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Performance Evaluation Report of 2018 for the M-Area Inactive Process Sewer Lines (081-M) Operable Unit (U)

January through December 2018

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~	approximate, approximately
ARAR	applicable or relevant and appropriate requirement
ASVE	active soil vapor extraction
bgs	below ground surface
cfm	cubic feet per minute
cm	centimeter
CMI/RAIP	Corrective Measures Implementation/Remedial Action Implementation Plan
CY	calendar year
FFA	Federal Facility Agreement
ft	feet
in.	inch
kg	kilogram
LLC	Limited Liability Company
lb	pound
LUC	land use control
m	meter
mg/kg	milligram/kilogram
MIPSL	M-Area Inactive Process Sewer Line(s)
MH	manhole
msl	mean sea level
OU	operable unit
PCE	tetrachloroethylene
PER	Performance Evaluation Report
ppmv	parts per million by volume
RA	remedial action
RCRA	Resource Conservation and Recovery Act
RFI/RI	RCRA Facility Investigation/Remedial Investigation
RG	remedial goal
SCDHEC	South Carolina Department of Health and Environmental Control
SRNS	Savannah River Nuclear Solutions, LLC
SRS	Savannah River Site
SVE	soil vapor extraction
SVEU	soil vapor extraction unit
TCE	trichloroethylene
USDOE	U.S. Department of Energy
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound
WSRC	Washington Savannah River Company LLC
ZOI	zone of influence

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1.0 INTRODUCTION

This 2018 Performance Evaluation Report (PER) addresses remedial system performance at the M-Area Inactive Process Sewer Lines (MIPSL) 081-M Operable Unit (OU) for the last calendar year (CY). The 2008 PER (SRNS 2009), the 2009 PER (SRNS 2010), the 2010 PER (SRNS 2011), the 2011 PER (SRNS 2012), the 2012 PER (SRNS 2013), the 2013 PER (SRNS 2014), the 2014 PER (SRNS 2015), the 2015 PER (SRNS 2016), the 2016 PER (SRNS 2017), and the 2017 PER (SRNS 2018a) outlined the first ten years of operations. The monitoring requirements for the MIPSL OU are identified in the Corrective Measures Implementation/Remedial Action Implementation Plan (CMI/RAIP) for the MIPSL (081-M) (WSRC 2006a) (see Table 1).

1.1 Operable Unit Background

M Area is located in the northwest portion of the Savannah River Site (SRS) (Figure 1 inset). M Area was a reactor fuel and target assembly facility. Included were three production buildings (313-M, 320-M and 321-M), two support laboratories (320-M and 322-M), two test reactors (305-A and 777-10A), a salvage/reclamation area (741-A, 740-A, and 743-A), and liquid effluent treatment facilities (341-M, 341-1M, and 341-8M). M Area operated from 1952 until 1995.

Effluent from the production facilities and laboratories was discharged through networks of vitrified clay, plastic, and metal pipe. Effluents from the M-Area facility that were transported through the sewer included metal degreasing agents (i.e., chlorinated solvents), acids, caustics, heavy metals, and minor amounts of radionuclides.

A detailed facility description is given in the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Remedial Investigation (RFI/RI) Work Plan, RFI/RI Report with Baseline Risk Assessment, and Corrective Measures Study/Feasibility Study for the MIPSL (081-M), hereafter referred to as the MIPSL Combined Document (WSRC 2005).

The topography of the area is relatively flat, ranging in elevation from about 113- to 119-meters (m [370- to 390-feet {ft}]) above mean sea level (msl), and slopes to the south. The majority of the area is covered with concrete or gravel pavement with scattered areas of grassy vegetation.

Originally, the MIPSL included the network of process sewer lines from Buildings 313-M, 320-M, 321-M, and 322-M that discharged to the A-014 Outfall and the M-Area Settling Basin. The lines consist of approximately (~) 914 m (3,000 ft) of vitrified clay pipe ranging in diameter from 20.3 to 76.2 centimeters (cm [8 to 30 inches {in.}]), with pipe depths ranging from about 2.1- to 3.7-m (7- to 12-ft) below ground surface (bgs). Pipeline manholes (MHs) are constructed of pre-cast concrete or brick, are spaced ~122-m (400-ft) apart, and have been repaired through the years. During 2008, the MHs were plugged with grout as part of the remedial activities.

In January 2006, the U.S. Department of Energy (USDOE), U.S. Environmental Protection Agency (USEPA), and South Carolina Department of Health and Environmental Control (SCDHEC) agreed to limit the scope of the MIPSL OU per a USDOE letter titled *Revised Scope of the M-Area Inactive Process Sewer Lines Operable Unit (081-M)* (USDOE 2006). USDOE, USEPA, and SCDHEC agreed that better and more cost-effective remedial decisions could be made by evaluating the remedial problems in M Area by focusing on M Area's industrial sewer lines. Per the January 2006 agreement, the MIPSL OU comprises only portions of the M Area sewer lines. The MIPSL area is recognized as industrial land use only. SRS documents land use control (LUC) inspections in the Five-Year Remedy Review Reports. Operations at the MIPSL for the foreseeable future are expected to be remediation oriented (mostly passive soil vapor extraction [SVE]) with Site level access controls.

Specifically, the MIPSL OU includes those sewer lines indicated by the M Area inactive process sewer boundary depicted within the M-Area Operable Unit LUC boundary shown in Figure 2.

1.2 Nature and Extent of Contamination

The primary contaminant release mechanism at the MIPSL OU was leakage of effluents from the process sewer lines serving multiple facilities in M Area. Volatile organic compounds (VOCs) are the primary contaminant of concern. Surficial soils in M Area consist of fine-grained sediments (i.e., silty sandy clay) to a depth of ~9 m (30 ft), known as the Upland Unit. The Upland Unit has limited contaminant mobility to a significant degree by having a high porosity (i.e. void space between sediment grains) and low permeability (i.e., connectivity between sediment grains). The high porosity provides a space for temporary storage of the VOCs, while the low permeability

restricts the VOCs from migrating downward. VOC migration through the Upland Unit is primarily through diffusion. Below the Upland Unit, more permeable sediments extend downward to the water table at ~37-m (120-ft) bgs. The more permeable sediments consist of a series of silty sand beds separated by laterally discontinuous clay beds. Details regarding the nature and extent of contaminants are included in the MIPSL combined document (WSRC 2005).

Because the inactive process sewer line and associated contamination are located at depths greater than 1.2-m (4-ft) bgs, there are no potentially exposed human or ecological receptors under current and future land use scenarios. Soil contaminant levels at depths greater than 1.2-m (4-ft) bgs do not exceed the threshold levels for toxicity risk to industrial workers.

However, tetrachloroethylene (PCE) and trichloroethylene (TCE) were determined to be contaminant migration constituents of concern at the MIPSL OU. Computer modeling was used to establish TCE and PCE soil concentrations that would not adversely impact the underlying groundwater. These remedial goals (RGs) are listed in Table 2.

Although the selected remedial action (RA) is intended to prevent the leaching of contaminants from deep soil to underlying aquifers, groundwater is not part of the MIPSL OU. As stated in the MIPSL Record of Decision (WSRC 2006b), any groundwater contamination resulting from the MIPSL OU are regulated by the SRS RCRA Permit and addressed by the requirements of the M-Area and Metallurgical Laboratory Hazardous Waste Management Facilities Groundwater Monitoring and Corrective Action agreements.

2.0 REMEDIAL ACTIONS

The selected RA for the MIPSL OU is Phased SVE enhanced with Soil Fracturing and LUCs. The MIPSL OU RA areas (MH-01, MH-11, MH-12, and MH-13) are shown in Figure 2.

The MIPSL OU is listed as a RCRA 3004(u) Solid Waste Management Unit/Comprehensive Environmental Response, Compensation, and Liability Act unit in Appendix C of the Federal Facility Agreement (FFA) (FFA 1993) for SRS.

2.1 System Overview

RAs are ongoing in areas adjacent to all MHs where process sewer line leakage has resulted in vadose zone contamination exceeding RGs (MH-01, MH-11, MH-12, and MH-13). The contamination resulted from past sewer line leakage and is located predominantly within the Upland Unit in the zone below the sewer line to 10.7-m (35-ft) below grade. To effectively remove the volatile contaminants from the Upland Unit, the soil was fractured to improve the permeability of the formation (WSRC 2008).

The well network at each MH location includes:

- Four fracture wells (F series) completed in the Upland Formation,
- One conventional SVE well (SVE series) completed in sands below the Upland Unit, and
- One or two pressure monitoring wells (P series), each with three monitoring ports within the Upland Unit.

A cross section view of the SVE well configuration is illustrated in Figure 3. The locations of the wells at each of the four MHs are shown on Figures 4 through 7, and the well details are included in Table 3.

Per the CMI/RAIP, two vadose zone pressure monitoring wells were planned at each MH. As detailed in the MIPSL Post Construction Report (WSRC 2008), two wells were constructed at MH-1 and MH-11. Only one well was installed at MH-12 and MH-13 due to persistent water in the Upland Unit that flooded the locations for the two proposed wells. The pressure monitoring wells were installed with Geoprobe equipment.

The sole purpose of the pressure monitoring wells was to attempt to detect the negative pressure produced by the SVE blower during the first year of operation. During normal operations, a hand-held manometer was used to measure the vacuum in the pressure monitoring wells. It was believed that the measurement of negative pressure would provide a better understanding of the zone of influence (ZOI) of the SVE in the fractured Upland Unit. It was recognized that the probability of a screen zone being in alignment with a fracture, which resulted in a vacuum measurement, might be relatively low.

In the first year of operation of the SVE, the negative pressure in the pressure monitoring wells ranged from undetectable to ~20.3 cm (8 in.) of water (documented in the PERs published in 2009 and 2010). The presence of a vacuum in at least one screen zone in all wells was thought to indicate a reasonable ZOI around the extraction wells in the fractured Upland Unit. Pressure well monitoring was discontinued after the first year of monitoring because the wells had served their purpose.

The soil vapor extraction unit (SVEU) is equipped with a minimum water knockout capacity of 208 liters (55 gallons). Power is provided by a portable, diesel-powered generator or from the electric grid, depending on unit location. The portable SVEU is transported from one MH location to the next for well connection and operation. The initial plan included three cycles of active SVE (ASVE), followed by a determination for additional ASVE. Since July 2008, 24-volt MicroBlower™ assemblies were connected to the conventional SVE wells for use while wells are not undergoing ASVE.

The contamination exists primarily within fine-grained sediments of the Upland Unit. VOC mass diffuses from the Upland Unit at a constant rate into the higher permeability fractures and underlying high permeability sediments. The rate of diffusion is relatively constant, so the observed changes in VOC vapor concentrations is directly related to the mass of VOCs remaining in the Upland Unit. As VOC mass is removed by the SVEU, VOC concentrations decrease causing mass removal rates to decrease. The mass of VOCs in the Upland Unit will decrease to a point where the effectiveness of the mobile SVEU will become minimal. At this point, the ASVE unit will become inefficient and could be transitioned to passive SVEU.

The majority of the mass removed by the ASVE unit has been from MH-01 and more specifically from SVE-01 which is screened from 21.3- to 33.5-m (70- to 110-ft) bgs. The higher concentrations observed at this SVE well are likely a product of mass diffusing from the base of the Upland Unit and other low permeability sediments located between the Upland Unit and the water table. Evidence of this VOC mass was observed at an adjacent soil boring (i.e., MIPS-CP007) drilled and sampled for soil vapor in 2003. At MIPS-CP007, PCE concentrations were elevated from 9.1- to 18.3-m (30- to 60-ft) bgs and at 26.8-m (88-ft) bgs. The highest PCE concentration was observed at 10.7-m (35-ft) bgs and generally decreased with depth, indicating the Upland Unit as the source.

The lithology at MIPS-CP007 reveals relatively sandy sediment from 10.7- to 25.9-m (35- to 85-ft) bgs, so the ZOI at SVE-01 could extend into the shallow vadose zone.

2.2 Soil Vapor Extraction Operations

In CY2008, the portable SVEU was cycled through each of the four MH locations to dewater the fractured Upland Unit and to increase air permeability. See Cycle #1 in the ASVE Locations and Periods of Operation schedule below. As reported in the MIPSL PER of 2009 (SRNS 2010), in CY2008 and CY2009, the portable SVEU was again cycled through each of the four MH locations (see Cycles #2 and #3). The primary purpose of the second cycle was PCE removal to less than 10 parts per million by volume (ppmv). Rebound testing is then initiated when concentrations are sustained below 10 ppmv. Therefore, the focus of the third cycle was to determine if concentration rebound occurs.

At all MH locations, except MH-01, PCE concentrations at all fracture wells and the deep SVE series wells were reduced to less than 10 ppmv and rebound of concentrations had not been observed. Therefore, as reported in the MIPSL PER of 2009 operations (SRNS 2010), ASVE was replaced with passive SVE (i.e., MicroBlower™) at MH-11, -12, and -13 and ASVE was operated at MH-01 as Cycle #4. Based on PCE concentrations exceeding 10 ppmv at the MH-12 location (late 2010-early 2011), the SVEU was moved from MH-01 to MH-12. ASVE began at MH-12, September 1, 2011. This is considered Cycle #5. Cycle #5 ended on approximately March 31, 2012, when ASVE was discontinued at MH-12 because all soil vapor samples were less than 10 ppmv.

ASVE was reinitiated at MH-01 on April 2, 2012. Cycle #6 continued at MH-01 for all of CY2013. Two rebound tests to assess mass removal efforts were conducted in CY2013.

Cycle #7 occurred in early 2014 as Fracture Well Testing was conducted at all four MHs (ERD 2014).

The SVE was moved to MH-12 on April 1, 2014, to reduce concentrations at Well F12-3 (Figure 6). ASVE lasted for three months at MH-12.

Cycle #8 began as ASVE was reinitiated at MH-01 on July 1, 2014. ASVE continued at MH-01 for all of CY2018.

Historical and current chronological periods and system locations for operation of ASVE at MIPSL are listed in the ASVE Locations and Periods of Operation schedule below. For clarity, operational alignment of each well at the end of the CY2018 reporting period is shown in Table 4. Corresponding PCE and TCE sample data at each well is shown in Table 5.

Electrical power for the MIPSL SVEU originates from the same circuit as the M-1 Air Stripper. During CY2018, the MIPSL SVEU was inoperable for seven consecutive days on two occasions. In March 2018, the M-1 Air Stripper was locked out to add a new recovery well to the existing recovery well network. MIPSL was down from March 6 to March 23, 2018. The USEPA and SCDHEC were notified that the system was inoperable by email on March 15, 2018 (SRNS 2018b). In June 2018, the M-1 Air Stripper was locked out to repair a subsurface leak in the recovery well piping network. MIPSL was down from June 14, 2018 to July 3, 2018. The USEPA and SCDHEC were notified that the system was inoperable by email on June 21, 2018 (SRNS 2018c). On July 10, 2018, the USEPA and SCDHEC were notified that the system was repaired and had resumed normal operations on July 3, 2018 (SRNS 2018d).

Another rebound study will be conducted at MH-01 when the SVEU is disconnected from the MH-01 wells, either because off-gas concentrations meet the 10 ppmv threshold, or the SVEU is moved to another manhole. Previous rebound testing at MH-01 in 2013 and 2014 indicated very little rebound. Rebound testing can assist in selecting a reasonable and appropriate endpoint for ASVE.

ASVE Locations and Periods of Operation:

Cycle #1
MH-12 01/01/08 – 01/14/08
MH-11 01/16/08 – 01/25/08, 01/30/08 – 02/04/08
MH-01 02/05/08 – 04/21/08
MH-13 04/23/08 – 05/22/08

Cycle #2
MH-12 05/29/08 – 07/18/08
MH-11 07/28/08 – 08/19/08
MH-01 08/21/08 – 04/06/09
MH-13 04/13/09 – 05/12/09

Cycle #5
MH-12 ASVE 09/01/11 – 03/31/12
MH-11 MicroBlower™ 07/08/09 – 02/04/14
MH-01 MicroBlower™ 08/31/11 – 04/02/12
MH-13 MicroBlower™ 01/13/10 – 02/24/14

Cycle #6
MH-01 ASVE 04/02/12 – 01/14/14
MH-11 MicroBlower™ 07/08/09 – 02/04/14
MH-12 MicroBlower™ 04/02/12 – 02/17/14
MH-13 MicroBlower™ 01/13/10 – 02/24/14

Cycle #3
MH-12 05/14/09 – 06/15/09
MH-11 06/24/09 – 07/07/09
MH-01 07/09/09 – 12/10/09
MH-13 01/11/10 – 01/12/10

Cycle #4
MH-12 transitioned to MicroBlower™ 06/16/09 – 08/31/11
MH-11 transitioned to MicroBlower™ 07/08/09 – 02/04/14
MH-01 ASVE 02/23/10 through 08/01/11
MH-13 transitioned to MicroBlower™ 01/13/10 – 02/24/14

Cycle #7
MH-01 01/15/14 – 02/03/14, 03/05/14 – 03/31/14
MH-11 02/05/14 – 02/11/14
MH-12 02/18/14 – 02/21/14, 04/01/14 – 06/30/14
MH-13 02/25/14 – 03/03/14

Cycle #8
MH-01 ASVE 07/01/14 – present
MH-11 MicroBlower™ 02/18/14 – present
MH-12 MicroBlower™ 07/01/14 – present
MH-13 MicroBlower™ 03/04/14 – present

2.2.1 Samples and Analyses

Each MH has four fracture wells (F series), one SVE well (SVE series), and pressure monitoring wells (P series). MH-01 and MH-11 each have two pressure monitoring wells; MH-12 and MH-13 each have one pressure monitoring well.

A portable SVEU is connected to the four fracture wells and the one SVE well at one of the four MH locations (MH-01, MH-11, MH-12, or MH-13). During sampling, a portable vacuum pump is connected in-line to the SVEU system, and a sample is collected in a Tedlar bag.

Samples from SRS ASVE systems are analyzed using Modified Method 18. Method 18 is a USEPA standard method for measurement of gaseous organic compound emissions, primarily from exhaust stacks, by gas chromatography. The method was found inappropriate for analyzing emissions from SVE systems; therefore, Modified Method 18 was developed, which adopts most of the details of USEPA Method 18, but provides for more frequent and appropriate sampling from SRS SVE systems. This procedure was approved by SCDHEC as a modification of the SRS Part 70 Air Quality Permit in 2004.

The vapor-phase concentrations were used to estimate the VOC mass removed from the SVE wells for PCE and TCE. The mass removal calculations were conducted in a manner similar to that used in a study of SVE and air sparging (Holbrook et al. 1998) in which soil gas concentrations were converted to mass removal rates using the volumetric flow rate and the Ideal Gas Law, although there are several other satisfactory methods to compute mass removal. The generalized equation for mass removal is as follows:

(Equation 1)

$$\mathbf{M = Q \times C \times MW \times T}$$

where:

M	=	cumulative mass removed (lb)	MW	=	molecular weight (grams/mole)
Q	=	extraction flow rate (cfm)	T	=	operational period (hr)
C	=	vapor concentration (ppmv)			

$$M = Q \cdot \left(C \cdot \frac{1\,ft^3}{10^6 \cdot ft^3} \right) \cdot MW \cdot \left(\frac{mole}{24.466 \cdot liter} \cdot \frac{28.3 \cdot liter}{ft^3} \cdot \frac{lb}{453.592 \cdot gm} \cdot \frac{60 \cdot min}{hr} \right) \cdot T$$

Flow rates, times and contaminant concentrations can be found in the ASVE data tables (Tables 5 and 6A through 6L).

2.2.2 Performance Results

Performance results for CY2008 through CY2018 are presented in Table 5, Tables 6A through 6L and Tables 7A through 7L. Concentration (PCE and TCE) and flow rate data are presented in Table 5, and the contaminant mass removed is summarized by month and location in Tables 6A through 6L and Tables 7A through 7L. PCE concentrations along with flow rates from the ASVE unit were plotted and are shown in Figures 8 through 11 and have been simplified for trending purposes.

