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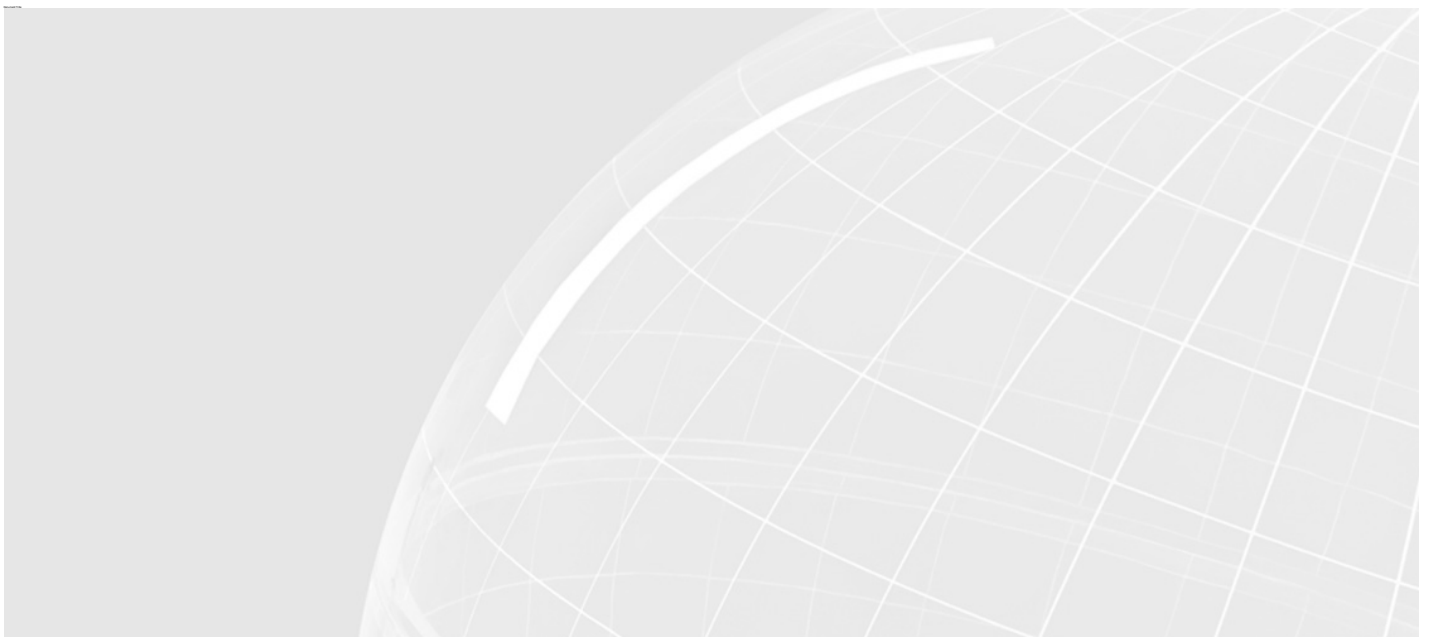
SFPP Norwalk Pump Station Norwalk, California

First Quarter 2020 Remediation Progress Report

Final

April 15, 2020

Kinder Morgan, Inc.



SFPP Norwalk Pump Station, Norwalk, California

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The material and data presented in this report were prepared consistent with current and generally accepted consulting principles and practices. This work was supervised by the following Jacobs licensed professional.



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April 15, 2020
Date

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Acronyms and Abbreviations

µg/L	microgram(s) per liter
1,2-DCA	1,2-dichloroethane
ASTM	ASTM International
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and total xylenes
CH2M	CH2M HILL, now part of Jacobs Engineering Group Inc.
DFSP	Defense Fuel Support Point
DTSC	Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
GWE	groundwater extraction
GWTS	groundwater treatment system
HDPE	high-density polyethylene
Jacobs	Jacobs Engineering Group Inc.
Kinder Morgan	Kinder Morgan, Inc.
LGAC	liquid-phase granular activated carbon
LNAPL	light nonaqueous phase liquid
MTBE	methyl tertiary butyl ether
No.	number
NSZD	natural source zone depletion
O&M	operation and maintenance
OWS	oil-water separator
PID	photoionization detector
PVC	polyvinyl chloride
RTO	regenerative thermal oxidizer
scfm	standard cubic feet per minute
SFPP	SFPP, L.P., an operating partnership of Kinder Morgan, Inc.
SVE	soil vapor extraction
TBA	tertiary butyl alcohol
TFE	total fluids extraction
TPH	total petroleum hydrocarbons
TPH-d	total petroleum hydrocarbons quantified as diesel
TPH-g	total petroleum hydrocarbons quantified as gasoline
TPH-o	total petroleum hydrocarbons quantified as oil
TPH-total	total petroleum hydrocarbons quantified as gasoline, diesel, and oil
VFD	variable frequency drive
VOC	volatile organic compound
Water Board	California Regional Water Quality Control Board, Los Angeles Region
WSB	West Side Barrier

1. Introduction

This report summarizes remediation activities performed at the SFPP, L.P. (SFPP) Norwalk Pump Station located within the Defense Fuel Support Point (DFSP) Norwalk, at 15306 Norwalk Boulevard, Norwalk, California (the site; Figure 1) during the first quarter 2020 reporting period.

This progress report is submitted pursuant to a request from the California Regional Water Quality Control Board, Los Angeles Region (Water Board) in its letter dated October 25, 2006 (Water Board, 2006). Additional site background information can be found in the report titled, *Conceptual Site Model and Proposed Alternate Interim Remedy for Soil, Groundwater, and LNAPL* (CH2M¹, 2013), and in previously submitted semiannual groundwater monitoring reports.

This report summarizes the remediation systems present at the site and describes remediation activities for the period of January through March 2020 with documentation of the following tasks:

- Operation and maintenance (O&M) of remediation systems performed by Kinder Morgan, Inc. (Kinder Morgan) field personnel and outside subcontractors
- Remediation system evaluation
- Expansion of the soil vapor extraction (SVE) remediation system performed by Jacobs personnel and an outside subcontractor

The remediation activities performed from January through March 2020 and the progress achieved through those activities are summarized in the following sections.

¹ CH2M HILL (CH2M) is now part of Jacobs Engineering Group Inc. (Jacobs).

2. Remediation Systems

Kinder Morgan operates remediation systems consisting of SVE, total fluids extraction (TFE; extraction of free product and/or groundwater using a top-loading pump), groundwater extraction (GWE; extraction of groundwater using a bottom-loading pump), and treatment of extracted soil vapors and groundwater to address the south-central and southeastern areas of the site. Biosparging is also employed in the south-central area to enhance natural attenuation of hydrocarbon constituents.

Operation of the West Side Barrier (WSB) GWE system for remediation of the western offsite area was discontinued in August 2008 based on the reduced lateral extent and low concentrations of volatile organic compounds (VOCs) west of the site.

The objectives of the remediation systems are to contain and control the migration of hydrocarbon constituents in groundwater and soil vapor, and to remove hydrocarbon mass from soil and groundwater. The remediation systems include the following wells:

- South-central area
 - 20 TFE wells
 - 24 onsite and 6 offsite SVE wells (most collocated with TFE wells)
 - 2 horizontal biosparge wells (one not yet operative)
 - 1 horizontal SVE well (not yet operative)
- Southeastern area (24-inch block valve area)
 - 4 TFE wells (GM W-O-15, GMW-O-18, GMW-36, and GMW-SF-9)
 - 9 SVE wells (3 collocated with TFE wells)
 - 1 GWE well (GMW-SF-10)

A summary of remediation wells in the south-central, southeastern, and WSB areas is presented in Table 1. Table 1 includes well identifications, well construction details, well function, and operational status at the end of the first quarter 2020. The remediation system layout is shown on Figure 2. A brief description of each system is provided in Sections 2.1 through 2.3.

Kinder Morgan currently operates three refined fuel pipelines (two 16-inch and one 24-inch) that traverse the southern border of the site. These pipelines previously supplied fuel products to the former tank farm, and various block valves and other connection points were identified as potential sources of subsurface releases in the south-central and southeastern areas of the site. Between the third quarter of 2016 and the second quarter of 2017, the pipelines were modified to remove all valves and connections so that the pipelines now span across the site in a continuous manner, reducing the potential for future releases that could have occurred at those connection points.

2.1 Soil Vapor Extraction System

SVE is performed using a blower to remove soil vapors from the south-central and southeastern areas of the site. The extracted vapors are conveyed to a knock-out tank that separates entrained moisture from the soil vapors. Accumulated moisture in the knock-out tank is treated by the main groundwater treatment system (GWTS) described in Section 2.3. The soil vapors are then treated in a regenerative thermal oxidizer (RTO) where VOCs are converted to carbon dioxide and water prior to being discharged to the atmosphere. Operation of the GWTS and SVE system is conducted in accordance with Permits to Operate (Permit Number [No.] G46188 A/N 578779 and No. G46187 A/N 578777) issued by the South Coast Air Quality Management District.

From March 7 through 8, 2019, three new SVE wells (VEW-3, VEW-4, and VEW-5) were installed in the southeastern area for connection to the SVE system. This was the first step taken to enhance the capture zone coverage of the SVE system in the southeastern area of the site.

From September 30 through November 19, 2019, Jacobs and an outside subcontractor expanded the SVE system to enhance the capture zone coverage in the southeastern area of the site. To minimize vacuum leakage, decrease friction, and increase the volume of air that passes through the conveyance line, a new dedicated 6-inch high-density polyethylene (HDPE) header was installed from the southeastern area wellfield to the RTO influent. The HDPE header connects new and converted SVE wells to the SVE system and replaces the previous connections of dual TFE/SVE wells to the RTO. The well network affected as part of this expansion includes the three new SVE wells (VEW-3, VEW-4, and VEW-5) installed in March 2019, three groundwater monitoring wells (GMW-O-16, GMW-O-19, and MW-8) converted to SVE wells, and three upgraded dual TFE/SVE wells (GMW-O-15, GMW-O-18, and GMW-36). The upgrades to the SVE system were approved by the City of Norwalk on September 16, 2019, and Building Permit No. 19070024 was issued to the outside subcontractor. During construction, field conditions (previously unidentified underground utilities) required Jacobs and the outside subcontractor to implement minor changes to the design. The City of Norwalk was notified prior to implementing these changes. Underground utilities encountered during construction also necessitated minor deviations in the trench line for the underground vapor conveyance line and in the placement of the easternmost drip leg (i.e., the drip leg that serves as the transition between the HDPE header and the underground polyvinyl chloride [PVC] vapor conveyance line). Since the easternmost drip leg was moved off the southeast fence line and positioned near the right-of-way, the outside subcontractor installed traffic bollards adjacent to the drip leg as a traffic control measure.

On February 14 and 20, 2020, Jacobs conducted field testing to evaluate the capture zone of the expanded southeastern SVE system. Specifically, soil hydraulic properties tests (single-well extraction) were performed at the nine SVE wells (GMW-36, GMW-O-15, GMW-O-18, GMW-O-16, GMW-O-19, MW-8, VEW-3, VEW-4, and VEW-5) that comprise the expanded southeastern SVE system. The results of the evaluation indicated an average capture zone of 90 feet at each SVE well, which compares favorably to the baseline (pre-expansion) capture zone of 56 feet measured at each SVE well in 2018. Additional details about these capture zone studies are provided in Appendix A.

2.2 Horizontal Biosparge System

In December 2015, Kinder Morgan completed installation of a horizontal biosparge system in the south-central area of the site, which consists of a horizontal well and a 500-standard-cubic-foot-per-minute (scfm) compressor. To reduce the potential for off-gassing of VOCs during biosparging, the SVE system has an interlock that will not allow the biosparge to operate without the SVE system running. The biosparge well is constructed of 4-inch-diameter Schedule 80 PVC casing and screen completed to a vertical depth of approximately 45 feet below ground surface (bgs). The lateral distance of the screen interval is 600 feet centered below the central portion of the south-central area hydrocarbon plume. Further details regarding the construction of the biosparge well are documented in the report titled *Horizontal Biosparge Well and Soil Vapor Monitoring Probe Completion Report* (CH2M, 2015).

