.5	-	sand	
	62	301.5	0.3	-	sand	
	63	300.5	0.2	-	sand	
	64	299.5	0.3	-	sand	
	91	272.5	0.3	0.8	sand/clay	
	92	271.5	0.2	0.2	sand/clay	
	93	270.5	0.3	0.7	sand/clay	
	94	269.5	0.3	0.8	clay	
	95	268.5	0.3	-	sand/clay	
	96	267.5	0.2	0.6	sand/clay	
	97	266.5	0.2	-	sand	CPT Refusal @ 98'
MVB-119	36	326.7	0.2	-	na	
	37	325.7	0.4	0.2	clay	
	38	324.7	0.2	0.1	clay	
	43	319.7	0.2	-	sand	
	44	318.7	0.2	-	sand	
	47	315.7	0.2	-	sand	
	53	309.7	0.2	-	sand	
	94	268.7	0.1	-	sand	
	95	267.7	0.2	0.5	sand	
	96	266.7	0.5	2.0	sand	
	97	265.7	0.2	0.7	sand	
	98	264.7	55.3	84.5	clay	CPT Refusal @ 102'
MVB-120	35	326.8	3.7	2.1	clay	
	36	325.8	2.5	1.5	clay	
	37	324.8	1.2	1.1	clay	
	42	319.8	0.7	0.9	clay	
	43	318.8	0.5	0.6	clay	
	44	317.8	0.6	0.7	clay	
	45	316.8	0.6	0.4	sand	
	51	310.8	0.5	0.3	sand	
	52	309.8	1.0	0.4	sand	
	92	269.8	32.3	9.6	sand/clay	
	93	268.8	1.7	1.2	sand/clay	
	94	267.8	7.6	3.1	sand/clay	
	95	266.8	43.1	14.1	sand/clay	
	96	265.8	8.1	4.2	sand/clay	
	97	264.8	1.4	0.8	sand/clay	CPT Refusal @ 98'

Boring	Depth, ft	Elevation, ft msl	PCE, ug/kg	TCE, ug/kg	Sediment Description	Comments
MVB-121	31	325.7	22.3	2.3	sand/clay	
	32	324.7	1.6	0.4	sand/clay	
	33	323.7	2.1	0.5	sand/clay	
	93	263.7	1.4	1.4	sand	
	94	262.7	0.9	1.1	sand	
	95	261.7	1.5	3.7	sand/clay	
	96	260.7	0.7	0.9	sand	
	97	259.7	0.5	0.3	sand	
	98	258.7	0.4	0.2	sand	
	99	257.7	0.5	0.2	sand	CPT Refusal @ 100'
MVB-122	36	324.3	55.8	13.8	clay	
	37	323.3	33.7	13.2	clay	
	38	322.3	81.4	22.7	clay	
	39	321.3	100.9	34.0	clay	
	40	320.3	1.0	0.2	sand	
	59	301.3	0.6	0.2	clay	
	60	300.3	0.3	-	clay	
	61	299.3	0.2	-	clay	CPT Refusal @ 82'
MVB-124	33	326.7	7.3	0.9	sand	
	34	325.7	3.3	0.4	sand	
	35	324.7	32.9	1.6	sand	
	36	323.7	15.7	5.2	sand	
	37	322.7	34.4	0.9	clay	
	38	321.7	48.6	2.1	clay	
	60	299.7	0.8	0.7	sand/clay	
	61	298.7	1.4	1.5	sand/clay	
	62	297.7	1.3	3.7	sand/clay	
	63	296.7	1.5	2.5	sand/clay	
	64	295.7	1.7	0.6	sand	
	65	294.7	1.9	0.5	sand	
	90	269.7	1.3	1.6	clay	very wet
	91	268.7	196.0	151.4	clay	very wet
	92	267.7	98.8	82.5	clay	very wet, abandoned push

Boring	Depth, ft	Elevation, ft msl	PCE, ug/kg	TCE, ug/kg	Sediment Description	Comments
MVB-125	33	324.0	82.7	35.7	clay	
	35	322.0	628.0	337.4	clay	
	36	321.0	99.3	46.5	sand	
	37	320.0	2.2	1.0	sand	
	59	298.0	12.8	4.4	sand/clay	
	60	297.0	90.3	32.4	clay	
	61	296.0	74.0	57.6	clay	
	62	295.0	179.7	96.8	sand/clay	
	63	294.0	10.9	5.7	sand/clay	
	85	272.0	3,816.7	1,322.4	na	
	86	271.0	1,690.7	908.2	clay	
	87	270.0	899.4	593.9	sand/clay	
	88	269.0	53.8	70.3	sand	CPT Refusal @ 103'
MVB-126	35	325.4	0.5	0.3	clay	
	36	324.4	1.8	1.0	clay	
	37	323.4	0.9	0.1	clay	
	38	322.4	1.1	0.7	clay	
	39	321.4	2.8	1.7	clay	
	40	320.4	2.3	2.5	clay	
	41	319.4	5.9	4.0	clay	
	42	318.4	2.8	2.6	clay	
	43	317.4	1.5	1.2	clay	
	44	316.4	0.8	0.9	clay	
	62	298.4	5.4	3.7	na	
	63	297.4	6.9	5.0	clay	
	64	296.4	0.2	0.3	sand/clay	
	65	295.4	1.4	1.5	sand/clay	
	66	294.4	1.6	1.7	sand/clay	
	88	272.4	0.1	-	sand	
	89	271.4	0.1	-	sand	
	90	270.4	0.4	0.5	sand/clay	
	91	269.4	0.6	0.8	sand/clay	
	105	255.4	71.9	67.1	sand	
	106	254.4	0.2	0.2	sand	
	107	253.4	0.1	-	sand	
	108	252.4	0.1	-	sand	
	109	251.4	4.4	10.6	sand/clay	CPT Refusal @ 110'

Boring	Depth, ft	Elevation, ft msl	PCE, ug/kg	TCE, ug/kg	Sediment Description	Comments
MVB-129	28	332.4	918.6	-	sand/clay	
	29	331.4	4,252.1	-	sand/clay	
	30	330.4	6,040.6	-	na	
	40	320.4	157.7	-	sand/clay	
	41	319.4	62.3	-	na	
	42	318.4	150.4	-	na	
	43	317.4	301.9	-	sand/clay	
	60	300.4	338.2	-	sand/clay	
	88	272.4	5.7	0.2	sand/clay	
	89	271.4	13.7	3.4	sand/clay	
	90	270.4	11.1	1.7	sand/clay	
	91	269.4	713.4	358.0	clay	
	105	255.4	29.6	1.0	sand	
	108	252.4	9.9	1.1	sand	
	109	251.4	31.4	7.6	clay	CPT Refusal @ 110'
MRS-37	15	332.8	0.5	0.5		Roto Sonic Core
	16	331.8	0.5	0.5		
	17	330.8	0.5	0.5		
	23	324.8	1.4	300.9		
	24	323.8	0.5	19.0		
	31	316.8	0.5	3.0		
	35	312.8	3.1	478.2		
	43	304.8	5.1	28.4		
	44	303.8	33.3	148.0		
	47	300.8	0.6	3.1		
	50	297.8	1.9	30.8		
	62	285.8	35.3	120.6		
	64	283.8	3.6	20.5		
	65	282.8	11.0	62.4		
	72	275.8	0.5	1.9		
	77	270.8	0.5	0.9		
	82	265.8	0.5	0.5		
	90	257.8	2,450.7	2,055.1		
	93	254.8	644.2	304.4		
	96	251.8	7.0	3.0		
	98	249.8	5,045.8	3,780.1		
	102	245.8	12.3	13.5		
	104	243.8	6.0	3.4		
	111	236.8	17.1	13.5		
	116	231.8	1.0	1.3		
	121	226.8	0.5	0.5		
	124	223.8	0.6	0.5		
	126	221.8	0.7	0.5		
	128	219.8	0.5	0.5		
	132	215.8	1.2	2.1		
	140	207.8	69.1	179.0		

Appendix C – Current CPT Soil Gas Concentrations

Boring	SRS North	SRS East	Depth ft	Elevation ft msl	PCE ppmv	TCE ppmv	CO_2 ppmv
MVB-101	103639.9	49005.0	20.00	346.38	2.8	1.9	1,280
MVB-101	103639.9	49005.0	30.00	336.38	155.0	7.0	16,300
MVB-101	103639.9	49005.0	37.00	329.38	167.0	9.6	13,900
MVB-101	103639.9	49005.0	50.00	316.38	127.0	6.7	13,400
MVB-101	103639.9	49005.0	70.00	296.38	3.4	1.5	10,500
MVB-101	103639.9	49005.0	80.00	286.38	3.4	1.6	10,400
MVB-101	103639.9	49005.0	90.00	276.38	55.3	3.9	10,000
MVB-101	103639.9	49005.0	99.00	267.38	28.2	2.9	11,600
MVB-101	103639.9	49005.0	104.00	262.38	24.7	2.9	12,200
MVB-104	103440.8	49090.0	20.00	343.68	1.5	2.8	917
MVB-104	103440.8	49090.0	30.00	333.68	1.8	2.7	775
MVB-104	103440.8	49090.0	50.00	313.68	1.3	3.1	6,710
MVB-104	103440.8	49090.0	60.00	303.68	1.3	3.1	7,580
MVB-104	103440.8	49090.0	70.00	293.68	1.5	3.1	7,260
MVB-104	103440.8	49090.0	80.00	283.68	1.7	3.4	7,690
MVB-105	103425.1	49005.0	20.00	343.79	2.6	2.8	1,500
MVB-105	103425.1	49005.0	30.00	333.79	258.0	37.0	15,600
MVB-105	103425.1	49005.0	50.00	313.79	222.0	4.7	11,000
MVB-105	103425.1	49005.0	60.00	303.79	11.4	3.4	8,130
MVB-105	103425.1	49005.0	70.00	293.79	6.2	3.3	8,060
MVB-105	103425.1	49005.0	80.00	283.79	5.2	3.3	8,330
MVB-105	103425.1	49005.0	90.00	273.79	29.3	6.4	12,700
MVB-105	103425.1	49005.0	102.00	261.79	9.5	10.5	1,500
MVB-106	103262.4	49139.3	20.00	341.71	2.1	2.7	898
MVB-106	103262.4	49139.3	30.00	331.71	1.6	2.6	971
MVB-106	103262.4	49139.3	50.00	311.71	3.5	3.0	6,530
MVB-106	103262.4	49139.3	60.00	301.71	1.9	2.9	6,710
MVB-106	103262.4	49139.3	70.00	291.71	1.5	2.7	7,010
MVB-106	103262.4	49139.3	80.00	281.71	1.9	3.3	6,490
MVB-106	103262.4	49139.3	90.00	271.71	2.7	3.0	5,630
MVB-106	103262.4	49139.3	102.00	259.71	2.3	2.7	6,160
MVB-107	103249.9	48980.0	20.00	342.23	1.5	2.4	2,510
MVB-107	103249.9	48980.0	30.00	332.23	1.5	2.4	2,240
MVB-107	103249.9	48980.0	50.00	312.23	90.7	6.6	10,800
MVB-107	103249.9	48980.0	60.00	302.23	5.5	3.3	7,930
MVB-107	103249.9	48980.0	70.00	292.23	2.7	2.8	7,610
MVB-107	103249.9	48980.0	80.00	282.23	3.5	3.0	7,540
MVB-108	103086.9	48930.9	20.00	343.57	1.6	2.5	1,930
MVB-108	103086.9	48930.9	30.00	333.57	478.0	519.0	13,200
MVB-108	103086.9	48930.9	50.00	313.57	23.1	26.1	9,090
MVB-108	103086.9	48930.9	60.00	303.57	18.3	21.1	8,430
MVB-108	103086.9	48930.9	70.00	293.57	2.7	5.1	8,780
MVB-108	103086.9	48930.9	80.00	283.57	4.3	10.7	9,010
MVB-108	103086.9	48930.9	90.00	273.57	3.8	13.4	7,090
MVB-108	103086.9	48930.9	102.00	261.57	39.2	114.0	10,100