The historical average flow rate of 2 cubic feet per minute (cfm) was used for Wells F11-1, F11-2, F11-3, F11-4, F12-1, F12-2, F12-4, F13-1, F13-2, F13-3, and F13-4 in CY2018. This average was obtained by taking the average of the second, third, and fourth highest flow rates of the five most recent flow measurements at each well. If all five of the most recent flow measurements at each well were included in the calculation, the average flow rate becomes 2.4 cfm. The 2 cfm value is thought to be a better representation of the average flow since it eliminates spurious measurements.

PCE concentrations in the exhaust are typically much higher than the TCE concentrations. As shown in Table 5, the TCE concentrations typically mimic decreases or increases of PCE concentrations.

2.3 Soil Gas Performance Data

Analysis of 2018 soil gas data indicates PCE and TCE vapor concentrations demonstrated generally decreasing values.

Historical PCE and TCE concentrations have decreased significantly since ASVE operations began in CY2008 (184.8 ppmv PCE maximum and 32.9 ppmv TCE maximum) at MH-01 to 17.0 ppmv PCE maximum and 6.2 ppmv TCE maximum in CY2018. VOC vapor concentrations indicate a localized, declining PCE/TCE source area within the zone of capture of the SVEU.

As shown in Table 5, F01-1, F01-2, and F01-3 continued a trend of low PCE and TCE concentrations. F01-4 demonstrated consistent PCE and TCE concentrations. This data supports continued ASVE at MH-01 in the near future.

A summary of the CY2018 maximum PCE concentrations from Table 5 is shown below:

Well ID	F01-1	F01-2	F01-3	F01-4	SVE-01
CY2018 Maximum (ppmv)	0.1087	0.155	0.0737	13.3	15.3

A summary of the CY2018 maximum TCE concentrations from Table 5 is shown below:

Well ID	F01-1	F01-2	F01-3	F01-4	SVE-01
CY2018 Maximum (ppmv)	0.2739	0.2769	0.174	0.2152	5.8

The 2018 data from Well 11-3 and Well 11-4 appear spurious based on their historical values. 2019 data will be collected and reviewed to determine if a trend has begun that suggests a transition to passive SVE at MH-11 is not appropriate.

Wells MH-12, F12-1, F12-2, and F12-4 all had low PCE and TCE concentrations. Well F12-3 had a maximum PCE concentration of 10.2 ppmv and a maximum TCE concentration of 0.4 ppmv. This data continues to support the transition to passive SVE with the exception of data from Well F12-3. A larger MicroBlower™ was installed at Well F12-3 in October 2017 to help reduce the PCE concentration below the 10 ppmv guideline for continuing passive SVE. This larger MicroBlower™ reduced the maximum PCE concentration from 27.4 ppmv in 2017 to 10.2 ppmv in 2018 at Well F12-3.

At Well MH-13, all PCE and TCE values were below 0.5 ppmv in 2018. This data continues to support the transition to passive SVE at MH-13.

3.0 CONCLUSIONS/RECOMMENDATIONS

The MIPSL SVE system is functioning as per the design criteria for the system. Approximately 134 kilograms (kg [295 pounds {lb}]) of PCE and 36 kg (79 lb) of TCE were removed during this (CY2018) reporting period. Mass removal (in pounds) from specific areas is shown in Table 7K.

No mass removal was calculated at passive SVE locations from CY2008 to the present.

In CY2018, all ASVE hours of operation occurred at MH-01.

Hydraulic fracturing has helped removal efforts in the area. The vast majority of VOCs (97% of the PCE and 99% of the TCE) extracted from the ASVE system over the past ten years were removed from the MH-01 location. Approximately 94% of MH-01 production has been from the deeper extraction well screened in the Tobacco Road formation.

While ASVE is demonstrating efficient removal of the source term and TCE and PCE concentrations are generally decreasing, there is resistance to removal likely due to the geology of the Upland Unit, coupled with a higher source in the area relative to other areas of the unit. The Upland Unit consists of poorly sorted, silty to clayey sand with higher porosity and low permeability. The high porosity is due to the higher fines content; the low permeability of the sand is also due to the higher fines content which limits interconnection of porosity. The higher porosity of the unit tends to increase retention of VOCs.

Recommendations

A sampling event will be conducted in 2019 to strategically collect vadose zone soil samples at MH-01, MH-11, MH-12, and MH-13 (SRNS 2018e). The sampling results will be utilized in an updated contaminant migration analysis to evaluate the effectiveness of the current SVE remediation in reaching the RGs for TCE and PCE. The results from the 2019 investigation and contaminant migration analysis will be discussed in the 2019 PER.

The SVEU is anticipated to remain at MH-01 for all of CY2019. Passive SVE will continue at MH-11, MH-12, and MH-13.

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WSRC, 2008. *Post-Construction Report for the M-Area Inactive Process Sewer Lines (081-M) (U),* WSRC-RP-2008-4029, Revision 1, Savannah River Nuclear Solutions, LLC, Savannah River Site, Aiken SC

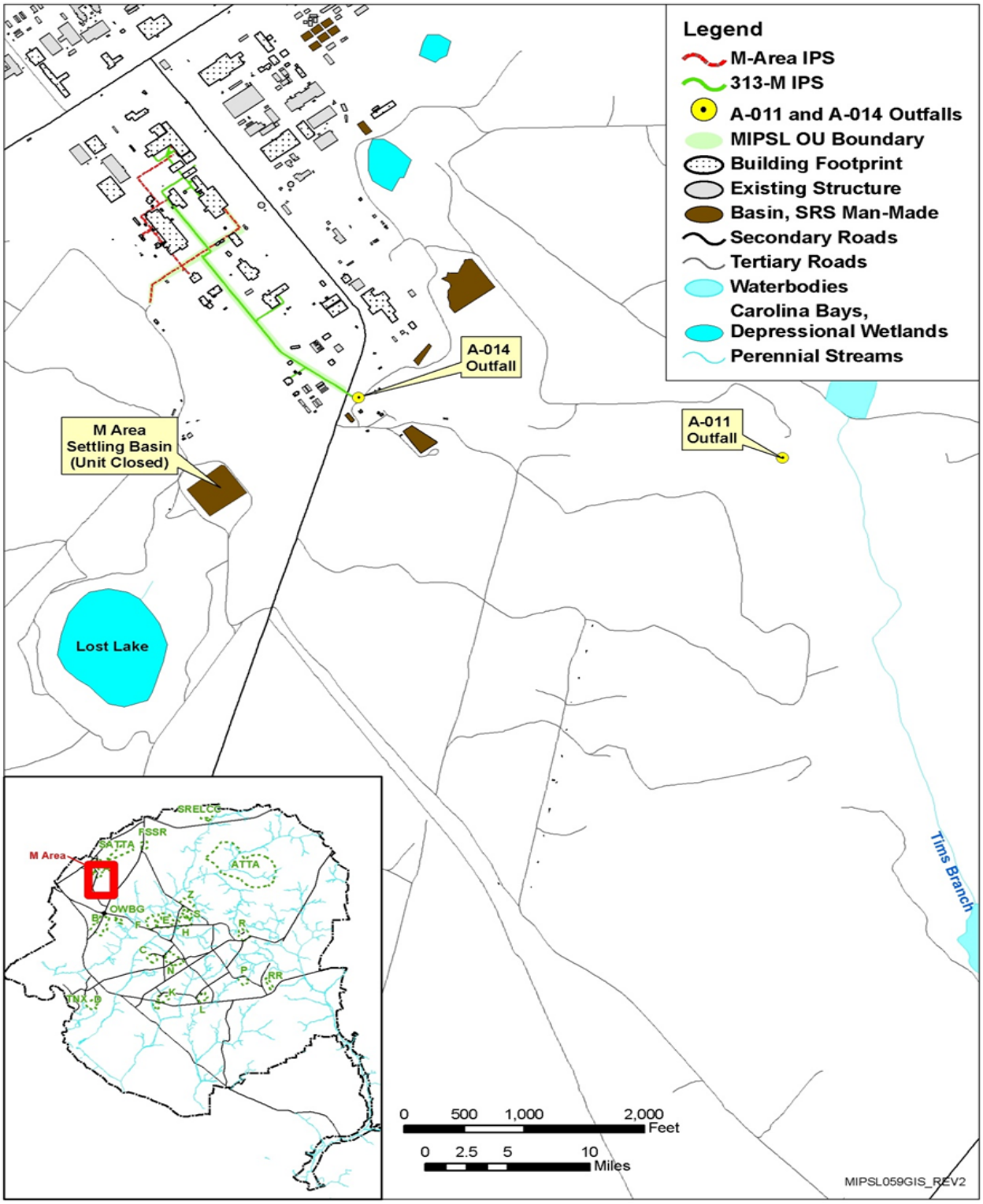

Figure 1. Location of MIPSL OU in M Area Within the Savannah River Site

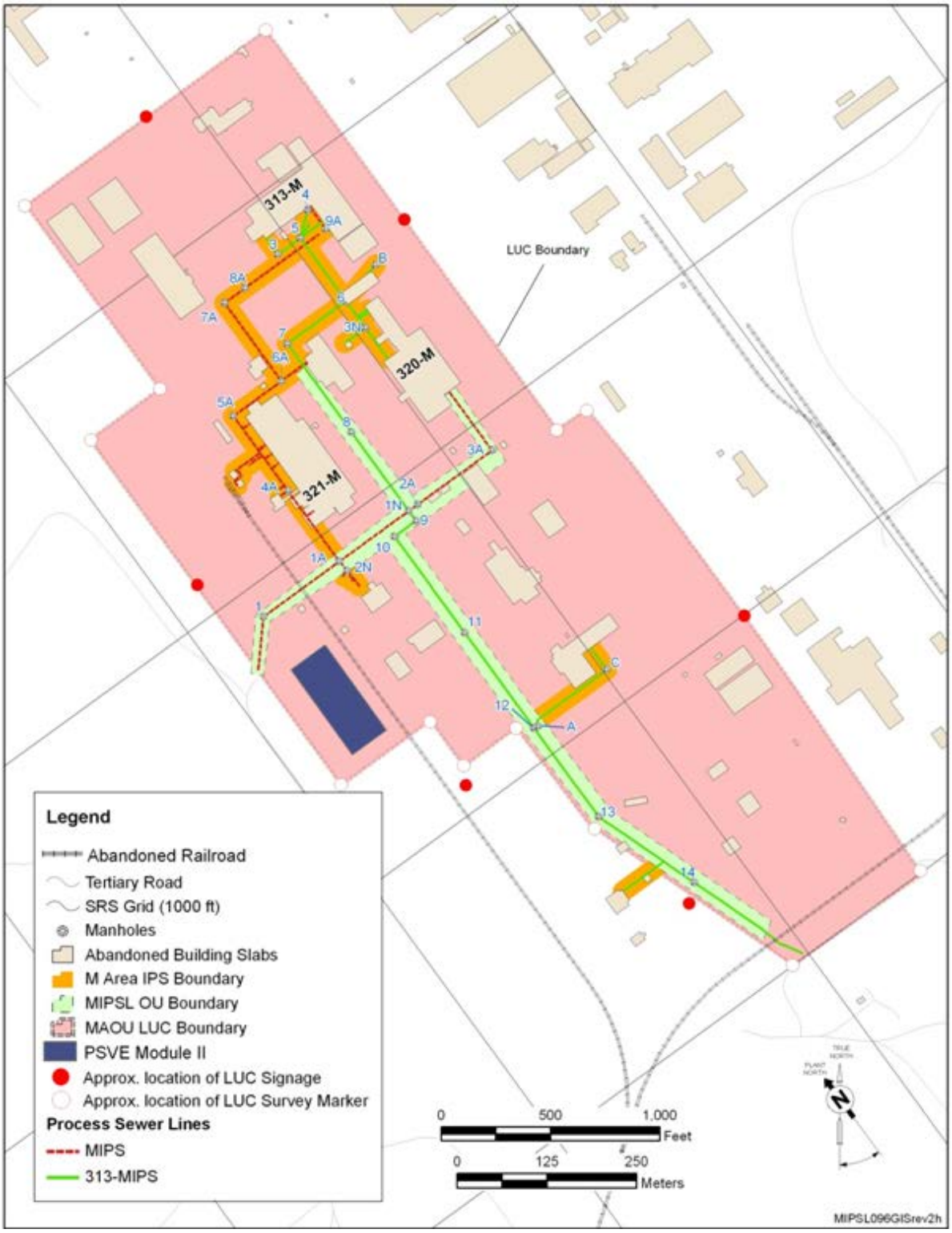

Figure 2. MIPSL OU Boundary

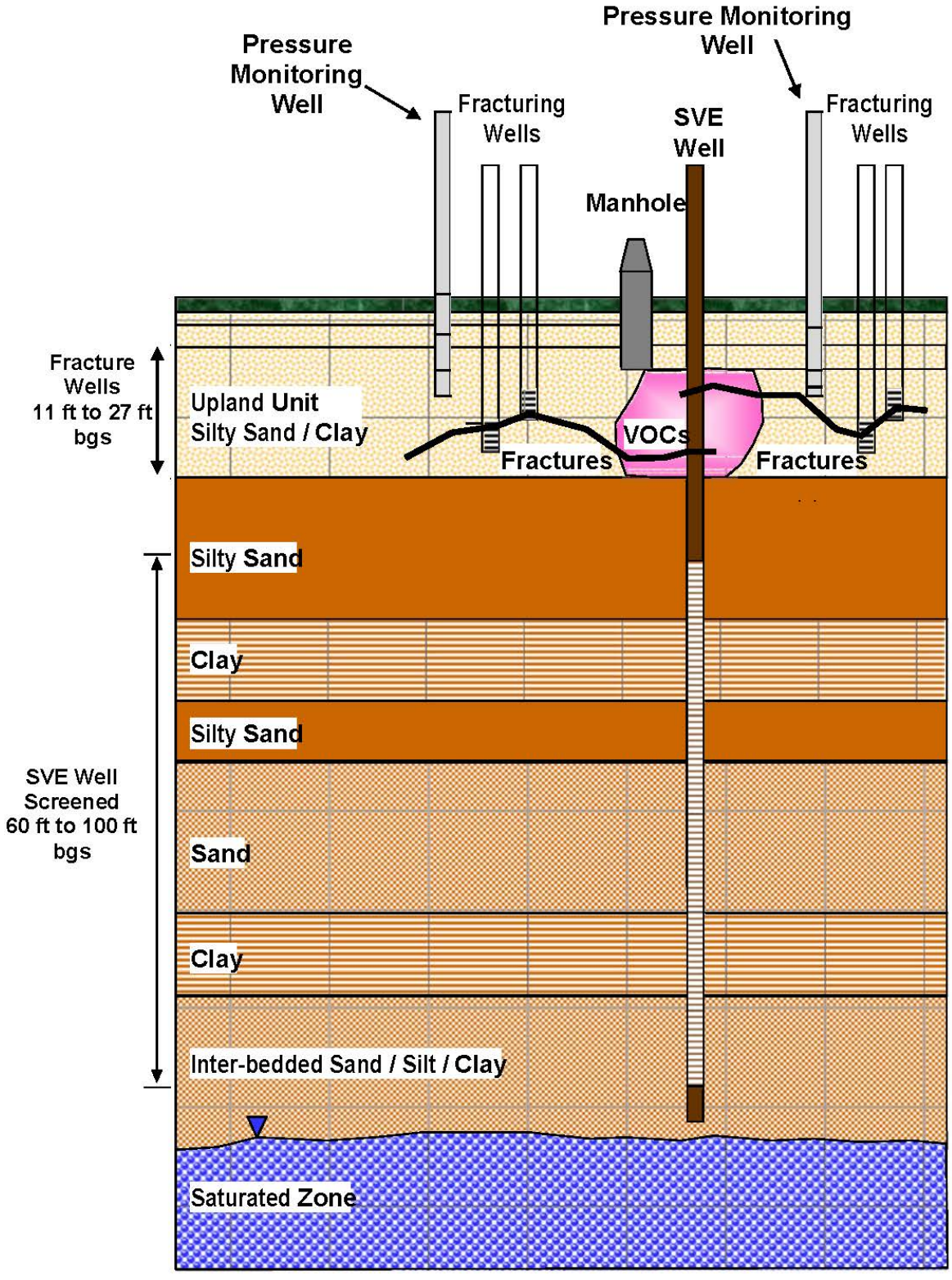

Figure 3. Surface Well Configuration (Typical Cutaway View)

Well ID	SRS Easting	SRS_Northing
F1-1	49223.47	103903.74
F1-2	49236.99	103914.87
F1-3	49252.50	103903.83
F1-4	49237.76	103889.38
P1-1	49230.84	103896.59
P1-2	49243.26	103907.77
SVE1-1	49238.28	103903.29
MH-1	49224.95	103898.89