Pilot testing of the biosparge system commenced in early January 2016 and continued through October 2016. A comprehensive evaluation report that incorporates soil vapor and groundwater data was submitted to the Water Board in August 2017 (CH2M, 2017). Based on the favorable results of the pilot study, a second horizontal biosparge well was installed in the southeastern area of the site in November 2017. The design of the second biosparge well is similar to the south-central biosparge well, consisting of 4-inch-diameter Schedule 80 PVC casing and screen completed to a vertical depth of approximately 45 feet bgs. The lateral distance of the screen interval is 240 feet centered below the southeastern area hydrocarbon plume. A construction completion report documenting construction activities and specifications was submitted on July 12, 2018 (Jacobs, 2018). The 500-scfm sparge compressor was turned off temporarily and a new air sparge compressor (883 scfm) was installed in the fourth quarter 2018 to deliver ambient air to both the south-central and southeastern sparge wells.

The 500-scfm and 883-scfm compressors are appropriately sized to deliver ambient air to both the south-central and southeastern sparge wells, and to allow for future system expansion.

Construction of a third horizontal biosparge well (BS-03) in conjunction with a new horizontal SVE well (HSVE-01) commenced in December 2019. Both wells were installed in the offsite south-central area. Construction was completed in January 2020. The biosparge well is constructed of 4-inch-diameter, Schedule 80 PVC casing and screen, completed to a depth of approximately 45 feet bgs for a total length of approximately 770 feet. The total length of the biosparge well screen is approximately 500 feet, centered below the offsite south-central area hydrocarbon plume. The horizontal SVE well is constructed of 6-inch-diameter Schedule 10 stainless-steel casing and screen completed to a depth of approximately 20 feet bgs for a total length of approximately 745 feet. The lateral length of the screen is approximately 500 feet offset vertically and horizontally approximately 25 feet and 10 feet, respectively, from BS-03. A construction completion report documenting construction activities and specifications will be submitted to the Water Board under separate cover.

As discussed in Section 2.1, the SVE system in the southeastern area was upgraded to enhance the capture zone coverage required to match the zone of influence of the new biosparge well. This upgrade was necessary prior to initiating biosparging activities in this area of the site.

2.3 Groundwater Treatment System

The main GWTS processes free product and groundwater recovered from the south-central and southeastern parts of the site. Free product and groundwater recovered by pneumatically operated, top-loading total fluid pumps and bottom-loading groundwater pumps are piped to a dissolved air flotation unit (oil-water separator [OWS]). Free product, if any, from the OWS is collected in a storage tank and recycled at an offsite location. Water from the OWS is conveyed to a 300-gallon tank and then treated using liquid-phase granular activated carbon (LGAC) to remove hydrocarbons including benzene, toluene, ethylbenzene, and xylenes (BTEX). Treated water is routed through an onsite 3,000-gallon equalization tank. Two fluidized bed bioreactors installed downstream of the equalization tank treat fuel oxygenates such as tertiary butyl alcohol (TBA) and methyl tertiary butyl ether (MTBE). The treated groundwater then passes through polishing LGAC units prior to discharge to a storm drain that leads to Coyote Creek. Discharge to Coyote Creek is performed in accordance with a National Pollutant Discharge Elimination System permit (Permit No. CA0063509; Order No. R4-2016-0309).

3. Operations and Maintenance

During the first quarter 2020 reporting period, O&M of the remediation systems included the following tasks:

- Removed, inspected, and repaired existing TFE/GWE pumps and associated discharge lines.
- Operated the GWTS in recirculation mode during the entire first quarter 2020.
- Performed weekly bioreactor inspections and adjusted the MTBE dosing as needed.
- Replaced both carbon polishing vessels with new virgin carbon and carbon vessels.

The remediation systems operated intermittently during the first quarter 2020, due to the following:

- On February 13, 2020, the SVE system was restarted after the repaired temporary chart recorder was installed.
- The SVE system shut down on February 16, 2020, due to a process fan variable frequency drive (VFD) failure alarm. The fan was checked, alarm was reset, and the SVE system was restarted on February 18, 2020.
- The SVE system shut down on February 22, 2020, due to a human-machine interface (HMI) process VFD fault alarm. The VFD was maintained, alarm was reset, and the SVE system was restarted on February 23, 2020.
- On March 2, 2020, the SVE system shut down due to a VFD low power alarm. The backup chart recorder also malfunctioned and data between February 25 through March 2, 2020 was lost.
- The SVE system remained off through March 31, 2020.

During the first quarter 2020, the GWTS did not operate. The SVE system was operational approximately 15.7 percent. The biosparge system also remained off this quarter. Table 2 presents the SVE system operation summary. Photoionization detector (PID) measurements and analytical results for extracted vapor during the first quarter 2020 are summarized in Tables 3 and 4, respectively. The groundwater remediation system historical operation activities are summarized in Table 5. The monthly extracted groundwater analytical results are summarized in Table 6. Table 7 presents the biosparge system operation summary. Historical (post-2007) gauging results of select TFE and SVE wells are provided in Table 8. Pre-2007 data can be found in previous semiannual groundwater monitoring reports.

Vapor samples from the SVE system influent were collected on February 14 and March 1, 2020. No vapor samples were collected in January 2020, as the SVE system was off. The vapor samples were delivered to Air Technology Laboratories in City of Industry, California, for the following analyses:

- Fixed gases (methane, carbon dioxide, oxygen, and argon) using ASTM International (ASTM) D1946
- VOCs using U.S. Environmental Protection Agency (EPA) Method TO-15
- Total VOCs using EPA Method TO-3

The laboratory analytical reports and chain-of-custody documents for these samples are included in Appendix B.

4. Summary of Remediation Progress

Based on weekly monitoring of the influent vapor concentration, vapor extraction flow rate, and hours of operation, the total mass of VOCs removed by SVE was 422 pounds during the first quarter 2020. The decrease from last quarter is attributed to the SVE system being offline for the majority of this quarter. Total mass recovered by the SVE system has consistently decreased since the first quarter of 2016 (74,148 pounds of VOCs recovered), when biosparging in the south-central area was implemented (see Figure 3). The cumulative mass of VOCs removed since SVE was implemented in September 1995 is 3,577,852 pounds (Table 2). The cumulative mass removed by SVE does not include the mass removed by naturally occurring in situ biodegradation. Laboratory analytical data show that the influent VOC concentrations (BTEX and MTBE) have consistently decreased since biosparging started in 2016 (Table 4, Figure 4).

No groundwater was extracted during the first quarter 2020 (Table 5). Approximately 107.7 million gallons of groundwater has been extracted from the south-central, southeastern, and WSB areas since GWTS operations first began in 1996.

GWE was discontinued in the WSB region during the third quarter 2008 based on the reduced lateral extent and low concentrations of MTBE and 1,2-dichloroethane (1,2-DCA) west of the site. 1,2-DCA, MTBE, and TBA concentrations in the western area during the semiannual groundwater monitoring event conducted in April 2019 did not warrant restarting the WSB system.

Since 1995, a total of 14,426 gallons of product has been removed by TFE, vacuum truck, or manual bailing operations. The estimated mass removal (pounds) of hydrocarbons by the GWTS is shown in Table 5. Mass removal estimates between 1996 and 2005 are based on BTEX and MTBE concentrations in the groundwater influent (TPH data were not available) and total volume of extracted groundwater. Mass removal estimates between 2006 and 2011 are based on groundwater influent concentrations of TPH-g and TPH quantified as fuel product, and the total volume of extracted groundwater. Mass removal estimates between 2012 and the first quarter 2020 are based on groundwater influent TPH-total concentrations (TPH-total includes TPH-g, TPH-d, and TPH-o) and the total volume of extracted groundwater.

Since GWE first began in 1996, hydrocarbon mass removed by the GWTS is estimated to be 18,457 pounds. No hydrocarbon mass was removed during the first quarter 2020 (Table 5). Table 6 shows the extracted groundwater analytical results for the monthly samples collected through the fourth quarter 2019, no samples were collected in the first quarter 2020. Figure 5 includes a time series chart that shows this general decrease in dissolved-phase hydrocarbon concentrations in the extracted groundwater.

The biosparge system did not operate during the first quarter 2020 (Table 7). The biosparge system, in conjunction with the SVE and GWTS systems, is scheduled to be restarted after the natural source zone depletion (NSZD) baseline sampling in the second quarter 2020.

5. System Evaluation and Optimization

While operating, the SVE wells in the south-central areas were fully open to ensure maximum vapor extraction in those areas.

The following repairs and modifications were conducted during this reporting period:

- The RTO shut down on March 2, 2020, due to a VFD low power alarm. On March 12, 2020, a new auto process valve was installed and the RTO was restarted. The SVE operated normally.
- Two new effluent polishing vessels were installed on March 3, 2020, and backwashed on March 10, 2020.
- In December 2019, the (malfunctioning) chart recorder was shipped to Honeywell for warranty repairs. The repaired chart recorder was returned on March 26, 2020, and installed on March 31, 2020.

6. Planned Second Quarter 2020 Activities

During the second quarter 2020, Kinder Morgan plans to continue to focus remedial efforts on the south-central and southeastern areas of the site. The following maintenance and other activities are planned:

- Conduct one quarterly soil vapor monitoring event in conjunction with baseline NSZD sampling for all soil vapor probes in the south-central and southeastern areas.
- Restart the GWTS.
- Restart and continue to operate the SVE system.
- Restart and continue to operate the 883-scfm biosparge compressor and run the south-central horizontal biosparge wells using that compressor.
- Commence startup of the southeastern biosparge well, horizontal SVE well, and new SVE expansion wells.
- Optimize the southeastern SVE wells and conveyance system.
- Measure weekly VOC concentrations as hexane at the influent and effluent of the RTO system.
- Collect monthly vapor samples at the influent and effluent of the RTO system, and analyze the samples using EPA Methods TO-15 (VOCs), TO-3 (total VOCs as hexane), and ASTM D1946 (fixed gases).
- Continue weekly maintenance and monitoring of the south-central and southeastern SVE and TFE/GWE treatment systems, and the biosparge system.
- Measure quarterly individual well vapor concentrations with a PID at the manifold.
- Conduct monthly, quarterly, and annual National Pollutant Discharge Elimination System sampling events.
- Collect and analyze system influent vapor and groundwater samples.
- Perform as-needed carbon changeouts of the LGAC vessels.
- Remove, inspect, and repair existing TFE/GWE pumps and associated discharge lines.
- Install pumps and associated equipment necessary for TFE at select wells with measurable free product.
- Maintain the 2007 and 2008 air compressor monthly, as backup operation for both the SVE and GWTS pumps.

The TFE, GWE, and SVE systems for the south-central and southeastern areas will continue to operate. Operation of the TFE system in the southeastern area will be monitored closely and adjustments will be made to improve fluid recovery. The horizontal biosparge system will continue to operate at ideal air flow to decrease product thickness in the south-central area.

The remediation activities and progress for the second quarter 2020 will be described in the Second Quarter 2020 Remediation Progress Report, to be submitted by July 15, 2020.

7. References

California Regional Water Quality Control Board, Los Angeles Region (Water Board). 2006. Letter to Mr. Kola Olowu, Defense Energy Support Center, Los Angeles, and Mr. Michael Pitta, Kinder Morgan Energy Partners; Conditional Approval of Revised Remedial Action Plan and Second Addendum to Remedial Action Plan for the Defense Fuel Support Point Norwalk, 15306 Norwalk Boulevard, Norwalk (SLIC No. 0286A, DOD No. 16638). October 25.

CH2M HILL (CH2M). 2013. *Conceptual Site Model and Proposed Alternate Interim Remedy for Soil, Groundwater, and LNAPL*. September 3.

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CH2M HILL (CH2M). 2017. *Evaluation Report for the South-Central Area Horizontal Biosparge Pilot Test; SFPP Norwalk Pump Station, Norwalk, California*. August.

Jacobs Engineering Group Inc. (Jacobs). 2018. *Southeastern Horizontal Biosparge Well (BS-02) Completion Report; SFPP Norwalk Pump Station, 15306 Norwalk Boulevard, Norwalk, California*. July 12.