Boring	SRS North	SRS East	Depth ft	Elevation ft msl	PCE ppmv	TCE ppmv	CO_2 ppmv
MVB-109	103070.0	49060.0	20.00	345.08	0.8	1.7	3,010
MVB-109	103070.0	49060.0	30.00	335.08	1.0	20.9	3,310
MVB-109	103070.0	49060.0	37.00	328.08	1.0	2.0	16,100
MVB-109	103070.0	49060.0	50.00	315.08	1.4	2.3	17,800
MVB-109	103070.0	49060.0	60.00	305.08	0.7	1.6	15,100
MVB-109	103070.0	49060.0	70.00	295.08	0.5	1.4	11,300
MVB-109	103070.0	49060.0	80.00	285.08	0.5	1.4	10,500
MVB-109	103070.0	49060.0	124.00	241.08	4.5	5.7	10,300
MVB-110	102952.2	48879.0	20.00	345.53	3.7	3.4	4,260
MVB-110	102952.2	48879.0	30.00	335.53	5.3	4.5	3,140
MVB-110	102952.2	48879.0	35.00	330.53	4.2	2.3	2,030
MVB-110	102952.2	48879.0	50.00	315.53	9.0	17.5	8,140
MVB-110	102952.2	48879.0	60.00	305.53	8.4	6.4	7,300
MVB-110	102952.2	48879.0	70.00	295.53	6.9	6.1	5,500
MVB-110	102952.2	48879.0	80.00	285.53	4.0	4.9	7,240
MVB-110	102952.2	48879.0	90.00	275.53	4.0	6.2	6,810
MVB-110	102952.2	48879.0	95.00	270.53	4.4	5.4	2,840
MVB-113	102854.1	48958.9	20.00	349.16	2.0	3.5	6,490
MVB-113	102854.1	48958.9	30.00	339.16	1.8	2.9	5,100
MVB-113	102854.1	48958.9	40.00	329.16	1.6	2.8	4,320
MVB-113	102854.1	48958.9	50.00	319.16	1.5	3.3	16,000
MVB-113	102854.1	48958.9	60.00	309.16	1.7	3.1	12,200
MVB-113	102854.1	48958.9	70.00	299.16	1.5	3.0	9,640
MVB-113	102854.1	48958.9	80.00	289.16	1.5	2.8	11,700
MVB-113	102854.1	48958.9	90.00	279.16	1.5	2.9	11,300
MVB-114	102802.7	48821.5	20.00	345.08	3.6	1.5	2,040
MVB-114	102802.7	48821.5	30.00	335.08	43.8	5.0	10,300
MVB-114	102802.7	48821.5	42.00	323.08	15.4	4.0	11,200
MVB-114	102802.7	48821.5	50.00	315.08	11.5	3.5	15,000
MVB-114	102802.7	48821.5	60.00	305.08	18.9	3.3	9,080
MVB-114	102802.7	48821.5	80.00	285.08	3.9	18.8	21,000
MVB-114	102802.7	48821.5	90.00	275.08	17.8	4.9	11,500
MVB-114	102802.7	48821.5	100.00	265.08	40.0	34.0	11,400
MVB-114	102802.7	48821.5	105.00	260.08	10.8	41.7	11,800
MVB-117	102778.2	48989.7	20.00	347.14	1.4	2.5	2,650
MVB-117	102778.2	48989.7	30.00	337.14	1.5	2.6	3,030
MVB-117	102778.2	48989.7	40.00	327.14	1.2	2.5	11,100
MVB-117	102778.2	48989.7	50.00	317.14	1.6	2.2	16,000
MVB-117	102778.2	48989.7	60.00	307.14	1.7	2.3	14,400
MVB-117	102778.2	48989.7	70.00	297.14	1.6	2.4	15,900
MVB-117	102778.2	48989.7	80.00	287.14	1.6	2.6	16,400
MVB-117	102778.2	48989.7	90.00	277.14	1.7	3.3	15,900
MVB-118	102720.0	48650.0	19.00	344.48	2.3	2.4	593
MVB-118	102720.0	48650.0	30.00	333.48	1.5	2.3	14,700
MVB-118	102720.0	48650.0	37.00	326.48	1.5	2.4	15,800
MVB-118	102720.0	48650.0	50.00	313.48	1.3	2.4	17,400
MVB-118	102720.0	48650.0	60.00	303.48	1.2	2.4	17,900

Boring	SRS North	SRS East	Depth ft	Elevation ft msl	PCE ppmv	TCE ppmv	CO_2 ppmv
MVB-118	102720.0	48650.0	70.00	293.48	1.0	2.3	18,200
MVB-118	102720.0	48650.0	80.00	283.48	1.1	2.4	18,300
MVB-118	102720.0	48650.0	90.00	273.48	1.1	2.5	18,000
MVB-119	102710.0	48750.0	20.00	342.72	1.4	2.4	3,460
MVB-119	102710.0	48750.0	30.00	332.72	1.2	2.4	18,500
MVB-119	102710.0	48750.0	40.00	322.72	3.5	5.2	16,000
MVB-119	102710.0	48750.0	50.00	312.72	1.2	2.6	16,500
MVB-119	102710.0	48750.0	60.00	302.72	1.9	3.3	12,400
MVB-119	102710.0	48750.0	70.00	292.72	0.9	2.4	18,300
MVB-119	102710.0	48750.0	80.00	282.72	0.9	2.4	17,900
MVB-119	102710.0	48750.0	90.00	272.72	1.1	2.7	14,200
MVB-119	102710.0	48750.0	101.00	261.72	1.3	5.3	20,200
MVB-120	102690.0	48875.0	20.00	341.77	1.7	2.7	1,260
MVB-120	102690.0	48875.0	30.00	331.77	1.4	2.8	15,800
MVB-120	102690.0	48875.0	40.00	321.77	1.5	2.8	8,660
MVB-120	102690.0	48875.0	50.00	311.77	3.1	3.0	14,900
MVB-120	102690.0	48875.0	60.00	301.77	4.0	3.2	13,300
MVB-120	102690.0	48875.0	70.00	291.77	4.7	3.2	13,700
MVB-120	102690.0	48875.0	80.00	281.77	4.0	3.2	12,700
MVB-120	102690.0	48875.0	90.00	271.77	2.8	3.0	10,700
MVB-121	102610.0	48860.0	20.00	336.66	1.9	2.3	2,000
MVB-121	102610.0	48860.0	30.00	326.66	2.6	2.6	13,600
MVB-121	102610.0	48860.0	40.00	316.66	75.6	12.3	24,000
MVB-121	102610.0	48860.0	50.00	306.66	19.6	5.8	12,900
MVB-121	102610.0	48860.0	60.00	296.66	51.4	16.5	10,600
MVB-121	102610.0	48860.0	70.00	286.66	69.6	21.2	11,400
MVB-121	102610.0	48860.0	80.00	276.66	16.6	9.5	12,400
MVB-121	102610.0	48860.0	90.00	266.66	16.2	8.6	12,500
MVB-122	102610.0	48720.0	20.00	340.26	7.4	3.9	12,500
MVB-122	102610.0	48720.0	30.00	330.26	48.5	9.2	29,700
MVB-122	102610.0	48720.0	41.00	319.26	13.6	5.5	17,000
MVB-122	102610.0	48720.0	50.00	310.26	6.6	3.3	13,700
MVB-122	102610.0	48720.0	62.00	298.26	1.7	2.5	12,900
MVB-122	102610.0	48720.0	70.00	290.26	3.5	5.0	12,900
MVB-122	102610.0	48720.0	80.00	280.26	2.8	3.2	13,100
MVB-124	102485.0	48670.0	20.00	339.73	133.0	14.3	13,100
MVB-124	102485.0	48670.0	30.00	329.73	129.0	18.4	28,200
MVB-124	102485.0	48670.0	39.00	320.73	162.0	28.2	22,100
MVB-124	102485.0	48670.0	50.00	309.73	47.4	11.6	20,900
MVB-124	102485.0	48670.0	60.00	299.73	25.2	6.4	19,400
MVB-124	102485.0	48670.0	70.00	289.73	5.3	2.9	13,200
MVB-124	102485.0	48670.0	80.00	279.73	4.2	2.7	13,000
MVB-125	102437.5	48723.3	20.00	336.99	2.0	2.4	2,130
MVB-125	102437.5	48723.3	30.00	326.99	4.0	2.7	5,740
MVB-125	102437.5	48723.3	40.00	316.99	2.6	2.7	2,370
MVB-125	102437.5	48723.3	50.00	306.99	20.5	4.6	12,300
MVB-125	102437.5	48723.3	70.00	286.99	2.5	2.7	15,000

Boring	SRS North	SRS East	Depth ft	Elevation ft msl	PCE ppmv	TCE ppmv	CO_2 ppmv
MVB-125	102437.5	48723.3	80.00	276.99	2.4	2.9	13,900
MVB-125	102437.5	48723.3	90.00	266.99	21.2	24.2	18,500
MVB-125	102437.5	48723.3	100.00	256.99	9.1	12.7	18,200
MVB-126	102407.5	48627.9	20.00	340.37	1.3	1.9	608
MVB-126	102407.5	48627.9	30.00	330.37	2.5	3.7	19,900
MVB-126	102407.5	48627.9	50.00	310.37	4.7	3.7	21,300
MVB-126	102407.5	48627.9	60.00	300.37	3.5	3.4	19,100
MVB-126	102407.5	48627.9	70.00	290.37	1.2	2.6	17,200
MVB-126	102407.5	48627.9	80.00	280.37	1.1	2.6	16,800
MVB-126	102407.5	48627.9	100.00	260.37	59.0	71.0	11,200
MVB-129	102249.9	48600.1	20.00	340.42	1.5	2.7	892
MVB-129	102249.9	48600.1	40.00	320.42	2,480.0	23.9	11,300
MVB-129	102249.9	48600.1	50.00	310.42	1,630.0	10.1	10,700
MVB-129	102249.9	48600.1	60.00	300.42	1,970.0	15.3	9,160
MVB-129	102249.9	48600.1	70.00	290.42	187.0	2.7	14,100
MVB-129	102249.9	48600.1	80.00	280.42	348.0	2.7	13,900
MVB-129	102249.9	48600.1	100.00	260.42	1,920.0	15.6	10,900

Appendix D – Initial Sediment Concentration

Sample dates correspond to installation dates in Appendix E

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHT-1C	102706.8	48765.6	3	359.7	-	-
MHT-1C	102706.8	48765.6	5	357.7	-	-
MHT-1C	102706.8	48765.6	9	353.7	-	-
MHT-1C	102706.8	48765.6	17	345.7	58.0	23.0
MHT-1C	102706.8	48765.6	25	337.7	565.0	312.0
MHT-1C	102706.8	48765.6	29	333.7	361.0	252.0
MHT-1C	102706.8	48765.6	35	327.7	1,434.0	1,082.0
MHT-1C	102706.8	48765.6	37	325.7	3,461.0	1,496.0
MHT-1C	102706.8	48765.6	43	319.7	375.0	139.0
MHT-1C	102706.8	48765.6	53	309.7	819.0	1,033.0
MHT-1C	102706.8	48765.6	61.5	301.2	-	-
MHT-1C	102706.8	48765.6	73	289.7	216.0	109.0
MHT-1C	102706.8	48765.6	83	279.7	159.0	13.0
MHT-1C	102706.8	48765.6	89	273.7	2,333.0	5,755.0
MHT-1C	102706.8	48765.6	93	269.7	197.0	557.0
MHT-1C	102706.8	48765.6	98	264.7	3,391.0	11,491.0
MHT-1C	102706.8	48765.6	105	257.7	-	-
MHT-1C	102706.8	48765.6	107	255.7	-	-
MHT-1C	102706.8	48765.6	113	249.7	-	12.0
MHT-1C	102706.8	48765.6	118	244.7	654.0	1,924.0
MHT-1C	102706.8	48765.6	120	242.7	24.0	126.0
MHT-1C	102706.8	48765.6	128	234.7	212.0	710.0
MHT-1C	102706.8	48765.6	140	222.7	5.0	50.0
MHT-1C	102706.8	48765.6	159	203.7	12.0	19.0
MHT-1C	102706.8	48765.6	166	196.7	14.0	27.0
MHT-1C	102706.8	48765.6	176	186.7	10.0	538.0
MHT-1C	102706.8	48765.6	191	171.7	-	361.0
MHT-1C	102706.8	48765.6	195	167.7	-	18.0
MHT-2C	102747.1	48780.28	15	349.1	432.0	122.0
MHT-2C	102747.1	48780.28	19	345.1	715.0	243.0
MHT-2C	102747.1	48780.28	25	339.1	76.0	50.0
MHT-2C	102747.1	48780.28	35	329.1	7,028.0	4,948.0
MHT-2C	102747.1	48780.28	45	319.1	376.0	186.0
MHT-2C	102747.1	48780.28	55	309.1	2,340.0	1,838.0
MHT-2C	102747.1	48780.28	65	299.1	-	-
MHT-2C	102747.1	48780.28	75	289.1	5.0	8.0
MHT-2C	102747.1	48780.28	80	284.1	-	-
MHT-2C	102747.1	48780.28	85	279.1	22.0	14.0
MHT-2C	102747.1	48780.28	90	274.1	4.0	36.0
MHT-2C	102747.1	48780.28	95	269.1	819.0	5,718.0
MHT-2C	102747.1	48780.28	99	265.1	622.0	11,221.0
MHT-2C	102747.1	48780.28	100	264.1	-	10.0
MHT-2C	102747.1	48780.28	105	259.1	-	229.0

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHT-2C	102747.1	48780.28	110	254.1	8.0	960.0
MHT-2C	102747.1	48780.28	115	249.1	3.0	14.0
MHT-2C	102747.1	48780.28	120	244.1	-	-
MHT-2C	102747.1	48780.28	125	239.1	11.0	63.0
MHT-2C	102747.1	48780.28	131	233.1	10.0	46.0
MHT-2C	102747.1	48780.28	133	231.1	225.0	562.0
MHT-2C	102747.1	48780.28	136	228.1	177.0	493.0
MHT-2C	102747.1	48780.28	139	225.1	82.0	348.0
MHT-2C	102747.1	48780.28	144	220.1	41.0	131.0
MHT-2C	102747.1	48780.28	145	219.1	65.0	282.0
MHT-2C	102747.1	48780.28	153	211.1	7.0	214.0
MHT-2C	102747.1	48780.28	158	206.1	-	16.0
MHT-2C	102747.1	48780.28	163	201.1	6.0	33.0
MHT-2C	102747.1	48780.28	168	196.1	11.0	57.0
MHT-2C	102747.1	48780.28	178	186.1	-	24.0
MHT-2C	102747.1	48780.28	183	181.1	-	43.0
MHT-2C	102747.1	48780.28	187	177.1	-	7,473.0
MHT-2C	102747.1	48780.28	190	174.1	-	1,162.0
MHT-3C	102704.3	48861.11	3	359.6	-	-
MHT-3C	102704.3	48861.11	7	355.6	-	-
MHT-3C	102704.3	48861.11	15	347.6	14.0	7.0
MHT-3C	102704.3	48861.11	25	337.6	68.0	27.0
MHT-3C	102704.3	48861.11	30	332.6	-	-
MHT-3C	102704.3	48861.11	35	327.6	44.0	13.0
MHT-3C	102704.3	48861.11	47	315.6	-	-
MHT-3C	102704.3	48861.11	55	307.6	21.0	17.0
MHT-3C	102704.3	48861.11	57	305.6	97.0	85.0
MHT-3C	102704.3	48861.11	65	297.6	347.0	217.0
MHT-3C	102704.3	48861.11	73	289.6	-	-
MHT-3C	102704.3	48861.11	85	277.6	27.0	19.0
MHT-3C	102704.3	48861.11	95	267.6	186.0	144.0
MHT-3C	102704.3	48861.11	100	262.6	213.0	160.0
MHT-3C	102704.3	48861.11	105	257.6	656.0	8,021.0
MHT-3C	102704.3	48861.11	115	247.6	75.0	793.0
MHT-3C	102704.3	48861.11	120	242.6	25.0	183.0
MHT-3C	102704.3	48861.11	126	236.6	290.0	1,235.0
MHT-3C	102704.3	48861.11	137	225.6	5.0	43.0
MHT-3C	102704.3	48861.11	147	215.6	13.0	106.0
MHT-3C	102704.3	48861.11	157	205.6	4.0	8.0
MHT-3C	102704.3	48861.11	166	196.6	10.0	39.0
MHT-3C	102704.3	48861.11	166	196.6	4.0	24.0
MHT-3C	102704.3	48861.11	177	185.6	-	15.0
MHT-3C	102704.3	48861.11	187	175.6	-	5,814.0
MHT-4C	102778.9	48863.53	3	364.4	-	-
MHT-4C	102778.9	48863.53	5	362.4	-	-
MHT-4C	102778.9	48863.53	15	352.4	-	-