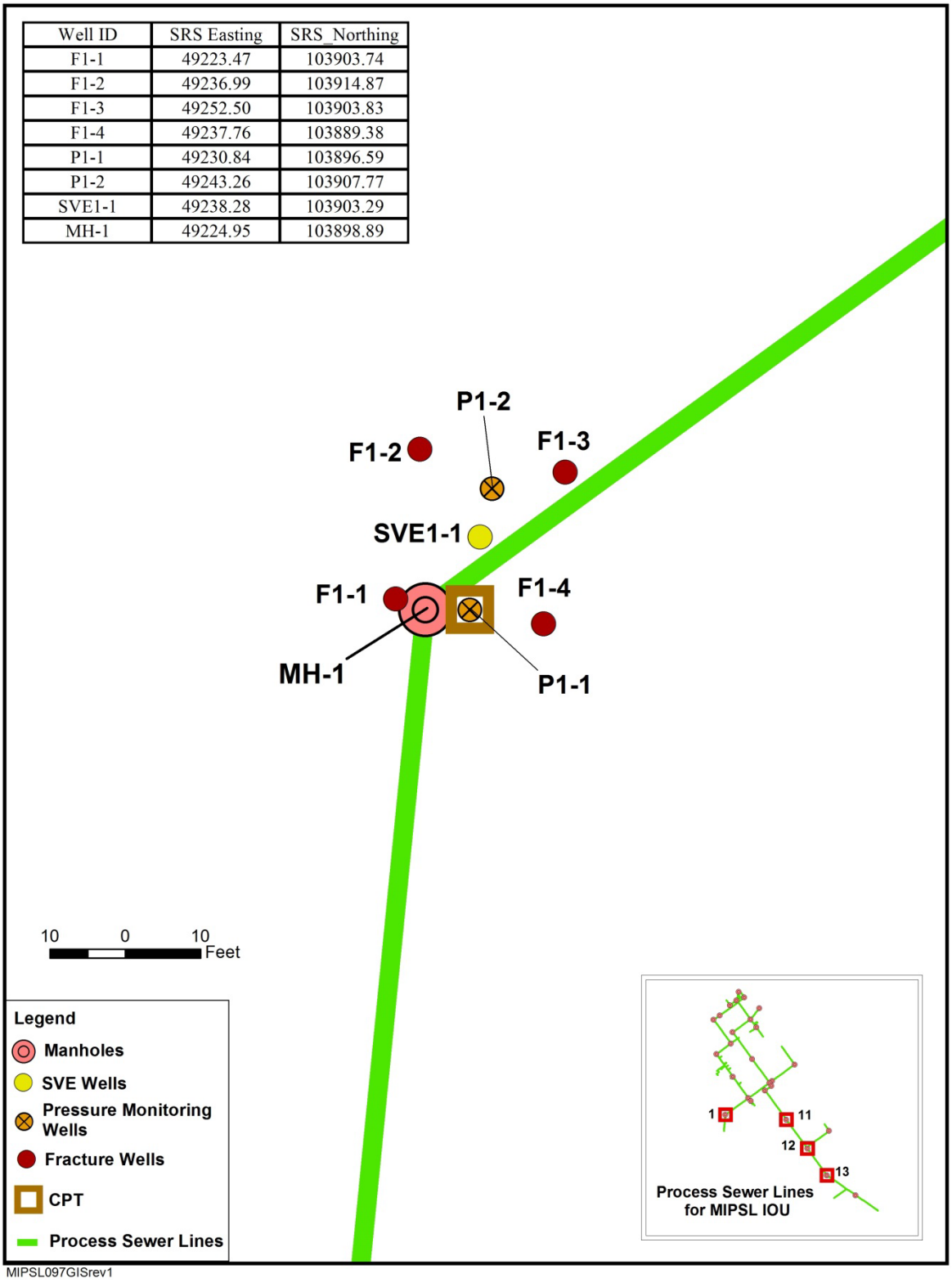

Figure 4. Well Location at Manhole 01

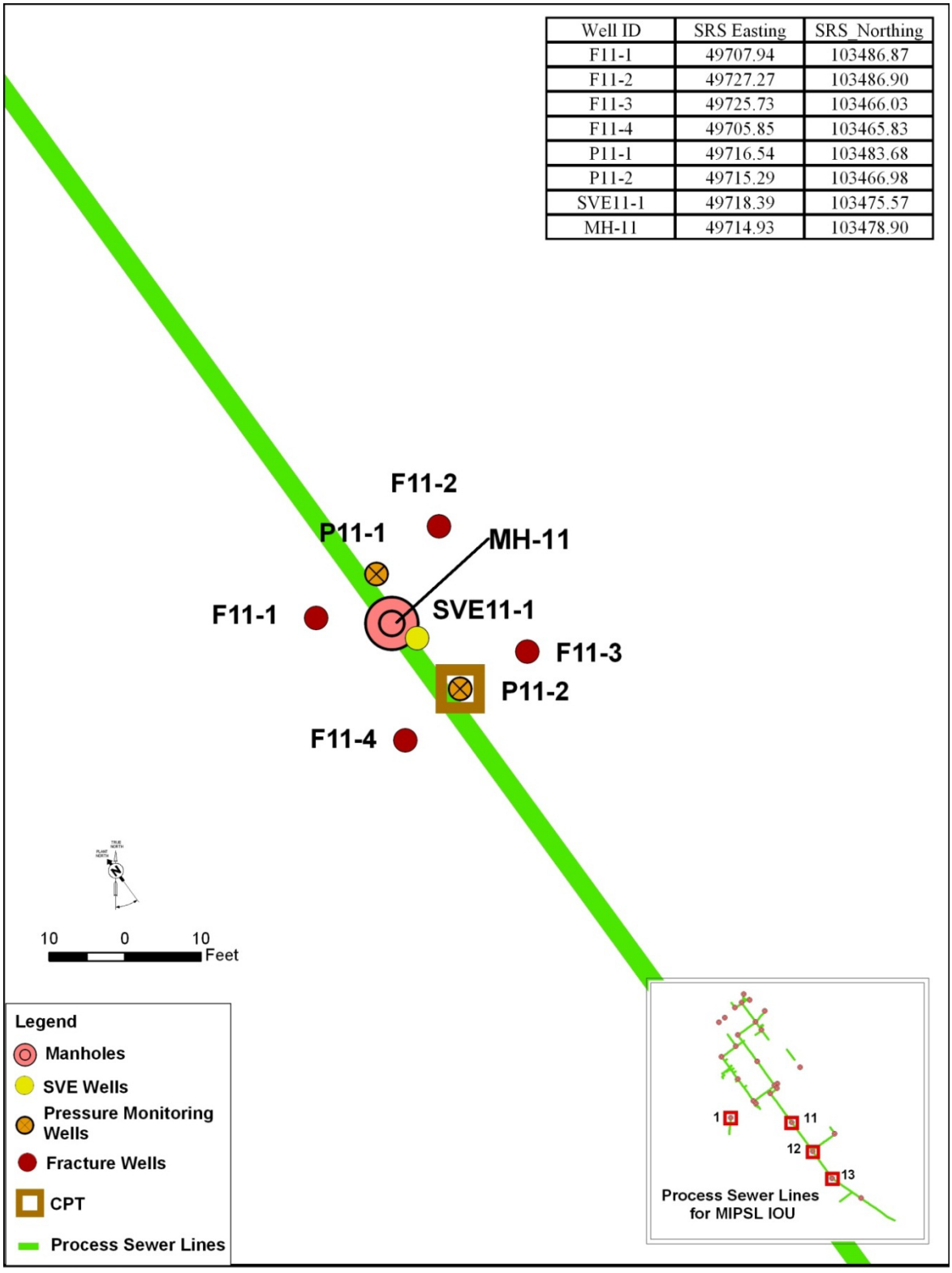

Figure 5. Well Location at Manhole 11

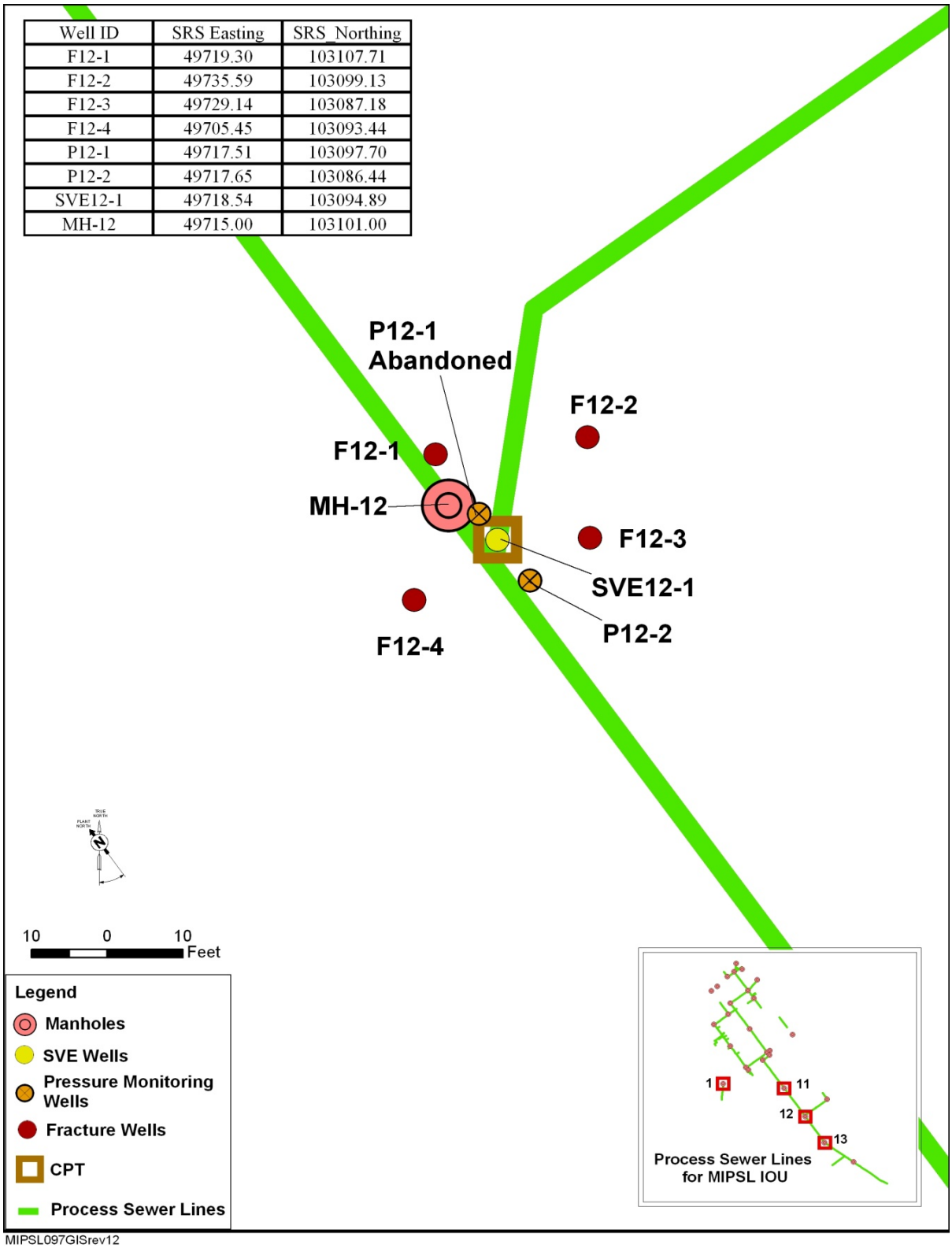

Figure 6. Well Location at Manhole 12

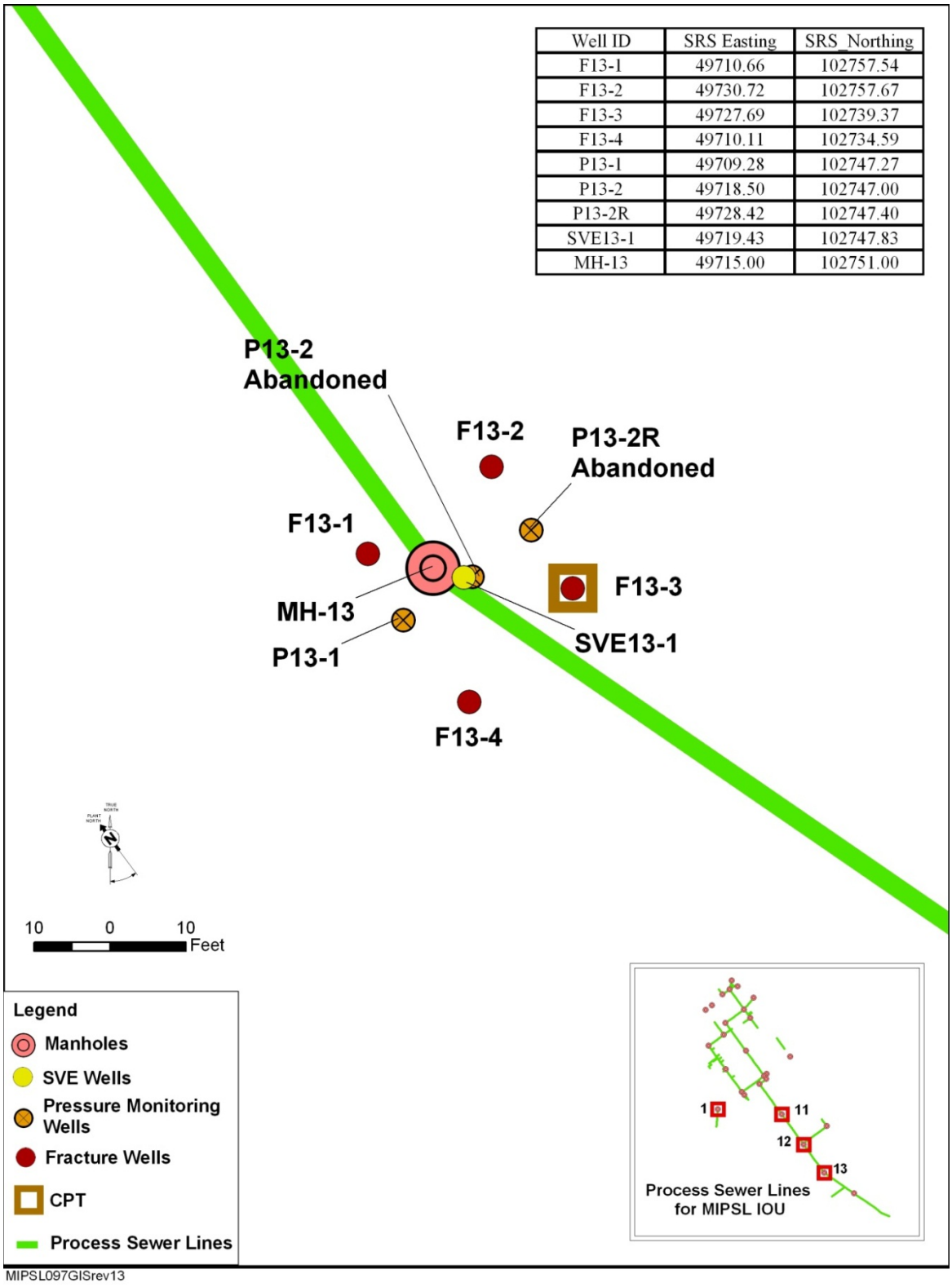

Figure 7. Well Location at Manhole 13

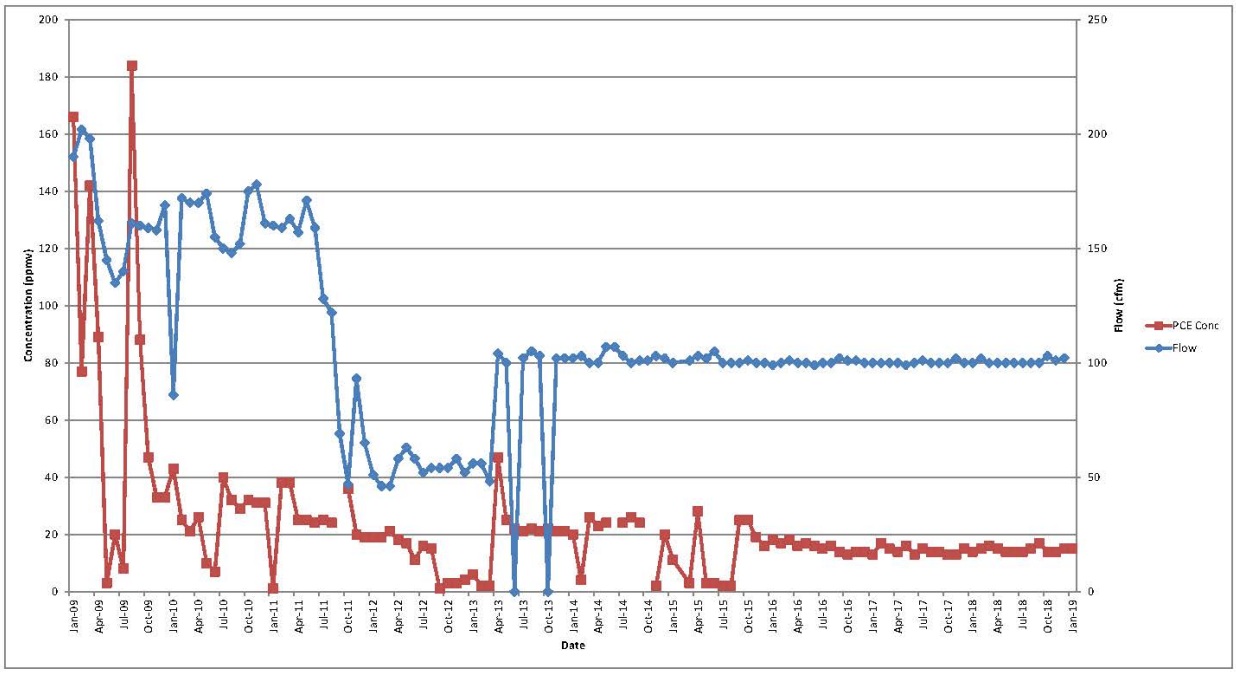

Figure 8. Illustration of Flow Volume and PCE Concentration Extracted by ASVEU

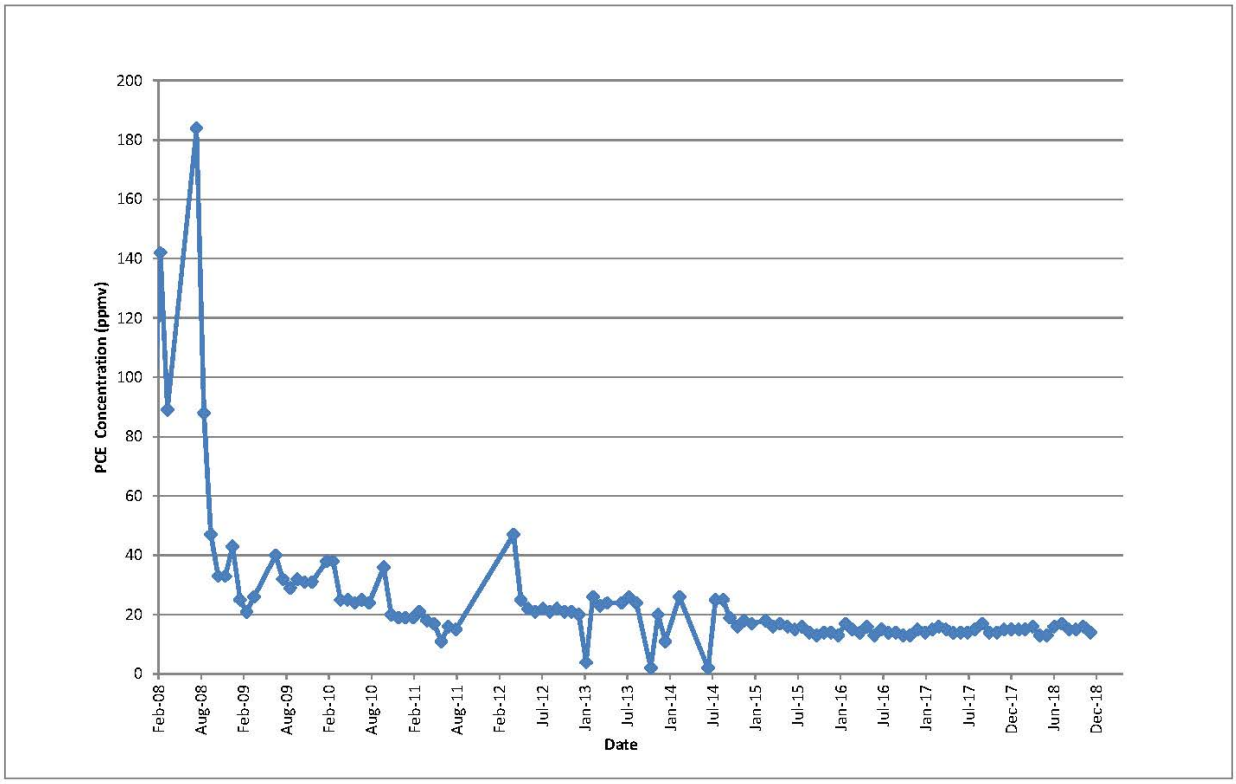

Figure 9. Graph Illustrating MH-01 PCE Soil Gas Concentrations (2008-2018)

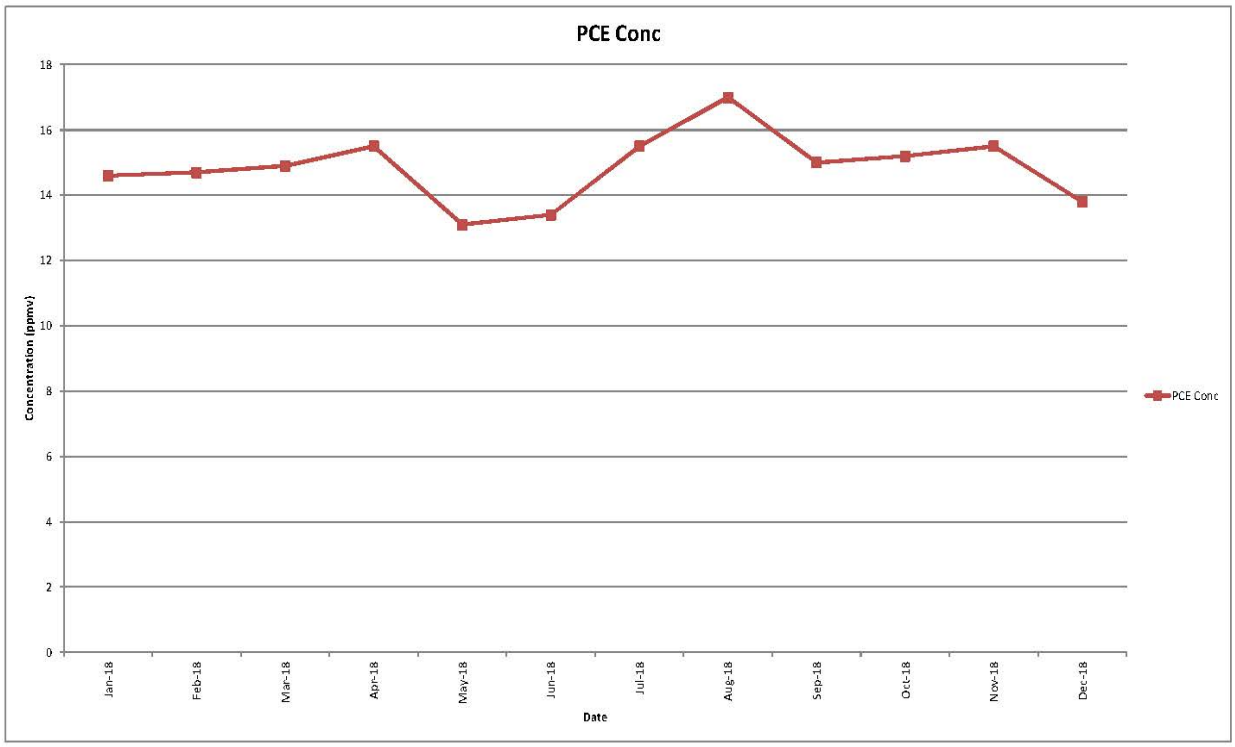

Figure 10. Graph Illustrating MH-01 PCE Soil Gas Concentrations (2018)