Tables

Table 1. Remediation Well Construction and Status

SFPP Norwalk Pump Station, Norwalk, California

Remediation Area	Remediation Well ID	Installation Date	Top of Well Casing Elevation	Well Screen Interval	Remediation Well Function	Well Operation Status During First Quarter 2020	
			(feet msl)	(feet bgs)		SVE/BS	TFE/GWE
South-Central	MW-SF-1	6/18/1990	78.93	25 - 40	SVE	ON	--
	MW-SF-2	6/18/1990	78.53	25 - 40	SVE; TFE	ON	OFF
	MW-SF-3	6/18/1990	78.12	25 - 40	SVE; TFE	ON	OFF
	MW-SF-4	6/19/1990	79.38	25 - 40	SVE	ON	--
	MW-SF-5	9/19/1990	79.74	23 - 38	SVE	ON	--
	MW-SF-6	9/19/1990	76.80	25 - 40	SVE; TFE	ON	OFF
	MW-SF-9	6/15/1995	74.10	--	SVE	ON	--
	MW-SF-10	9/23/2003	76.53	10 - 30	SVE	ON	--
	MW-SF-11	6/19/2007	78.56	20 - 40	SVE; TFE	ON	OFF
	MW-SF-12	6/18/2007	78.07	20 - 40	SVE; TFE	ON	OFF
	MW-SF-13	6/19/2007	73.40	20 - 40	SVE; TFE	ON	OFF
	MW-SF-14	6/21/2007	78.16	20 - 40	SVE; TFE	ON	OFF
	MW-SF-15	6/21/2007	78.27	20 - 40	SVE; TFE	ON	OFF
	MW-SF-16	6/20/2007	78.21	20 - 40	SVE; TFE	ON	OFF
	MW-SF-17	--	--	--	SVE	--	--
	GMW-9	7/8/1991	77.16	20 - 50	SVE; TFE	ON	OFF
	GMW-10	7/8/1991	N/A	25 - 50	SVE; TFE	ON	OFF
	GMW-22	8/2/1991	77.24	25 - 60	SVE; TFE	ON	OFF
	GMW-24	8/5/1991	77.48	25 - 60	SVE; TFE	ON	OFF
	GMW-25	1/10/1992	78.14	20 - 50	SVE; TFE	ON	OFF
	GWR-3	1/10/1992	77.60	20 - 50	SVE; TFE	ON	OFF
	VEW-1	09/19/90	--	5 - 25	SVE	ON	--
	VEW-2	09/19/90	--	5 - 25	SVE	ON	--
	MW-O-1	1/22/1991	75.48	25 - 40	SVE; TFE	ON	OFF
	MW-O-2	1/23/1991	71.90	25 - 40	SVE; TFE	ON	OFF
	GMW-O-11	5/20/1992	74.17	20 - 50	SVE; TFE	ON	OFF
	GMW-O-12	5/21/1992	73.49	20 - 50	SVE	ON	--
	GMW-O-20	6/15/1995	73.32	--	SVE; TFE	ON	OFF
	GMW-O-21	10/1/1997	71.43	26 - 46	TFE	--	OFF
	GMW-O-23	6/25/2007	73.63	20 - 40	SVE; TFE	ON	OFF
	MW-18 (MID)	6/10/1991	75.67	50 - 60	SVE	ON	--
	HW-1	09/06/92	--	--	SVE	ON	--
	HW-2	09/06/92	--	--	SVE	ON	--
HSVE-01	12/17/19	--	--	SVE	OFF	--	
BS-01	08/27/14	75.06	--	BIOSPARGE	ON	--	
BS-02	11/21/17	--	--	BIOSPARGE	OFF	--	
BS-03	Dec-19	--	--	BIOSPARGE	OFF	--	

Table 1. Remediation Well Construction and Status

SFPP Norwalk Pump Station, Norwalk, California

Remediation Area	Remediation Well ID	Installation Date	Top of Well Casing Elevation	Well Screen Interval	Remediation Well Function	Well Operation Status During First Quarter 2020	
			(feet msl)	(feet bgs)		SVE/BS	TFE/GWE
Southeastern	GMW-O-15	4/19/1994	74.23	20 - 50	SVE; TFE	OFF	OFF
	GMW-O-16	4/19/1994	74.10	20 - 50	SVE; TFE	OFF	--
	GMW-O-18	7/25/1994	74.36	21 - 40	SVE; TFE	OFF	OFF
	GMW-O-19	7/29/1994	74.46	20 - 40	SVE; TFE	OFF	--
	GMW-36	4/11/1994	76.66	20 - 50	SVE; TFE	OFF	OFF
	GMW-SF-9	4/1/2003	73.05	37 - 46	TFE	OFF	OFF
	GMW-SF-10	4/2/2003	75.77	37 - 46	TFE	OFF	OFF
	MW-8	8/24/1990	76.06	18 - 48	SVE	OFF	--
	VEW-3	3/7/2019	--	23 - 32.5	SVE	OFF	--
	VEW-4	3/8/2019	--	23 - 32.5	SVE	OFF	--
	VEW-5	3/8/2019	--	23 - 32.5	SVE	OFF	--
West Side Barrier	BW-2	5/20/1996	73.57	27 - 47	GWE	--	OFF
	BW-3	5/17/1996	74.16	31 - 50	GWE	--	OFF
	BW-4	5/20/1996	74.61	28 - 47	GWE	--	OFF
	BW-5	5/23/1996	73.59	27 - 46	GWE	--	OFF
	BW-6	5/22/1996	73.48	28 - 47	GWE	--	OFF
	BW-7	5/22/1996	74.65	27 - 46	GWE	--	OFF
	BW-8	5/21/1996	75.08	27 - 46	GWE	--	OFF
	BW-9	5/21/1996	76.19	27 - 46	GWE	--	OFF

Notes:

-- = information not available or not applicable

BS = biosparge

feet bgs = feet below ground surface

feet msl = feet above mean sea level based on the National Geodetic Vertical Datum of 1929

GWE = groundwater extraction

SVE = soil vapor extraction

HSVE = horizontal soil vapor extraction

TFE = total fluids extraction

Table 2. Vapor Remediation System Operation Summary

SFPP Norwalk Pump Station, Norwalk, California

System Inspection Date	Cumulative Hours of Operation (hours)	Incremental Hours of Operation (hours)	Influent PID Reading (ppmv as hexane)	System Flow (scfm)	Header Vacuum (in. H ₂ O)	Mass Removed (pounds) ^a
1995 Totals	1,240		--	--	--	281,065
1996 Totals	7,208	5,968	--	--	--	516,717
1997 Totals	12,865	5,657	--	--	--	489,526
1998 Totals	17,877	5,012	--	--	--	223,055
1999 Totals	23,600	5,723	--	--	--	390,836
2000 Totals	29,690	6,090	--	--	--	359,092
2001 Totals	33,671	3,981	--	--	--	224,091
2002 Totals	36,358	2,687	--	--	--	79,363
2003 Totals	39,676	3,319	--	--	--	64,671
2004 Totals	44,193	4,517	--	--	--	120,240
2005 Totals	49,750	5,557	--	--	--	212,175
2006 Totals	52,735	2,985	--	--	--	17,263
2007 Totals	58,319	2,058	--	--	--	7,378
2008 Totals	64,233	5,915	--	--	--	5,878
2009 Totals	68,858	4,625	--	--	--	9,387
2010 Totals	72,369	3,511	--	--	--	1,507
2011 Totals	77,489	5,120	--	--	--	14,629
2012 Totals	84,173	6,684	--	--	--	22,260
2013 Totals	90,414	6,241	--	--	--	90,880
2014 Totals	94,083	3,688	--	--	--	67,744
2015 Totals	98,408	4,325	--	--	--	122,706
2016 Totals	104,405	7,694	--	--	--	156,193
2017 Totals	108,262	3,857	--	--	--	42,194
2018 Totals	115,346	7,084	--	--	--	38,999
1/11/2019	115,360	14	84	1,543	50	20
1/15/2019	115,453	93	112	1,585	50	205
1/22/2019	115,626	173	198	1,465	50	634
1/29/2019	115,793	167	130	1,499	50	419
2/7/2019	115,997	204	96	1,451	50	357
2/12/2019	116,119	122	106	1,455	50	239
2/21/2019	116,120	1	98	1,491	50	1.8
2/28/2019	116,293	173	66	1,548	50	219
3/5/2019	116,404	111	104	1,419	50	221
3/12/2019	116,571	167	111	1,416	50	327
3/19/2019	116,738	167	88	1,448	50	258
3/26/2019	116,906	168	210	1,372	50	591
First Quarter 2019 Total	116,906	1,560	--	--	--	3,492

Table 2. Vapor Remediation System Operation Summary

SFPP Norwalk Pump Station, Norwalk, California

System Inspection Date	Cumulative Hours of Operation (hours)	Incremental Hours of Operation (hours)	Influent PID Reading (ppmv as hexane)	System Flow (scfm)	Header Vacuum (in. H ₂ O)	Mass Removed (pounds) ^a
4/2/2019	117,077	171	208	1,370	50	653
4/9/2019	117,242	165	226	1,483	50	593
4/25/2019	117,293	51	234	1,610	50	190
4/29/2019	117,385	92	254	1,508	50	371
5/7/2019	117,567	182	196	1,758	50	798
5/14/2019	117,733	166	180	1,438	50	523
5/21/2019	117,902	169	214	1,430	50	628
5/30/2019	118,116	214	198	1,404	50	777
6/4/2019	118,237	121	108	1,267	50	195
6/11/2019	118,404	167	118	1,343	50	341
6/18/2019	118,573	169	190	1,349	50	550
6/27/2019	118,770	197	205	1,405	50	668
Second Quarter 2019 Total	118,770	1,864	--	--	--	6,286
7/2/2019	118,891	121	212	1,400	50	455
7/9/2019	119,060	169	216	1,396	50	641
7/16/2019	119,225	165	119	1,340	50	332
7/23/2019	119,393	168	214	1,350	50	612
7/30/2019	119,562	169	186	1,397	50	552
8/6/2019	119,729	167	195	1,371	50	566
8/13/2019	119,899	170	210	1,381	50	627
8/22/2019	120,114	215	215	1,409	50	844
8/27/2019	120,214	100	185	1,405	50	338
9/3/2019	120,376	162	188	1,425	50	563
9/12/2019	120,591	215	172	1,350	50	639
9/17/2019	120,711	120	172	1,391	50	371
9/24/2019	120,879	168	182	1,132	50	444
Third Quarter 2019 Total	120,879	2,109	--	--	--	6,984

Table 2. Vapor Remediation System Operation Summary

SFPP Norwalk Pump Station, Norwalk, California

System Inspection Date	Cumulative Hours of Operation (hours)	Incremental Hours of Operation (hours)	Influent PID Reading (ppmv as hexane)	System Flow (scfm)	Header Vacuum (in. H ₂ O)	Mass Removed (pounds) ^a
10/1/2019	121,012	133	184	1,402	50	448
10/8/2019	121,179	167	196	1,433	50	606
10/15/2019	121,346	167	96	1,415	50	297
10/22/2019	121,513	167	126	1,421	50	391
10/29/2019	121,513	0	0	0	0	0
11/5/2019	121,513	0	50	1,597	50	0
11/7/2019	121,557	44	95	1,466	50	78
11/12/2019	121,675	118	74	1,633	50	183
11/19/2019	121,844	169	4	1,255	50	10
11/26/2019	122,010	166	204	1,320	50	585
12/9/2019	122,010	0	198	1,310	50	0
12/17/2019	122,200	190	36	1,529	50	100
12/26/2019	122,413	213	37	1,290	50	125
12/31/2019	122,413	0	--	0	0	0
Fourth Quarter 2019 Total	122,413	1,534	--	--	--	2,822
1/7/2020	122,413	0	--	0	0	0
1/14/2020	122,413	0	--	0	0	0
1/21/2020	122,413	0	--	0	0	0
2/4/2020	122,413	0	--	0	0	0
2/11/2020	122,413	0	--	0	0	0
2/13/2020	122,414	1	86	1,525	50	2
2/18/2020	122,479	65	62	1,216	50	64
2/25/2020	122,621	142	70	1,412	50	183
3/5/2020	122,755	134	70	1,412	50	173
3/10/2020	122,755	0	--	0	0	0
First Quarter 2020 Total	122,755	342	--	--	--	422
Cumulative Totals	122,755	--	--	--	--	3,577,852

Notes:

^a The total mass removed is based on influent FID or PID readings, hours of operation, and flow rate.