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHT-4C	102778.9	48863.53	25	342.4	-	-
MHT-4C	102778.9	48863.53	35	332.4	10.0	4.0
MHT-4C	102778.9	48863.53	39	328.4	900.0	513.0
MHT-4C	102778.9	48863.53	47	320.4	445.0	606.0
MHT-4C	102778.9	48863.53	55	312.4	83.0	83.0
MHT-4C	102778.9	48863.53	65	302.4	622.0	730.0
MHT-4C	102778.9	48863.53	75	292.4	-	-
MHT-4C	102778.9	48863.53	85	282.4	-	-
MHT-4C	102778.9	48863.53	90	277.4	-	-
MHT-4C	102778.9	48863.53	95	272.4	4,303.0	11,964.0
MHT-4C	102778.9	48863.53	96	271.4	208.0	916.0
MHT-4C	102778.9	48863.53	103	264.4	169.0	662.0
MHT-4C	102778.9	48863.53	105	262.4	1,295.0	8,202.0
MHT-4C	102778.9	48863.53	108	259.4	507.0	10,805.0
MHT-4C	102778.9	48863.53	109	258.4	1,813.0	8,472.0
MHT-4C	102778.9	48863.53	115	252.4	911.0	3,048.0
MHT-4C	102778.9	48863.53	118	249.4	12.0	106.0
MHT-4C	102778.9	48863.53	125	242.4	94.0	911.0
MHT-4C	102778.9	48863.53	128	239.4	-	43.0
MHT-4C	102778.9	48863.53	130	237.4	303.0	5,502.0
MHT-4C	102778.9	48863.53	134	233.4	-	5.0
MHT-4C	102778.9	48863.53	138	229.4	27.0	402.0
MHT-4C	102778.9	48863.53	140	227.4	3.0	62.0
MHT-4C	102778.9	48863.53	142	225.4	80.0	645.0
MHT-4C	102778.9	48863.53	145	222.4	27.0	971.0
MHT-4C	102778.9	48863.53	152	215.4	37.0	1,288.0
MHT-4C	102778.9	48863.53	157	210.4	5.0	77.0
MHT-4C	102778.9	48863.53	162	205.4	3.0	13.0
MHT-4C	102778.9	48863.53	166	201.4	8.0	84.0
MHT-4C	102778.9	48863.53	171	196.4	25.0	29.0
MHT-4C	102778.9	48863.53	176	191.4	4.0	190.0
MHT-4C	102778.9	48863.53	181	186.4	2.0	143.0
MHT-4C	102778.9	48863.53	186	181.4	-	5,293.0
MHT-4C	102778.9	48863.53	190	177.4	-	7,812.0
MHT-5C	102725.1	48905.88	5	359.1	-	-
MHT-5C	102725.1	48905.88	11	353.1	-	-
MHT-5C	102725.1	48905.88	15	349.1	-	-
MHT-5C	102725.1	48905.88	25	339.1	-	-
MHT-5C	102725.1	48905.88	33	331.1	19.0	17.0
MHT-5C	102725.1	48905.88	40	324.1	8.0	9.0
MHT-5C	102725.1	48905.88	45	319.1	38.0	22.0
MHT-5C	102725.1	48905.88	55	309.1	91.0	86.0
MHT-5C	102725.1	48905.88	65	299.1	324.0	194.0
MHT-5C	102725.1	48905.88	69	295.1	-	-
MHT-5C	102725.1	48905.88	75	289.1	-	-
MHT-5C	102725.1	48905.88	85	279.1	20.0	28.0

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHT-5C	102725.1	48905.88	93	271.1	521.0	1,081.0
MHT-5C	102725.1	48905.88	101	263.1	133.0	140.0
MHT-5C	102725.1	48905.88	108	256.1	515.0	7,235.0
MHT-5C	102725.1	48905.88	111	253.1	587.0	8,609.0
MHT-5C	102725.1	48905.88	117	247.1	985.0	5,775.0
MHT-5C	102725.1	48905.88	119	245.1	267.0	4,677.0
MHT-5C	102725.1	48905.88	126	238.1	63.0	1,002.0
MHT-5C	102725.1	48905.88	138	226.1	2.0	25.0
MHT-5C	102725.1	48905.88	151	213.1	3.0	14.0
MHT-5C	102725.1	48905.88	162	202.1	7.0	58.0
MHT-5C	102725.1	48905.88	173	191.1	2.0	2.0
MHT-5C	102725.1	48905.88	185	179.1	-	25.0
MHT-5C	102725.1	48905.88	187	177.1	-	3,634.0
MHT-5C	102725.1	48905.88	189	175.1	-	11,653.0
MHT-6C	102810.8	48900.03	5	364.6	-	-
MHT-6C	102810.8	48900.03	15	354.6	-	-
MHT-6C	102810.8	48900.03	25	344.6	-	-
MHT-6C	102810.8	48900.03	36	333.6	-	-
MHT-6C	102810.8	48900.03	45	324.6	18.0	6.0
MHT-6C	102810.8	48900.03	55	314.6	15.0	10.0
MHT-6C	102810.8	48900.03	65	304.6	25.0	28.0
MHT-6C	102810.8	48900.03	75	294.6	9.0	38.0
MHT-6C	102810.8	48900.03	85	284.6	-	10.0
MHT-6C	102810.8	48900.03	91	278.6	-	-
MHT-6C	102810.8	48900.03	95	274.6	-	-
MHT-6C	102810.8	48900.03	101	268.6	27.0	3,108.0
MHT-6C	102810.8	48900.03	103	266.6	2,966.0	16,323.0
MHT-6C	102810.8	48900.03	107	262.6	608.0	3,443.0
MHT-6C	102810.8	48900.03	111	258.6	644.0	8,537.0
MHT-6C	102810.8	48900.03	115	254.6	155.0	5,121.0
MHT-6C	102810.8	48900.03	121	248.6	39.0	1,911.0
MHT-6C	102810.8	48900.03	125	244.6	5.0	215.0
MHT-6C	102810.8	48900.03	131	238.6	322.0	9,126.0
MHT-6C	102810.8	48900.03	135	234.6	-	-
MHT-6C	102810.8	48900.03	137	232.6	9.0	601.0
MHT-6C	102810.8	48900.03	141	228.6	7.0	156.0
MHT-6C	102810.8	48900.03	145	224.6	4.0	386.0
MHT-6C	102810.8	48900.03	151	218.6	4.0	313.0
MHT-6C	102810.8	48900.03	155	214.6	35.0	1,030.0
MHT-6C	102810.8	48900.03	160	209.6	7.0	170.0
MHT-6C	102810.8	48900.03	165	204.6	-	-
MHT-6C	102810.8	48900.03	170	199.6	34.0	36.0
MHT-6C	102810.8	48900.03	175	194.6	10.0	27.0
MHT-6C	102810.8	48900.03	180	189.6	26.0	1,475.0
MHT-6C	102810.8	48900.03	181	188.6	40.0	2,110.0
MHT-6C	102810.8	48900.03	185	184.6	-	-

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHT-6C	102810.8	48900.03	187.5	182.1	-	-
MHT-6C	102810.8	48900.03	187.5	182.1	-	-
MHT-6C	102810.8	48900.03	187.5	182.1	-	5.0
MHT-6C	102810.8	48900.03	188	181.6	-	1,842.0
MHT-6C	102810.8	48900.03	189	180.6	-	27.0
MHT-7C	102788.9	48977.48	5	363	-	-
MHT-7C	102788.9	48977.48	15	353	-	-
MHT-7C	102788.9	48977.48	25	343	-	-
MHT-7C	102788.9	48977.48	35	333	-	-
MHT-7C	102788.9	48977.48	45	323	-	-
MHT-7C	102788.9	48977.48	55	313	-	-
MHT-7C	102788.9	48977.48	71	297	11.0	17.0
MHT-7C	102788.9	48977.48	75	293	-	4.0
MHT-7C	102788.9	48977.48	85	283	-	-
MHT-7C	102788.9	48977.48	93	275	172.0	992.0
MHT-7C	102788.9	48977.48	105	263	-	204.0
MHT-7C	102788.9	48977.48	115	253	12.0	208.0
MHT-7C	102788.9	48977.48	119	249	-	32.0
MHT-7C	102788.9	48977.48	131	237	-	9.0
MHT-7C	102788.9	48977.48	141	227	-	15.0
MHT-7C	102788.9	48977.48	143	225	-	4.0
MHT-7C	102788.9	48977.48	145	223	4.0	11.0
MHT-7C	102788.9	48977.48	155	213	-	6.0
MHT-7C	102788.9	48977.48	177	191	-	156.0
MHT-7C	102788.9	48977.48	179	189	-	1,260.0
MHT-7C	102788.9	48977.48	181	187	-	7.0
MHT-7C	102788.9	48977.48	189	179	-	480.0
MHT-7C	102788.9	48977.48	191	177	-	4.0
MHT-8C	102880.7	48970.24	5	364.3	-	-
MHT-8C	102880.7	48970.24	15	354.3	-	-
MHT-8C	102880.7	48970.24	25	344.3	-	-
MHT-8C	102880.7	48970.24	35	334.3	-	-
MHT-8C	102880.7	48970.24	45	324.3	-	10.0
MHT-8C	102880.7	48970.24	55	314.3	12.0	95.0
MHT-8C	102880.7	48970.24	65	304.3	51.0	381.0
MHT-8C	102880.7	48970.24	75	294.3	64.0	633.0
MHT-8C	102880.7	48970.24	85	284.3	22.0	271.0
MHT-8C	102880.7	48970.24	95	274.3	6.0	101.0
MHT-8C	102880.7	48970.24	105	264.3	-	-
MHT-8C	102880.7	48970.24	113	256.3	4.0	1,250.0
MHT-8C	102880.7	48970.24	124	245.3	109.0	3,017.0
MHT-8C	102880.7	48970.24	129	240.3	17.0	1,160.0
MHT-8C	102880.7	48970.24	134	235.3	3.0	154.0
MHT-8C	102880.7	48970.24	139	230.3	2.0	196.0
MHT-8C	102880.7	48970.24	144	225.3	10.0	23.0
MHT-8C	102880.7	48970.24	149	220.3	27.0	360.0

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHT-8C	102880.7	48970.24	154	215.3	-	52.0
MHT-8C	102880.7	48970.24	159	210.3	-	25.0
MHT-8C	102880.7	48970.24	164	205.3	4.0	15.0
MHT-8C	102880.7	48970.24	169	200.3	4.0	125.0
MHT-8C	102880.7	48970.24	174	195.3	-	233.0
MHT-8C	102880.7	48970.24	179	190.3	-	-
MHT-8C	102880.7	48970.24	184	185.3	-	267.0
MHT-8C	102880.7	48970.24	189	180.3	-	148.0
MHT-9C	102814.4	49015.58	5	362.7	-	-
MHT-9C	102814.4	49015.58	15	352.7	-	-
MHT-9C	102814.4	49015.58	25	342.7	-	-
MHT-9C	102814.4	49015.58	37	330.7	-	-
MHT-9C	102814.4	49015.58	45	322.7	-	3.0
MHT-9C	102814.4	49015.58	55	312.7	-	-
MHT-9C	102814.4	49015.58	65	302.7	-	5.0
MHT-9C	102814.4	49015.58	75	292.7	-	5.0
MHT-9C	102814.4	49015.58	85	282.7	-	-
MHT-9C	102814.4	49015.58	89	278.7	39.0	729.0
MHT-9C	102814.4	49015.58	95	272.7	-	-
MHT-9C	102814.4	49015.58	101	266.7	-	177.0
MHT-9C	102814.4	49015.58	105	262.7	-	126.0
MHT-9C	102814.4	49015.58	107	260.7	-	-
MHT-9C	102814.4	49015.58	109	258.7	93.0	1,528.0
MHT-9C	102814.4	49015.58	115	252.7	-	6.0
MHT-9C	102814.4	49015.58	130	237.7	44.0	889.0
MHT-9C	102814.4	49015.58	131	236.7	11.0	256.0
MHT-9C	102814.4	49015.58	133	234.7	14.0	305.0
MHT-9C	102814.4	49015.58	141	226.7	-	17.0
MHT-9C	102814.4	49015.58	143	224.7	6.0	12.0
MHT-9C	102814.4	49015.58	145	222.7	5.0	8.0
MHT-9C	102814.4	49015.58	153	214.7	-	-
MHT-9C	102814.4	49015.58	155	212.7	-	-
MHT-9C	102814.4	49015.58	157	210.7	-	-
MHT-9C	102814.4	49015.58	165	202.7	-	28.0
MHT-9C	102814.4	49015.58	167	200.7	5.0	176.0
MHT-9C	102814.4	49015.58	179	188.7	-	-
MHT-9C	102814.4	49015.58	181	186.7	-	48.0
MHT-9C	102814.4	49015.58	189	178.7	-	1,466.0
MHT-10C	102892.3	49011.57	7	361.9	-	-
MHT-10C	102892.3	49011.57	15	353.9	-	-
MHT-10C	102892.3	49011.57	25	343.9	-	-
MHT-10C	102892.3	49011.57	35	333.9	-	-
MHT-10C	102892.3	49011.57	45	323.9	-	12.0
MHT-10C	102892.3	49011.57	55	313.9	5.0	42.0
MHT-10C	102892.3	49011.57	65	303.9	-	49.0
MHT-10C	102892.3	49011.57	75	293.9	-	37.0