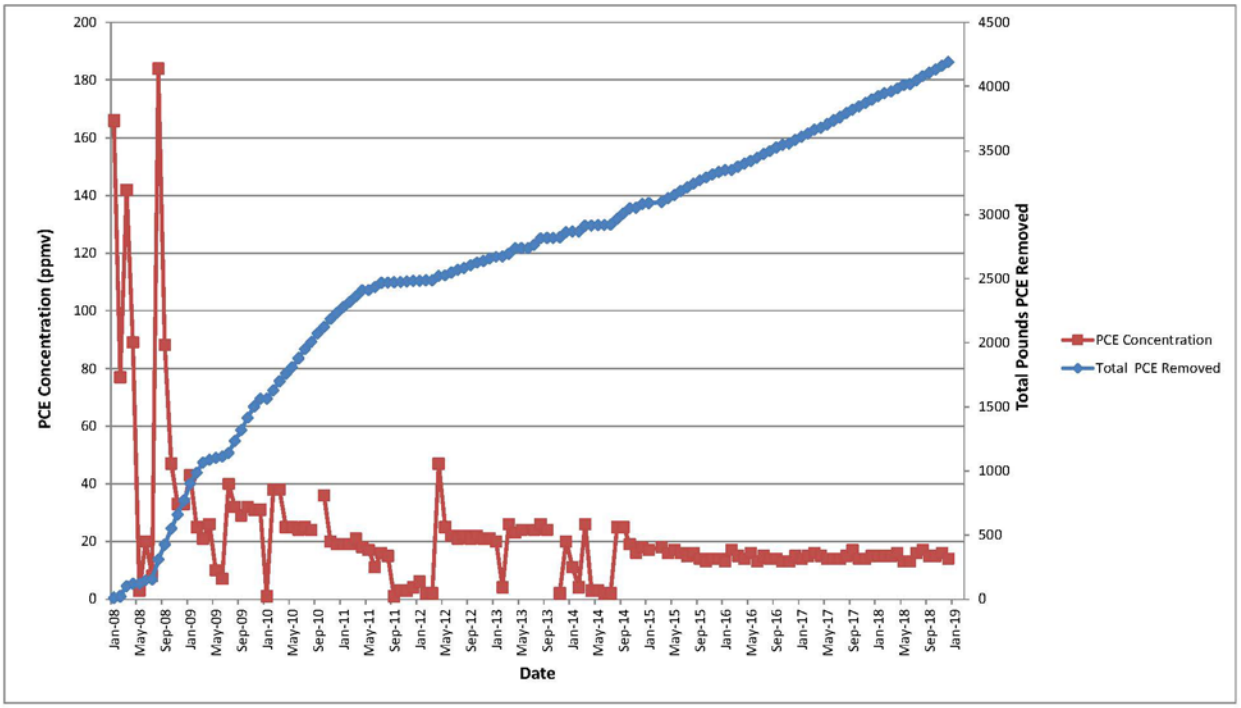

Figure 11. Process Graph Illustrating Asymptotic Curve with Mass Removal by ASVE

Table 1. SVE Performance Monitoring

Sampling Location	Analytes/Measurements	Frequency
SVE Wells	PCE, TCE, Flow Rate, Pressure (Vacuum)	From Initial Startup Daily (1 week), Weekly (1 month), Monthly (6 months), Quarterly (duration)
Pressure monitoring wells	Pressure (Vacuum)	During Initial Startup Daily (1 week), Weekly (1 month), Monthly (6 months)
MicroBlower™ Wells	PCE and TCE	Annual

Table 2. Summary of Remedial Goals for the MIPSL OU

Refined COCs	Units	Maximum Detected Value	Risk-Based Remedial Goal Options				
			ARAR RGO	CM RGO [a]	HH RGO	ECO RGO	Final RG[b]
Tetrachloroethylene (PCE)	mg/kg	0.767	--	0.3070	--	--	0.3070
Trichloroethylene (TCE)	mg/kg	0.411	--	0.0408	--	--	0.0408

Notes:
a Contaminant Migration Remedial Goal Option (CM RGO) was calculated in Appendix G of the MIPSL OU Combined Document (WSRC 2005)
b Final remedial goal (RG) is based upon the most conservative (smallest) calculated RGO presented in the table.

ARAR = applicable or relevant and appropriate requirement
COC = constituent of concern
HH = human health
ECO = ecological
RGO = remedial goal option
mg/kg = milligram per kilogram

Table 3. Well Details

Well ID	Type	Date Installed	SRS Coordinates-Corner of Pad	Pad Elevation	Total Depth	Screened Interval	Filter Pack Interval	Bentonite Seal Interval
				(ft above msl)	*(ft-bgs)*			
F01-1	Fracture Well	7/12/07	103903.74 N 49223.47 E	370.18	15.83	11.44-15.83	N/A	N/A
F01-2	Fracture Well	7/12/07	103914.87 N 49236.99 E	370.07	19.17	14.77-19.17	N/A	N/A
F01-3	Fracture Well	7/12/07	103903.83 N 49252.50 E	369.86	22.75	18.35-22.75	N/A	N/A
F01-4	Fracture Well	7/13/07	103889.38 N 49237.76 E	370.47	26.83	22.44-26.83	N/A	N/A
F11-1	Fracture Well	7/13/07	103486.87 N 49707.94 E	367.95	11.0	6.6-11.0	N/A	N/A
F11-2	Fracture Well	7/16/07	103486.90 N 49727.27 E	369.32	14.0	9.6-14.0	N/A	N/A
F11-3	Fracture Well	7/16/07	103466.03 N 49725.73 E	368.74	19.0	14.6-19.0	N/A	N/A
F11-4	Fracture Well	7/13/07	103465.83 N 49705.85 E	367.76	23.83	19.44-23.83	N/A	N/A
F12-1	Fracture Well	7/18/07	103107.71 N 49719.30 E	365.88	12.75	8.35-12.75	N/A	N/A
F12-2	Fracture Well	7/17/07	103099.13 N 49735.59 E	365.08	16.92	12.52-16.92	N/A	N/A
F12-3	Fracture Well	7/19/07	103087.18 N 49729.14 E	365.43	20.83	16.44-20.83	N/A	N/A
F12-4	Fracture Well	7/16/07	103093.44 N 49705.45 E	365.66	24.0	19.6-24.0	N/A	N/A

Table 3. Well Details *(Continued)*

Well ID	Type	Date Installed	SRS Coordinates-Corner of Pad	Pad Elevation	Total Depth	Screened Interval	Filter Pack Interval	Bentonite Seal Interval
				(ft above msl)	*(ft-bgs)*			
F13-1	Fracture Well	7/17/07	102757.54 N 49710.66 E	360.22	12.83	8.44-12.83	N/A	N/A
F13-2	Fracture Well	7/17/07	102757.67 N 49730.72 E	360.73	14.92	10.8-14.92	N/A	N/A
F13-3	Fracture Well / CPT	7/17/07	102739.37 N 49727.69 E	360.48	17.0	12.6-17.0	N/A	N/A
F13-4	Fracture Well	7/18/07	102734.59 N 49710.11 E	359.94	19.08	14.69-19.08	N/A	N/A
P1-1	Pressure - Monitoring Well/CPT	8/30/07	103896.59 N 49230.84 E	370.56	30.0	13.75-14.25	12.75 – 14.75	2.0-12.75
						20.75-21.25	20.0 – 22.0	14.75-20
						28.75-29.25	28.0 – 30.0	22-28
P1-2	Pressure-Monitoring Well	9/5/07	103907.77 N 49243.26 E	369.74	36.0	16.75-17.25	16.0 – 18.0	14.0-16.0
						24.75-25.25	24.0 – 26.0	18.0-24.0
						34.75-35.25	34.0 – 36.0	26.0-34.0
P11-1	Pressure-Monitoring Well	9/5/07	103483.68 N 49716.54 E	368.04	28.0	8.75-9.25	8.0 – 10.0	6.0-8.0
						16.75-17.25	16.0 – 18.0	10.0-16.0
						26.75-27.25	26.0 – 28.0	18.0-26.0
P11-2	Pressure-Monitoring Well/CPT	9/6/07	103466.98 N 49715.29 E	367.68	36.0	11.75-12.25	11.0 – 13.0	9.0-11.0
						20.75-21.25	20.0 – 22.0	13.0-20.0
						34.75-35.25	34.0 – 36.0	22.0-34.0

Table 3. Well Details *(Continued/End)*

Well ID	Type	Date Installed	SRS Coordinates-Corner of Pad	Pad Elevation	Total Depth	Screened Interval	Filter Pack Interval	Bentonite Seal Interval
				(ft above msl)	*(ft-bgs)*			
P12-1	Pressure-Monitoring Well	1/16/08	103097.70 N 49717.51 E	Could not complete P12-1 due to perched groundwater in hole.				
P12-2	Pressure-Monitoring Well	1/16/08	103086.44 N 49717.65 E	365.38	31.0	14.75-15.25	11.0 – 16.0	9.0-11.0
						22.75-23.25	22.0 – 24.0	16.0-22.0
						29.75-30.25	29.0 – 31.0	24.0-29.0
P13-1	Pressure-Monitoring Well	9/7/07	102747.27 N 49709.28 E	360.07	26.0	9.75-10.25	9.0 – 11.0	7.0-9.0
						15.75-16.25	15.0 – 17.0	11.0-15.0
						19.75-20.25	19.0 – 26.0	17.0-19.0
P13-2	Pressure-Monitoring Well	9/7/07	102747.00 N 49718.50 E	N/A	25.0	Well was installed at the wrong location, was abandoned and re-installed as 13-2R.		
P13-2R	Pressure-Monitoring Well	1/15/08	102747.40 N 49728.42 E	Could not complete P13-2R due to perched groundwater in hole.				
SVE-01	Soil Vapor Extraction Well	10/3/07	103903.29 N 49238.28 E	370.02	115.0	70.0-110.0	67.5 – 115.0	62.0-67.5
SVE-11	Soil Vapor Extraction Well	10/8/07	103475.57 N 49718.39 E	367.94	115.0	60.0-100.0	57.0 – 115.0	54.0-57.0
SVE-12	Soil Vapor Extraction Well/CPT	10/9/07	103094.89 N 49718.54 E	365.47	105.0	60.0-100.0	57.0 – 105.0	53.0-57.0
SVE-13	Soil Vapor Extraction Well	10/10/07	102747.83 N 49719.43 E	360.29	105.0	60.0-100.0	57.5 - 105	54.0-57.5

msl = mean sea level
bgs = below ground surface

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Table 4. End of Reporting Period SVE Well Operating Status

Well ID	Status	SVE Type		Well ID	Status	SVE Type
SVE-01	Operating	ASVE		SVE-12	Operating	PSVE (MB)
F01-1	Operating	ASVE		**F12-1**	Operating	PSVE (MB)
F01-2	Operating	ASVE		**F12-2**	Operating	PSVE (MB)
F01-3	Operating	ASVE		**F12-3**	Operating	PSVE (MB)
F01-4	Operating	ASVE		**F12-4**	Operating	PSVE (MB)
SVE-11	Operating	PSVE (MB)		SVE-13	Operating	PSVE (MB)
F11-1	Operating	PSVE (MB)		**F13-1**	Operating	PSVE (MB)
F11-2	Operating	PSVE (MB)		**F13-2**	Operating	PSVE (MB)
F11-3	Operating	PSVE (MB)		**F13-3**	Operating	PSVE (MB)
F11-4	Operating	PSVE (MB)		**F13-4**	Operating	PSVE (MB)

N/A = Not Applicable

Table 5. Exhaust Gas Sample Results

Station ID	Date	PCE (ppmv)	Qual	TCE (ppmv)	Qual	Flow Rate (cfm)	Status
MIPSL-F01-1	02/05/08	0.27		0	U	278.2	ASVE
MIPSL-F01-1	02/07/08	0.44		0	U	296	ASVE
MIPSL-F01-1	02/11/08	1.43		0.02		17.8	ASVE
MIPSL-F01-1	02/28/08	0.21		0	U	11.2	ASVE
MIPSL-F01-1	03/04/08	0.41		0.01		15.34	ASVE
MIPSL-F01-1	03/06/08	1.25		0.03		61.3	ASVE
MIPSL-F01-1	04/09/08	1.12		0.03		30.6	ASVE
MIPSL-F01-1	04/15/08	0.4		0.02		18	ASVE
MIPSL-F01-1	04/17/08	5.06		0.26		24.9	ASVE
MIPSL-F01-1	07/10/08	0.01		0	U	0.4	MB
MIPSL-F01-1	08/21/08	2.66		0.14		40.8	ASVE
MIPSL-F01-1	02/02/09	0.105		0.017	U	LMFR	ASVE
MIPSL-F01-1	04/06/09	0.111		0.017	U	LMFR	ASVE
MIPSL-F01-1	07/09/09	0.509		0.096		0.37	ASVE
MIPSL-F01-1	02/23/10	0.144		0.017	U	1	ASVE
MIPSL-F01-1	03/15/11	0.008		0.017	U	1.5	ASVE
MIPSL-F01-1	08/02/11	0.198		0.028	U	LMFR	ASVE
MIPSL-F01-1	11/12/12	0.023		0.017	U	LMFR	ASVE
MIPSL-F01-1	05/01/13	0.18		0.014		Standby	ASVE
MIPSL-F01-1	06/26/13	0.209		0.008	U	1	MB
MIPSL-F01-1	09/04/13	0.027		0.008	U	LMFR	MB
MIPSL-F01-1	10/28/13	0.028		0.008	U	LMFR	MB
MIPSL-F01-1	11/20/13	0.246		0.025		1.4	ASVE
MIPSL-F01-1	11/12/14	0.313		0.008	U	0.5	ASVE
MIPSL-F01-1	02/08/16	0.028	U	0.027	U	0.8	ASVE
MIPSL-F01-1	10/25/16	0.028	U	0.027	U	LMFR	ASVE
MIPSL-F01-1	11/14/17	0.028	U	0.027	U	0.8	ASVE
MIPSL-F01-1	11/20/18	0.1087		0.2739		1	ASVE
MIPSL-F01-2	02/05/08	2.3		0.03		125.4	ASVE
MIPSL-F01-2	02/07/08	2.08		0.02		34.7	ASVE
MIPSL-F01-2	02/11/08	1.4		0.02		7.9	ASVE
MIPSL-F01-2	02/28/08	0.87		0.03		14.8	ASVE
MIPSL-F01-2	03/04/08	1.67		0.04		37.8	ASVE
MIPSL-F01-2	03/06/08	5.44		0.18		23.6	ASVE
MIPSL-F01-2	03/11/08	5.21		0.25		63.9	ASVE
MIPSL-F01-2	03/13/08	13.12		0.6		28.9	ASVE
MIPSL-F01-2	03/18/08	15.27		0.74		58.7	ASVE
MIPSL-F01-2	04/09/08	1.21		0.06		56.6	ASVE
MIPSL-F01-2	04/15/08	19.48		1.43		38	ASVE
MIPSL-F01-2	04/17/08	20.43		1.48		35.8	ASVE
MIPSL-F01-2	07/10/08	1.42		0.03		2.2	MB
MIPSL-F01-2	08/22/08	11.54		0.77		34.8	ASVE
MIPSL-F01-2	02/02/09	0.251		0.035		LMFR	ASVE
MIPSL-F01-2	04/06/09	0.305		0.017	U	LMFR	ASVE
MIPSL-F01-2	07/09/09	1.834		0.224		3	ASVE
MIPSL-F01-2	02/23/10	2.726		0.147		10	ASVE
MIPSL-F01-2	03/15/11	0.062		0.017	U	1.5	ASVE

Table 5. Exhaust Gas Sample Results *(Continued)*

Station ID	Date	PCE (ppmv)	Qual	TCE (ppmv)	Qual	Flow Rate (cfm)	Status
MIPSL-F01-2	08/02/11	0.391		0.028	U	LMFR	ASVE
MIPSL-F01-2	11/12/12	0.221		0.017	U	LMFR	ASVE
MIPSL-F01-2	05/01/13	0.426		0.036		Standby	ASVE
MIPSL-F01-2	06/26/13	0.157		0.157	J	1.1	MB
MIPSL-F01-2	09/04/13	0.131		0.008	U	1.5	MB
MIPSL-F01-2	10/28/13	0.218		0.008	U	LMFR	MB
MIPSL-F01-2	11/20/13	0.157		0.008	U	2.3	ASVE
MIPSL-F01-2	11/12/14	1.435		0.074		2.3	ASVE
MIPSL-F01-2	11/23/15	0.087		0.009	J	1.3	ASVE
MIPSL-F01-2	10/25/16	0.089		0.027	U	LMFR	ASVE
MIPSL-F01-2	11/14/17	0.124		0.027	U	1.9	ASVE
MIPSL-F01-2	11/20/18	0.155		0.2769		0.6	ASVE
MIPSL-F01-3	02/05/08	0.48		0	U	215.7	ASVE
MIPSL-F01-3	02/07/08	1.25		0.06		232.2	ASVE
MIPSL-F01-3	02/11/08	0.28		0.01		14	ASVE
MIPSL-F01-3	02/28/08	0.74		0.02		9.7	ASVE
MIPSL-F01-3	03/04/08	0.24		0.01		23.5	ASVE
MIPSL-F01-3	03/06/08	24.03		0.98		57.8	ASVE
MIPSL-F01-3	03/11/08	0.79		0.03		68.9	ASVE
MIPSL-F01-3	03/13/08	2.27		0.1		41.8	ASVE
MIPSL-F01-3	03/18/08	3.17		0.11		116	ASVE
MIPSL-F01-3	04/09/08	2.64		0.24		15.4	ASVE
MIPSL-F01-3	04/15/08	3.82		0.29		37	ASVE
MIPSL-F01-3	04/17/08	8.12		0.69		12.2	ASVE
MIPSL-F01-3	07/10/08	2.07		0.05		6.2	MB
MIPSL-F01-3	08/22/08	19.45		2.76		35.6	ASVE
MIPSL-F01-3	02/02/09	0.272		0.021	J	LMFR	ASVE
MIPSL-F01-3	04/06/09	0.263		0.017	U	LMFR	ASVE
MIPSL-F01-3	07/09/09	5.102		0.623		17.5	ASVE
MIPSL-F01-3	02/23/10	1.588		0.084		22	ASVE
MIPSL-F01-3	03/15/11	0.13		0.017	U	2	ASVE
MIPSL-F01-3	08/02/11	0.696		0.044		LMFR	ASVE
MIPSL-F01-3	11/12/12	0.407		0.02	J	LMFR	ASVE
MIPSL-F01-3	05/01/13	0.309		0.025		Standby	ASVE
MIPSL-F01-3	06/26/13	0.034		0.008	U	1.2	MB
MIPSL-F01-3	09/04/13	0.009		0.008	U	0.4	MB
MIPSL-F01-3	10/28/13	15.9		0.29		LMFR	MB
MIPSL-F01-3	11/20/13	0.3		0.014		2.7	ASVE
MIPSL-F01-3	11/12/14	15.21		0.688		4.1	ASVE
MIPSL-F01-3	11/23/15	0.002	J	0.006	U	2.4	ASVE
MIPSL-F01-3	10/25/16	0.268		0.027	U	LMFR	ASVE
MIPSL-F01-3	11/14/17	0.165		0.027	U	2.7	ASVE
MIPSL-F01-3	11/20/18	0.0737		0.174		0.3	ASVE
MIPSL-F01-4	02/05/08	122.6		0.08		215.7	ASVE
MIPSL-F01-4	02/07/08	93.46		1.69		281.2	ASVE
MIPSL-F01-4	02/11/08	82.19		1.59		65.1	ASVE
MIPSL-F01-4	02/28/08	41.99		0.77		39.4	ASVE