-- = not applicable or not available

FID = flame ionization detector

in. H₂O = inches of water

PID = photoionization detector

ppmv = parts per million by volume

scfm = standard cubic feet per minute

TPH-g = total petroleum hydrocarbons quantified as gasoline (C4-C12)

Table 3. Remediation Well Vapor Concentrations

SFPP Norwalk Pump Station, Norwalk, California

Remediation Area	Remediation Well ID	Remediation Well Function	09/30/2019 (ppmv as Hexane) ^a	12/31/2019 (ppmv as Hexane) ^a	First Quarter 2020 (ppmv as Hexane) ^a
South-Central	MW-SF-1	SVE	116	NM ^b	NM ^b
	MW-SF-2	SVE; TFE	66	NM ^b	NM ^b
	MW-SF-3	SVE; TFE	294	NM ^b	NM ^b
	MW-SF-4	SVE	0	NM ^b	NM ^b
	MW-SF-5	SVE	84	NM ^b	NM ^b
	MW-SF-6	SVE; TFE	8	NM ^b	NM ^b
	MW-SF-9	SVE	0	NM ^b	NM ^b
	MW-SF-10	SVE	32	NM ^b	NM ^b
	MW-SF-11	SVE; TFE	70	NM ^b	NM ^b
	MW-SF-12	SVE; TFE	240	NM ^b	NM ^b
	MW-SF-13	SVE; TFE	162	NM ^b	NM ^b
	MW-SF-14	SVE; TFE	104	NM ^b	NM ^b
	MW-SF-15	SVE; TFE	24	NM ^b	NM ^b
	MW-SF-16	SVE; TFE	4	NM ^b	NM ^b
	MW-SF-17	SVE; TFE	--	NM ^b	NM ^b
	GMW-9	SVE; TFE	0	NM ^b	NM ^b
	GMW-10	SVE	180	NM ^b	NM ^b
	GMW-22	SVE; TFE	0	NM ^b	NM ^b
	GMW-24	SVE; TFE	NM ^c	NM ^b	NM ^b
	GMW-25	SVE; GWE	NM ^c	NM ^b	NM ^b
	GWR-3	SVE; GWE	NM ^c	NM ^b	NM ^b
	VEW-1	SVE	NM ^c	NM ^b	NM ^b
	VEW-2	SVE	138	NM ^b	NM ^b
	MW-O-1	SVE; TFE	NM ^c	NM ^b	NM ^b
	MW-O-2	SVE; TFE	0	NM ^b	NM ^b
	GMW-O-11	SVE; TFE	16	NM ^b	NM ^b
	GMW-O-12	SVE	192	NM ^b	NM ^b
	GMW-O-20	SVE; TFE	884	NM ^b	NM ^b
	GMW-O-23	SVE; TFE	142	NM ^b	NM ^b
	MW-18 (MID)	SVE	620	NM ^b	NM ^b
	HW-1	SVE	--	NM ^b	NM ^b
	HW-2	SVE	--	NM ^b	NM ^b
Southeastern	GMW-36	SVE; TFE	620	NM ^b	NM ^b
	GMW-O-15	SVE; TFE	620	NM ^b	NM ^b
	GMW-O-18	SVE; TFE	620	NM ^b	NM ^b

Notes:

^a Vapor readings measured in the field with an Eagle 2 PID calibrated using 50 ppmv of hexane.

^b Vapor readings were not taken due to the TFE and SVE systems being offline.

^c Vapor readings could not be measured due to water in the PVC pipe.

-- = not applicable or not available

GWE = groundwater extraction

NM = not measured

PID = photoionization detector

ppmv = parts per million by volume

PVC = polyvinyl chloride

SVE = soil vapor extraction

TFE = total fluids extraction

Table 4. Extracted Vapor Analytical Results^a
SFPP Norwalk Pump Station, Norwalk, California

Date Sampled	ASTM D-1946			EPA TO-3		SCAQMD 25.1	EPA TO-15 (VOCs) ^b				
	Methane (%v)	Carbon Dioxide (%v)	Oxygen and Argon (%v)	TPH-g (ppmv)	TVOC (ppmv)	TGNMOC (ppmv)	Benzene (ppbv)	Ethyl-benzene (ppbv)	Toluene (ppbv)	Xylenes (ppbv)	MTBE (ppbv)
8/3/2007	<0.5	<0.5	22.0	63	---	---	650	220	1,100	1,420	55
9/5/2007	<0.5	<0.5	22.0	9	---	---	32	48	140	320	18
10/2/2007	<0.5	<0.5	21.9	27	---	---	250	75	430	610	20
11/2/2007	<0.5	<0.5	22.1	5	---	---	40	10	74	95	7
2/1/2008	<0.5	<0.5	21.8	100	---	---	830	260	2,200	1,850	<50
3/4/2008	<0.5	<0.5	21.7	50	---	---	380	98	570	1,250	36
4/8/2008	<0.5	<0.5	22.2	69	---	---	290	110	480	1,040	41
5/23/2008	<0.5	<0.5	21.8	14	---	---	180	24	190	280	23
6/3/2008	<0.5	<0.5	21.7	30	---	---	380	42	400	330	70
7/2/2008	<0.5	<0.5	21.4	49	---	---	32	6	34	45	10
8/19/2008	<0.5	1.7	20.8	50	---	---	390	63	230	450	40
9/5/2008	<0.5	2.0	21.2	22	---	---	130	39	130	340	42
10/7/2008	<0.5	1.43	21.4	10	---	---	41	15	54	181	6.8
11/4/2008	<0.5	2.08	21.1	7.5	---	---	31	47	190	242	<2.0
3/6/2009	<0.5	<0.5	22.0	83	---	---	1,900	180	990	770	240
4/17/2009	<0.5	<0.5	22.2	3.1	---	---	140	8	37	68	26
5/29/2009	<0.5	1.08	21.0	130	---	---	1,700	640	3,700	3,100	100
8/18/2009	<0.5	0.78	21.7	28	---	---	380	37	290	310	33
8/25/2009	<0.5	0.87	20.6	37	---	---	500	44	320	293	20
9/18/2009	<0.5	0.37	21.6	11	---	---	75	11	39	107	3
10/29/2009	<0.5	1.80	18.2	77	---	---	350	45	250	440	4
11/25/2009	<0.5	<0.5	21.1	14	---	---	110	12	110	164	11
12/15/2009	<0.5	<0.5	21.7	7	---	---	28	3	20	47	<3.2
2/26/2010	<0.5	0.4	21.2	20	---	---	300	18	220	260	21
3/26/2010	<0.5	1.0	20.2	18	---	---	380	20	110	90	5
5/4/2010	<0.5	0.4	21.4	13	---	---	100	42	170	222	3
6/29/2010	<0.5	0.4	21.3	9	---	---	74	13	66	82	<5.0
8/3/2010	<0.5	0.6	20.4	29	---	---	210	13	64	85	9
8/31/2010	0.0039 ^c	<0.5	21.4	11	---	---	72	12	66	87	8
9/14/2010	<0.5	<0.5	21.6	6	---	---	63	15	57	84	<3.2
11/2/2010	--	--	--	11	---	---	140	<10	31	28	<10
11/17/2010	0.00075	0.4	22.0	--	---	---	--	--	--	--	--
12/28/2010	0.0052	0.27	22.0	16	---	---	160	37	230	324	4.5
1/14/2011	0.016	0.20	22.0	68	---	---	340	34	89	183	<10
2/8/2011	0.026	0.24	21.0	210	---	---	3,000	1,700	11,000	7,400	110
3/29/2011	0.013	0.13	20.0	5	---	---	170	15	18	41.5	<2.5
4/26/2011	0.0011	0.079	20.0	1.9	---	---	16	2.4	8.8	7.7	<1.2
5/17/2011	0.021	0.65	22.0	90	---	---	2,600	140	2,200	1,100	220
6/17/2011	0.001	0.20	22.0	3	---	---	59	8.1	31	56	<0.25
7/19/2011	0.0056	0.49	22.0	80	---	---	1,800	130	2,200	1,000	<31
8/16/2011	0.0026	0.31	22.0	140	---	---	3,000	600	4,000	2,330	490
9/20/2011	--	--	--	100	---	---	2,100	740.0	2,700	2,040	660
11/22/2011	0.070	0.70	20.0	11	---	---	150	12.0	67	35	<5.0
12/20/2011	0.020	0.34	22.0	0	---	---	110	<25	260	216	<25
1/10/2012	0.010	0.66	20.0	11	---	---	150	14	86	160	<12
2/28/2012	0.0067	0.90	20.0	27	---	---	140	42	140	224	<25
3/13/2012	0.0044	0.71	20.0	27	---	---	440	38	450	241	<25
4/27/2012	0.0290	0.22	21.0	39	---	---	540	42	630	299	<25
5/22/2012	0.0100	0.31	20.0	65	---	---	590	350	770	2,070	<12
6/19/2012	0.0028	0.41	21.0	17	---	---	130	26	150	162	<12
7/27/2012	0.0059	0.40	21.0	13	---	---	46	<5	33	78	<5
8/30/2012	0.0049	0.56	21.0	69	---	---	150	<25	66	194	<25
9/25/2012	0.0073	0.80	21.0	57	---	---	190	19	120	283	<2.5
10/30/2012	0.0099	0.96	21.0	50	---	---	380	<50	230	130	<50

Table 4. Extracted Vapor Analytical Results^a
SFPF Norwalk Pump Station, Norwalk, California