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHT-10C	102892.3	49011.57	87	281.9	-	-
MHT-10C	102892.3	49011.57	95	273.9	26.0	390.0
MHT-10C	102892.3	49011.57	105	263.9	-	37.0
MHT-10C	102892.3	49011.57	111	257.9	23.0	2,771.0
MHT-10C	102892.3	49011.57	120	248.9	-	27.0
MHT-10C	102892.3	49011.57	128	240.9	34.0	1,971.0
MHT-10C	102892.3	49011.57	131	237.9	-	333.0
MHT-10C	102892.3	49011.57	141	227.9	3.0	240.0
MHT-10C	102892.3	49011.57	148	220.9	12.0	16.0
MHT-10C	102892.3	49011.57	157	211.9	-	95.0
MHT-10C	102892.3	49011.57	167	201.9	11.0	25.0
MHT-10C	102892.3	49011.57	170	198.9	-	117.0
MHT-10C	102892.3	49011.57	175	193.9	-	-
MHT-10C	102892.3	49011.57	180	188.9	-	36.0
MHT-10C	102892.3	49011.57	185	183.9	-	304.0
MHT-10C	102892.3	49011.57	190	178.9	-	525.0
MHT-15C	102520.7	48741.9	5	352.7	-	-
MHT-15C	102520.7	48741.9	10	347.7	-	-
MHT-15C	102520.7	48741.9	15	342.7	-	-
MHT-15C	102520.7	48741.9	19	338.7	204.7	1.0
MHT-15C	102520.7	48741.9	20	337.7	581.9	75.3
MHT-15C	102520.7	48741.9	25	332.7	35.7	-
MHT-15C	102520.7	48741.9	30	327.7	40.7	-
MHT-15C	102520.7	48741.9	35	322.7	733.0	577.1
MHT-15C	102520.7	48741.9	38	319.7	646.8	1,066.2
MHT-15C	102520.7	48741.9	40	317.7	324.2	300.4
MHT-15C	102520.7	48741.9	45	312.7	465.0	669.7
MHT-15C	102520.7	48741.9	50	307.7	332.8	152.0
MHT-15C	102520.7	48741.9	55	302.7	557.8	1,144.7
MHT-15C	102520.7	48741.9	60	297.7	733.8	1,144.2
MHT-15C	102520.7	48741.9	65	292.7	698.4	1,329.2
MHT-15C	102520.7	48741.9	70	287.7	-	-
MHT-15C	102520.7	48741.9	75	282.7	-	-
MHT-15C	102520.7	48741.9	80	277.7	-	-
MHT-15C	102520.7	48741.9	85	272.7	797.8	1,847.6
MHT-15C	102520.7	48741.9	90	267.7	742.3	2,131.9
MHT-15C	102520.7	48741.9	95	262.7	498.5	1,030.6
MHT-15C	102520.7	48741.9	100	257.7	246.8	89.1
MHT-15C	102520.7	48741.9	105	252.7	-	1.3
MHT-15C	102520.7	48741.9	110	247.7	-	-
MHT-15C	102520.7	48741.9	115	242.7	-	114.4
MHT-15C	102520.7	48741.9	120	237.7	-	-
MHT-15C	102520.7	48741.9	125	232.7	-	-
MHT-15C	102520.7	48741.9	130	227.7	-	64.8
MHT-15C	102520.7	48741.9	141	216.7	178.5	257.1
MHT-15C	102520.7	48741.9	146	211.7	-	51.1

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHT-15C	102520.7	48741.9	151	206.7	-	19.9
MHT-15C	102520.7	48741.9	161	196.7	40.5	39.9
MHT-15C	102520.7	48741.9	171	186.7	-	-
MHT-15C	102520.7	48741.9	179	178.7	-	1,449.0
MHT-15C	102520.7	48741.9	181	176.7	-	1,627.6
MHT-15C	102520.7	48741.9	186	171.7	-	1,188.3
MHT-15C	102520.7	48741.9	191	166.7	-	43.1
MHT-15C	102520.7	48741.9	196	161.7	-	-
MHT-15C	102520.7	48741.9	198	159.7	-	342.5
MHT-16C	102430.9	48672.8	5	354.5	-	-
MHT-16C	102430.9	48672.8	10	349.5	-	-
MHT-16C	102430.9	48672.8	15	344.5	-	-
MHT-16C	102430.9	48672.8	20	339.5	342.7	68.9
MHT-16C	102430.9	48672.8	25	334.5	136.9	-
MHT-16C	102430.9	48672.8	30	329.5	22.1	-
MHT-16C	102430.9	48672.8	35	324.5	334.5	12.6
MHT-16C	102430.9	48672.8	40	319.5	706.7	1,429.4
MHT-16C	102430.9	48672.8	45	314.5	815.5	2,204.5
MHT-16C	102430.9	48672.8	50	309.5	-	14.1
MHT-16C	102430.9	48672.8	55	304.5	48.2	146.3
MHT-16C	102430.9	48672.8	60	299.5	445.7	1,123.3
MHT-16C	102430.9	48672.8	65	294.5	255.4	421.8
MHT-16C	102430.9	48672.8	70	289.5	-	-
MHT-16C	102430.9	48672.8	75	284.5	-	-
MHT-16C	102430.9	48672.8	80	279.5	-	-
MHT-16C	102430.9	48672.8	85	274.5	-	-
MHT-16C	102430.9	48672.8	90	269.5	400.2	1,156.5
MHT-16C	102430.9	48672.8	95	264.5	590.1	1,706.1
MHT-16C	102430.9	48672.8	100	259.5	119.5	267.3
MHT-16C	102430.9	48672.8	105	254.5	-	5.5
MHT-16C	102430.9	48672.8	110	249.5	-	-
MHT-16C	102430.9	48672.8	115	244.5	605.9	1,480.9
MHT-16C	102430.9	48672.8	120	239.5	77.0	129.3
MHT-16C	102430.9	48672.8	125	234.5	679.6	1,559.5
MHT-16C	102430.9	48672.8	130	229.5	408.2	573.4
MHT-16C	102430.9	48672.8	134	225.5	385.8	447.1
MHT-16C	102430.9	48672.8	140	219.5	1.0	64.3
MHT-16C	102430.9	48672.8	145	214.5	785.2	2,016.8
MHT-16C	102430.9	48672.8	150	209.5	646.2	1,701.2
MHT-16C	102430.9	48672.8	155	204.5	424.3	255.5
MHT-16C	102430.9	48672.8	160	199.5	854.5	74.7
MHT-16C	102430.9	48672.8	165	194.5	979.0	2,631.2
MHT-16C	102430.9	48672.8	170	189.5	931.5	2,431.3
MHT-16C	102430.9	48672.8	175	184.5	709.8	946.1
MHT-16C	102430.9	48672.8	180	179.5	1,429.4	3,102.5
MHT-16C	102430.9	48672.8	185	174.5	737.2	2,025.6

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHT-16C	102430.9	48672.8	190	169.5	741.0	1,271.5
MHT-16C	102430.9	48672.8	195	164.5	636.6	1,622.6
MHT-16C	102430.9	48672.8	199	160.5	244.0	323.5
MHT-17C	102394.6	48706.9	5	352.7	-	-
MHT-17C	102394.6	48706.9	10	347.7	-	-
MHT-17C	102394.6	48706.9	15	342.7	-	-
MHT-17C	102394.6	48706.9	20	337.7	-	-
MHT-17C	102394.6	48706.9	25	332.7	2.5	-
MHT-17C	102394.6	48706.9	30	327.7	186.5	7.9
MHT-17C	102394.6	48706.9	35	322.7	484.4	81.2
MHT-17C	102394.6	48706.9	40	317.7	-	-
MHT-17C	102394.6	48706.9	45	312.7	83.7	114.8
MHT-17C	102394.6	48706.9	50	307.7	-	-
MHT-17C	102394.6	48706.9	55	302.7	210.4	191.0
MHT-17C	102394.6	48706.9	60	297.7	594.9	1,377.2
MHT-17C	102394.6	48706.9	65	292.7	458.3	1,104.1
MHT-17C	102394.6	48706.9	70	287.7	101.3	67.1
MHT-17C	102394.6	48706.9	75	282.7	-	-
MHT-17C	102394.6	48706.9	80	277.7	-	-
MHT-17C	102394.6	48706.9	85	272.7	-	-
MHT-17C	102394.6	48706.9	90	267.7	412.0	1,506.0
MHT-17C	102394.6	48706.9	95	262.7	508.5	1,328.9
MHT-17C	102394.6	48706.9	100	257.7	535.9	1,248.1
MHT-17C	102394.6	48706.9	105	252.7	-	-
MHT-17C	102394.6	48706.9	110	247.7	718.1	1,682.8
MHT-17C	102394.6	48706.9	115	242.7	466.0	629.0
MHT-17C	102394.6	48706.9	120	237.7	104.0	323.1
MHT-17C	102394.6	48706.9	125	232.7	96.8	409.0
MHT-17C	102394.6	48706.9	130	227.7	27.0	43.2
MHT-17C	102394.6	48706.9	135	222.7	408.1	315.9
MHT-17C	102394.6	48706.9	140	217.7	259.3	154.5
MHT-17C	102394.6	48706.9	145	212.7	-	819.5
MHT-17C	102394.6	48706.9	150	207.7	-	1,142.9
MHT-17C	102394.6	48706.9	155	202.7	-	11.1
MHT-17C	102394.6	48706.9	160	197.7	-	-
MHT-17C	102394.6	48706.9	165	192.7	1.6	57.1
MHT-17C	102394.6	48706.9	170	187.7	-	-
MHT-17C	102394.6	48706.9	175	182.7	-	222.6
MHT-17C	102394.6	48706.9	178	179.7	299.5	2,313.2
MHT-17C	102394.6	48706.9	180	177.7	46.4	1,905.5
MHT-17C	102394.6	48706.9	185	172.7	348.0	1,561.6
MHT-17C	102394.6	48706.9	190	167.7	-	1,533.4
MHT-17C	102394.6	48706.9	195	162.7	-	80.3
MHT-17C	102394.6	48706.9	200	157.7	-	336.3
MHT-18C	102486.1	48650.9	5	355.3	-	-
MHT-18C	102486.1	48650.9	10	350.3	-	-

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHT-18C	102486.1	48650.9	15	345.3	-	-
MHT-18C	102486.1	48650.9	20	340.3	-	-
MHT-18C	102486.1	48650.9	25	335.3	-	-
MHT-18C	102486.1	48650.9	30	330.3	-	-
MHT-18C	102486.1	48650.9	35	325.3	-	-
MHT-18C	102486.1	48650.9	40	320.3	20.8	27.4
MHT-18C	102486.1	48650.9	45	315.3	131.1	120.9
MHT-18C	102486.1	48650.9	50	310.3	-	3.7
MHT-18C	102486.1	48650.9	55	305.3	-	9.8
MHT-18C	102486.1	48650.9	60	300.3	-	1.3
MHT-18C	102486.1	48650.9	65	295.3	47.5	64.2
MHT-18C	102486.1	48650.9	70	290.3	-	5.8
MHT-18C	102486.1	48650.9	75	285.3	-	-
MHT-18C	102486.1	48650.9	80	280.3	-	-
MHT-18C	102486.1	48650.9	85	275.3	-	-
MHT-18C	102486.1	48650.9	90	270.3	711.2	1,503.7
MHT-18C	102486.1	48650.9	93	267.3	674.6	1,187.3
MHT-18C	102486.1	48650.9	95	265.3	656.4	1,219.5
MHT-18C	102486.1	48650.9	100	260.3	-	-
MHT-18C	102486.1	48650.9	105	255.3	-	19.5
MHT-18C	102486.1	48650.9	110	250.3	-	-
MHT-18C	102486.1	48650.9	115	245.3	-	-
MHT-18C	102486.1	48650.9	120	240.3	-	-
MHT-18C	102486.1	48650.9	125	235.3	8.8	85.9
MHT-18C	102486.1	48650.9	130	230.3	692.4	1,457.9
MHT-18C	102486.1	48650.9	135	225.3	436.5	981.8
MHT-18C	102486.1	48650.9	142	218.3	141.2	123.5
MHT-18C	102486.1	48650.9	146	214.3	449.8	529.0
MHT-18C	102486.1	48650.9	150	210.3	705.9	2,009.3
MHT-18C	102486.1	48650.9	155	205.3	9.5	33.2
MHT-18C	102486.1	48650.9	160	200.3	349.5	161.5
MHT-18C	102486.1	48650.9	165	195.3	122.1	47.9
MHT-18C	102486.1	48650.9	170	190.3	1,083.0	2,727.3
MHT-18C	102486.1	48650.9	175	185.3	800.5	826.1
MHT-18C	102486.1	48650.9	180	180.3	856.9	1,401.0
MHT-18C	102486.1	48650.9	185	175.3	527.2	1,576.8
MHT-18C	102486.1	48650.9	190	170.3	664.9	2,176.8
MHT-18C	102486.1	48650.9	195	165.3	357.4	1,224.4
MHT-18C	102486.1	48650.9	199	161.3	438.6	275.2
MHT-19C	102502.7	48699.1	5	353.9	-	-
MHT-19C	102502.7	48699.1	10	348.9	-	-
MHT-19C	102502.7	48699.1	15	343.9	-	-
MHT-19C	102502.7	48699.1	20	338.9	544.6	2.1
MHT-19C	102502.7	48699.1	25	333.9	-	-
MHT-19C	102502.7	48699.1	30	328.9	-	15.6
MHT-19C	102502.7	48699.1	35	323.9	767.1	531.0