Table 5. Exhaust Gas Sample Results *(Continued)*

Station ID	Date	PCE *(ppmv)*	Qual	TCE *(ppmv)*	Qual	Flow Rate *(cfm)*	Status
MIPSL-F01-4	03/04/08	106.45		4.03		149.1	ASVE
MIPSL-F01-4	03/06/08	146.24		5.64		137.2	ASVE
MIPSL-F01-4	03/11/08	92.65		4.56		32.6	ASVE
MIPSL-F01-4	03/13/08	154.93		7.71		34.5	ASVE
MIPSL-F01-4	03/18/08	31.68		1.74		120	ASVE
MIPSL-F01-4	04/09/08	26.56		1.53		22	ASVE
MIPSL-F01-4	04/15/08	101.5		8.84		42	ASVE
MIPSL-F01-4	04/17/08	104.3		9.22		32.7	ASVE
MIPSL-F01-4	07/10/08	212.48		2.45		4.7	MB
MIPSL-F01-4	08/21/08	43.27		3.77		32.6	ASVE
MIPSL-F01-4	02/02/09	11.802		0.161		LMFR	ASVE
MIPSL-F01-4	04/06/09	8.663		0.125		6	ASVE
MIPSL-F01-4	07/09/09	3.461		0.483		17.2	ASVE
MIPSL-F01-4	02/23/10	24.221		1.482		10	ASVE
MIPSL-F01-4	12/21/10	1.341		0.074		1.3	ASVE
MIPSL-F01-4	03/15/11	0.24		0.017	U	2.4	ASVE
MIPSL-F01-4	06/22/11	0.728		0.028	U	LMFR	ASVE
MIPSL-F01-4	08/02/11	16.654		0.394		LMFR	ASVE
MIPSL-F01-4	06/25/12	0.226		0.012	U	0.8	ASVE
MIPSL-F01-4	08/09/12	0.064		0.003	U	LMFR	ASVE
MIPSL-F01-4	11/12/12	0.936		0.017	U	LMFR	ASVE
MIPSL-F01-4	01/23/13	0.388		0.053		LMFR	ASVE
MIPSL-F01-4	04/22/13	0.008		0.008	U	LMFR	ASVE
MIPSL-F01-4	05/01/13	0.491		0.05		Standby	ASVE
MIPSL-F01-4	06/26/13	19.4		0.056		2.8	MB
MIPSL-F01-4	08/12/13	0.233		0.016		Standby	ASVE
MIPSL-F01-4	09/04/13	12.2		0.008	U	1.7	MB
MIPSL-F01-4	10/28/13	0.058		0.013	J	LMFR	MB
MIPSL-F01-4	11/20/13	0.234		0.008	U	3.5	ASVE
MIPSL-F01-4	01/13/14	23.4		0.26		7.4	ASVE
MIPSL-F01-4	07/21/14	23.1		0.418		LMFR	ASVE
MIPSL-F01-4	11/12/14	19.0		0.244		3.1	ASVE
MIPSL-F01-4	01/07/15	22.6		0.37		3.5	ASVE
MIPSL-F01-4	04/22/15	25.3		0.36		1.8	ASVE
MIPSL-F01-4	07/15/15	22.7		0.36		6.6	ASVE
MIPSL-F01-4	11/04/15	20.7		0.18		4.5	ASVE
MIPSL-F01-4	01/06/16	7.4		0.15		2.4	ASVE
MIPSL-F01-4	04/19/16	13.5		0.19		7.2	ASVE
MIPSL-F01-4	07/19/16	13.1		0.17		3.5	ASVE
MIPSL-F01-4	10/17/16	0.46		0.027	U	2.0	ASVE
MIPSL-F01-4	04/11/17	16.4		0.21		11.5	ASVE
MIPSL-F01-4	07/18/17	15.8		0.17		4.5	ASVE
MIPSL-F01-4	10/17/17	0.028	U	0.027	U	2.8	ASVE
MIPSL-F01-4	01/11/18	9.3		0.118		3.5	ASVE
MIPSL-F01-4	04/24/18	11.5		0.109		1.8	ASVE
MIPSL-F01-4	07/17/18	3.9		0.067		2.1	ASVE
MIPSL-F01-4	11/20/18	13.3		0.215		2.3	ASVE

Table 5. Exhaust Gas Sample Results *(Continued)*

Station ID	Date	PCE *(ppmv)*	Qual	TCE *(ppmv)*	Qual	Flow Rate *(cfm)*	Status
MIPSL-F11-1	01/16/08	0.73		0.05		209.5	ASVE
MIPSL-F11-1	01/23/08	0.16		0.03		123	ASVE
MIPSL-F11-1	01/24/08	0.19		0.03		20	ASVE
MIPSL-F11-1	01/31/08	0.19		0.03		82.65	ASVE
MIPSL-F11-1	07/01/08	0.82		0.1		22.9	MB
MIPSL-F11-1	07/17/08	0.83		0.09		1.94	MB
MIPSL-F11-1	07/28/08	7.38		0.44		28.05	ASVE
MIPSL-F11-1	08/19/08	0.6		0.1		5.9	ASVE
MIPSL-F11-1	06/24/09	0.054		0.017	U	8.9	ASVE
MIPSL-F11-1	07/07/09	0.019		0.017	U	4.9	ASVE
MIPSL-F11-1	12/21/10	0.409		0.367		3.1	MB
MIPSL-F11-1	07/24/12	0.155		0.069		2	MB
MIPSL-F11-1	11/13/12	0.125		0.065		2.4	MB
MIPSL-F11-1	11/11/13	0.128		0.053		2.4	MB
MIPSL-F11-1	11/25/13	0.102		0.037		2	MB
MIPSL-F11-1	11/10/14	0.116		0.052		2.5	MB
MIPSL-F11-1	11/17/15	0.13		0.05		1.8	MB
MIPSL-F11-1	10/25/16	0.2		0.06		2.4	MB
MIPSL-F11-1	11/14/17	1.1		0.63		2.4	MB
MIPSL-F11-1	11/20/18	0.17		0.30		2	MB
MIPSL-F11-2	01/16/08	0.06		0	U	175.2	ASVE
MIPSL-F11-2	01/23/08	0.02		0	U	98	ASVE
MIPSL-F11-2	01/24/08	0.03		0	U	33	ASVE
MIPSL-F11-2	01/31/08	0.03		0	U	120	ASVE
MIPSL-F11-2	07/01/08	0.07		0	U	2.6	MB
MIPSL-F11-2	07/17/08	0.2		0	U	2.2	MB
MIPSL-F11-2	07/28/08	7.57		0.23		22.3	ASVE
MIPSL-F11-2	08/19/08	0.14		0.02		6.6	ASVE
MIPSL-F11-2	06/24/09	0.025		0.017	U	4	ASVE
MIPSL-F11-2	07/07/09	0.011		0.017	U	5.2	ASVE
MIPSL-F11-2	12/21/10	0.413		0.044		2.1	MB
MIPSL-F11-2	07/24/12	0.022		0.006	U	1.4	MB
MIPSL-F11-2	11/13/12	0.016		0.017	U	1.9	MB
MIPSL-F11-2	11/11/13	0.028		0.008	U	1.1	MB
MIPSL-F11-2	11/25/13	0.011		0.008	U	1.2	MB
MIPSL-F11-2	11/10/14	0.028		0.008	U	10.6	MB
MIPSL-F11-2	11/17/15	0.003		0.006	U	0.2	MB
MIPSL-F11-2	10/25/16	0.028	U	0.027	U	1.9	MB
MIPSL-F11-2	11/14/17	0.07		0.030	J	1.0	MB
MIPSL-F11-2	11/20/18	0.14		0.20		2	MB
MIPSL-F11-3	01/16/08	0.35		0.02		30.3	ASVE
MIPSL-F11-3	01/23/08	0.13		0	U	32	ASVE
MIPSL-F11-3	01/24/08	0.17		0.01		11	ASVE
MIPSL-F11-3	01/31/08	0.18		0.01		165	ASVE
MIPSL-F11-3	07/01/08	0.23		0	U	10.3	MB
MIPSL-F11-3	07/17/08	0.28		0	U	1	MB

Table 5. Exhaust Gas Sample Results *(Continued)*

Station ID	Date	PCE (ppmv)	Qual	TCE (ppmv)	Qual	Flow Rate (cfm)	Status
MIPSL-F11-3	07/28/08	12.92		0.4		29.04	ASVE
MIPSL-F11-3	08/19/08	0.3		0.02		11.8	ASVE
MIPSL-F11-3	06/24/09	0.022		0.017	U	5.3	ASVE
MIPSL-F11-3	07/07/09	0.017		0.017	U	7.5	ASVE
MIPSL-F11-3	12/21/10	0.125		0.031		1.6	MB
MIPSL-F11-3	07/24/12	0.077		0.007	U	1	MB
MIPSL-F11-3	11/13/12	0.067		0.017	U	1.1	MB
MIPSL-F11-3	11/11/13	0.073		0.008	U	1.1	MB
MIPSL-F11-3	11/25/13	0.053		0.008	U	1.1	MB
MIPSL-F11-3	11/10/14	0.081		0.008	U	7.5	MB
MIPSL-F11-3	11/17/15	0.07		0.006	U	1.1	MB
MIPSL-F11-3	10/25/16	0.05	J	0.027	U	1.0	MB
MIPSL-F11-3	11/20/17	0.2		0.049	J	11.3	MB
MIPSL-F11-3	11/20/18	3.8		5.5		2	MB
MIPSL-F11-4	01/16/08	15.82		0.02		52	ASVE
MIPSL-F11-4	01/23/08	1.44		0.02		147	ASVE
MIPSL-F11-4	01/24/08	1.36		0.03		10	ASVE
MIPSL-F11-4	01/31/08	0.89		0.02		121	ASVE
MIPSL-F11-4	07/01/08	3.45		0.02		2.7	MB
MIPSL-F11-4	07/17/08	1.48		0.03		2.9	MB
MIPSL-F11-4	07/28/08	4.18		0.13		15.16	ASVE
MIPSL-F11-4	08/19/08	1.68		0.04		26.2	ASVE
MIPSL-F11-4	06/24/09	0.136		0.017	J	23.5	ASVE
MIPSL-F11-4	07/07/09	0.125		0.017	U	19.3	ASVE
MIPSL-F11-4	12/21/10	0.15		0.031		3.4	MB
MIPSL-F11-4	07/24/12	0.11		0.016	U	2.8	MB
MIPSL-F11-4	11/13/12	0.099		0.017	U	2.6	MB
MIPSL-F11-4	11/11/13	0.1		0.012	J	3.2	MB
MIPSL-F11-4	11/25/13	0.047		0.008	U	1.7	MB
MIPSL-F11-4	11/10/14	0.129		0.026		8.7	MB
MIPSL-F11-4	11/17/15	0.09		0.01		3.1	MB
MIPSL-F11-4	10/25/16	0.08		0.027	U	2.4	MB
MIPSL-F11-4	11/14/17	0.3		0.09		3.4	MB
MIPSL-F11-4	11/20/18	5.3		6.2		2	MB
MIPSL-F12-1	12/19/07	5.11		0.18		83	ASVE
MIPSL-F12-1	01/07/08	2.1		0.06		70	ASVE
MIPSL-F12-1	01/09/08	2.89		0.09		81	ASVE
MIPSL-F12-1	11/12/13	0.3		0.042		1.1	MB
MIPSL-F12-1	05/20/14	0.039		0.008	U	3.4	ASVE
MIPSL-F12-1	11/11/14	0.135		0.018		0.6	MB
MIPSL-F12-1	11/17/15	0.005		0.006	U	0.6	MB
MIPSL-F12-1	10/25/16	0.028	U	0.027	U	0.7	MB
MIPSL-F12-1	11/14/17	0.08		0.044	J	0.7	MB
MIPSL-F12-1	11/20/18	0.35		0.16		2	MB
MIPSL-F12-2	12/19/07	7.42		0.17		57	ASVE
MIPSL-F12-2	01/07/08	3.46		0.21		39	ASVE

Table 5. Exhaust Gas Sample Results *(Continued)*

Station ID	Date	PCE *(ppmv)*	Qual	TCE *(ppmv)*	Qual	Flow Rate *(cfm)*	Status
MIPSL-F12-2	01/09/08	0.49		0.02		94	ASVE
MIPSL-F12-2	05/29/08	0.15		0	U	25.35	ASVE
MIPSL-F12-2	06/02/08	0.85		0.1		39.6	ASVE
MIPSL-F12-2	06/04/08	0.22		0.12		12.5	ASVE
MIPSL-F12-2	06/09/08	0.26		0.11		101.3	ASVE
MIPSL-F12-2	06/12/08	0.15		0.02		33	ASVE
MIPSL-F12-2	06/16/08	0.28		0.14		42	ASVE
MIPSL-F12-2	06/18/08	0.19		0.16		63.6	ASVE
MIPSL-F12-2	06/23/08	0.2		0.06		62.7	ASVE
MIPSL-F12-2	06/29/08	0.08		0.04		50.6	ASVE
MIPSL-F12-2	07/07/08	0.05		0	U	52	ASVE
MIPSL-F12-2	07/15/08	0.12		0.08		11.5	ASVE
MIPSL-F12-2	05/14/09	1.216		0.118		21	ASVE
MIPSL-F12-2	06/15/09	0.288		0.119		22	ASVE
MIPSL-F12-2	12/20/10	6.484		0.206		4.6	MB
MIPSL-F12-2	03/15/11	5.704		0.203		5.7	MB
MIPSL-F12-2	09/01/11	0.382		0.028	U	30	ASVE
MIPSL-F12-2	03/28/12	0.787		0.032		31.5	ASVE
MIPSL-F12-2	11/13/12	2.519		0.118		4.88	MB
MIPSL-F12-2	11/12/13	1.03		0.055		5.6	MB
MIPSL-F12-2	11/25/13	0.006		0.008	U	1.2	MB
MIPSL-F12-2	05/20/14	0.079		0.011	J	1.6	ASVE
MIPSL-F12-2	11/11/14	0.12		0.01	J	0.9	MB
MIPSL-F12-2	11/17/15	0.03		0.006	U	6.7	MB
MIPSL-F12-2	10/25/16	0.13		0.027	U	0.8	MB
MIPSL-F12-2	11/14/17	0.11		0.027	U	2.6	MB
MIPSL-F12-2	11/20/18	0.13		0.12		2	MB
MIPSL-F12-3	12/19/07	309.5		14.97		43.7	ASVE
MIPSL-F12-3	01/07/08	53.1		3.63		90	ASVE
MIPSL-F12-3	01/09/08	33.11		3.01		52	ASVE
MIPSL-F12-3	05/29/08	6.05		0.18		26.41	ASVE
MIPSL-F12-3	06/02/08	36.97		1.29		20	ASVE
MIPSL-F12-3	06/04/08	11.81		0.62		12.1	ASVE
MIPSL-F12-3	06/09/08	5.08		0.41		31.37	ASVE
MIPSL-F12-3	06/12/08	4.55		0.32		32	ASVE
MIPSL-F12-3	06/16/08	5.78		0.41		42	ASVE
MIPSL-F12-3	06/18/08	6.56		0.47		41.2	ASVE
MIPSL-F12-3	06/23/08	5.83		0.41		127.2	ASVE
MIPSL-F12-3	07/07/08	0.28		0.03		54	ASVE
MIPSL-F12-3	07/15/08	2.51		0.25		13.5	ASVE
MIPSL-F12-3	05/14/09	1.845		0.218		24	ASVE
MIPSL-F12-3	06/15/09	1.154		0.133		11.8	ASVE
MIPSL-F12-3	12/20/10	17.604		0.498		2.7	MB
MIPSL-F12-3	03/15/11	11.668		0.368		2.9	MB
MIPSL-F12-3	09/01/11	2.174		0.045		17	ASVE
MIPSL-F12-3	03/28/12	2.194		0.056		12.3	ASVE
MIPSL-F12-3	11/13/12	0.042		0.023	J	1.5	MB

Table 5. Exhaust Gas Sample Results *(Continued)*

Station ID	Date	PCE *(ppmv)*	Qual	TCE *(ppmv)*	Qual	Flow Rate *(cfm)*	Status
MIPSL-F12-3	11/12/13	15.1		0.319		3.2	MB
MIPSL-F12-3	11/25/13	25.1		0.519		2.2	MB
MIPSL-F12-3	05/20/14	0.143		0.01	J	2.9	ASVE
MIPSL-F12-3	11/11/14	0.909		0.037		1.9	MB
MIPSL-F12-3	11/17/15	2.2		0.07		1.3	MB
MIPSL-F12-3	10/25/16	12.3		0.3		1.0	MB
MIPSL-F12-3	11/14/17	27.4		0.7		4.4	MB
MIPSL-F12-3	06/28/18	9.8		0.36		3.3	MB
MIPSL-F12-3	11/20/18	10.2		0.43		2.3	MB
MIPSL-F12-4	12/19/07	7.65		0.1		99	ASVE
MIPSL-F12-4	01/07/08	2.69		0.04		40	ASVE
MIPSL-F12-4	01/09/08	14.62		0.47		41	ASVE
MIPSL-F12-4	05/29/08	2.35		0.02		104.1	ASVE
MIPSL-F12-4	06/02/08	25.25		1.11		111	ASVE
MIPSL-F12-4	06/04/08	20.68		0.93		107.9	ASVE
MIPSL-F12-4	06/09/08	2.19		0.12		31.39	ASVE
MIPSL-F12-4	06/12/08	5.89		0.26		303	ASVE
MIPSL-F12-4	06/16/08	12.8		0.49		440	ASVE
MIPSL-F12-4	06/18/08	3.52		0.16		481	ASVE
MIPSL-F12-4	06/23/08	10.99		0.41		475	ASVE
MIPSL-F12-4	07/07/08	6.7		0.26		96	ASVE
MIPSL-F12-4	07/15/08	7.81		0.3		103.2	ASVE
MIPSL-F12-4	05/14/09	1.158		0.042		102	ASVE
MIPSL-F12-4	06/15/09	3.706		0.106		112.5	ASVE
MIPSL-F12-4	12/20/10	0.105		0.027	J	8.7	MB
MIPSL-F12-4	03/15/11	1.383		0.029		9.6	MB
MIPSL-F12-4	09/01/11	3.427		0.079		10.8	ASVE
MIPSL-F12-4	11/14/12	0.018		0.017	U	2.1	MB
MIPSL-F12-4	11/12/13	0.143		0.028		7.6	MB
MIPSL-F12-4	11/25/13	0.085		0.021		7.2	MB
MIPSL-F12-4	05/20/14	2.8		0.319		2.9	ASVE
MIPSL-F12-4	11/11/14	4.9		0.519		4.4	MB
MIPSL-F12-4	11/17/15	9.6		0.18		3.8	MB
MIPSL-F12-4	10/25/16	0.028	U	0.027	U	3.8	MB
MIPSL-F12-4	11/20/17	0.2		0.036	J	5.7	MB
MIPSL-F12-4	11/20/18	0.08		0.11		2	MB
MIPSL-F13-1	04/23/08	0.56		0.26		150.2	ASVE
MIPSL-F13-1	05/06/08	0.58		0.22		33	ASVE
MIPSL-F13-1	05/08/08	0.35		0.06		59	ASVE
MIPSL-F13-1	05/13/08	0.11		0.1		53.7	ASVE
MIPSL-F13-1	05/15/08	0.3		0.31		69.8	ASVE
MIPSL-F13-1	05/19/08	0.1		0.09		72	ASVE
MIPSL-F13-1	05/21/08	0.07		0	U	31.7	ASVE
MIPSL-F13-1	07/16/08	0.02		0	U	0.5	MB
MIPSL-F13-1	04/13/09	0.115		0.017	U	12	ASVE
MIPSL-F13-1	05/12/09	0.028		0.017	U	2	ASVE
MIPSL-F13-1	01/12/10	0.013		0.017	U	LMFR	ASVE