Date Sampled	ASTM D-1946			EPA TO-3		SCAQMD 25.1	EPA TO-15 (VOCs) ^b				
	Methane (%v)	Carbon Dioxide (%v)	Oxygen and Argon (%v)	TPH-g (ppmv)	TVOC (ppmv)	TGNMOC (ppmv)	Benzene (ppbv)	Ethyl-benzene (ppbv)	Toluene (ppbv)	Xylenes (ppbv)	MTBE (ppbv)
12/11/2012	0.0074	0.84	21.0	53	---	---	130	17	110	173	<5.0
1/29/2013	0.0028	0.29	22.0	1.4	---	---	8.7	<1.2	9.4	9.6	<1.2
2/12/2013	0.0057	0.88	21.0	60	---	---	500	<50	440	400	<50
3/19/2013	0.0058	0.80	21.0	77	---	---	560	66	490	520	<40
4/16/2013	0.0079	0.74	21.0	53	---	---	430	29	240	193	<25
5/14/2013	0.017	1.6	19	280	---	---	1,700	190	1,800	840	<12
6/28/2013	0.0068	<0.010	21	22	---	---	190	<25	130	131	<25
SVE system down for repair from July 16, 2013, to September 17, 2013.											
9/20/2013	0.014	1	21	590	---	---	4,200	520	3,600	2,830	<40
10/15/2013	0.011	0.68	21	410	---	---	3,500	360	2,800	1,970	<20
11/12/2013	0.012	0.66	21	430	---	---	2,900	440	2,600	1,930	<15
12/10/2013	0.013	0.92	21	910	---	---	8,400	920	7,200	5,500	<50
1/17/2014	0.0077	0.57	21	350	---	---	6,600	6,800	8,200	23,300	3,000
2/11/2014	0.011	0.60	21	640	---	---	6,600	570	6,000	3,800	<100
3/21/2014	0.0050	0.40	21	390	---	---	4,500	290	4,000	1,930	<50
4/21/2014	0.011	0.65	21	700	---	---	6,900	370	6,900	3,400	<40
SVE system down for repair from April 29, 2014, to May 13, 2014.											
5/27/2014	0.011	0.56	21	530	---	---	6,600	570	8,900	3,820	<50
6/13/2014	0.0076	0.49	21	780	---	---	10,000	1,200	15,000	7,100	<80
SVE system down for repair and permit modification from July 1, 2014, to March 27, 2015.											
3/31/2015	0.090	1.3	20	1,400	---	1,300	12,000	1,000	11,000	7,400	<200
4/7/2015	0.014	0.56	21	---	---	710	8,200	8,200	610	3,260	<160
5/5/2015	---	---	---	---	---	760	6,100	1,100	9,600	7,200	<140
6/30/2015	0.0065	0.37	21	---	---	270	3,100	380	3,800	2,820	<160
7/14/2015	0.0094	0.62	21	---	---	650	7,000	950	7,900	6,100	<200
8/4/2015	0.0053	0.49	21	---	---	560	6,200	710	7,700	4,800	<0.097
8/17/2015 ^c	---	---	---	---	---	470	4,800	500	5,400	3,600	<0.099
8/17/2015 ^c	---	---	---	---	---	470	5,000	520	5,800	3,870	<0.100
8/17/2015 ^c	---	---	---	---	---	480	5,100	580	6,100	4,000	<0.097
8/17/2015 ^c	---	---	---	---	---	480	5,200	580	6,300	4,100	<0.099
9/1/2015 ^c	---	---	---	---	---	670	7,000	850	8,700	6,900	<0.097
9/1/2015 ^c	---	---	---	---	---	930	12,000	1,500	14,000	11,400	<0.140
9/1/2015 ^c	---	---	---	---	---	890	12,000	2,300	20,000	14,300	<0.140
10/6/2015	0.0067	0.43	21	---	---	960	14,000	3,100	25,000	15,900	<200
11/10/2015	0.0028	0.30	21	---	860	---	9,100	1,800	15,000	9,400	<97
12/10/2015	0.004	0.41	21	---	580	---	6,400	1,200	10,000	7,600	<120
1/4/2016 ^c	0.0059	0.27	22	---	750	---	9,600	2,400	20,000	13,500	<220
2/4/2016 ^c	0.0038	0.58	21	---	2,000	---	16,000	2,600	29,000	19,300	<610
3/3/2016 ^c	0.004	0.64	21	---	1,200	---	11,000	3,000	27,000	27,500	<130
4/5/2016	0.033	0.49	21	---	400	---	3,900	5,500	7,300	4,600	<63
5/13/2016	0.0034	0.50	21	---	290	---	2,200	300	4,300	810	<23
6/7/2016	0.0065	0.32	21	---	150	---	1,000	25 J	1,100	117 J	<36
7/7/2016	0.014	0.48	21	---	170	---	1,000	220	2,500	1,630	<51
8/2/2016	0.0047	0.54	21	---	260	---	1,900	720	5,000	7,400	<22
9/7/2016	0.0066	0.53	21	---	250	---	1,600	680	3,800	5,000	<21
10/13/2016	0.0096	0.67	21	---	250	---	2,700	680	3,800	5,200	<36
11/1/2016	0.0025	0.62	21	---	260	---	1,600	540	3,800	4,600	<40
SVE system was offline for installation of new RTO from November 1, 2016, to June 6, 2017.											
6/7/2017	0.029	1.1	21	--	190	--	960	220	1,200	1,170	<42
7/13/2017	0.055	1.3	20	---	550	---	6,800	1,100	6,600	9,900	<44
8/3/2017	0.013	0.85	21	---	340	--	4,200	750	5,600	7,500	<110
9/12/2017	0.0079	0.89	21	--	290	---	3,000	530	4,600	5,500	510
10/13/2017	0.0091	0.85	21	---	280	--	3,400	540	4,100	5,500	830
11/10/2017	0.0064	0.87	21	---	230	---	3,200	320	2,400	3,050	<84

Table 4. Extracted Vapor Analytical Results^a
SFPP Norwalk Pump Station, Norwalk, California

Date Sampled	ASTM D-1946			EPA TO-3		SCAQMD 25.1	EPA TO-15 (VOCs) ^b				
	Methane (%v)	Carbon Dioxide (%v)	Oxygen and Argon (%v)	TPH-g (ppmv)	TVOC (ppmv)	TGNMOC (ppmv)	Benzene (ppbv)	Ethylbenzene (ppbv)	Toluene (ppbv)	Xylenes (ppbv)	MTBE (ppbv)
12/8/2017	0.0040	0.77	21	---	250	---	3,600	350	3,000	3,700	<81
1/4/2018	0.0047	0.72	21	--	230	--	3,900	440	3,100	4,000	970
2/6/2018	0.0042	0.42	22	--	27	--	140	23	150	310	<5.1
3/13/2018	0.0038	0.74	21	--	79	--	680	110	460	1,150	<11
4/15/2018	0.0034	0.49	22	--	33	--	460	53	280	400	<2.0
5/11/2018	0.0046	0.72	21	--	64	--	660	74	410	850	<11
6/7/2018	0.0031	0.65	21	--	58	--	570	83	320	504	<9.7
7/3/2018	0.0063	0.78	21	--	210	--	4,700	570	2,700	3,940	1,100
8/2/2018	0.0048	0.69	22	--	160	--	3,000	320	2,300	2,380	<40
9/6/2018	0.0044	0.81	21	--	190	--	3,900	550	4,000	5,000	<42
10/5/2018	0.0034	0.85	22	--	180	--	1,200	180	1,400	1,850	<42
11/20/2018	0.0088	0.80	21	--	150	--	1,200	270	1,100	1,290	<11
12/7/2018	0.0038	0.75	22	--	190	--	1,700	360	2,100	2,140	<20
1/11/2019	0.0061	1.5	19	--	46	--	190	25	160	350	<11
2/7/2019	0.0023	0.82	21	--	74	--	240	67	280	990	<10
3/12/2019	<0.0034	0.58	22	--	31	--	110	31	130	570	<4.9
4/4/2019	0.0044	0.80	21	--	160	--	2,400	400	2,000	2,730	550
5/7/2019	0.023	0.78	21	--	120	--	1,900	330	1,500	2,520	410
6/4/2019	0.0037	0.64	21	--	110	--	1,000	260	880	1,550	<19
7/9/2019	0.036	0.64	21	--	99	--	860	190	820	1,210	400
8/18/2019	0.0037	0.64	21	--	97	--	850	220	940	1,630	230
9/12/2019	0.0019	0.0084	22	--	58 ^c	--	640 ^c	78 ^c	520 ^c	880 ^c	200 ^c
10/4/2019	0.0037	0.64	21	--	17	--	61	21	67	470	<3.6
11/7/2019	0.0067	0.67	21	--	19	--	66	26	56	480	<2.0
12/12/2019	0.023	1.1	20	--	30	--	220	23	100	158	140
January-20	-- ^d	-- ^d	-- ^d	-- ^d	-- ^d	-- ^d	-- ^d	-- ^d	-- ^d	-- ^d	-- ^d
2/14/2020	0.0360	1.1	21	--	17	--	63	7.7	12	480	<5.0
3/1/2020	0.0039	0.68	21	--	23	--	75	19	33	263	<2.8

Notes:

^a Influent vapor samples were collected from the manifold conveying soil vapors extracted from the south-central and southeastern areas.

^b Other detected VOCs are included in the laboratory analytical reports in Appendix B.

^c Influent vapor samples were collected after dilution before entrance into the SVE combustion chamber.

^d System was off for entire month

%v = percent by volume

-- = not applicable

<0.5 = not detected at or above the laboratory reporting limit shown

ASTM = ASTM International

EPA = U.S. Environmental Protection Agency

J = Resulting analyte concentration is between the reporting limit and the method detection limit

MTBE = methyl tertiary butyl ether

ppbv = parts per billion by volume

ppmv = parts per million by volume

RTO = regenerative thermal oxidizer

SCAQMD = South Coast Air Quality Management District

SVE = soil vapor extraction

TGNMOC = total gaseous nonmethane organic carbon

TPH-g = total petroleum hydrocarbons quantified as gasoline (C4-C12)

TVOC = total volatile organic compound

VOC = volatile organic compound

Table 5. Groundwater Remediation System Operation Summary
SFPF Norwalk Pump Station, Norwalk, California

System Inspection Date	Groundwater Removed from South-Central and Southeastern Areas (gallons)	Groundwater Removed from West Side Barrier Area (gallons)	Total Groundwater Removed (gallons)	Influent TPH-Total Concentration (µg/L)	Estimated Hydrocarbon Mass Removed from South-Central, Southeastern, and West Side Barrier Areas (pounds) ^a	Product Recovery (gallons)
1996 Totals	1,802,103	0	1,802,103	--	273	4,995
1997 Totals	7,031,533	0	7,031,533	--		2,204
1998 Totals	4,064,700	0	4,064,700	--		856
1999 Totals	3,891,600	2,338,129	6,229,729	--	385	450
2000 Totals	2,290,580	2,454,971	4,745,551	--	295	230
2001 Totals	1,401,473	1,131,700	2,533,173	--	229	0
2002 Totals	1,452,229	2,931,167	4,383,396	--	110	0
2003 Totals	1,607,095	2,281,956	3,889,051	--	65	10
2004 Totals	1,695,361	3,854,470	5,549,831	--	229	0
2005 Totals	1,537,925	4,244,674	5,782,599	--	273	0
2006 Totals	1,699,567	5,089,615	6,789,182	--	684	83
2007 Totals	3,368,481	2,167,724	5,536,205	--		89
2008 Totals ^b	4,283,026	405,954	4,688,980	--	520	0
2009 Totals	2,309,627	0	2,309,627	--	105	0
2010 Totals ^c	3,342,227	2,292	3,344,519	--	363	0
2011 Totals	5,530,317	0	5,530,317	--	585	0
2012 Totals	7,368,318	0	7,368,318	--	699	0
2013 Totals	6,439,733	0	6,439,733	--	568	2
2014 Totals	3,410,427	0	3,410,427	--	2,236	2,335
2015 Totals	4,817,906	0	4,817,906	--	5,959	2,928
2016 Totals	2,428,279	0	2,428,279	--	4,506	242
2017 Totals	3,858,644	0	3,858,644	--	325	2
2018 Totals	2,854,384	0	2,854,384	--	37	0
First Quarter 2019 Total	574,268	0	574,268	--	1.9	0
Second Quarter 2019 Total	848,498	0	848,498	--	2.8	0
9/30/2019	1,108	0	1,108	650	0.006	0
Third Quarter 2019 Total	818,916	0	818,916	--	4.2	0
12/29/2019	0	0	0	--	0.000	0
12/30/2019	0	0	0	--	0.000	0
12/31/2019	0	0	0	--	0.000	0
Fourth Quarter 2019 Total	84,944	0	84,944	--	0.326	0

Table 5. Groundwater Remediation System Operation Summary

SFPP Norwalk Pump Station, Norwalk, California

System Inspection Date	Groundwater Removed from South-Central and Southeastern Areas (gallons)	Groundwater Removed from West Side Barrier Area (gallons)	Total Groundwater Removed (gallons)	Influent TPH-Total Concentration (µg/L)	Estimated Hydrocarbon Mass Removed from South-Central, Southeastern, and West Side Barrier Areas (pounds) ^a	Product Recovery (gallons)
1/1/2020	0	0	0	--	0.000	0
1/2/2020	0	0	0	--	0.000	0
1/3/2020	0	0	0	--	0.000	0
1/4/2020	0	0	0	--	0.000	0
1/5/2020	0	0	0	--	0.000	0
1/6/2020	0	0	0	--	0.000	0
1/7/2020	0	0	0	--	0.000	0
1/8/2020	0	0	0	--	0.000	0
1/9/2020	0	0	0	--	0.000	0
1/10/2020	0	0	0	--	0.000	0
1/11/2020	0	0	0	--	0.000	0
1/12/2020	0	0	0	--	0.000	0
1/13/2020	0	0	0	--	0.000	0
1/14/2020	0	0	0	--	0.000	0
1/15/2020	0	0	0	--	0.000	0
1/16/2020	0	0	0	--	0.000	0
1/17/2020	0	0	0	--	0.000	0
1/18/2020	0	0	0	--	0.000	0
1/19/2020	0	0	0	--	0.000	0
1/20/2020	0	0	0	--	0.000	0
1/21/2020	0	0	0	--	0.000	0
1/22/2020	0	0	0	--	0.000	0
1/23/2020	0	0	0	--	0.000	0
1/24/2020	0	0	0	--	0.000	0
1/25/2020	0	0	0	--	0.000	0
1/26/2020	0	0	0	--	0.000	0
1/27/2020	0	0	0	--	0.000	0
1/28/2020	0	0	0	--	0.000	0
1/29/2020	0	0	0	--	0.000	0
1/30/2020	0	0	0	--	0.000	0
1/31/2020	0	0	0	--	0.000	0
2/1/2020	0	0	0	--	0.000	0
2/2/2020	0	0	0	--	0.000	0
2/3/2020	0	0	0	--	0.000	0
2/4/2020	0	0	0	--	0.000	0
2/5/2020	0	0	0	--	0.000	0
2/6/2020	0	0	0	--	0.000	0
2/7/2020	0	0	0	--	0.000	0
2/8/2020	0	0	0	--	0.000	0