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHT-19C	102502.7	48699.1	40	318.9	682.7	416.4
MHT-19C	102502.7	48699.1	45	313.9	-	-
MHT-19C	102502.7	48699.1	50	308.9	-	-
MHT-19C	102502.7	48699.1	55	303.9	-	-
MHT-19C	102502.7	48699.1	60	298.9	35.0	51.8
MHT-19C	102502.7	48699.1	65	293.9	385.4	270.2
MHT-19C	102502.7	48699.1	70	288.9	-	-
MHT-19C	102502.7	48699.1	75	283.9	-	-
MHT-19C	102502.7	48699.1	80	278.9	-	-
MHT-19C	102502.7	48699.1	85	273.9	-	-
MHT-19C	102502.7	48699.1	90	268.9	477.2	341.4
MHT-19C	102502.7	48699.1	95	263.9	582.2	1,007.4
MHT-19C	102502.7	48699.1	100	258.9	-	6.8
MHT-19C	102502.7	48699.1	105	253.9	-	-
MHT-19C	102502.7	48699.1	110	248.9	-	58.3
MHT-19C	102502.7	48699.1	115	243.9	-	-
MHT-19C	102502.7	48699.1	120	238.9	-	-
MHT-19C	102502.7	48699.1	125	233.9	-	62.9
MHT-19C	102502.7	48699.1	130	228.9	317.2	592.5
MHT-19C	102502.7	48699.1	135	223.9	467.6	490.3
MHT-19C	102502.7	48699.1	140	218.9	475.8	1,037.9
MHT-19C	102502.7	48699.1	145	213.9	-	1,704.7
MHT-19C	102502.7	48699.1	150	208.9	59.5	242.9
MHT-19C	102502.7	48699.1	155	203.9	18.2	11.0
MHT-19C	102502.7	48699.1	160	198.9	-	-
MHT-19C	102502.7	48699.1	165	193.9	-	-
MHT-19C	102502.7	48699.1	170	188.9	-	281.2
MHT-19C	102502.7	48699.1	175	183.9	-	1,049.0
MHT-19C	102502.7	48699.1	180	178.9	-	1,280.4
MHT-19C	102502.7	48699.1	185	173.9	-	1,142.8
MHT-19C	102502.7	48699.1	190	168.9	-	540.9
MHT-19C	102502.7	48699.1	195	163.9	-	98.9
MHT-19C	102502.7	48699.1	198	160.9	-	21.6
MHT-20C	102589.3	48710.8	5	355.3	-	-
MHT-20C	102589.3	48710.8	10	350.3	-	-
MHT-20C	102589.3	48710.8	15	345.3	-	-
MHT-20C	102589.3	48710.8	20	340.3	104.3	7.7
MHT-20C	102589.3	48710.8	25	335.3	6.4	3.4
MHT-20C	102589.3	48710.8	30	330.3	14.4	17.9
MHT-20C	102589.3	48710.8	35	325.3	411.7	161.4
MHT-20C	102589.3	48710.8	40	320.3	432.1	252.8
MHT-20C	102589.3	48710.8	45	315.3	-	-
MHT-20C	102589.3	48710.8	50	310.3	-	34.2
MHT-20C	102589.3	48710.8	55	305.3	-	1.7
MHT-20C	102589.3	48710.8	60	300.3	236.4	232.1
MHT-20C	102589.3	48710.8	65	295.3	-	5.5

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHT-20C	102589.3	48710.8	70	290.3	-	-
MHT-20C	102589.3	48710.8	75	285.3	-	-
MHT-20C	102589.3	48710.8	80	280.3	-	-
MHT-20C	102589.3	48710.8	85	275.3	280.3	209.0
MHT-20C	102589.3	48710.8	90	270.3	342.8	276.8
MHT-20C	102589.3	48710.8	95	265.3	-	18.8
MHT-20C	102589.3	48710.8	100	260.3	-	-
MHT-20C	102589.3	48710.8	105	255.3	-	-
MHT-20C	102589.3	48710.8	110	250.3	-	-
MHT-20C	102589.3	48710.8	115	245.3	-	-
MHT-20C	102589.3	48710.8	120	240.3	-	-
MHT-20C	102589.3	48710.8	125	235.3	-	-
MHT-20C	102589.3	48710.8	130	230.3	-	-
MHT-20C	102589.3	48710.8	135	225.3	-	-
MHT-20C	102589.3	48710.8	140	220.3	14.9	53.2
MHT-20C	102589.3	48710.8	145	215.3	-	-
MHT-20C	102589.3	48710.8	150	210.3	-	-
MHT-20C	102589.3	48710.8	155	205.3	359.7	546.4
MHT-20C	102589.3	48710.8	160	200.3	101.3	47.1
MHT-20C	102589.3	48710.8	165	195.3	-	-
MHT-20C	102589.3	48710.8	170	190.3	-	4.1
MHT-20C	102589.3	48710.8	175	185.3	-	10.8
MHT-20C	102589.3	48710.8	180	180.3	-	885.9
MHT-20C	102589.3	48710.8	185	175.3	-	1,499.0
MHT-20C	102589.3	48710.8	190	170.3	-	551.2
MHT-2C	102747.1	48780.28	5	359.1	-	-
MHV-1	102749.3	48841.98	1	364.3	261.0	1,595.0
MHV-1	102749.3	48841.98	19	346.3	28.0	15.0
MHV-1	102749.3	48841.98	20	345.3	-	-
MHV-1	102749.3	48841.98	21	344.3	94.0	45.0
MHV-1	102749.3	48841.98	22	343.3	173.0	79.0
MHV-1	102749.3	48841.98	22.5	342.8	227.0	102.0
MHV-1	102749.3	48841.98	24	341.3	355.0	156.0
MHV-1	102749.3	48841.98	26	339.3	218.0	97.0
MHV-1	102749.3	48841.98	28	337.3	29.0	25.0
MHV-1	102749.3	48841.98	29	336.3	33.0	22.0
MHV-1	102749.3	48841.98	30	335.3	14.0	12.0
MHV-1	102749.3	48841.98	31	334.3	-	-
MHV-1	102749.3	48841.98	32	333.3	17.0	12.0
MHV-1	102749.3	48841.98	33	332.3	430.0	213.0
MHV-1	102749.3	48841.98	34	331.3	13.0	11.0
MHV-1	102749.3	48841.98	35	330.3	89.0	54.0
MHV-1	102749.3	48841.98	36	329.3	36.0	27.0
MHV-1	102749.3	48841.98	37	328.3	155.0	83.0
MHV-1	102749.3	48841.98	38	327.3	-	-
MHV-1	102749.3	48841.98	39	326.3	508.0	227.0

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHV-1	102749.3	48841.98	40	325.3	-	-
MHV-1	102749.3	48841.98	41	324.3	41.0	31.0
MHV-1	102749.3	48841.98	42	323.3	1,440.0	1,473.0
MHV-1	102749.3	48841.98	43	322.3	75.0	63.0
MHV-1	102749.3	48841.98	44	321.3	58.0	70.0
MHV-1	102749.3	48841.98	45	320.3	-	-
MHV-1	102749.3	48841.98	46	319.3	596.0	328.0
MHV-1	102749.3	48841.98	47	318.3	26.0	23.0
MHV-1	102749.3	48841.98	48	317.3	399.0	223.0
MHV-1	102749.3	48841.98	49	316.3	1,201.0	944.0
MHV-1	102749.3	48841.98	50	315.3	425.0	236.0
MHV-1	102749.3	48841.98	51	314.3	14.0	4.0
MHV-1	102749.3	48841.98	52	313.3	20.0	18.0
MHV-1	102749.3	48841.98	53	312.3	13.0	11.0
MHV-1	102749.3	48841.98	54	311.3	416.0	195.0
MHV-1	102749.3	48841.98	55	310.3	37.0	35.0
MHV-1	102749.3	48841.98	56	309.3	345.0	152.0
MHV-1	102749.3	48841.98	57	308.3	9.0	6.0
MHV-1	102749.3	48841.98	58	307.3	143.0	76.0
MHV-1	102749.3	48841.98	59	306.3	546.0	591.0
MHV-1	102749.3	48841.98	60	305.3	643.0	428.0
MHV-1	102749.3	48841.98	62	303.3	12.0	21.0
MHV-1	102749.3	48841.98	63	302.3	822.0	1,073.0
MHV-1	102749.3	48841.98	64	301.3	-	-
MHV-1	102749.3	48841.98	65	300.3	1,511.0	2,006.0
MHV-1	102749.3	48841.98	66	299.3	1,606.0	1,739.0
MHV-1	102749.3	48841.98	67	298.3	901.0	1,335.0
MHV-1	102749.3	48841.98	68	297.3	755.0	1,191.0
MHV-1	102749.3	48841.98	69	296.3	6.0	7.0
MHV-1	102749.3	48841.98	70	295.3	27.0	44.0
MHV-1	102749.3	48841.98	71	294.3	221.0	263.0
MHV-1	102749.3	48841.98	72	293.3	-	-
MHV-1	102749.3	48841.98	73	292.3	-	-
MHV-1	102749.3	48841.98	74	291.3	-	-
MHV-1	102749.3	48841.98	75	290.3	-	-
MHV-1	102749.3	48841.98	76	289.3	47.0	56.0
MHV-1	102749.3	48841.98	77	288.3	-	-
MHV-1	102749.3	48841.98	78	287.3	-	-
MHV-1	102749.3	48841.98	79	286.3	-	-
MHV-1	102749.3	48841.98	80	285.3	-	-
MHV-1	102749.3	48841.98	81	284.3	-	-
MHV-1	102749.3	48841.98	82	283.3	-	-
MHV-1	102749.3	48841.98	83	282.3	-	-
MHV-1	102749.3	48841.98	84	281.3	-	-
MHV-1	102749.3	48841.98	85	280.3	-	-
MHV-1	102749.3	48841.98	86	279.3	-	-

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHV-1	102749.3	48841.98	87	278.3	-	-
MHV-1	102749.3	48841.98	88	277.3	-	-
MHV-1	102749.3	48841.98	89	276.3	-	-
MHV-1	102749.3	48841.98	90	275.3	-	-
MHV-1	102749.3	48841.98	91	274.3	-	-
MHV-1	102749.3	48841.98	92	273.3	-	-
MHV-1	102749.3	48841.98	93	272.3	-	-
MHV-1	102749.3	48841.98	94	271.3	4,925.0	11,026.0
MHV-1	102749.3	48841.98	94.5	270.8	975.0	1,674.0
MHV-1	102749.3	48841.98	95	270.3	829.0	1,744.0
MHV-1	102749.3	48841.98	96	269.3	334.0	646.0
MHV-1	102749.3	48841.98	97	268.3	95.0	311.0
MHV-1	102749.3	48841.98	98	267.3	-	-
MHV-1	102749.3	48841.98	99	266.3	-	-
MHV-1	102749.3	48841.98	100	265.3	-	-
MHV-1	102749.3	48841.98	101	264.3	-	-
MHV-1	102749.3	48841.98	102	263.3	-	-
MHV-1	102749.3	48841.98	103	262.3	656.0	5,138.0
MHV-1	102749.3	48841.98	104	261.3	1,357.0	6,282.0
MHV-1	102749.3	48841.98	105	260.3	824.0	6,701.0
MHV-1	102749.3	48841.98	106	259.3	4,161.0	14,458.0
MHV-1	102749.3	48841.98	107	258.3	611.0	8,058.0
MHV-1	102749.3	48841.98	108	257.3	390.0	7,672.0
MHV-1	102749.3	48841.98	109	256.3	878.0	7,450.0
MHV-1	102749.3	48841.98	110	255.3	776.0	3,508.0
MHV-1	102749.3	48841.98	112	253.3	2,950.0	7,022.0
MHV-1	102749.3	48841.98	114	251.3	1,710.0	6,903.0
MHV-1	102749.3	48841.98	115	250.3	1,554.0	5,870.0
MHV-1	102749.3	48841.98	116	249.3	292.0	1,128.0
MHV-1	102749.3	48841.98	117	248.3	37.0	1,636.0
MHV-1	102749.3	48841.98	118	247.3	-	172.0
MHV-1	102749.3	48841.98	119	246.3	166.0	1,597.0
MHV-1	102749.3	48841.98	120	245.3	4.0	114.0
MHV-1	102749.3	48841.98	121	244.3	29.0	358.0
MHV-1	102749.3	48841.98	122	243.3	-	9.0
MHV-1	102749.3	48841.98	123	242.3	108.0	1,456.0
MHV-1	102749.3	48841.98	124	241.3	-	28.0
MHV-1	102749.3	48841.98	125	240.3	15.0	441.0
MHV-1	102749.3	48841.98	126	239.3	32.0	695.0
MHV-1	102749.3	48841.98	127	238.3	100.0	959.0
MHV-1	102749.3	48841.98	128	237.3	83.0	665.0
MHV-1	102749.3	48841.98	129	236.3	103.0	780.0
MHV-1	102749.3	48841.98	130	235.3	-	-
MHV-2	102755.9	48903.22	15	351	-	-
MHV-2	102755.9	48903.22	20	346	-	-
MHV-2	102755.9	48903.22	25	341	-	-