Table 5. Exhaust Gas Sample Results *(Continued)*

Station ID	Date	PCE *(ppmv)*	Qual	TCE *(ppmv)*	Qual	Flow Rate *(cfm)*	Status
MIPSL-F13-1	12/20/10	0.072		0.024	J	1.9	MB
MIPSL-F13-1	07/25/12	0.002	U	0.017	U	0.66	MB
MIPSL-F13-1	11/14/12	0.014		0.017	U	1.03	MB
MIPSL-F13-1	11/13/13	0.057		0.008	U	16.4	MB
MIPSL-F13-1	11/25/13	0.208		0.01	J	1.4	MB
MIPSL-F13-1	11/06/14	0.002		0.008	U	0.6	MB
MIPSL-F13-1	02/08/16	0.028	U	0.027	U	0.7	MB
MIPSL-F13-1	10/25/16	0.028	U	0.027	U	0.8	MB
MIPSL-F13-1	11/14/17	0.028	U	0.027	U	1.1	MB
MIPSL-F13-1	11/20/18	0.105		0.083		2	MB
MIPSL-F13-2	04/23/08	1.06		0.04		79.3	ASVE
MIPSL-F13-2	04/30/08	0.14		0.05		253.9	ASVE
MIPSL-F13-2	05/06/08	0.67		0.18		20	ASVE
MIPSL-F13-2	05/08/08	0.49		0.05		64	ASVE
MIPSL-F13-2	05/13/08	0.07		0	U	82.1	ASVE
MIPSL-F13-2	05/15/08	0.04		0	U	18.54	ASVE
MIPSL-F13-2	05/19/08	0.04		0	U	46	ASVE
MIPSL-F13-2	07/16/08	0	U	0	U	1	MB
MIPSL-F13-2	04/13/09	0.026		0.017	U	2	ASVE
MIPSL-F13-2	05/12/09	0.019		0.017	U	8	ASVE
MIPSL-F13-2	01/12/10	0.01		0.017	U	LMFR	ASVE
MIPSL-F13-2	12/20/10	0.225		0.078		1.4	MB
MIPSL-F13-2	07/25/12	0.002	U	0.017	U	7.5	MB
MIPSL-F13-2	11/14/12	0.009		0.017	U	2.78	MB
MIPSL-F13-2	11/13/13	0.042		0.008	U	1.3	MB
MIPSL-F13-2	11/25/13	0.001	J	0.008	U	0.5	MB
MIPSL-F13-2	11/06/14	0.001	U	0.008	U	4.0	MB
MIPSL-F13-2	02/08/16	0.028	U	0.027	U	0.6	MB
MIPSL-F13-2	10/25/16	0.028	U	0.027	U	1.1	MB
MIPSL-F13-2	11/14/17	0.028	U	0.027	U	3.8	MB
MIPSL-F13-2	11/20/18	0.22		0.09		2	MB
MIPSL-F13-3	04/23/08	1.31		7.39		60.1	ASVE
MIPSL-F13-3	04/30/08	0.31		0.02		265.2	ASVE
MIPSL-F13-3	05/06/08	0.32		0.03		10	ASVE
MIPSL-F13-3	05/08/08	0.82		0.05		16	ASVE
MIPSL-F13-3	05/13/08	0.08		0	U	47.2	ASVE
MIPSL-F13-3	05/15/08	0.05		0	U	28.2	ASVE
MIPSL-F13-3	05/19/08	0.04		0	U	45	ASVE
MIPSL-F13-3	05/21/08	0.12		0.11		22.2	ASVE
MIPSL-F13-3	07/16/08	0.06		0	U	1	MB
MIPSL-F13-3	04/13/09	0.034		0.017	U	7	ASVE
MIPSL-F13-3	05/12/09	0.06		0.017	U	1	ASVE
MIPSL-F13-3	01/12/10	0.497		0.017	U	LMFR	ASVE
MIPSL-F13-3	12/20/10	0.179		0.055		2.3	MB
MIPSL-F13-3	08/01/12	0.087		0.002	U	1	MB
MIPSL-F13-3	11/14/12	0.015		0.017	U	6.3	MB
MIPSL-F13-3	11/13/13	0.008		0.106		6.5	MB

Table 5. Exhaust Gas Sample Results *(Continued)*

Station ID	Date	PCE *(ppmv)*	Qual	TCE *(ppmv)*	Qual	Flow Rate *(cfm)*	Status
MIPSL-F13-3	11/25/13	0.001	U	0.008	U	1.1	MB
MIPSL-F13-3	11/06/14	0.005		0.008	U	0.6	MB
MIPSL-F13-3	02/08/16	0.028	U	0.027	U	0.7	MB
MIPSL-F13-3	10/25/16	0.028	U	0.027	U	0.9	MB
MIPSL-F13-3	11/14/17	0.028	U	0.027	U	0.8	MB
MIPSL-F13-3	11/20/18	0.07		0.09		2	MB
MIPSL-F13-4	04/23/08	3.41		88.66		110.1	ASVE
MIPSL-F13-4	04/30/08	1.96		22.67		192.7	ASVE
MIPSL-F13-4	05/06/08	0.95		3.06		42	ASVE
MIPSL-F13-4	05/08/08	1.69		4.88		17	ASVE
MIPSL-F13-4	05/13/08	2.73		7.56		24	ASVE
MIPSL-F13-4	05/15/08	2.68		7.05		16.1	ASVE
MIPSL-F13-4	05/19/08	3.1		7.86		29	ASVE
MIPSL-F13-4	05/21/08	3.92		7.76		21.5	ASVE
MIPSL-F13-4	07/16/08	0.14		0.83		1	MB
MIPSL-F13-4	04/13/09	0.038		0.017	U	25	ASVE
MIPSL-F13-4	05/12/09	0.435		0.688		13	ASVE
MIPSL-F13-4	01/12/10	0.016		0.03		LMFR	ASVE
MIPSL-F13-4	12/20/10	0.124		0.118		1.5	MB
MIPSL-F13-4	07/25/12	0.094		0.037		9.5	MB
MIPSL-F13-4	11/14/12	0.034		0.023	J	4.83	MB
MIPSL-F13-4	11/13/13	0.835		0.347		0.4	MB
MIPSL-F13-4	11/25/13	0.057		0.562		1	MB
MIPSL-F13-4	11/06/14	0.24		0.102		3.0	MB
MIPSL-F13-4	11/23/15	0.004		0.022		0.2	MB
MIPSL-F13-4	10/25/16	0.08		0.027	U	0.8	MB
MIPSL-F13-4	11/14/17	0.028	U	0.027	U	1.2	MB
MIPSL-F13-4	11/20/18	0.49		0.09		2	MB
MIPSL-SVE-01	07/01/08	124.36		19.49		4.1	MB
MIPSL-SVE-01	07/17/08	337.38		55.82		5.4	MB
MIPSL-SVE-01	08/21/08	223.02		41.56		130	ASVE
MIPSL-SVE-01	02/02/09	24.463		11.48		LMFR	ASVE
MIPSL-SVE-01	04/06/09	12.607		5.685		27.6	ASVE
MIPSL-SVE-01	07/09/09	24.839		7.813		210	ASVE
MIPSL-SVE-01	02/23/10	41.385		6.583		183	ASVE
MIPSL-SVE-01	09/01/10	23.895		7.932		277	ASVE
MIPSL-SVE-01	12/21/10	19.333		5.97		195	ASVE
MIPSL-SVE-01	03/15/11	0.043		0.017	U	3.2	ASVE
MIPSL-SVE-01	06/22/11	0.102		0.019	J	LMFR	ASVE
MIPSL-SVE-01	08/02/11	9.938		3.14		LMFR	ASVE
MIPSL-SVE-01	04/12/12	24.049		8.404		19.5	ASVE
MIPSL-SVE-01	06/25/12	22.642		6.944		17.8	ASVE
MIPSL-SVE-01	08/09/12	20.256		5.907		20.5	ASVE
MIPSL-SVE-01	11/12/12	1.326		0.36		15.7	ASVE
MIPSL-SVE-01	1/23/13	20.9		4.9		19	ASVE
MIPSL-SVE-01	4/22/13	20.1		4.2		32	ASVE
MIPSL-SVE-01	5/1/13	23.1		4.7		121	ASVE

Table 5. Exhaust Gas Sample Results *(Continued)*

Station ID	Date	PCE (ppmv)	Qual	TCE (ppmv)	Qual	Flow Rate (cfm)	Status
MIPSL-SVE-01	6/26/13	0.037		0.008	U	LMFR	MB
MIPSL-SVE-01	8/12/13	22.2		3.9		129	ASVE
MIPSL-SVE-01	10/30/13	0.085		0.008	U	LMFR	MB
MIPSL-SVE-01	11/20/13	20.8		4.6		119	ASVE
MIPSL-SVE-01	01/13/14	9.8		2.2		120	ASVE
MIPSL-SVE-01	07/21/14	23.1		5.2		LMFR	ASVE
MIPSL-SVE-01	11/20/14	0.074		0.03		LMFR	ASVE
MIPSL-SVE-01	01/07/15	18.8		4.6		100	ASVE
MIPSL-SVE-01	04/23/15	19.9		5.0		100	ASVE
MIPSL-SVE-01	07/15/15	16.3		4.8		100	ASVE
MIPSL-SVE-01	11/04/15	10.0		3.3		100	ASVE
MIPSL-SVE-01	01/06/16	8.4		3.2		90	ASVE
MIPSL-SVE-01	04/19/16	11.8		4.1		100	ASVE
MIPSL-SVE-01	07/19/16	12.2		4.1		100	ASVE
MIPSL-SVE-01	10/17/16	15.2		5.3		100	ASVE
MIPSL-SVE-01	04/11/17	14.9		5.0		100	ASVE
MIPSL-SVE-01	07/18/17	14.4		5.6		100	ASVE
MIPSL-SVE-01	10/17/17	0.028	U	0.027	U	100	ASVE
MIPSL-SVE-01	01/11/18	8.1		4.0		100	ASVE
MIPSL-SVE-01	04/24/18	15.3		5.8		100	ASVE
MIPSL-SVE-01	07/17/18	4.5		2.5		100	ASVE
MIPSL-SVE-01	11/20/18	9.8		4.5		100	ASVE
MIPSL-SVE-11	07/01/08	0.04		0.05		2.4	MB
MIPSL-SVE-11	07/17/08	0.22		0.38		6.8	MB
MIPSL-SVE-11	08/19/08	0.24		0.78		54.87	ASVE
MIPSL-SVE-11	06/24/09	0.126		0.401		136.7	ASVE
MIPSL-SVE-11	07/07/09	0.128		0.398		125.4	ASVE
MIPSL-SVE-11	12/21/10	0.252		0.089		1.7	MB
MIPSL-SVE-11	07/24/12	0.035		0.048		3.5	MB
MIPSL-SVE-11	11/13/12	0.052		0.076		3	MB
MIPSL-SVE-11	11/11/13	0.058		0.044		7.9	MB
MIPSL-SVE-11	11/25/13	0.004		0.008	U	13.9	MB
MIPSL-SVE-11	11/10/14	0.006		0.008	U	6.6	MB
MIPSL-SVE-11	11/17/15	0.002	J	0.006	U	11.4	MB
MIPSL-SVE-11	10/25/16	0.028	U	0.027	U	8.3	MB
MIPSL-SVE-11	11/14/17	0.046	J	0.027	U	9.4	MB
MIPSL-SVE-11	11/20/18	0.12		0.30		8.7	MB
MIPSL-SVE-12	05/29/08	0.67		0.13		14.74	ASVE
MIPSL-SVE-12	06/02/08	1.3		0.21		59.5	ASVE
MIPSL-SVE-12	06/04/08	1.38		0.25		50.5	ASVE
MIPSL-SVE-12	06/09/08	0.98		0.2		100	ASVE
MIPSL-SVE-12	06/12/08	0.62		0.15		112	ASVE
MIPSL-SVE-12	06/16/08	0.72		0.18		26	ASVE
MIPSL-SVE-12	06/18/08	0.82		0.18		27.8	ASVE
MIPSL-SVE-12	06/23/08	0.79		0.16		38.5	ASVE
MIPSL-SVE-12	06/29/08	0.98		0.1		8.13	ASVE
MIPSL-SVE-12	05/14/09	0.506		0.137		11	ASVE

Table 5. Exhaust Gas Sample Results *(Continued)*

Station ID	Date	PCE (ppmv)	Qual	TCE (ppmv)	Qual	Flow Rate (cfm)	Status
MIPSL-SVE-12	06/15/09	0.212		0.062		43.6	ASVE
MIPSL-SVE-12	12/20/10	0.897		0.171		2.5	MB
MIPSL-SVE-12	03/15/11	0.283		0.178		2.6	MB
MIPSL-SVE-12	09/01/11	0.917		0.028	U	11	ASVE
MIPSL-SVE-12	12/05/11	0.218		0.021	J	62	ASVE
MIPSL-SVE-12	03/28/12	0.162		0.042		9.3	ASVE
MIPSL-SVE-12	11/14/12	0.333		0.115		1.29	MB
MIPSL-SVE-12	11/12/13	0.277		0.086		4.4	MB
MIPSL-SVE-12	11/25/13	0.225		0.081		2.9	MB
MIPSL-SVE-12	05/20/14	0.253		0.037		15.2	ASVE
MIPSL-SVE-12	11/11/14	0.331		0.084		2.4	MB
MIPSL-SVE-12	11/17/15	0.453		0.081		2.4	MB
MIPSL-SVE-12	10/25/16	0.71		0.11		3.2	MB
MIPSL-SVE-12	11/14/17	1.1		0.11		2.6	MB
MIPSL-SVE-12	11/20/18	1.3		0.46		3.0	MB
MIPSL-SVE-13	05/08/08	0.37		0.09		17	ASVE
MIPSL-SVE-13	05/13/08	0.27		0.15		76.8	ASVE
MIPSL-SVE-13	05/15/08	10.35		1.07		68.6	ASVE
MIPSL-SVE-13	07/01/08	0.45		0.05		10.14	MB
MIPSL-SVE-13	07/16/08	5.46		0.77		3.43	MB
MIPSL-SVE-13	04/13/09	0.707		0.125		30	ASVE
MIPSL-SVE-13	05/12/09	0.872		1.967		20	ASVE
MIPSL-SVE-13	01/12/10	0.011		0.017	U	LMFR	ASVE
MIPSL-SVE-13	12/20/10	0.114		0.036		7.7	MB
MIPSL-SVE-13	07/25/12	0.006		0.027	J	2	MB
MIPSL-SVE-13	11/14/12	0.025		0.152		2.4	MB
MIPSL-SVE-13	11/13/13	5.68		0.145		4.6	MB
MIPSL-SVE-13	11/25/13	0.01		0.012	J	4.7	MB
MIPSL-SVE-13	11/06/14	0.081		0.1		5.2	MB
MIPSL-SVE-13	11/23/15	0.326		6.9		4.3	MB
MIPSL-SVE-13	10/25/16	0.03	J	0.027	U	2.5	MB
MIPSL-SVE-13	11/14/17	0.05	J	0.027	U	5.1	MB
MIPSL-SVE-13	11/20/18	0.086		0.07		4.8	MB
MIPSL-SVEU-STACK-01	02/05/08	71.74		0.04		44.7	ASVE
MIPSL-SVEU-STACK-01	02/07/08	77.01		0.94		72.2	ASVE
MIPSL-SVEU-STACK-01	02/11/08	56.91		0.96		45.4	ASVE
MIPSL-SVEU-STACK-01	02/28/08	51.35		0.79		36	ASVE
MIPSL-SVEU-STACK-01	03/04/08	90.71		3.08		46.3	ASVE
MIPSL-SVEU-STACK-01	03/05/08	123.22		4.24		45.7	ASVE
MIPSL-SVEU-STACK-01	03/06/08	132.61		5.1		45.6	ASVE
MIPSL-SVEU-STACK-01	03/11/08	135.01		6.27		51.9	ASVE
MIPSL-SVEU-STACK-01	03/13/08	141.74		6.79		44.1	ASVE
MIPSL-SVEU-STACK-01	03/18/08	124.8		7.1		44	ASVE
MIPSL-SVEU-STACK-01	03/26/08	99.62		7.05		63	ASVE
MIPSL-SVEU-STACK-01	04/09/08	12.45		0.73		34.1	ASVE
MIPSL-SVEU-STACK-01	04/15/08	22.78		1.91		168	ASVE
MIPSL-SVEU-STACK-01	04/16/08	81.75		6.49		68.8	ASVE

Table 5. Exhaust Gas Sample Results *(Continued)*

Station ID	Date	PCE (ppmv)	Qual	TCE (ppmv)	Qual	Flow Rate (cfm)	Status
MIPSL-SVEU-STACK-01	04/17/08	88.63		7		51.5	ASVE
MIPSL-SVEU-STACK-01	08/21/08	184.8		32.91		180	ASVE
MIPSL-SVEU-STACK-01	08/25/08	115.32		24.45		172	ASVE
MIPSL-SVEU-STACK-01	08/27/08	103.65		22.56		237	ASVE
MIPSL-SVEU-STACK-01	09/02/08	73.56		19.72		222	ASVE
MIPSL-SVEU-STACK-01	09/16/08	69.88		18.81		57	ASVE
MIPSL-SVEU-STACK-01	09/17/08	87.5		23.16		56	ASVE
MIPSL-SVEU-STACK-01	10/01/08	46.54		17.41		155	ASVE
MIPSL-SVEU-STACK-01	11/03/08	33.01		13.98		176	ASVE
MIPSL-SVEU-STACK-01	12/01/08	32.98		14.88		182.6	ASVE
MIPSL-SVEU-STACK-01	01/07/09	43.25		19.63		190	ASVE
MIPSL-SVEU-STACK-01	02/02/09	25.101		11.837		202	ASVE
MIPSL-SVEU-STACK-01	03/02/09	21.051		9.259		198	ASVE
MIPSL-SVEU-STACK-01	04/01/09	26.109		11.694		164.1	ASVE
MIPSL-SVEU-STACK-01	04/06/09	20.984		9.376		162.4	ASVE
MIPSL-SVEU-STACK-01	07/09/09	40.493		12.104		174.8	ASVE
MIPSL-SVEU-STACK-01	08/03/09	31.666		12.599		161	ASVE
MIPSL-SVEU-STACK-01	09/01/09	28.913		11.187		160	ASVE
MIPSL-SVEU-STACK-01	10/01/09	32.415		12.352		159	ASVE
MIPSL-SVEU-STACK-01	11/02/09	30.62		11.333		157	ASVE
MIPSL-SVEU-STACK-01	11/30/09	25.735		11.508		176	ASVE
MIPSL-SVEU-STACK-01	12/10/09	30.718		12.837		172	ASVE
MIPSL-SVEU-STACK-01	02/23/10	37.928		5.57		170.6	ASVE
MIPSL-SVEU-STACK-01	03/01/10	38.459		16.699		170	ASVE
MIPSL-SVEU-STACK-01	03/18/10	9.651		5.836		48	ASVE
MIPSL-SVEU-STACK-01	04/05/10	25.419		10.359		170.4	ASVE
MIPSL-SVEU-STACK-01	04/21/10	21.367		8.812		150	ASVE
MIPSL-SVEU-STACK-01	05/03/10	24.785		8.474		174	ASVE
MIPSL-SVEU-STACK-01	05/18/10	17.474		6.088		155	ASVE
MIPSL-SVEU-STACK-01	06/01/10	24.248		7.952		150	ASVE
MIPSL-SVEU-STACK-01	07/01/10	24.904		8.046		148	ASVE
MIPSL-SVEU-STACK-01	08/02/10	23.844		8.188		170	ASVE
MIPSL-SVEU-STACK-01	08/17/10	16.231		6.786		152	ASVE
MIPSL-SVEU-STACK-01	10/04/10	36.048		10.436		150	ASVE
MIPSL-SVEU-STACK-01	10/11/10	18.275		7.986		175.2	ASVE
MIPSL-SVEU-STACK-01	11/01/10	19.89		8.444		178	ASVE
MIPSL-SVEU-STACK-01	12/01/10	18.962		6.766		161	ASVE
MIPSL-SVEU-STACK-01	01/03/11	19.214		6.841		160	ASVE
MIPSL-SVEU-STACK-01	02/01/11	17.467		5.449		158.8	ASVE
MIPSL-SVEU-STACK-01	02/07/11	19.484		6.834		174	ASVE
MIPSL-SVEU-STACK-01	03/01/11	20.646		6.665		159	ASVE
MIPSL-SVEU-STACK-01	03/15/11	8.859		3.746		167.4	ASVE
MIPSL-SVEU-STACK-01	04/04/11	17.812		6.473		159	ASVE
MIPSL-SVEU-STACK-01	04/28/11	16.577		6.409		170.7	ASVE
MIPSL-SVEU-STACK-01	06/07/11	6.248		2.214		173	ASVE
MIPSL-SVEU-STACK-01	06/09/11	10.89		4.059		144.5	ASVE
MIPSL-SVEU-STACK-01	07/05/11	15.872		6.344		128	ASVE
MIPSL-SVEU-STACK-01	08/01/11	15.287		5.419		122	ASVE