Table 5. Groundwater Remediation System Operation Summary

SFPP Norwalk Pump Station, Norwalk, California

System Inspection Date	Groundwater Removed from South-Central and Southeastern Areas (gallons)	Groundwater Removed from West Side Barrier Area (gallons)	Total Groundwater Removed (gallons)	Influent TPH-Total Concentration (µg/L)	Estimated Hydrocarbon Mass Removed from South-Central, Southeastern, and West Side Barrier Areas (pounds) ^a	Product Recovery (gallons)
2/9/2020	0	0	0	--	0.000	0
2/10/2020	0	0	0	--	0.000	0
2/11/2020	0	0	0	--	0.000	0
2/12/2020	0	0	0	--	0.000	0
2/13/2020	0	0	0	--	0.000	0
2/14/2020	0	0	0	--	0.000	0
2/15/2020	0	0	0	--	0.000	0
2/16/2020	0	0	0	--	0.000	0
2/17/2020	0	0	0	--	0.000	0
2/18/2020	0	0	0	--	0.000	0
2/19/2020	0	0	0	--	0.000	0
2/20/2020	0	0	0	--	0.000	0
2/21/2020	0	0	0	--	0.000	0
2/22/2020	0	0	0	--	0.000	0
2/23/2020	0	0	0	--	0.000	0
2/24/2020	0	0	0	--	0.000	0
2/25/2020	0	0	0	--	0.000	0
2/26/2020	0	0	0	--	0.000	0
2/27/2020	0	0	0	--	0.000	0
2/28/2020	0	0	0	--	0.000	0
2/29/2020	0	0	0	--	0.000	0
3/1/2020	0	0	0	--	0.000	0
3/2/2020	0	0	0	--	0.000	0
3/3/2020	0	0	0	--	0.000	0
3/4/2020	0	0	0	--	0.000	0
3/5/2020	0	0	0	--	0.000	0
3/6/2020	0	0	0	--	0.000	0
3/7/2020	0	0	0	--	0.000	0
3/8/2020	0	0	0	--	0.000	0
3/9/2020	0	0	0	--	0.000	0
3/10/2020	0	0	0	--	0.000	0
3/11/2020	0	0	0	--	0.000	0
3/12/2020	0	0	0	--	0.000	0
3/13/2020	0	0	0	--	0.000	0
3/14/2020	0	0	0	--	0.000	0
3/15/2020	0	0	0	--	0.000	0
3/16/2020	0	0	0	--	0.000	0
3/17/2020	0	0	0	--	0.000	0
3/18/2020	0	0	0	--	0.000	0

Table 5. Groundwater Remediation System Operation Summary

SFPF Norwalk Pump Station, Norwalk, California

System Inspection Date	Groundwater Removed from South-Central and Southeastern Areas (gallons)	Groundwater Removed from West Side Barrier Area (gallons)	Total Groundwater Removed (gallons)	Influent TPH-Total Concentration (µg/L)	Estimated Hydrocarbon Mass Removed from South-Central, Southeastern, and West Side Barrier Areas (pounds) ^a	Product Recovery (gallons)
3/19/2020	0	0	0	--	0.000	0
3/20/2020	0	0	0	--	0.000	0
3/21/2020	0	0	0	--	0.000	0
3/22/2020	0	0	0	--	0.000	0
3/23/2020	0	0	0	--	0.000	0
3/24/2020	0	0	0	--	0.000	0
3/25/2020	0	0	0	--	0.000	0
3/26/2020	0	0	0	--	0.000	0
3/27/2020	0	0	0	--	0.000	0
3/28/2020	0	0	0	--	0.000	0
3/29/2020	0	0	0	--	0.000	0
3/30/2020	0	0	0	--	0.000	0
3/31/2020	0	0	0	--	0.000	0
First Quarter 2020 Total	0	0	0	--	0.000	0
Cumulative Totals	80,812,161	26,902,652	107,714,813	--	18,457	14,426

Notes:

^a Estimated hydrocarbon mass removed (pounds) between 1996 and 2005 is based on concentrations of dissolved BTEX and MTBE in the groundwater influent and volume of groundwater extracted. Estimated hydrocarbon mass removed (pounds) between 2006 and 2011 is based on concentrations of TPH-g and TPH-fp in the groundwater influent and volume of groundwater extracted. Estimated hydrocarbon mass removed (pounds) between 2012 and 2015 is based on concentrations of dissolved TPH-total in the groundwater influent and volume of extracted groundwater.

^b Groundwater removal in the West Side Barrier area was discontinued in August 2008.

^c Groundwater extraction from West Side Barrier area wells BW-3 and BW-6 was resumed on May 14, 2010, to evaluate the efficacy of blending water with lower selenium concentrations from these wells with groundwater extracted from the south-central and southeastern areas. Groundwater removal from the West Side Barrier area was discontinued again on June 22, 2010.

-- = not applicable

µg/L = micrograms per liter

BTEX = benzene, toluene, ethylbenzene, and xylenes

MTBE = methyl tertiary butyl ether

TPH-d = total petroleum hydrocarbons quantified as diesel (C13-C22)

TPH-fp = total petroleum hydrocarbons quantified as fuel product (C7-C28)

TPH-g = total petroleum hydrocarbons quantified as gasoline (C4-C12)

TPH-o = total petroleum hydrocarbons quantified as oil (C23-C36)

TPH-total = total petroleum hydrocarbons quantified as gasoline, diesel, and oil (C4-C36)

Table 6. Extracted Groundwater Analytical Results^a

SFPP Norwalk Pump Station, Norwalk, California

Date Sampled	EPA 8015M					EPA 8260B Volatile Organic Compounds (VOCs) ^b								
	TPH-g (µg/L)	TPH-d (µg/L)	TPH-o (µg/L)	TPH-total (µg/L)	TPH-fp (µg/L)	Benzene (µg/L)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)
3/6/1996	--	--	--	--	--	2,600	790	7,200	9,100	---	--	--	--	--
7/23/1998	--	--	--	--	--	750	<10	360	300	---	--	--	--	--
8/27/1998	--	--	--	--	--	1,000	71	530	800	---	--	--	--	--
10/1/1998	--	--	--	--	--	1,200	<10	1,400	1,680	---	--	--	--	--
11/19/1998	--	--	--	--	--	1,600	140	2,600	2,900	---	--	--	--	--
12/17/1998	--	--	--	--	--	4,500	380	4,500	3,900	---	--	--	--	--
1/28/1999	--	--	--	--	--	520	79	660	840	---	--	--	--	--
3/25/1999	--	--	--	--	--	540	160	1,800	4,100	---	--	--	--	--
4/2/1999	--	--	--	--	--	620	76	520	1,200	---	--	--	--	--
4/15/1999	--	--	--	--	--	1,400	99	800	1,480	---	--	--	--	--
5/6/1999	--	--	--	--	--	1,340	180	1,240	1,730	---	--	--	--	--
6/3/1999	--	--	--	--	--	3,410	343	2,240	2,770	---	--	--	--	--
8/5/1999	--	--	--	--	--	3,200	780	5,400	5,200	---	--	--	--	--
9/23/1999	--	--	--	--	--	2,700	130	1,200	720	---	--	--	--	--
9/30/1999	--	--	--	--	--	1,300	77	480	560	---	--	--	--	--
10/13/1999	--	--	--	--	--	1,400	100	660	720	---	--	--	--	--
11/4/1999	--	--	--	--	--	3,000	500	5,600	4,500	---	--	--	--	--
12/9/1999	--	--	--	--	--	4,500	280	1,400	1,480	---	--	--	--	--
1/13/2000	--	--	--	--	--	9,000	7,600	14,000	44,000	---	--	--	--	--
2/11/2000	--	--	--	--	--	2,300	<100	1,200	1,240	3,100	--	--	--	--
3/10/2000	--	--	--	--	--	380	20	110	430	740	--	--	--	--
4/13/2000	--	--	--	--	--	1,300	550	450	920	970	--	--	--	--
6/2/2000	--	--	--	--	--	840	56	240	980	920	--	--	--	--
6/15/2000	--	--	--	--	--	1,600	82	900	990	2,700	--	--	--	--
8/3/2000	--	--	--	--	--	1,900	410	3,500	4,400	2,700	--	--	--	--
8/28/2000	--	--	--	--	--	620	33	200	380	1,800	--	--	--	--
9/20/2000	--	--	--	--	--	460	<20	73	255	1,300	--	--	--	--
10/25/2000	--	--	--	--	--	20	<20	<20	216	6,700	--	--	--	--
11/15/2000	--	--	--	--	--	560	24	210	490	3,700	--	--	--	--
3/22/2001	--	--	--	--	--	3,800	360	3,900	3,160	5,500	--	--	--	--
4/30/2001	--	--	--	--	--	4,100	710	5,800	5,600	8,300	--	--	--	--
5/23/2001	--	--	--	--	--	3,400	160	1,100	1,070	3,900	--	--	--	--
6/22/2001	--	--	--	--	--	1,700	85	680	680	2,200	--	--	--	--
7/16/2001	--	--	--	--	--	2,300	130	1,100	1,350	2,100	--	--	--	--
9/5/2001	--	--	--	--	--	1,500	170	1,200	1,890	1,100	--	--	--	--
1/23/2002	--	--	--	--	--	<0.5	<1	<1	<2	2	--	--	--	--

Table 6. Extracted Groundwater Analytical Results^a

SFPP Norwalk Pump Station, Norwalk, California

Date Sampled	EPA 8015M					EPA 8260B Volatile Organic Compounds (VOCs) ^b								
	TPH-g (µg/L)	TPH-d (µg/L)	TPH-o (µg/L)	TPH-total (µg/L)	TPH-fp (µg/L)	Benzene (µg/L)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)
2/28/2002	--	--	--	--	--	<0.5	<1	<1	<2	96	--	--	--	--
3/25/2002	--	--	--	--	--	<0.5	<1	<1	<2	87	--	--	--	--
5/1/2002	--	--	--	--	--	1,900	31	190	480	1,100	--	--	--	--
5/17/2002	--	--	--	--	--	1,400	50	180	970	1,000	--	--	--	--
6/4/2002	--	--	--	--	--	2,700	57	280	530	1,300	--	--	--	--
7/18/2002	--	--	--	--	--	3,800	66	530	1,160	330	--	--	--	--
8/8/2002	--	--	--	--	--	4,800	49	610	1,290	460	--	--	--	--
9/3/2002	--	--	--	--	--	260	<5	5	71	600	--	--	--	--
10/18/2002	--	--	--	--	--	1,200	70	490	820	570	--	--	--	--
11/26/2002	--	--	--	--	--	1,300	68	130	590	860	--	--	--	--
12/27/2002	--	--	--	--	--	1	<1	<1	<2	58	--	--	--	--
1/30/2003	--	--	--	--	--	<0.5	<1	<1	<2	37	--	--	--	--
2/26/2003	--	--	--	--	--	4	<1	<1	4	140	--	--	--	--
3/17/2003	--	--	--	--	--	2,800	23	170	480	570	--	--	--	--
4/30/2003	--	--	--	--	--	3,700	350	2,200	4,600	490	--	--	--	--
6/13/2003	--	--	--	--	--	1,200	17	120	510	740	--	--	--	--
6/19/2003	--	--	--	--	--	680	<10	35	239	680	--	--	--	--
7/3/2003	--	--	--	--	--	2,600	160	610	2,290	450	--	--	--	--
7/25/2003	--	--	--	--	--	300	6	3	39	230	--	--	--	--
8/20/2003	--	--	--	--	--	830	19	130	350	290	--	--	--	--
9/11/2003	--	--	--	--	--	270	<10	<10	46	420	--	--	--	--
10/16/2003	--	--	--	--	--	380	<10	<10	121	490	--	--	--	--
11/17/2003	--	--	--	--	--	93	6	22	106	200	--	--	--	--
12/19/2003	--	--	--	--	--	300	27	110	1,010	62	--	--	--	--
1/30/2004	--	--	--	--	--	700	140	740	1,740	22	--	--	--	--
2/17/2004	--	--	--	--	--	300	47	440	1,150	19	--	--	--	--
3/8/2004	--	--	--	--	--	52	<5.0	10	149	23	--	--	--	--
3/21/2004	--	--	--	--	--	420	11	29	318	120	--	--	--	--
6/28/2004	--	--	--	--	--	740	26	46	337	81	--	--	--	--
7/30/2004	--	--	--	--	--	660	18	68	280	87	--	--	--	--
8/27/2004	--	--	--	--	--	1,500	47	140	530	77	--	--	--	--
9/28/2004	--	--	--	--	--	400	10	32	252	64	--	--	--	--
10/15/2004	--	--	--	--	--	950	31	130	316	64	--	--	--	--
11/12/2004	--	--	--	--	--	2,100	1,500	390	15,800	3,000	--	--	--	--
12/10/2004	--	--	--	--	--	700	320	1,100	3,900	110	--	--	--	--
1/28/2005	--	--	--	--	--	460	140	520	2,260	610	--	--	--	--