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHV-2	102755.9	48903.22	30	336	-	-
MHV-2	102755.9	48903.22	35	331	-	-
MHV-2	102755.9	48903.22	40	326	46.0	42.0
MHV-2	102755.9	48903.22	41	325	-	-
MHV-2	102755.9	48903.22	46	320	35.6	27.6
MHV-2	102755.9	48903.22	50	316	69.0	50.0
MHV-2	102755.9	48903.22	51	315	235.0	180.7
MHV-2	102755.9	48903.22	55	311	33.0	42.0
MHV-2	102755.9	48903.22	60	306	95.0	77.3
MHV-2	102755.9	48903.22	64	302	151.0	139.7
MHV-2	102755.9	48903.22	69	297	19.3	44.7
MHV-2	102755.9	48903.22	75	291	-	-
MHV-2	102755.9	48903.22	79	287	-	-
MHV-2	102755.9	48903.22	85	281	-	-
MHV-2	102755.9	48903.22	90	276	-	-
MHV-2	102755.9	48903.22	95	271	1,125.5	5,244.2
MHV-2	102755.9	48903.22	100	266	30.7	146.3
MHV-2	102755.9	48903.22	105	261	625.7	2,107.3
MHV-2	102755.9	48903.22	108	258	662.0	4,989.0
MHV-2	102755.9	48903.22	110	256	1,725.0	4,223.5
MHV-2	102755.9	48903.22	112	254	103.5	2,909.5
MHV-2	102755.9	48903.22	115	251	528.5	1,694.0
MHV-2	102755.9	48903.22	120	246	83.0	1,359.0
MHV-3	102774.7	48874.06	5	362.9	-	-
MHV-3	102774.7	48874.06	15	352.9	-	-
MHV-3	102774.7	48874.06	25	342.9	-	-
MHV-3	102774.7	48874.06	33	334.9	-	-
MHV-3	102774.7	48874.06	39	328.9	71.0	35.0
MHV-3	102774.7	48874.06	45	322.9	169.0	56.0
MHV-3	102774.7	48874.06	55	312.9	109.0	77.0
MHV-3	102774.7	48874.06	65	302.9	398.0	228.0
MHV-3	102774.7	48874.06	67	300.9	486.7	387.3
MHV-3	102774.7	48874.06	75	292.9	641.0	1,281.0
MHV-4	102841.7	48842.53	20	345.7	-	-
MHV-4	102841.7	48842.53	25	340.7	224.3	1.3
MHV-4	102841.7	48842.53	30	335.7	144.0	25.7
MHV-4	102841.7	48842.53	35	330.7	557.0	489.0
MHV-4	102841.7	48842.53	40	325.7	65.5	46.0
MHV-4	102841.7	48842.53	43	322.7	6,828.3	7,300.0
MHV-4	102841.7	48842.53	45	320.7	6,915.3	6,157.7
MHV-4	102841.7	48842.53	50	315.7	18.7	29.3
MHV-4	102841.7	48842.53	55	310.7	434.3	647.7
MHV-4	102841.7	48842.53	60	305.7	118.3	154.3
MHV-4	102841.7	48842.53	65	300.7	3,425.3	6,646.0
MHV-4	102841.7	48842.53	70	295.7	268.0	361.7
MHV-4	102841.7	48842.53	75	290.7	34.3	183.3

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHV-4	102841.7	48842.53	83	282.7	93.7	350.7
MHV-4	102841.7	48842.53	85	280.7	23.0	101.3
MHV-4	102841.7	48842.53	90	275.7	-	-
MHV-4	102841.7	48842.53	94	271.7	2,381.0	9,241.7
MHV-4	102841.7	48842.53	95	270.7	644.3	5,779.0
MHV-4	102841.7	48842.53	100	265.7	246.3	3,346.0
MHV-4	102841.7	48842.53	105	260.7	1,053.3	13,314.0
MHV-4	102841.7	48842.53	107	258.7	265.3	8,329.0
MHV-4	102841.7	48842.53	110	255.7	60.7	1,731.7
MHV-4	102841.7	48842.53	115	250.7	445.7	4,280.7
MHV-4	102841.7	48842.53	120	245.7	-	-
MHV-4	102841.7	48842.53	125	240.7	-	-
MHV-4	102841.7	48842.53	130	235.7	5.7	80.0
MHV-5	102878.8	48917.46	15	353.9	-	-
MHV-5	102878.8	48917.46	21	347.9	-	-
MHV-5	102878.8	48917.46	25	343.9	-	-
MHV-5	102878.8	48917.46	27	341.9	-	-
MHV-5	102878.8	48917.46	31	337.9	-	-
MHV-5	102878.8	48917.46	35	333.9	-	-
MHV-5	102878.8	48917.46	40	328.9	4.7	14.7
MHV-5	102878.8	48917.46	45	323.9	2.7	7.3
MHV-5	102878.8	48917.46	50	318.9	88.0	160.0
MHV-5	102878.8	48917.46	55	313.9	229.7	638.7
MHV-5	102878.8	48917.46	60	308.9	93.3	470.7
MHV-5	102878.8	48917.46	65	303.9	114.3	766.0
MHV-5	102878.8	48917.46	70	298.9	103.0	689.7
MHV-5	102878.8	48917.46	75	293.9	215.0	1,503.0
MHV-5	102878.8	48917.46	80	288.9	635.0	5,948.3
MHV-5	102878.8	48917.46	85	283.9	9.7	125.3
MHV-5	102878.8	48917.46	90	278.9	32.3	488.0
MHV-5	102878.8	48917.46	91	277.9	1.3	44.0
MHV-5	102878.8	48917.46	95	273.9	-	25.0
MHV-5	102878.8	48917.46	100	268.9	575.3	1,964.3
MHV-5	102878.8	48917.46	105	263.9	401.3	1,393.0
MHV-5	102878.8	48917.46	110	258.9	387.3	2,632.7
MHV-5	102878.8	48917.46	115	253.9	538.0	4,437.3
MHV-5	102878.8	48917.46	117	251.9	520.3	7,096.3
MHV-5	102878.8	48917.46	120	248.9	345.3	7,044.0
MHV-5	102878.8	48917.46	125	243.9	88.0	1,405.3
MHV-5	102878.8	48917.46	130	238.9	370.0	13,072.7
MHV-20	102418.4	48658.3	24.9	334.7	9.0	8.0
MHV-20	102418.4	48658.3	26.9	332.7	140.0	50.0
MHV-20	102418.4	48658.3	28.9	330.7	2.0	6.0
MHV-20	102418.4	48658.3	30.9	328.7	9.0	-
MHV-20	102418.4	48658.3	32.9	326.7	4.0	1.0
MHV-20	102418.4	48658.3	34.9	324.7	4.0	6.0

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHV-20	102418.4	48658.3	35.9	323.7	140.0	100.0
MHV-20	102418.4	48658.3	36.9	322.7	390.0	130.0
MHV-20	102418.4	48658.3	37.9	321.7	1,020.0	540.0
MHV-20	102418.4	48658.3	38.9	320.7	1,620.0	2,390.0
MHV-20	102418.4	48658.3	39.9	319.7	1,120.0	1,760.0
MHV-20	102418.4	48658.3	40.9	318.7	2,070.0	3,720.0
MHV-20	102418.4	48658.3	41.9	317.7	650.0	1,700.0
MHV-20	102418.4	48658.3	42.9	316.7	810.0	1,940.0
MHV-20	102418.4	48658.3	43.9	315.7	2,320.0	7,690.0
MHV-20	102418.4	48658.3	44.9	314.7	1,010.0	2,510.0
MHV-20	102418.4	48658.3	46.9	312.7	10.0	10.0
MHV-20	102418.4	48658.3	48.9	310.7	10.0	30.0
MHV-20	102418.4	48658.3	50.9	308.7	6.0	7.0
MHV-20	102418.4	48658.3	52.9	306.7	6.0	8.0
MHV-20	102418.4	48658.3	54.9	304.7	20.0	20.0
MHV-20	102418.4	48658.3	56.9	302.7	20.0	30.0
MHV-20	102418.4	48658.3	58.9	300.7	20.0	30.0
MHV-21	102433.6	48661.47	25	334.7	9.0	6.0
MHV-21	102433.6	48661.47	27	332.7	20.0	20.0
MHV-21	102433.6	48661.47	29	330.7	10.0	10.0
MHV-21	102433.6	48661.47	31	328.7	10.0	6.0
MHV-21	102433.6	48661.47	33	326.7	40.0	10.0
MHV-21	102433.6	48661.47	35	324.7	1,370.0	600.0
MHV-21	102433.6	48661.47	36	323.7	870.0	330.0
MHV-21	102433.6	48661.47	37	322.7	40.0	10.0
MHV-21	102433.6	48661.47	38	321.7	710.0	950.0
MHV-21	102433.6	48661.47	39	320.7	160.0	460.0
MHV-21	102433.6	48661.47	40	319.7	970.0	4,860.0
MHV-21	102433.6	48661.47	41	318.7	1,490.0	9,400.0
MHV-21	102433.6	48661.47	42	317.7	50.0	110.0
MHV-21	102433.6	48661.47	43	316.7	80.0	120.0
MHV-21	102433.6	48661.47	44	315.7	70.0	100.0
MHV-21	102433.6	48661.47	45	314.7	10.0	10.0
MHV-21	102433.6	48661.47	47	312.7	10.0	2.0
MHV-21	102433.6	48661.47	49	310.7	10.0	6.0
MHV-21	102433.6	48661.47	51	308.7	7.0	1.0
MHV-21	102433.6	48661.47	53	306.7	10.0	-
MHV-21	102433.6	48661.47	55	304.7	10.0	2.0
MHV-21	102433.6	48661.47	57	302.7	4.0	-
MHV-21	102433.6	48661.47	59	300.7	40.0	50.0
MHV-22	102443.5	48663.79	25	334.7	-	-
MHV-22	102443.5	48663.79	27	332.7	-	-
MHV-22	102443.5	48663.79	29	330.7	-	-
MHV-22	102443.5	48663.79	31	328.7	-	-
MHV-22	102443.5	48663.79	33	326.7	-	-
MHV-22	102443.5	48663.79	35	324.7	170.0	240.0

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHV-22	102443.5	48663.79	36	323.7	20.0	30.0
MHV-22	102443.5	48663.79	37	322.7	5.0	5.0
MHV-22	102443.5	48663.79	38	321.7	2.0	1.0
MHV-22	102443.5	48663.79	39	320.7	10.0	10.0
MHV-22	102443.5	48663.79	40	319.7	50.0	30.0
MHV-22	102443.5	48663.79	41	318.7	3.0	2.0
MHV-22	102443.5	48663.79	42	317.7	-	-
MHV-22	102443.5	48663.79	43	316.7	-	-
MHV-22	102443.5	48663.79	44	315.7	-	-
MHV-22	102443.5	48663.79	45	314.7	40.0	50.0
MHV-22	102443.5	48663.79	47	312.7	-	-
MHV-22	102443.5	48663.79	49	310.7	-	-
MHV-22	102443.5	48663.79	51	308.7	-	-
MHV-22	102443.5	48663.79	53	306.7	-	-
MHV-22	102443.5	48663.79	55	304.7	10.0	10.0
MHV-22	102443.5	48663.79	57	302.7	6.0	7.0
MHV-22	102443.5	48663.79	59	300.7	100.0	80.0
MHV-23	102458	48666.89	24.9	334.8	20.0	6.0
MHV-23	102458	48666.89	26.9	332.8	10.0	2.0
MHV-23	102458	48666.89	28.9	330.8	6.0	3.0
MHV-23	102458	48666.89	30.9	328.8	2.0	2.0
MHV-23	102458	48666.89	32.9	326.8	2.0	1.0
MHV-23	102458	48666.89	34.9	324.8	2.0	-
MHV-23	102458	48666.89	35.9	323.8	40.0	10.0
MHV-23	102458	48666.89	36.9	322.8	370.0	110.0
MHV-23	102458	48666.89	37.9	321.8	1,190.0	440.0
MHV-23	102458	48666.89	38.9	320.8	160.0	90.0
MHV-23	102458	48666.89	39.9	319.8	4.0	2,050.0
MHV-23	102458	48666.89	40.9	318.8	20.0	1,500.0
MHV-23	102458	48666.89	41.9	317.8	3,000.0	1,850.0
MHV-23	102458	48666.89	42.9	316.8	2,830.0	2,280.0
MHV-23	102458	48666.89	43.9	315.8	110.0	130.0
MHV-23	102458	48666.89	44.9	314.8	3.0	2.0
MHV-23	102458	48666.89	46.9	312.8	30.0	40.0
MHV-23	102458	48666.89	48.9	310.8	2.0	-
MHV-23	102458	48666.89	50.9	308.8	-	1.0
MHV-23	102458	48666.89	52.9	306.8	3.0	2.0
MHV-23	102458	48666.89	54.9	304.8	80.0	60.0
MHV-23	102458	48666.89	56.9	302.8	6.0	7.0
MHV-23	102458	48666.89	58.9	300.8	70.0	60.0
MHV-24	102439.8	48636.88	25.4	335.1	5.0	3.0
MHV-24	102439.8	48636.88	27.4	333.1	4.0	3.0
MHV-24	102439.8	48636.88	29.4	331.1	5.0	2.0
MHV-24	102439.8	48636.88	31.4	329.1	2.0	-
MHV-24	102439.8	48636.88	33.4	327.1	10.0	9.0
MHV-24	102439.8	48636.88	35.4	325.1	300.0	170.0