Table 5. Exhaust Gas Sample Results *(Continued)*

Station ID	Date	PCE *(ppmv)*	Qual	TCE *(ppmv)*	Qual	Flow Rate *(cfm)*	Status
MIPSL-SVEU-STACK-01	04/02/12	47.018		5.624		54.8	ASVE
MIPSL-SVEU-STACK-01	04/12/12	30.627		10.967		61.1	ASVE
MIPSL-SVEU-STACK-01	05/02/12	1.405		0.441		63.0	ASVE
MIPSL-SVEU-STACK-01	06/04/12	22.199		7.007		58.3	ASVE
MIPSL-SVEU-STACK-01	07/02/12	20.735		6.313		52.3	ASVE
MIPSL-SVEU-STACK-01	08/01/12	20.067		6.013		53.8	ASVE
MIPSL-SVEU-STACK-01	08/30/12	21.743		5.984		52.6	ASVE
MIPSL-SVEU-STACK-01	09/04/12	21.132		5.848		53.0	ASVE
MIPSL-SVEU-STACK-01	10/01/12	21.556		5.997		54.0	ASVE
MIPSL-SVEU-STACK-01	11/01/12	21.32		5.61		57.6	ASVE
MIPSL-SVEU-STACK-01	11/12/12	1.065		0.293		64.5	ASVE
MIPSL-SVEU-STACK-01	12/03/12	21.262		4.891		52.2	ASVE
MIPSL-SVEU-STACK-01	01/07/13	19.9		4.7		54	ASVE
MIPSL-SVEU-STACK-01	01/29/13	7.7		1.9		57	ASVE
MIPSL-SVEU-STACK-01	02/11/13	3.5		0.9		56	ASVE
MIPSL-SVEU-STACK-01	03/11/13	25.6		4.7		48	ASVE
MIPSL-SVEU-STACK-01	04/01/13	22.8		5.2		104	ASVE
MIPSL-SVEU-STACK-01	05/01/13	24		4.8		100	ASVE
MIPSL-SVEU-STACK-01	07/01/13	3.6		0.7		103	ASVE
MIPSL-SVEU-STACK-01	07/15/13	23.9		4.4		100	ASVE
MIPSL-SVEU-STACK-01	08/05/13	25.8		4.5		105	ASVE
MIPSL-SVEU-STACK-01	09/03/13	23.7		4.5		103	ASVE
MIPSL-SVEU-STACK-01	11/04/13	1.9		0.2		102	ASVE
MIPSL-SVEU-STACK-01	12/03/13	20		3.9		107	ASVE
MIPSL-SVEU-STACK-01	01/13/14	10.9		2.2		102	ASVE
MIPSL-SVEU-STACK-01	03/05/14	28.3		5.4		100	ASVE
MIPSL-SVEU-STACK-01	07/02/14	1.7		0.2		103	ASVE
MIPSL-SVEU-STACK-01	08/05/14	25.1		4.8		102	ASVE
MIPSL-SVEU-STACK-01	09/03/14	24.7		5.1		101	ASVE
MIPSL-SVEU-STACK-01	10/02/14	18.8		4.9		101	ASVE
MIPSL-SVEU-STACK-01	11/04/14	16.2		4.6		102	ASVE
MIPSL-SVEU-STACK-01	12/03/14	17.6		4.9		102	ASVE
MIPSL-SVEU-STACK-01	01/06/15	16.8		5.1		100	ASVE
MIPSL-SVEU-STACK-01	03/26/15	18.2		5.2		101	ASVE
MIPSL-SVEU-STACK-01	04/07/15	16.4		4.7		103	ASVE
MIPSL-SVEU-STACK-01	05/05/15	17.1		4.3		102	ASVE
MIPSL-SVEU-STACK-01	06/02/15	15.5		4.2		105	ASVE
MIPSL-SVEU-STACK-01	07/07/15	14.9		4.0		100	ASVE
MIPSL-SVEU-STACK-01	08/04/15	16.3		4.3		100	ASVE
MIPSL-SVEU-STACK-01	09/02/15	14.1		3.9		100	ASVE
MIPSL-SVEU-STACK-01	10/27/15	12.9		4.1		101	ASVE
MIPSL-SVEU-STACK-01	11/03/15	13.7		4.2		100	ASVE
MIPSL-SVEU-STACK-01	12/01/15	14.1		4.5		100	ASVE
MIPSL-SVEU-STACK-01	01/06/16	13.4		4.4		99	ASVE
MIPSL-SVEU-STACK-01	02/29/16	16.9		4.8		100	ASVE
MIPSL-SVEU-STACK-01	03/02/16	15.2		4.3		101	ASVE
MIPSL-SVEU-STACK-01	04/05/16	13.7		4.3		100	ASVE

Table 5. Exhaust Gas Sample Results *(Continued)*

Station ID	Date	PCE *(ppmv)*	Qual	TCE *(ppmv)*	Qual	Flow Rate *(cfm)*	Status
MIPSL-SVEU-STACK-01	05/24/16	15.6		4.7		100	ASVE
MIPSL-SVEU-STACK-01	06/02/16	13.2		4.1		99	ASVE
MIPSL-SVEU-STACK-01	07/05/16	14.7		4.4		100	ASVE
MIPSL-SVEU-STACK-01	08/02/16	14.1		4.7		100	ASVE
MIPSL-SVEU-STACK-01	09/06/16	13.8		4.6		102	ASVE
MIPSL-SVEU-STACK-01	10/04/16	13.2		4.4		101	ASVE
MIPSL-SVEU-STACK-01	11/01/16	12.9		4.4		101	ASVE
MIPSL-SVEU-STACK-01	12/05/16	15.4		4.8		100	ASVE
MIPSL-SVEU-STACK-01	01/03/17	13.9		4.6		100	ASVE
MIPSL-SVEU-STACK-01	02/02/17	14.8		4.8		100	ASVE
MIPSL-SVEU-STACK-01	03/02/17	15.5		5.1		100	ASVE
MIPSL-SVEU-STACK-01	04/11/17	15.0		4.4		100	ASVE
MIPSL-SVEU-STACK-01	05/02/17	13.7		4.8		99	ASVE
MIPSL-SVEU-STACK-01	06/06/17	14.1		5.1		100	ASVE
MIPSL-SVEU-STACK-01	07/05/17	14.0		4.9		101	ASVE
MIPSL-SVEU-STACK-01	08/02/17	14.8		5.2		100	ASVE
MIPSL-SVEU-STACK-01	09/14/17	17.0		6.2		100	ASVE
MIPSL-SVEU-STACK-01	10/03/17	13.8		4.8		100	ASVE
MIPSL-SVEU-STACK-01	11/02/17	13.9		4.7		102	ASVE
MIPSL-SVEU-STACK-01	12/05/17	15.0		4.8		100	ASVE
MIPSL-SVEU-STACK-01	01/10/18	14.6		5.0		100	ASVE
MIPSL-SVEU-STACK-01	02/01/18	14.7		5.0		102	ASVE
MIPSL-SVEU-STACK-01	03/01/18	14.9		5.0		100	ASVE
MIPSL-SVEU-STACK-01	04/12/18	15.5		5.3		100	ASVE
MIPSL-SVEU-STACK-01	05/03/18	13.1		4.2		100	ASVE
MIPSL-SVEU-STACK-01	06/05/18	13.4		5.0		100	ASVE
MIPSL-SVEU-STACK-01	07/03/18	15.5		5.6		100	ASVE
MIPSL-SVEU-STACK-01	08/02/18	17.0		5.8		100	ASVE
MIPSL-SVEU-STACK-01	09/10/18	15.0		5.1		100	ASVE
MIPSL-SVEU-STACK-01	10/01/18	15.2		4.3		103	ASVE
MIPSL-SVEU-STACK-01	11/06/18	15.5		5.6		101	ASVE
MIPSL-SVEU-STACK-01	12/03/18	13.8		5.1		102	ASVE
MIPSL-SVEU-STACK-11	01/16/08	6.89		0.03		23.4	ASVE
MIPSL-SVEU-STACK-11	01/23/08	0.62		0.02		82	ASVE
MIPSL-SVEU-STACK-11	01/24/08	0.55		0.03		44	ASVE
MIPSL-SVEU-STACK-11	01/31/08	0.6		0.03		50.1	ASVE
MIPSL-SVEU-STACK-11	07/28/08	1.13		0.46		6.43	ASVE
MIPSL-SVEU-STACK-11	07/28/08	1.11		0.09		22.61	ASVE
MIPSL-SVEU-STACK-11	08/05/08	0.36		0.61		174	ASVE
MIPSL-SVEU-STACK-11	08/19/08	0.44		0.63		22.1	ASVE
MIPSL-SVEU-STACK-11	06/24/09	0.133		0.328		132.8	ASVE
MIPSL-SVEU-STACK-11	06/30/09	0.134		0.341		129	ASVE
MIPSL-SVEU-STACK-11	07/01/09	0.66		0.34		127	ASVE
MIPSL-SVEU-STACK-11	07/06/09	0.131		0.31		130	ASVE
MIPSL-SVEU-STACK-11	07/07/09	0.118		0.269		127.7	ASVE
MIPSL-SVEU-STACK-11	02/06/14	0.087		0.009	J	43	ASVE
MIPSL-SVEU-STACK-12	12/19/07	67.47		3.34		99	ASVE

Table 5. Exhaust Gas Sample Results *(Continued)*

Station ID	Date	PCE (ppmv)	Qual	TCE (ppmv)	Qual	Flow Rate (cfm)	Status
MIPSL-SVEU-STACK-12	01/02/08	166.08		8.09		63	ASVE
MIPSL-SVEU-STACK-12	01/03/08	56.23		1.73		5.7	ASVE
MIPSL-SVEU-STACK-12	01/07/08	16.87		1.04		87	ASVE
MIPSL-SVEU-STACK-12	01/08/08	37.7		1.29		77	ASVE
MIPSL-SVEU-STACK-12	01/09/08	30.8		1.4		86	ASVE
MIPSL-SVEU-STACK-12	01/10/08	30.95		1.37		79	ASVE
MIPSL-SVEU-STACK-12	05/29/08	2.89		0.11		42.28	ASVE
MIPSL-SVEU-STACK-12	06/02/08	20.2		1.02		49.2	ASVE
MIPSL-SVEU-STACK-12	06/04/08	16.83		0.83		138.7	ASVE
MIPSL-SVEU-STACK-12	06/09/08	13.1		0.63		142	ASVE
MIPSL-SVEU-STACK-12	06/12/08	5.46		0.26		178	ASVE
MIPSL-SVEU-STACK-12	06/16/08	12.06		0.49		173	ASVE
MIPSL-SVEU-STACK-12	06/18/08	12.86		0.52		179	ASVE
MIPSL-SVEU-STACK-12	06/23/08	7.65		0.33		204	ASVE
MIPSL-SVEU-STACK-12	06/29/08	4.64		0.21		64.8	ASVE
MIPSL-SVEU-STACK-12	07/01/08	4.6		0.21		62.7	ASVE
MIPSL-SVEU-STACK-12	07/07/08	5.32		0.25		185	ASVE
MIPSL-SVEU-STACK-12	07/14/08	8.02		0.29		50.6	ASVE
MIPSL-SVEU-STACK-12	05/14/09	6.197		0.279		147	ASVE
MIPSL-SVEU-STACK-12	05/18/09	10.32		0.41		142	ASVE
MIPSL-SVEU-STACK-12	06/01/09	7.038		0.256		135	ASVE
MIPSL-SVEU-STACK-12	06/15/09	3.277		0.134		94.1	ASVE
MIPSL-SVEU-STACK-12	09/01/11	1.109		0.051		69	ASVE
MIPSL-SVEU-STACK-12	09/19/11	0.477		0.057		52.4	ASVE
MIPSL-SVEU-STACK-12	10/03/11	3.284		0.111		46.6	ASVE
MIPSL-SVEU-STACK-12	11/01/11	2.824		0.154		93	ASVE
MIPSL-SVEU-STACK-12	12/06/11	3.52		0.155		73	ASVE
MIPSL-SVEU-STACK-12	12/19/11	3.656		0.155		57.4	ASVE
MIPSL-SVEU-STACK-12	01/03/12	5.58		0.135		46.3	ASVE
MIPSL-SVEU-STACK-12	01/19/12	0.024		0.017	U	57	ASVE
MIPSL-SVEU-STACK-12	01/23/12	2.148		0.104		50	ASVE
MIPSL-SVEU-STACK-12	02/01/12	2.032		0.089		45.5	ASVE
MIPSL-SVEU-STACK-12	03/06/12	1.943		0.092		44	ASVE
MIPSL-SVEU-STACK-12	03/28/12	1.833		0.084		47.2	ASVE
MIPSL-SVEU-STACK-12	02/19/14	3.5		0.063		101	ASVE
MIPSL-SVEU-STACK-12	05/08/14	2.5		0.101		107	ASVE
MIPSL-SVEU-STACK-12	06/03/14	1.6		0.064		107	ASVE
MIPSL-SVEU-STACK-13	04/23/08	2.27		12.23		63.4	ASVE
MIPSL-SVEU-STACK-13	04/29/08	0.53		3.37		137	ASVE
MIPSL-SVEU-STACK-13	04/30/08	0.58		4.25		130.2	ASVE
MIPSL-SVEU-STACK-13	05/01/08	2.95		2.24		135.5	ASVE
MIPSL-SVEU-STACK-13	05/05/08	1.09		1.8		128	ASVE
MIPSL-SVEU-STACK-13	05/06/08	1.09		1.42		135	ASVE
MIPSL-SVEU-STACK-13	05/08/08	2.17		1.41		142	ASVE
MIPSL-SVEU-STACK-13	05/13/08	0.19		0.08		38.2	ASVE
MIPSL-SVEU-STACK-13	05/15/08	1.6		1.38		37.3	ASVE
MIPSL-SVEU-STACK-13	05/19/08	2.13		1.43		34	ASVE

Table 5. Exhaust Gas Sample Results *(Continued/End)*

Station ID	Date	PCE *(ppmv)*	Qual	TCE *(ppmv)*	Qual	Flow Rate *(cfm)*	Status
MIPSL-SVEU-STACK-13	05/21/08	1.6		0.82		39.1	ASVE
MIPSL-SVEU-STACK-13	04/13/09	0.622		0.361		70	ASVE
MIPSL-SVEU-STACK-13	04/20/09	0.7		1.859		67	ASVE
MIPSL-SVEU-STACK-13	04/29/09	0.926		2.311		72	ASVE
MIPSL-SVEU-STACK-13	05/04/09	1.803		2.608		66.3	ASVE
MIPSL-SVEU-STACK-13	05/11/09	0.817		0.709		70	ASVE
MIPSL-SVEU-STACK-13	01/11/10	0.662		0.162		86	ASVE
MIPSL-SVEU-STACK-13	02/25/14	0.556		2.2		13	ASVE

Notes:
PCE = Tetrachloroethylene
TCE = Trichloroethylene
ppmv = parts per million by volume
cfm = cubic feet per minute
ASVE = Active Soil Vapor Extraction
MB = MicroBlower™
LMFR = less than measurable flow rate

Table 6A. 2008 Total Mass Removed – Monthly

Date	Location	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
Jan-08	MIPSL-SVEU-Stack-12 & 11	453	48	12	0.4
Feb-08	MIPSL-SVEU-Stack-11 & 01	300	48	11	0.1
Mar-08	MIPSL-SVEU-Stack-01	497	51	76	3
Apr-08	MIPSL-SVEU-Stack-01 & 13	468	65	20	4
May-08	MIPSL-SVEU-Stack-13 & 12	325	69	1	0.6
Jun-08	MIPSL-SVEU-Stack-12	595	144	25	0.9
Jul-08	MIPSL-SVEU-Stack-12 & 11	407	109	6	0.2
Aug-08	MIPSL-SVEU-Stack-11 & 01	340	191	157	25
Sep-08	MIPSL-SVEU-Stack-01	504	115	118	24
Oct-08	MIPSL-SVEU-Stack-01	684	155	125	37
Nov-08	MIPSL-SVEU-Stack-01	720	175	108	36
Dec-08	MIPSL-SVEU-Stack-01	742	183	113	41

Table 6B. 2009 Total Mass Removed – Monthly

Date	Location	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
Jan-09	MIPSL-SVEU-Stack-01	619	190	129	46
Feb-09	MIPSL-SVEU-Stack-01	672	202	86	6
Mar-09	MIPSL-SVEU-Stack-01	744	198	79	27
Apr-09	MIPSL-SVEU-Stack-01 & 13	262	162	23	8
May-09	MIPSL-SVEU-Stack-13 & 12	460	145	14	0.4
Jun-09	MIPSL-SVEU-Stack-12 & 11	428	135	10	0.3
Jul-09	MIPSL-SVEU-Stack-11 & 01	715	140	28	7
Aug-09	MIPSL-SVEU-Stack-01	743	161	96	30
Sep-09	MIPSL-SVEU-Stack-01	720	160	84	26
Oct-09	MIPSL-SVEU-Stack-01	744	159	97	29
Nov-09	MIPSL-SVEU-Stack-01	699	158	86	25
Dec-09	MIPSL-SVEU-Stack-01	470	169	62	20

Table 6C. 2010 Total Mass Removed – Monthly

Date	Location	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
Jan-10	MIPSL-SVEU-Stack-13	12	86	0.02	0
Feb-10	MIPSL-SVEU-Stack-01	390	172	65	8
Mar-10	MIPSL-SVEU-Stack-01	698	170	72	27
Apr-10	MIPSL-SVEU-Stack-01	659	170	61	20
May-10	MIPSL-SVEU-Stack-01	622	174	48	13
Jun-10	MIPSL-SVEU-Stack-01	717	155	68	18
Jul-10	MIPSL-SVEU-Stack-01	742	150	70	18
Aug-10	MIPSL-SVEU-Stack-01	630	148	56	15
Sep-10	MIPSL-SVEU-Stack-01	720	152	66	17
Oct-10	MIPSL-SVEU-Stack-01	623	175	51	18
Nov-10	MIPSL-SVEU-Stack-01	686	178	62	21
Dec-10	MIPSL-SVEU-Stack-01	620	161	48	14

Table 6D. 2011 Total Mass Removed – Monthly

Date	Location	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
Jan-11	MIPSL-SVEU-Stack-01	563.5	160	43.92	12.39
Feb-11	MIPSL-SVEU-Stack-01	595.2	159	41.91	10.36
Mar-11	MIPSL-SVEU-Stack-01	719.9	163	43.88	12.28
Apr-11	MIPSL-SVEU-Stack-01	655.3	157	46.46	13.38
May-11	MIPSL-SVEU-Stack-01	23	171	1.65	0.51
Jun-11	MIPSL-SVEU-Stack-01	696.5	159	24.06	6.99
Jul-11	MIPSL-SVEU-Stack-01	658.1	128	33.9	33.9
Aug-11	MIPSL-SVEU-Stack-01	14	122	0.66	0.19
Sep-11	MIPSL-SVEU-Stack-12	395.1	69	0.77	0.03
Oct-11	MIPSL-SVEU-Stack-12	666.3	47	2.61	0.07
Nov-11	MIPSL-SVEU-Stack-12	721.5	93	4.80	0.21
Dec-11	MIPSL-SVEU-Stack-12	647.3	65	3.83	0.13

Table 6E. 2012 Total Mass Removed – Monthly

Date	Location	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
Jan-12	MIPSL-SVEU-Stack-12	610.2	51	2.13	0.06
Feb-12	MIPSL-SVEU-Stack-12	687.5	46	1.70	0.06
Mar-12	MIPSL-SVEU-Stack-12	648	46	1.49	0.05
Apr-12	MIPSL-SVEU-Stack-01	608.5	58	36.25	6.14
May-12	MIPSL-SVEU-Stack-01	739.6	63	1.73	0.43
Jun-12	MIPSL-SVEU-Stack-01	717	58	24.44	6.11
Jul-12	MIPSL-SVEU-Stack-01	743.5	52	21.21	5.12
Aug-12	MIPSL-SVEU-Stack-01	430	54	12.84	2.92
Sep-12	MIPSL-SVEU-Stack-01	715.8	54	21.61	4.74
Oct-12	MIPSL-SVEU-Stack-01	689.5	54	21.24	4.68
Nov-12	MIPSL-SVEU-Stack-01	185.2	58	9.92	2.07
Dec-12	MIPSL-SVEU-Stack-01	740.1	52	21.65	3.95