Table 6. Extracted Groundwater Analytical Results^a

SFPP Norwalk Pump Station, Norwalk, California

Date Sampled	EPA 8015M					EPA 8260B Volatile Organic Compounds (VOCs) ^b								
	TPH-g (µg/L)	TPH-d (µg/L)	TPH-o (µg/L)	TPH-total (µg/L)	TPH-fp (µg/L)	Benzene (µg/L)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)
2/25/2005	--	--	--	--	--	5,700	200	650	1,560	1,300	--	--	--	--
3/22/2005	--	--	--	--	--	<5	<10	<10	26	1,000	--	--	--	--
4/21/2005	--	--	--	--	--	680	8	21	108	420	--	--	--	--
5/20/2005	--	--	--	--	--	6	<5	9	50	<5	--	--	--	--
6/28/2005	--	--	--	--	--	450	80	690	1,030	1,600	--	--	--	--
7/27/2005	--	--	--	--	--	2,000	170	1,700	5,000	1,200	--	--	--	--
8/31/2005	--	--	--	--	--	660	34	320	670	220	--	--	--	--
9/28/2005	--	--	--	--	--	1,800	310	2,800	4,700	360	--	--	--	--
10/26/2005	--	--	--	--	--	940	330	1,800	3,600	530	--	--	--	--
11/30/2005	--	--	--	--	--	900	170	900	2,790	760	--	--	--	--
12/20/2005	--	--	--	--	--	2,500	350	2,600	4,100	2,300	--	--	--	--
7/11/2007	--	--	--	--	--	4,800	130	890	1,040	690	--	--	--	--
8/7/2007	14,000	--	--	--	11,000	5,400	140	1,100	770	540	--	--	--	--
9/25/2007	12,000	--	--	--	30,000	3,400	310	1,600	2,390	540	--	--	--	--
10/16/2007	8,900	--	--	--	8,400	3,400	94	520	660	390	--	--	--	--
11/2/2007	44,000	--	--	--	6,500	3,200	130	860	1,160	570	--	--	--	--
11/30/2007	6,000	--	--	--	5,200	1,800	48	170	490	450	--	--	--	--
12/21/2007	7,200	--	--	--	4,200	2,100	41	170	430	750	--	--	--	--
1/4/2008	4,300	--	--	--	7,200	3,300	49	300	540	620	--	--	--	--
1/18/2008	11,000	--	--	--	2,200	3,600	140	650	850	620	--	--	--	--
2/1/2008	8,700	--	--	--	5,700	3,600	100	440	930	560	--	--	--	--
3/4/2008	7,200	--	--	--	4,900	3,900	120	510	770	620	--	--	--	--
4/8/2008	8,100	--	--	--	10,000	2,800	96	280	580	640	--	--	--	--
5/6/2008	5,300	--	--	--	2,800	2,900	76	190	328	430	--	--	--	--
6/3/2008	8,400	--	--	--	6,800	3,700	110	450	480	320	--	--	--	--
7/2/2008	9,200	--	--	--	4,300 ^c	4,500	75	620	650	400	--	--	--	--
8/19/2008	4,000	--	--	--	6,600	2,600	57	76	215	450	--	--	--	--
9/5/2008	160	--	--	--	<500	<12	<25	<25	<25	<25	--	--	--	--
10/7/2008	<100	--	--	--	<500	0.36 J	<1.0	<1.0	1.59	1.7	--	--	--	--
11/4/2008	12,000	--	--	--	660,000	2,500	140	220	760	160	--	--	--	--
12/4/2008	1,300	--	--	--	1,500	600	8.2	28	73	130	--	--	--	--
1/6/2009	1,500	--	--	--	980	560	23	41	110	320	--	--	--	--
3/6/2009	2,500	--	--	--	1,500	1,100	33	51	114	65	--	--	--	--
4/7/2009	3,100	--	--	--	6,900	1,100	36	230	207	210	--	--	--	--
5/13/2009	690	--	--	--	1,500	120	3.2	14	60	24	--	--	--	--
6/12/2009	150	--	--	--	<500	<0.50	<1.0	<1.0	0.71 J	44	--	--	--	--

Table 6. Extracted Groundwater Analytical Results^a

SFPP Norwalk Pump Station, Norwalk, California

Date Sampled	EPA 8015M					EPA 8260B Volatile Organic Compounds (VOCs) ^b								
	TPH-g (µg/L)	TPH-d (µg/L)	TPH-o (µg/L)	TPH-total (µg/L)	TPH-fp (µg/L)	Benzene (µg/L)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)
7/10/2009	4,500	--	--	--	560	1,500	41	68	175	150	--	--	--	--
8/4/2009	2,000	--	--	--	1,000	1,200	16	18	64	100	--	--	--	--
9/1/2009	4,800	--	--	--	3,500	380	45	25	328	5.4 J	--	--	--	--
10/6/2009	3,900	--	--	--	4,600	3,200	21	15	35	82	--	--	--	--
10/27/2009	1,000	--	--	--	<500	520	4	15	10	180	--	--	--	--
11/3/2009	120	--	--	--	<500	2	0.55 J	0.61 J	3	40	--	--	--	--
11/25/2009	5,700	--	--	--	4,000	3,100	26	13	48	88	--	--	--	--
2/16/2010	8,000	--	--	--	5,900	4,700	110	1,300	800	1,800	--	--	--	--
3/9/2010	7,000	--	--	--	5,900	6,600	110	460	550	410	--	--	--	--
4/20/2010	10,000	--	--	--	11,000	6,000	44	230	174	130	--	--	--	--
5/14/2010	8,500	--	--	--	2,100	3,600	67	380	400	210	--	--	--	--
6/25/2010	4,600	--	--	--	2,600	2,200	61	540	380	170	--	--	--	--
7/20/2010	21,000	--	--	--	21,000	3,400	370	3,000	2,550	2,300	--	--	--	--
8/3/2010	3,400	--	--	--	1,500	1,400	17	140	161	390	--	--	--	--
8/10/2010	5,800	--	--	--	3,400	2,600	40	190	169	140	--	--	--	--
9/14/2010	9,400	--	--	--	10,000	4,900	170	1,100	1,340	380	--	--	--	--
10/12/2010	5,700	--	--	--	1,000	2,200	43	140	138	120	--	--	--	--
11/16/2010	1,100	--	--	--	1,600	290	4	15	78	84	--	--	--	--
12/14/2010	7,100	--	--	--	3,200	2,600	76	200	315	340	--	--	--	--
1/14/2011	7,400	--	--	--	3,500	3,700	56	110	220	280	--	--	--	--
2/8/2011	5,600	--	--	--	3,500	2,400	43	110	190	420	--	--	--	--
3/25/2011	3,100	--	--	--	1,200	1,300	51	92	200	300	--	--	--	--
4/26/2011	1,400	--	--	--	1,200	610	5.8	5.7	20	130	--	--	--	--
5/17/2011	3,300	--	--	--	1,700	3,600	82	180	300	240	--	--	--	--
6/21/2011	1,200	--	--	--	720	860	9.6	31	82	190	2,200	6.6	<0.07	<0.1
7/27/2011	14,000	10,000	44J	--	-- ^d	2,800	150	490	2,100	350	2,800	27	<0.07	<0.1
8/26/2011	7,400	--	--	--	57,000	1,400	120	480	1,300	270	1,600	16	<0.07	<0.1
9/23/2011	6,400	--	--	--	2,800	2,800	83.0	160	340	300	1,300	22	<0.07	<0.1
10/25/2011	6,000	--	--	--	2,300	3,000	52	93	200	200	970	20	<0.70	<1.0
11/22/2011	5,900	--	--	--	2,000	3,600	62	140	240	300	2,900	26	<0.07	<0.1
12/20/2011	780	--	--	--	2,000	330	8	14	43	160	1,000	18	<0.07	<0.1
1/10/2012	5,300	--	--	--	1,900	3,400	36	70	170	200	960	26	<0.07	<0.1
2/21/2012	4,900	--	--	--	<13	3,400	19	16	48	120	2,200	21	<0.07	<0.1
3/13/2012	6,100	--	--	--	2,100	2,900	43	79	180	120	1,600	23	<0.07	<0.1
4/27/2012	5,100	--	--	--	2,200	3,800	49	61	150	150	500	38	<0.13	<0.12
5/22/2012	6,800	--	--	--	31,000	2,800	49	140	262	150	690	30	<0.13	<0.12

Table 6. Extracted Groundwater Analytical Results^a

SFPP Norwalk Pump Station, Norwalk, California

Date Sampled	EPA 8015M					EPA 8260B Volatile Organic Compounds (VOCs) ^b								
	TPH-g (µg/L)	TPH-d (µg/L)	TPH-o (µg/L)	TPH-total (µg/L)	TPH-fp (µg/L)	Benzene (µg/L)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)
6/19/2012	5,300	--	--	--	36,000	3,200	45	230	200	220	2,800	33	<0.13	<0.12
7/20/2012	5,600	2,400	210	8,200	--	3,000	71	72	510	170	2,700	26	<0.13	<0.12
8/21/2012	3,600	1,100	140	4,900	--	2,400	26	41	80	110	1,500	22	<0.13	<0.12
9/25/2012	2,100	710	71	2,800	--	1,700	25	35	86	150	690	17	<1.0	<1.0
10/30/2012	2,600	700	74	3,374	--	1,400	15	13	52	54	1,200	14	<0.061	<0.054
11/30/2012	860	8,200	260	9,320	--	1,100	2.4	4.4	12	23	690	<0.038	<0.061	<0.054
12/27/2012	6,200	820	86	7,106	--	2,000	39	76	130	120	1,300	20	<0.061	<0.054
1/15/2013	3,400	14,000	400	17,800	--	800	12	25	130	43	1,200	8.7	<0.061	<0.054
2/12/2013	9,900	3,100	150	13,150	--	2,100	110	440	820	110	330	22	<0.061	<0.054
3/5/2013	3,954	970	80	5,004	--	1,400	21	23	87	63	1,200	15	<0.061	<0.054
3/15/2013	--	--	--	--	--	1,400	25	49	98	74	570	14	<0.061	<0.054
4/16/2013	1,100	1,300	270	2,670	--	370	6	19	56	73	530	17	<0.061	<0.054
5/14/2013	4,300	830	99	5,229	--	2,000	52	98	181	61	270	22	<0.061	<0.054
6/28/2013	2,900	870	150	3,920	--	1,100	18	58	76	92	500	11	<0.061	<0.054
7/16/2013	3,600	1,000	130	4,730	--	870	19	47	140	100	600	14	<0.061	<0.054
8/16/2013	3,800	5,900	530	10,230	--	1,400	13	32	85	77	550	27	<0.061	<0.054
9/24/2013	5,800	12,000	550	18,350	--	990	53	400	630	78	440	20	<0.061	<0.054
10/15/2013	3,300	650	120	4,070	--	1,400	11	37	150	43	250	15	<0.061	<0.054
11/12/2013	5,600	3,500	190	9,290	--	570	99	230	660	89	550	20	<0.061	<0.054
12/13/2013	12,500	14,000	400	26,900	--	560	170	690	1,500	52	220	17	<0.061	<0.054
1/17/2014	5,900	980	130	7,010	--	4,200	13	18	61	89	810	40	<0.061	<0.054
2/11/2014	12,000	63,000	2,500	77,500	--	640	130	560	1,990	45	290	12	<0.061	<0.054
3/21/2014	42,000	77,000	2,000	121,000	--	3,700	440	3,300	3,900	100	360	17	<0.061	<0.054
4/21/2014	100,000	30,000	880	130,000	--	6,000	1,300	9,800	9,000	<0.098	<1.0	12	<0.061	<0.054
5/20/2014	33,000	15,000	470	48,000	--	1,400	570	2,700	5,400	30	<0.40	16	<0.061	<0.054
6/13/2014	77,000	33,000	1,100	110,000	--	7,700	1,900	10,000	13,000	38	<0.40	12	<0.061	<0.054
7/12/2014	28,000	82	<52	28,082	--	2,800	820	3,700	6,800	34	<0.40	18J	<25	<25
The GWTS was down between July 29, 2014, and December 1, 2014, to facilitate processing of the modifications to SCAQMD Permit No. F14166 for the GWTS.														
1/15/2015	8,000	5,600	270	13,870	--	2,200	22	140	430	21	390	11	<0.12	<0.11
2/20/2015	120,000	47,000	1,500	170,000	--	3,000	350	1,600	3,000	43	<0.80	17	<0.12	<0.11
3/3/2015	65,000	480,000	15,000	560,000	--	6,600	1,700	9,300	12,000	670	<0.80	11	<0.12	<0.11
4/7/2015	105,000	92,000	2,900	200,000	--	9,000	2,100	18,000	13,000	1,200	<0.80	8.7	<0.12	17
5/19/2015	73,000	90,000	2,400	165,400	--	8,200	1,600	17,000	12,000	380	<0.60	25	<0.078	<0.078
6/2/2015	78,000	89,000	3,100	170,100	--	3,200	530	3,700	7,100	1,100	<0.60	13	<0.078	8.3
7/30/2015	31,000	16,000	570	47,570	--	3,100	720	5,100	6,200	820	<0.60	27	<0.078	6.2
8/6/2015	30,000	17,000	570	37,570	--	2,600	500	3,100	6,200	700	<0.60	16	<0.078	6.4