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHV-24	102439.8	48636.88	36.4	324.1	30.0	30.0
MHV-24	102439.8	48636.88	37.4	323.1	80.0	80.0
MHV-24	102439.8	48636.88	38.4	322.1	30.0	50.0
MHV-24	102439.8	48636.88	39.4	321.1	2.0	3.0
MHV-24	102439.8	48636.88	40.4	320.1	-	10.0
MHV-24	102439.8	48636.88	41.4	319.1	-	50.0
MHV-24	102439.8	48636.88	42.4	318.1	440.0	610.0
MHV-24	102439.8	48636.88	43.4	317.1	90.0	90.0
MHV-24	102439.8	48636.88	44.4	316.1	3.0	-
MHV-24	102439.8	48636.88	45.4	315.1	3.0	-
MHV-24	102439.8	48636.88	47.4	313.1	5.0	3.0
MHV-24	102439.8	48636.88	49.4	311.1	2.0	-
MHV-24	102439.8	48636.88	51.4	309.1	4.0	-
MHV-24	102439.8	48636.88	53.4	307.1	7.0	2.0
MHV-24	102439.8	48636.88	55.4	305.1	20.0	10.0
MHV-24	102439.8	48636.88	57.4	303.1	7.0	4.0
MHV-24	102439.8	48636.88	59.4	301.1	40.0	40.0
MHV-25	102428.9	48680.95	25	334.1	9.0	1.0
MHV-25	102428.9	48680.95	27	332.1	70.0	9.0
MHV-25	102428.9	48680.95	29	330.1	10.0	2.0
MHV-25	102428.9	48680.95	31	328.1	60.0	10.0
MHV-25	102428.9	48680.95	33	326.1	90.0	20.0
MHV-25	102428.9	48680.95	35	324.1	1,060.0	300.0
MHV-25	102428.9	48680.95	36	323.1	1,070.0	440.0
MHV-25	102428.9	48680.95	37	322.1	5,290.0	4,600.0
MHV-25	102428.9	48680.95	38	321.1	9,810.0	10,850.0
MHV-25	102428.9	48680.95	39	320.1	8,210.0	12,140.0
MHV-25	102428.9	48680.95	40	319.1	3,000.0	5,530.0
MHV-25	102428.9	48680.95	41	318.1	16,440.0	63,870.0
MHV-25	102428.9	48680.95	42	317.1	10,880.0	41,320.0
MHV-25	102428.9	48680.95	43	316.1	13,940.0	31,930.0
MHV-25	102428.9	48680.95	44	315.1	27,120.0	74,400.0
MHV-25	102428.9	48680.95	45	314.1	290.0	450.0
MHV-25	102428.9	48680.95	47	312.1	50.0	80.0
MHV-25	102428.9	48680.95	49	310.1	10.0	40.0
MHV-25	102428.9	48680.95	51	308.1	10.0	20.0
MHV-25	102428.9	48680.95	53	306.1	20.0	10.0
MHV-25	102428.9	48680.95	55	304.1	30.0	30.0
MHV-25	102428.9	48680.95	57	302.1	20.0	10.0
MHV-25	102428.9	48680.95	59	300.1	350.0	750.0
MHV-26	102404.2	48655.31	24.9	334.9	7.0	10.0
MHV-26	102404.2	48655.31	26.9	332.9	60.0	50.0
MHV-26	102404.2	48655.31	28.9	330.9	60.0	50.0
MHV-26	102404.2	48655.31	30.9	328.9	10.0	10.0
MHV-26	102404.2	48655.31	31.9	327.9	140.0	60.0
MHV-26	102404.2	48655.31	32.9	326.9	690.0	200.0

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHV-26	102404.2	48655.31	34.9	324.9	1,100.0	420.0
MHV-26	102404.2	48655.31	35.9	323.9	1,490.0	600.0
MHV-26	102404.2	48655.31	36.9	322.9	3,070.0	1,560.0
MHV-26	102404.2	48655.31	37.9	321.9	2,810.0	1,550.0
MHV-26	102404.2	48655.31	38.9	320.9	2,520.0	2,540.0
MHV-26	102404.2	48655.31	39.9	319.9	2,240.0	3,070.0
MHV-26	102404.2	48655.31	40.9	318.9	3,320.0	5,700.0
MHV-26	102404.2	48655.31	41.9	317.9	2,220.0	2,920.0
MHV-26	102404.2	48655.31	42.9	316.9	1,640.0	1,470.0
MHV-26	102404.2	48655.31	43.9	315.9	230.0	310.0
MHV-26	102404.2	48655.31	44.9	314.9	580.0	880.0
MHV-26	102404.2	48655.31	46.9	312.9	30.0	30.0
MHV-26	102404.2	48655.31	48.9	310.9	30.0	40.0
MHV-26	102404.2	48655.31	50.9	308.9	10.0	10.0
MHV-26	102404.2	48655.31	52.9	306.9	20.0	20.0
MHV-26	102404.2	48655.31	54.9	304.9	30.0	40.0
MHV-26	102404.2	48655.31	56.9	302.9	20.0	20.0
MHV-26	102404.2	48655.31	58.9	300.9	40.0	40.0
MHV-27	102374.3	48654.5	26.9	333	5.0	2.0
MHV-27	102374.3	48654.5	28.9	331	4.0	-
MHV-27	102374.3	48654.5	30.9	329	10.0	10.0
MHV-27	102374.3	48654.5	32.9	327	30.0	5.0
MHV-27	102374.3	48654.5	34.9	325	200.0	40.0
MHV-27	102374.3	48654.5	35.9	324	370.0	80.0
MHV-27	102374.3	48654.5	36.9	323	90.0	30.0
MHV-27	102374.3	48654.5	37.9	322	4.0	2.0
MHV-27	102374.3	48654.5	38.9	321	180.0	110.0
MHV-27	102374.3	48654.5	39.9	320	370.0	200.0
MHV-27	102374.3	48654.5	40.9	319	710.0	360.0
MHV-27	102374.3	48654.5	41.9	318	220.0	120.0
MHV-27	102374.3	48654.5	42.9	317	30.0	20.0
MHV-27	102374.3	48654.5	43.9	316	570.0	270.0
MHV-27	102374.3	48654.5	44.9	315	3.0	2.0
MHV-27	102374.3	48654.5	46.9	313	20.0	20.0
MHV-27	102374.3	48654.5	48.9	311	20.0	20.0
MHV-27	102374.3	48654.5	50.9	309	10.0	10.0
MHV-27	102374.3	48654.5	52.9	307	10.0	10.0
MHV-27	102374.3	48654.5	54.9	305	9.0	10.0
MHV-27	102374.3	48654.5	56.9	303	1.0	-
MHV-27	102374.3	48654.5	58.9	301	4.0	3.0
MHV-28	102366.3	48647.61	25	334.9	140.0	7.0
MHV-28	102366.3	48647.61	27	332.9	160.0	10.0
MHV-28	102366.3	48647.61	29	330.9	7.0	2.0
MHV-28	102366.3	48647.61	31	328.9	3.0	3.0
MHV-28	102366.3	48647.61	33	326.9	10.0	10.0
MHV-28	102366.3	48647.61	35	324.9	350.0	50.0

ID	SRS North	SRS East	Sample Depth ft	Sample Elevation ft msl	PCE (µg/kg)	TCE (µg/kg)
MHV-28	102366.3	48647.61	36	323.9	170.0	20.0
MHV-28	102366.3	48647.61	37	322.9	100.0	10.0
MHV-28	102366.3	48647.61	38	321.9	1,030.0	80.0
MHV-28	102366.3	48647.61	39	320.9	880.0	60.0
MHV-28	102366.3	48647.61	40	319.9	1,300.0	90.0
MHV-28	102366.3	48647.61	41	318.9	90.0	40.0
MHV-28	102366.3	48647.61	42	317.9	4.0	2.0
MHV-28	102366.3	48647.61	43	316.9	230.0	110.0
MHV-28	102366.3	48647.61	44	315.9	140.0	80.0
MHV-28	102366.3	48647.61	45	314.9	190.0	120.0
MHV-28	102366.3	48647.61	47	312.9	10.0	10.0
MHV-28	102366.3	48647.61	49	310.9	10.0	10.0
MHV-28	102366.3	48647.61	51	308.9	50.0	50.0
MHV-28	102366.3	48647.61	53	306.9	7.0	8.0
MHV-28	102366.3	48647.61	55	304.9	4.0	5.0
MHV-28	102366.3	48647.61	57	302.9	10.0	10.0
MHV-29	102362.2	48661.78	25.9	333.7	420.0	40.0
MHV-29	102362.2	48661.78	27.9	331.7	440.0	40.0
MHV-29	102362.2	48661.78	29.9	329.7	70.0	10.0
MHV-29	102362.2	48661.78	31.9	327.7	50.0	20.0
MHV-29	102362.2	48661.78	33.9	325.7	1,020.0	120.0
MHV-29	102362.2	48661.78	35.9	323.7	680.0	190.0
MHV-29	102362.2	48661.78	36.9	322.7	1,560.0	550.0
MHV-29	102362.2	48661.78	37.9	321.7	940.0	580.0
MHV-29	102362.2	48661.78	38.9	320.7	1,170.0	790.0
MHV-29	102362.2	48661.78	39.9	319.7	700.0	530.0
MHV-29	102362.2	48661.78	40.9	318.7	750.0	590.0
MHV-29	102362.2	48661.78	41.9	317.7	590.0	410.0
MHV-29	102362.2	48661.78	42.9	316.7	580.0	300.0
MHV-29	102362.2	48661.78	43.9	315.7	190.0	120.0
MHV-29	102362.2	48661.78	44.9	314.7	170.0	120.0
MHV-29	102362.2	48661.78	47.9	311.7	50.0	50.0
MHV-29	102362.2	48661.78	49.9	309.7	5.0	6.0
MHV-29	102362.2	48661.78	51.9	307.7	9.0	10.0
MHV-29	102362.2	48661.78	53.9	305.7	10.0	10.0
MHV-29	102362.2	48661.78	55.9	303.7	10.0	10.0
MHV-29	102362.2	48661.78	57.9	301.7	50.0	70.0
MHV-29	102362.2	48661.78	59.9	299.7	20.0	30.0

Appendix E – Boring and Well Coordinates

Table E1 – CPT Boring Coordinates

CPT Boring	SRS North	SRS East	Ground Elevation ft msl	Total Depth ft	Install Date
MVB-101	103639.90	49005.01	366.38	104	11/14/00
MVB-104	103440.76	49089.99	363.68	103	11/29/00
MVB-105	103425.06	49005.00	363.79	103	11/27/00
MVB-106	103262.38	49139.32	361.71	102	11/27/00
MVB-107	103249.92	48980.02	362.23	102	11/22/00
MVB-108	103086.91	48930.88	363.57	102	11/28/00
MVB-109	103069.98	49060.04	365.08	121	11/7/00
MVB-110	102952.18	48878.96	365.53	100	11/15/00
MVB-113	102854.07	48958.94	369.16	102	11/28/00
MVB-114	102802.72	48821.55	365.08	111	11/15/00
MVB-117	102778.24	48989.67	367.14	103	11/16/00
MVB-118	102719.96	48649.96	363.48	98	11/22/00
MVB-119	102709.96	48749.99	362.72	102	11/16/00
MVB-120	102690.01	48874.99	361.77	98	11/29/00
MVB-121	102610.03	48859.99	356.66	100	11/21/00
MVB-122	102610.02	48720.00	360.26	82	11/17/00
MVB-124	102485.02	48670.00	359.73	92	11/17/00
MVB-125	102437.46	48723.27	356.99	103	11/21/00
MVB-126	102407.49	48627.90	360.37	110	11/20/00
MVB-129	102249.93	48600.07	360.42	129	11/20/00

Table E2 – Previous Sediment Boring and Well Coordinates

ID	SRS North	SRS East	Screen Top ft msl	Screen Bottom ft msl	Ground Elevation ft msl	Effective Depth ft	Diam. in	Material	Install Date
MHT 1C	102706.8	48765.6	209.7	204.7	362.7	160.2	4	PVC	6/7/90
MHT 2C	102747.1	48780.3	212.1	207.1	364.1	159.1	4	PVC	4/6/90
MHT 3C	102704.3	48861.1	209.6	204.6	362.6	160.2	4	PVC	4/23/90
MHT 4C	102778.9	48863.5	213.4	208.4	367.4	161.1	4	PVC	4/12/90
MHT 5C	102725.1	48905.9	210.1	205.1	364.1	161.1	4	PVC	5/29/90
MHT 6C	102810.8	48900	212.6	207.6	369.6	164.1	4	PVC	4/26/90
MHT 7C	102788.9	48977.5	212	207	368	163	4	PVC	6/21/90
MHT 8C	102880.7	48970.2	212.3	207.3	369.3	164.2	4	PVC	6/5/90
MHT 9C	102814.4	49015.6	214.7	209.7	367.7	159.9	4	PVC	6/15/90
MHT 10C	102892.3	49011.6	211.9	206.9	368.9	163.8	4	PVC	6/19/90
MHT 11C	102854	48846.1	214.2	209.2	366.2	159.1	4	PVC	6/4/91
MHT 12C	102844.8	49061.7	214.4	209.4	367.9	160.8	4	PVC	6/13/91
MHT 15C	102520.7	48741.9	204.5	199.7	357.7	159.8	4	PVC	5/4/92
MHT 16C	102430.9	48672.8	205.5	200.7	359.5	160.9	4	PVC	5/20/92
MHT 17C	102394.6	48706.9	205.7	200.8	357.7	158.9	4	PVC	6/18/92
MHT 18C	102486.1	48650.9	205.3	200.5	360.3	161.7	4	PVC	6/4/92
MHT 19C	102502.7	48699.1	205.9	201.1	358.9	159.8	4	PVC	5/12/92
MHT 20C	102589.3	48710.8	206.5	201.6	360.3	160.8	4	PVC	6/19/92
MHV 1A	102749.3	48842	270.6	265.6	365.6	102	1	PVC	5/9/90
MHV 1B	102749.3	48842	295.6	290.6	365.6	77	1	PVC	5/10/90
MHV 1C	102749.3	48842	321.6	315.6	365.6	52	1	PVC	5/11/90
MHV 2A	102755.9	48903.2	271.4	266.4	366.4	101.8	1	PVC	5/29/90
MHV 2B	102755.9	48903.2	296.4	291.4	366.4	76.8	1	PVC	5/30/90
MHV 2C	102755.9	48903.2	322.4	317.4	366.4	50.8	1	PVC	5/31/90
MHV 3A	102774.7	48874.1	273.2	268.2	368.2	102.1	1	PVC	5/14/90
MHV 3B	102774.7	48874.1	298.8	293.8	368.2	76.5	1	PVC	5/15/90
MHV 3C	102774.7	48874.1	323.2	318.2	368.2	52.1	1	PVC	5/16/90
MHV 4A	102841.7	48842.5	272.1	267.1	366.1	101.5	1	PVC	6/13/90
MHV 4B	102841.7	48842.5	296.1	291.1	366.1	77.4	1	PVC	6/15/90
MHV 4C	102841.7	48842.5	323.6	318.6	366.1	50.1	1	PVC	6/18/90
MHV 5A	102878.8	48917.5	284.2	279.2	369.2	92.4	1	PVC	6/6/90
MHV 5B	102878.8	48917.5	301.2	296.2	369.2	75.3	1	PVC	6/7/90
MHV 5C	102878.8	48917.5	324.2	319.2	369.2	52.4	1	PVC	6/8/90
MHV 6	102780.1	48891.5	358.8	253.8	368.1	114.6	4	PVC	6/25/91
MHV 7	102811.5	48878.1	358.2	253.2	368.2	117.1	4	PVC	6/21/91
MHV 8	102610.3	48846.3	323.4	321.1	357.7	117.4	4	PVC	4/10/92
			303.8	301.5					
			296.5	294.2					
			285.2	282.9					
			268.9	266.7					
			254.7	252.4					
			243.5	241.2					