Table 6F. 2013 Total Mass Removed – Monthly

Date	Location	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
Jan-13	MIPSL-SVEU-Stack-01	628	56	12	2
Feb-13	MIPSL-SVEU-Stack-01	472	56	2	0.5
Mar-13	MIPSL-SVEU-Stack-01	737	48	23	3
Apr-13	MIPSL-SVEU-Stack-01	718	104	43	8
May-13	MIPSL-SVEU-Stack-01	23	100	1	0.2
Jun-13	MIPSL-SVEU-Stack-01	0	0	0	0
Jul-13	MIPSL-SVEU-Stack-01	735	102	26	4
Aug-13	MIPSL-SVEU-Stack-01	744	105	51	7
Sep-13	MIPSL-SVEU-Stack-01	57	103	3	0.5
Oct-13	MIPSL-SVEU-Stack-01	0	0	0	0
Nov-13	MIPSL-SVEU-Stack-01	668	102	3	0.3
Dec-13	MIPSL-SVEU-Stack-01	743	107	40	6

Table 6G. 2014 Total Mass Removed – Monthly

Date	Location	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
Jan-14	MIPSL-SVEU-Stack-01	247	102	7	1
Feb-14	MIPSL-SVEU-Stack-01, 11, 12 & 13	170	103	0.7	0.2
Mar-14	MIPSL-SVEU-Stack-13 & 01	626	100	45	7
Apr-14	MIPSL-SVEU-Stack-12	305	100	1	0.1
May-14	MIPSL-SVEU-Stack-12	217	107	2	0.1
Jun-14	MIPSL-SVEU-Stack-12	240	107	2	0.1
Jul-14	MIPSL-SVEU-Stack-01	702	103	3	0.3
Aug-14	MIPSL-SVEU-Stack-01	696	100	45	7
Sep-14	MIPSL-SVEU-Stack-01	697	101	43	7
Oct-14	MIPSL-SVEU-Stack-01	742	101	38	8
Nov-14	MIPSL-SVEU-Stack-01	150	103	6	1
Dec-14	MIPSL-SVEU-Stack-01	611	102	28	6

Table 6H. 2015 Total Mass Removed – Monthly

Date	Location	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
Jan-15	MIPSL-SVEU-Stack-01	163	100	7	2
Feb-15	MIPSL-SVEU-Stack-01	0	N/A	0	0
Mar-15	MIPSL-SVEU-Stack-01	168	101	7	2
Apr-15	MIPSL-SVEU-Stack-01	718	103	31	7
May-15	MIPSL-SVEU-Stack-01	597	102	26	5
Jun-15	MIPSL-SVEU-Stack-01	720	105	30	6
Jul-15	MIPSL-SVEU-Stack-01	744	100	28	6
Aug-15	MIPSL-SVEU-Stack-01	744	100	30	6
Sep-15	MIPSL-SVEU-Stack-01	718	100	26	6
Oct-15	MIPSL-SVEU-Stack-01	739	101	24	6
Nov-15	MIPSL-SVEU-Stack-01	669	100	22	5
Dec-15	MIPSL-SVEU-Stack-01	541	100	19	5

Table 6I. 2016 Total Mass Removed – Monthly

Date	Location	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
Jan-16	MIPSL-SVEU-Stack-01	429	99	14	4
Feb-16	MIPSL-SVEU-Stack-01	16	100	1	0
Mar-16	MIPSL-SVEU-Stack-01	743	101	29	7
Apr-16	MIPSL-SVEU-Stack-01	651	100	21	5
May-16	MIPSL-SVEU-Stack-01	570	100	22	5
Jun-16	MIPSL-SVEU-Stack-01	717	99	26	6
Jul-16	MIPSL-SVEU-Stack-01	744	100	28	7
Aug-16	MIPSL-SVEU-Stack-01	644	100	23	6
Sep-16	MIPSL-SVEU-Stack-01	720	102	27	7
Oct-16	MIPSL-SVEU-Stack-01	741	101	23	6
Nov-16	MIPSL-SVEU-Stack-01	243	101	8	2
Dec-16	MIPSL-SVEU-Stack-01	740	100	30	7

Table 6J. 2017 Total Mass Removed – Monthly

Date	Location	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
Jan-17	MIPSL-SVEU-Stack-01	740	100	25	7
Feb-17	MIPSL-SVEU-Stack-01	672	100	25	6
Mar-17	MIPSL-SVEU-Stack-01	742	100	29	7
Apr-17	MIPSL-SVEU-Stack-01	478	100	16	4
May-17	MIPSL-SVEU-Stack-01	744	99	26	7
Jun-17	MIPSL-SVEU-Stack-01	720	100	27	8
Jul-17	MIPSL-SVEU-Stack-01	744	101	27	7
Aug-17	MIPSL-SVEU-Stack-01	691	100	29	8
Sep-17	MIPSL-SVEU-Stack-01	673	100	27	8
Oct-17	MIPSL-SVEU-Stack-01	742	100	25	7
Nov-17	MIPSL-SVEU-Stack-01	718	102	28	8
Dec-17	MIPSL-SVEU-Stack-01	743	100	26	6

Table 6K. 2018 Total Mass Removed – Monthly

Date	Location	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
Jan-18	MIPSL-SVEU-Stack-01	706	100	26	7
Feb-18	MIPSL-SVEU-Stack-01	669	102	25	7
Mar-18	MIPSL-SVEU-Stack-01	333	100	13	3
Apr-18	MIPSL-SVEU-Stack-01	644	100	24	7
May-18	MIPSL-SVEU-Stack-01	744	100	27	7
Jun-18	MIPSL-SVEU-Stack-01	261	100	7	2
Jul-18	MIPSL-SVEU-Stack-01	696	100	27	8
Aug-18	MIPSL-SVEU-Stack-01	744	100	34	9
Sep-18	MIPSL-SVEU-Stack-01	718	100	25	7
Oct-18	MIPSL-SVEU-Stack-01	742	103	29	7
Nov-18	MIPSL-SVEU-Stack-01	720	101	30	9
Dec-18	MIPSL-SVEU-Stack-01	744	102	25	7

Table 6L. 2008 Through 2018 Total Cumulative Mass Removed – Annual

Date	Location	Hours	PCE *(lb)*	TCE *(lb)*
2008	Stacks 1, 11, 12 & 13	6,035	774	172
2009	Stacks 1, 11, 12 & 13	7,274	794	225
2010	Stack 1*****	7,119	667	188
2011	Stacks 1 &12	6,356	248	90
2012	Stacks 1&12	7,908	176	36
2013	Stack 1	5,526	206	32
2014	Stacks 1, 11, 12 & 13	5,403	220	38
2015	Stack 1	6,520	250	56
2016	Stack 1	6,958	252	62
2017	Stack 1	8,407	310	83
2018	Stack 1	7,720	295	79
Total	**Stacks 1, 11, 12 & 13**	**75,226**	**4,192**	**1,061**

***** Also operated at Stack 13 for 12 hours only.

Table 7A. 2008 Total Mass Removed from Manhole Locations – Monthly

Location	Date	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
MIPSL-SVEU-Stack-01	Feb-08	144	49	11	0.1
(MH-01 Location)	Mar-08	497	52	76	3
	Apr-08	287	54	19	1
	Aug-08	232	204	157	25
	Sep-08	504	115	118	24
	Oct-08	684	155	125	37
	Nov-08	720	175	108	36
	Dec-08	742	183	113	41
MIPSL-SVEU-Stack-11	Jan-08	232	36	0.7	0.0
(MH-11 Location)	Feb-08	86	50	0.0	0.0
	Jul-08	9	6	0.0	0.0
	Aug-08	108	149	0.2	0.2
MIPSL-SVEU-Stack-12	Jan-08	222	60	12	0.4
(MH-12 Location)	May-08	57	42	0.2	0.0
	Jun-08	595	144	25	0.9
	Jul-08	398	107	6	0.2
MIPSL-SVEU-Stack-13	Apr-08	181	81	0.6	3
(MH-13 Location)	May-08	268	90	0.9	0.6

Table 7B. 2009 Total Mass Removed from Manhole Locations – Monthly

Location	Date	Hours Operated	Average Flow Rate *(cfm)*	PCE *(lb)*	TCE *(lb)*
MIPSL-SVEU-Stack-01	Jan-09	619	190	129	46
(MH-01 Location)	Feb-09	672	202	86	6
	Mar-09	744	198	79	27
	Apr-09	68	162	23	8
	Jul-09	543	140	28	7
	Aug-09	743	161	96	30
	Sep-09	720	160	84	26
	Oct-09	744	159	97	29
	Nov-09	698	158	86	25
	Dec-09	470	169	62	20
MIPSL-SVEU-Stack-11	Jun-09	134	135	0	0
(MH-11 Location)	Jul-09	172	140	0	0
MIPSL-SVEU-Stack-12	May-09	275	145	13	0
(MH-12 Location)	Jun-09	291	135	10	0
MIPSL-SVEU-Stack-13	Apr-09	194	162	0	0
(MH-13 Location)	May-09	184	145	1	0

Table 7C. 2010 Total Mass Removed from Manhole Locations – Monthly

Location	Date	Hours Operated	Average Flow Rate *(cfm)*	PCE *(lb)*	TCE *(lb)*
MIPSL-SVEU-Stack-01	Jan-10	390	172	65	8
(MH-01 Location)	Feb-10	698	170	72	27
	Mar-10	659	170	61	20
	Apr-10	622	174	48	13
	Jul-10	717	155	68	18
	Aug-10	742	150	70	18
	Sep-10	630	148	56	15
	Oct-10	720	152	66	17
	Nov-10	623	175	51	18
	Dec-10	686	178	62	21
MIPSL-SVEU-Stack-13	Jan-10	12	86	0.02	0
(MH-13 Location)					

Table 7D. 2011 Total Mass Removed from Manhole Locations – Monthly

Location	Date	Hours Operated	Average Flow Rate *(cfm)*	PCE *(lb)*	TCE *(lb)*
MIPSL-SVEU-Stack-01	Jan-11	564	160	44	12
(MH-01 Location)	Feb-11	595	159	42	10
	Mar-11	720	163	44	12
	Apr-11	655	157	46	13
	May-11	23	171	1.6	0.5
	Jun-11	697	159	24	7
	Jul-11	658	128	34	34
	Aug-11	14	122	0.7	0.2
MIPSL-SVEU-Stack-12	Sep-11	395	69	1	0.03
(MH-12 Location)	Oct-11	666	47	3	0.07
	Nov-11	721	93	3	0.21
	Dec-11	647	65	4	0.13

Table 7E. 2012 Total Mass Removed from Manhole Locations – Monthly

Location	Date	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
MIPSL-SVEU-Stack-12	Jan-12	610.2	51	2.13	0.06
MIPSL-SVEU-Stack-12	Feb-12	687.5	46	1.70	0.06
MIPSL-SVEU-Stack-12	Mar-12	648	46	1.49	0.05
MIPSL-SVEU-Stack-01	Apr-12	608.5	58	36.25	6.14
MIPSL-SVEU-Stack-01	May-12	739.6	63	1.73	0.43
MIPSL-SVEU-Stack-01	Jun-12	7.1.4	58	24.44	6.11
MIPSL-SVEU-Stack-01	Jul-12	743.5	52	21.21	5.12
MIPSL-SVEU-Stack-01	Aug-12	430	54	12.84	2.92
MIPSL-SVEU-Stack-01	Sep-12	715.8	54	21.61	4.74
MIPSL-SVEU-Stack-01	Oct-12	689.5	54	21.24	4.68
MIPSL-SVEU-Stack-01	Nov-12	185.2	58	9.92	2.07
MIPSL-SVEU-Stack-01	Dec-12	740.1	52	21.65	3.95

Table 7F. 2013 Total Mass Removed from Manhole Locations – Monthly

Date	Location	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
Jan-13	MIPSL-SVEU-Stack-01	628	56	12	2
Feb-13	MIPSL-SVEU-Stack-01	472	56	2	0.5
Mar-13	MIPSL-SVEU-Stack-01	737	48	23	3
Apr-13	MIPSL-SVEU-Stack-01	718	104	43	8
May-13	MIPSL-SVEU-Stack-01	23	100	1	0.2
Jun-13	MIPSL-SVEU-Stack-01	0	0	0	0
Jul-13	MIPSL-SVEU-Stack-01	735	102	26	4
Aug-13	MIPSL-SVEU-Stack-01	744	105	51	7
Sep-13	MIPSL-SVEU-Stack-01	57	103	3	0.5
Oct-13	MIPSL-SVEU-Stack-01	0	0	0	0
Nov-13	MIPSL-SVEU-Stack-01	668	102	3	0.3
Dec-13	MIPSL-SVEU-Stack-01	743	107	40	6

Table 7G. 2014 Total Mass Removed from Manhole Locations – Monthly

Date	Location	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
Jan-14	MIPSL-SVEU-Stack-01	247	102	7	1
Feb-14	MIPSL-SVEU-Stack-01	14	103	0.4	0.1
Mar-14	MIPSL-SVEU-Stack-01	602	100	45	7
Jul-14	MIPSL-SVEU-Stack-01	702	103	3	0.3
Aug-14	MIPSL-SVEU-Stack-01	696	100	45	7
Sep-14	MIPSL-SVEU-Stack-01	697	101	43	7
Oct-14	MIPSL-SVEU-Stack-01	742	101	38	8
Nov-14	MIPSL-SVEU-Stack-01	150	103	6	1
Dec-14	MIPSL-SVEU-Stack-01	611	102	28	6
Feb-14	MIPSL-SVEU-Stack-11	48	43	0	0
Feb-14	MIPSL-SVEU-Stack-12	60	107	0.3	0
Apr-14	MIPSL-SVEU-Stack-12	305	100	1	0.1
May-14	MIPSL-SVEU-Stack-12	217	107	2	0.1
Jun-14	MIPSL-SVEU-Stack-12	240	107	2	0.1
Feb-14	MIPSL-SVEU-Stack-13	48	13	0	0
Mar-14	MIPSL-SVEU-Stack-13	24	13	0	0

Table 7H. 2015 Total Mass Removed from Manhole Locations – Monthly

Date	Location	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
Jan-15	MIPSL-SVEU-Stack-01	163	100	7	2
Feb-15	MIPSL-SVEU-Stack-01	0	N/A	0	0
Mar-15	MIPSL-SVEU-Stack-01	168	101	7	2
Apr-15	MIPSL-SVEU-Stack-01	718	103	31	7
May-15	MIPSL-SVEU-Stack-01	597	102	26	5
Jun-15	MIPSL-SVEU-Stack-01	720	105	30	6
Jul-15	MIPSL-SVEU-Stack-01	744	100	28	6
Aug-15	MIPSL-SVEU-Stack-01	744	100	30	6
Sep-15	MIPSL-SVEU-Stack-01	718	100	26	6
Oct-15	MIPSL-SVEU-Stack-01	739	101	24	6
Nov-15	MIPSL-SVEU-Stack-01	669	100	22	5
Dec-15	MIPSL-SVEU-Stack-01	541	100	19	5

Table 7I. 2016 Total Mass Removed from Manhole Locations – Monthly

Date	Location	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
Jan-16	MIPSL-SVEU-Stack-01	429	99	14	4
Feb-16	MIPSL-SVEU-Stack-01	16	100	1	0
Mar-16	MIPSL-SVEU-Stack-01	743	101	29	7
Apr-16	MIPSL-SVEU-Stack-01	651	100	21	5
May-16	MIPSL-SVEU-Stack-01	570	100	22	5
Jun-16	MIPSL-SVEU-Stack-01	717	99	26	6
Jul-16	MIPSL-SVEU-Stack-01	744	100	28	7
Aug-16	MIPSL-SVEU-Stack-01	644	100	23	6
Sep-16	MIPSL-SVEU-Stack-01	720	102	27	7
Oct-16	MIPSL-SVEU-Stack-01	741	101	23	6
Nov-16	MIPSL-SVEU-Stack-01	243	101	8	2
Dec-16	MIPSL-SVEU-Stack-01	740	100	30	7

Table 7J. 2017 Total Mass Removed from Manhole Locations – Monthly

Date	Location	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
Jan-17	MIPSL-SVEU-Stack-01	740	100	25	7
Feb-17	MIPSL-SVEU-Stack-01	672	100	25	6
Mar-17	MIPSL-SVEU-Stack-01	742	100	29	7
Apr-17	MIPSL-SVEU-Stack-01	478	100	16	4
May-17	MIPSL-SVEU-Stack-01	744	99	26	7
Jun-17	MIPSL-SVEU-Stack-01	720	100	27	8
Jul-17	MIPSL-SVEU-Stack-01	744	101	27	7
Aug-17	MIPSL-SVEU-Stack-01	691	100	29	8
Sep-17	MIPSL-SVEU-Stack-01	673	100	27	8
Oct-17	MIPSL-SVEU-Stack-01	742	100	25	7
Nov-17	MIPSL-SVEU-Stack-01	718	102	28	8
Dec-17	MIPSL-SVEU-Stack-01	743	100	26	6

Table 7K. 2018 Total Mass Removed from Manhole Locations – Monthly

Date	Location	Hours Operated	Flow *(cfm)*	PCE *(lb)*	TCE *(lb)*
Jan-18	MIPSL-SVEU-Stack-01	706	100	26	7
Feb-18	MIPSL-SVEU-Stack-01	669	102	25	7
Mar-18	MIPSL-SVEU-Stack-01	333	100	13	3
Apr-18	MIPSL-SVEU-Stack-01	644	100	24	7
May-18	MIPSL-SVEU-Stack-01	744	100	27	7
Jun-18	MIPSL-SVEU-Stack-01	261	100	7	2
Jul-18	MIPSL-SVEU-Stack-01	696	100	27	8
Aug-18	MIPSL-SVEU-Stack-01	744	100	34	9
Sep-18	MIPSL-SVEU-Stack-01	718	100	25	7
Oct-18	MIPSL-SVEU-Stack-01	742	103	29	7
Nov-18	MIPSL-SVEU-Stack-01	720	101	30	9
Dec-18	MIPSL-SVEU-Stack-01	744	102	25	7

Table 7L. 2008 Through 2018 Total Cumulative Mass Removed from Manhole Locations – Annual

Location	2008		2009		2010		2011		2012		2013	
	PCE	TCE	PCE	TCE	PCE	TCE	PCE	TCE	PCE	TCE	PCE	TCE
MIPSL-SVEU-Stack-01 (MH-01 Location)	728	167	770	224	667	188	236	90	171	35.8	206	32
MIPSL-SVEU-Stack-11 (MH-11 Location)	1	0	0	0	0	0	0	0	0	0	0	0
MIPSL-SVEU-Stack-12 (MH-12 Location)	43	2	23	1	0	0	12	0.4	5	0.2	0	0
MIPSL-SVEU-Stack-13 (MH-13 Location)	2	3	1	0	0	0	0	0	0	0	0	0
Total Pounds	**774**	**172**	**794**	**225**	**667**	**188**	**248**	**90**	**176**	**36**	**206**	**32**

Location	2014		2015		2016		2017		2018		TOTAL	
	PCE	TCE	PCE	TCE	PCE	TCE	PCE	TCE	PCE	TCE	PCE	TCE
MIPSL-SVEU-Stack-01 (MH-01 Location)	215	37.4	250	56	252	62	310	83	295	79	**4,100**	**1,054**
MIPSL-SVEU-Stack-11 (MH-11 Location)	0	0	0	0	0	0	0	0	0	0	**1**	**0**
MIPSL-SVEU-Stack-12 (MH-12 Location)	5	0.3	0	0	0	0	0	0	0	0	**88**	**4**
MIPSL-SVEU-Stack-13 (MH-13 Location)	0	0	0	0	0	0	0	0	0	0	**3**	**3**
Total Pounds	**220**	**38**	**250**	**56**	**252**	**62**	**310**	**83**	**295**	**79**	**4,192**	**1,061**

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