ID	SRS North	SRS East	Screen Top ft msl	Screen Bottom ft msl	Ground Elevation ft msl	Effective Depth ft	Diam. in	Material	Install Date
MHV 9	102830.1	49046.7	343.5	341.2	367.7	123.6	4	PVC	4/16/92
			318.8	316.5					
			303.5	301.2					
			292.2	290					
			281	278.7					
			268.7	266.4					
			255.3	253					
			248	245.7					
MHV 20A	102418.4	48658.3	311.6	306.7	359.6	55.1	1	PVC	12/4/92
MHV 20B	102418.4	48658.3	321.6	316.7	359.6	45	1	PVC	12/4/92
MHV 20C	102418.4	48658.3	331.6	326.7	359.6	35	1	PVC	12/4/92
MHV 21A	102433.6	48661.5	311.7	306.8	359.7	55.2	1	PVC	12/4/92
MHV 21B	102433.6	48661.5	321.7	316.8	359.7	45.2	1	PVC	12/4/92
MHV 21C	102433.6	48661.5	331.7	326.8	359.7	35.2	1	PVC	12/4/92
MHV 22A	102443.5	48663.8	311.7	306.8	359.7	55.2	1	PVC	12/4/92
MHV 22B	102433.5	48663.8	321.7	316.8	359.7	45.2	1	PVC	12/4/92
MHV 22C	102433.5	48663.8	331.7	326.8	359.7	35.2	1	PVC	12/4/92
MHV 23A	102458	48666.9	311.7	306.8	359.7	55.1	1	PVC	12/4/92
MHV 23B	102458	48666.9	321.7	316.8	359.7	45.1	1	PVC	12/4/92
MHV 23C	102458	48666.9	331.7	326.8	359.7	35.2	1	PVC	12/4/92
MHV 24A	102439.8	48636.9	312.5	307.6	360.5	55.1	1	PVC	12/4/92
MHV 24B	102439.8	48636.9	322.5	317.6	360.5	45.1	1	PVC	12/4/92
MHV 24C	102439.8	48636.9	332.5	327.6	360.5	35.2	1	PVC	12/4/92
MHV 25A	102428.9	48681	311.1	306.2	359.1	55.3	1	PVC	12/4/92
MHV 25B	102428.9	48681	321.1	316.2	359.1	45.3	1	PVC	12/4/92
MHV 25C	102428.9	48681	331.1	326.2	359.1	35.3	1	PVC	12/4/92
MHV 26A	102404.2	48655.3	311.8	306.9	359.8	55.2	1	PVC	12/4/92
MHV 26B	102404.2	48655.3	321.8	316.9	359.8	45.2	1	PVC	12/4/92
MHV 26C	102404.2	48655.3	331.8	326.9	359.8	35.2	1	PVC	12/4/92
MHV 27A	102374.3	48654.5	311.9	307	359.9	55.1	1	PVC	12/4/92
MHV 27B	102374.3	48654.5	321.9	317	359.9	45	1	PVC	12/4/92
MHV 27C	102374.3	48654.5	331.9	327	359.9	35.1	1	PVC	12/4/92
MHV 28A	102366.3	48647.6	311.9	307	359.9	55.2	1	PVC	12/4/92
MHV 28B	102366.3	48647.6	321.9	317	359.9	45.2	1	PVC	12/4/92
MHV 28C	102366.3	48647.6	331.9	327	359.9	35.2	1	PVC	12/4/92
MHV 29A	102362.2	48661.8	311.6	306.7	359.6	55.1	1	PVC	12/4/92
MHV 29B	102362.2	48661.8	321.6	316.7	359.6	45.1	1	PVC	12/4/92
MHV 29C	102362.2	48661.8	331.6	326.7	359.6	35.1	1	PVC	12/4/92

Table E3 – Vadose Zone Horizontal Well Coordinates

AMH-2			AMH-4			AMH-5		
SRS North	SRS East	Elevation ft msl	SRS North	SRS East	Elevation ft msl	SRS North	SRS East	Elevation ft msl
102708.8	48807.81	363.04	102670.5	48779.61	362.1	102207.3	48604.04	358.3893
102708.8	48807.81	340.04	102665.6	48776.76	341.89	102216.5	48606.38	357.2769
102708.8	48807.82	338.04	102664.9	48776.31	339.01	102227.6	48608.79	354.3801
102708.8	48807.83	336.04	102664.2	48775.88	336.14	102236.9	48611.21	351.7034
102708.9	48807.86	334.04	102663.4	48775.51	333.26	102245.2	48612.31	349.0382
102709.1	48807.95	332.05	102662.5	48775.21	330.39	102254.5	48613.69	346.3615
102709.4	48808.08	330.08	102661.7	48774.88	327.53	102264.7	48615.28	343.4647
102709.8	48808.27	328.14	102660.8	48774.52	324.69	102274.9	48617.01	340.3476
102710.3	48808.49	326.22	102660.2	48774.24	322.8	102283.2	48618.7	337.219
102711	48808.76	324.34	102659.3	48773.78	320	102292.5	48620.34	334.3221
102711.7	48809.08	322.51	102658.2	48773.28	317.22	102301.8	48622.01	331.8772
102712.5	48809.44	320.72	102657.2	48772.71	314.48	102311	48623.7	328.9803
102713.4	48809.83	318.98	102656	48772.08	311.79	102321.2	48625.41	326.5238
102714.4	48810.26	317.3	102654.8	48771.4	309.13	102330.5	48627.16	324.7509
102715.5	48810.73	315.7	102653.5	48770.7	306.52	102339.7	48628.96	323.1866
102716.7	48811.24	314.15	102652.6	48770.21	304.8	102349.9	48630.79	321.854
102717.9	48811.77	312.68	102651.2	48769.4	302.28	102360.1	48632.57	320.9618
102719.3	48812.34	311.28	102649.7	48768.51	299.81	102370.3	48634.3	320.5099
102720.7	48812.94	309.98	102648.2	48767.6	297.4	102379.6	48635.95	319.6176
102722.1	48813.57	308.76	102646.5	48766.67	295.06	102389.7	48637.59	319.3975
102723.6	48814.22	307.63	102644.8	48765.72	292.78	102399	48639.24	319.3975
102725.2	48814.9	306.58	102643.1	48764.71	290.57	102408.3	48640.88	319.3975
102726.8	48815.6	305.64	102641.3	48763.64	288.42	102417.5	48642.56	319.6176
102728.5	48816.31	304.79	102639.4	48762.53	286.34	102427.7	48644.26	319.6176
102730.2	48817.06	304.04	102637.5	48761.33	284.34	102437.9	48645.9	319.8378
102731.9	48817.81	303.41	102635.6	48760.13	282.43	102447.2	48647.51	320.0695
102733.7	48818.58	302.87	102633.5	48758.93	280.59	102457.4	48649.11	320.0695
102735.4	48819.39	302.44	102631.4	48757.71	278.82	102466.7	48650.87	319.8378
102737.2	48820.21	302.11	102629.3	48756.45	277.12	102476.8	48652.59	319.8378
102739.1	48821.02	301.88	102627.1	48755.16	275.51	102486.1	48654.23	319.8378
102740.9	48821.85	301.75	102624.9	48753.82	273.98	102496.3	48655.86	319.8378
102749.1	48825.42	301.4	102622.7	48752.44	272.55	102505.5	48657.57	319.8378
102758.3	48829.29	301.03	102620.4	48751.02	271.21	102514.8	48659.29	319.8378
102767.5	48833.27	300.57	102618.1	48749.59	269.95	102525.9	48660.62	320.2897
102776.7	48837.22	300.05	102615.7	48748.15	268.77	102535.2	48661.86	320.5099
102785.8	48841.34	299.48	102613.4	48746.7	267.66	102544.5	48663.4	320.5099
102794.7	48845.7	298.85	102611	48745.24	266.6	102555.6	48665.08	320.5099
102803.7	48850.12	298.13	102608.6	48743.77	265.59	102564.8	48666.79	320.73
102812.6	48854.55	297.3	102606.2	48742.2	264.63	102574.1	48668.47	321.4021
102821.5	48858.97	296.34	102603.8	48740.54	263.76	102584.3	48670.06	321.6223

Continued on next page

Table E3 – Horizontal Well Coordinates (continued)

AMH-2			AMH-4			AMH-5		
SRS North	SRS East	Elevation ft msl	SRS North	SRS East	Elevation ft msl	SRS North	SRS East	Elevation ft msl
102830.4	48863.39	295.3	102601.5	48738.86	262.97	102593.5	48671.42	321.854
102839.4	48867.8	294.21	102599.1	48737.19	262.17	102602.8	48672.69	321.854
102848.2	48872.38	293.12	102596.7	48735.5	261.45	102613.9	48673.99	321.854
102856.9	48877.17	291.99	102590.4	48730.86	259.85	102622.2	48675.65	322.2943
102865.6	48881.89	290.77	102586.5	48727.87	258.98	102632.5	48677.52	322.9664
102874.1	48887.05	289.55	102582.6	48724.91	258.24	102642.6	48679.87	323.8586
102882.3	48892.74	288.68	102578.6	48721.97	257.68	102652.8	48682.99	324.971
102890.6	48898.24	287.98	102574.5	48719.04	257.37	102662.1	48686.35	326.3036
102899	48903.57	287.06	102570.4	48716.18	257.2	102671.4	48689.91	327.6477
102907.4	48908.89	286.02	102566.3	48713.32	257.07	102680.6	48693.71	329.8725
102915.8	48914.21	284.89	102562.2	48710.46	257.02	102690.8	48697.62	332.3175
102918.3	48915.8	284.55	102558.1	48707.68	257.04	102699.2	48701.78	335.4461
			102553.9	48704.96	257.09	102707.5	48706.12	338.5632
			102549.6	48702.33	257.15	102717.7	48709.89	342.1321
			102545.3	48699.75	257.24	102725.1	48713.16	347.0336
			102541	48697.31	257.33	102734.3	48716.03	351.7034
			102536.6	48694.97	257.46	102742.7	48718.22	356.6165
			102532.1	48692.72	257.68	102749.2	48720.36	360.8459
			102527.6	48690.61	257.96	102756.6	48722.49	364.8552
			102523	48688.56	258.27			
			102518.5	48686.46	258.57			
			102514	48684.36	258.88			
			102509.5	48682.14	259.16			
			102505.1	48679.8	259.4			
			102500.7	48677.35	259.6			
			102496.4	48674.79	259.84			
			102492.2	48672.16	260.19			
			102488	48669.54	260.53			
			102483.7	48666.93	260.84			
			102479.4	48664.34	261.1			
			102475.2	48661.77	261.21			
			102470.8	48659.32	261.12			
			102466.4	48656.98	260.86			
			102461.9	48654.81	260.45			
			102457.4	48652.72	260.03			
			102452.8	48650.78	259.75			
			102448.1	48649.08	259.66			
			102443.4	48647.42	259.82			

Appendix F – Barometric Pumping Mass Removal Rates

Joe Rossabi

Mass removal for wells under going passive soil vapor extraction (barometric pumping) are governed by the same rules as active soil vapor extraction systems. Essentially, the mass removal rate is equal to the flow rate from the well multiplied by the concentration of the soil gas coming from the well. The flow rate from a well is governed primarily by the effective permeability of the formation in which the well is screened and the magnitude of the pressure differential causing the flow. Generally, the pressure difference caused by barometric effects is much lower than the pressure difference created by an active pumping system so flow is generally lower. However, barometric pumping can produce flow rates as high as 50 scfm (measured at SRS in 2000). If the soil gas concentration is also high, a significant amount of contaminant can be removed by barometric pumping (see figure below). The flow rate from barometric pumping wells ranges from as low as 0.1 scfm to as high as 50 scfm. At SRS, the barometric wells flow rate generally ranges between 0.5 scfm and 10 scfm. At the Miscellaneous Chemical Basin and the MetLab Baroball well installations for example, the average flow rate from the 2 inch diameter wells is 2 scfm when they are blowing. The mass removal rate is calculated by multiplying the flow rate by the concentration of the soil gas in the well. The mass removal rate can vary over a very large range given the range of concentrations and flows that we have measured. The figure below shows the range of removal rates for tetrachloroethylene (PCE) based on measured concentrations and flows at SRS.