Table 6. Extracted Groundwater Analytical Results^a

SFPP Norwalk Pump Station, Norwalk, California

Date Sampled	EPA 8015M					EPA 8260B Volatile Organic Compounds (VOCs) ^b								
	TPH-g (µg/L)	TPH-d (µg/L)	TPH-o (µg/L)	TPH-total (µg/L)	TPH-fp (µg/L)	Benzene (µg/L)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)
9/15/2015	50,000	79,000	2,700	129,000	--	3,200	1,800	6,500	14,000	820	<0.60	15	<0.078	7.7
10/8/2015	51,000	55,000	1,800	107,800	--	5,700	1,400	11,000	11,000	680	<0.60	16	<0.078	6.2
11/24/2015	45,000	74,000	2,800	121,800	--	3,400	1,100	7,000	7,800	<0.31	<1.5	16	<0.20	<0.20
12/3/2015	40,000	120,000	4,000	164,000	--	4,800	1,100	7,700	8,300	580	<1.5	19	<0.20	5.9
1/21/2016	88,000	2,500,000	97,000	2,685,000	--	4,200	1,700	10,000	14,000	380	<0.60	12	<0.078	<0.078
2/2/2016	31,000	110,000	4,700	145,700	--	2,600	750	4,600	9,500	430	<0.60	8.6	<0.078	<0.078
4/5/2016	32,000	31,000	1,100	64,100	--	1,500	450	2,200	12,000	390	<3.0	<0.17	<0.39	<0.39
5/3/2016	2,600	20,000	680	23,280	--	990	18	83	260	6.0	100	7.1	<0.039	<0.039
6/14/2016	1,900	4,400	280	6,580	--	290	21	110	400	8.6	<5.0	6.00	<1.0	<1.0
The GWTS was down between June 24, 2016, and September 9, 2016, to facilitate installation of the new DAF/OWS.														
9/20/2016	32	230	130	390	--	<0.036	0.18 J	0.080 J	2.6	2.2	150	10	<0.039	<0.039
10/21/2016	10,000	9,300	360	20,000	--	320	320	1,100	2,700	5.1	<0.30	5.3	<0.039	<0.039
11/8/2016	1,100	1,500	130	2,800	--	2.5	<0.036	2.6	160	2.4	66	9.1	<0.039	<0.039
12/27/2016	140	390	130	660	--	1.2	<0.042	<0.042	2.0 J	1.4	2200	8.7	<0.039	<0.039
1/19/2017	190	340	120	640	--	6.9	0.24 J	0.15 J	<1.5	2.4	2300	8.1	<0.15	<0.12
2/3/2017	390	490	170	1,000	--	4.2	0.89 J	3.5	30	3.5	1700	5.1	<0.15	<0.12
3/3/2017	790	320	78	1,200	--	180	5	1.7 J	24	4.2	620	3.0	<0.15	<0.12
4/7/2017	1,200	780	140	2,100	--	740	21	23	87	7.5	120	4.8	<0.15	<0.12
5/4/2017	20	300	100	430	--	0.18 J	<0.036	0.12 J	<1.5	1.4	320	<0.017	<0.039	<0.039
6/20/2017	11,000	54,000	3,000	68,000	--	1,400	100	400	2,300	15	<18	8.1 J	<1.5	<1.2
7/20/2017	17 J	400	180	600	--	<1.0	<1.0	<2.0	<2.0	1.2	38	4.2	<1.0	<1.0
8/3/2017	39 J	410	310	760	--	<1.0	<1.0	<2.0	<2.0	1.3	25	4.2	<1.0	<1.0
9/20/2017	940	2,400	1,300	4,600	--	<1.0	0.15 J	0.17 J	4.4	0.59	5.4	0.70 J	<1.0	<1.0
10/10/2017	860	1,200	240	2,300	--	<1.0	5.2	13	120	3.7	26	6.5	<1.0	<1.0
11/8/2017	4,000	27,000	2,000	33,000	--	24	6.7	8.7	690	70	<5.0	8.8	<1.0	<1.0
12/15/2017	1,400	2,300	500	4,200	--	6.0	1.6	5.9	52	120	200	<1.0	<1.0	<1.0
1/4/2018	1,800	1,500	560	3,900	--	190	4.9	30	410	160	240	5.4	<1.0	<1.0
2/8/2018	36	640	530	1,200	--	0.53 J	<1.0	0.62 J	2.4	2.4	<5.0	2.1	<1.0	<1.0
2/27/2018	220	560	240	100	--	3.9	0.55 J	1.6 J	9.3	2.3	26	5.5	<1.0	<1.0
3/27/2018	430	380	330	1,100	--	5.3	0.83 J	<2.0	11	43	410	2.1	<1.0	<1.0
4/24/2018	49 J	370	410	830 J	--	<1.0	<1.0	<2.0	<2.0	1.7	230	1.6	<1.0	<1.0
5/22/2018	45 J	120	180	340	--	<1.0	<1.0	<2.0	<2.0	0.94 J	330	0.45 J	<1.0	<1.0
7/3/2018	4,700	1,300	2,300	8,300	--	220	140	35	1,300	92	1,500	0.91 J	<1.0	<1.0
7/31/2018	200	260	220	680	--	14	1.0	<2.0	3.0	27	320	2.6	<1.0	<1.0
8/31/2018	130	200	460	790	--	5.1	0.35 J	1.0 J	4.8	39	610	<1.0	<1.0	<1.0
9/25/2018	<50	280	350	630	--	<1.0	<1.0	<2.0	<2.0	23	52	2.3	<1.0	<1.0

Table 6. Extracted Groundwater Analytical Results^a

SFPP Norwalk Pump Station, Norwalk, California

Date Sampled	EPA 8015M					EPA 8260B Volatile Organic Compounds (VOCs) ^b									
	TPH-g (µg/L)	TPH-d (µg/L)	TPH-o (µg/L)	TPH-total (µg/L)	TPH-fp (µg/L)	Benzene (µg/L)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	
10/23/2018	74	<32	<80	74 J	--	1.2	<1.0	<2.0	<2.0	2.2	38	3.8	<1.0	<1.0	
11/12/2018	<50	120	<100	120	--	<1.0	<1.0	<2.0	<2.0	1.4	120	4.1	<1.0	<1.0	
12/14/2018	170	210	77	460	--	1.8	0.49 J	0.94 J	5.3	14	180	1.4	<1.0	<1.0	
1/29/2019	100	250	64	410	--	<1.0	<1.0	<2.0	<2.0	2.6	<5.0	1.7	<1.0	<1.0	
2/7/2019	36 J	210	93	340	--	<1.0	<1.0	<2.0	2.0 J	1.1	22	0.82 J	<1.0	<1.0	
3/8/2019	38 J	270	110	420	--	<1.0	<1.0	<2.0	<2.0	1.7	22	3.8	<1.0	<1.0	
4/29/2019	33 J	220	97	350	--	<1.0	<1.0	<2.0	<2.0	1.2	1,100	2.7	<1.0	<1.0	
5/28/2019	31 J	270	120	420	--	<1.0	<1.0	<2.0	<2.0	1.8	16	2.6	<1.0	<1.0	
6/20/2019	170	210	82	460	--	86	1.1	1.9 J	11	2.8	220	4.5	<1.0	<1.0	
7/31/2019	200	130	60	390	--	130	1.9	0.75	11	1.6	320	6.9	<1.0	<1.0	
8/22/2019	840	350	420	1,600	--	670	11	2.6	44	2.3	190	11	<1.0	<1.0	
9/12/2019	440	180	87	650	--	140	1.8	0.61 J	8	1.2	110	3.4	<1.0	<1.0	
10/8/2019	28 J	250	140	420	--	<1.0	<1.0	<2.0	<2.0	<1.0	<5.0	0.94 J	<1.0	<1.0	
11/19/2019	19 ^e B, J	170	150	330	--	<1.0	<1.0	<2.0	<2.0	<1.0	<5.0	<1.0	<1.0	<1.0	
December-19	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	
January-20	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	
February-20	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	
March-20	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	-- ^f	

Notes:

^a Influent samples were collected from the manifold conveying groundwater extracted from the south-central and southeastern areas.

^b Other detected VOCs are included in the laboratory analytical reports in Appendix B.

^c TPH-fp result from extracted groundwater sample collected on July 10, 2008.

^d The July 27, 2011, sample, and samples collected after July 20, 2012, were analyzed for TPH-g, TPH-d, and TPH-o.

^e The concentration detected in method blank sample was 12 µg/L (J).

^f The GWTS remained down for the entire month, due to a malfunction with the chart recorder and leaking effluent polishing carbon vessel.

-- = not analyzed

<X = Not detected at or above the laboratory reporting limit "X"

J = Analyte detected above the laboratory method detection limit and below the laboratory reporting limit

B = Analyte detected in the associated method blank

µg/L = micrograms per liter

ppm = parts per million

DAF = dissolved air flotation

DIPE = di-isopropyl ether

ETBE = ethyl tertiary butyl ether

GWTS = groundwater treatment system

MTBE = methyl tertiary butyl ether

OWS = oil-water separator

SCAQMD = South Coast Air Quality Management District

TAME = tertiary amyl methyl ether

TBA = tertiary butyl alcohol

TPH-d = total petroleum hydrocarbons quantified as diesel (C13-C22)

TPH-fp = total petroleum hydrocarbons quantified as fuel product (C7-C28)

TPH-g = total petroleum hydrocarbons quantified as gasoline (C4-C12)

TPH-o = total petroleum hydrocarbons quantified as oil (C23-C36)

TPH-total = total petroleum hydrocarbons quantified as gasoline, diesel, and oil (C4-C36)

Table 7. Biosparge System Operation Summary
SFPP Norwalk Pump Station, Norwalk, California

System Inspection Date	Cumulative Hours of Operation (hours)	Incremental Hours of Operation (hours)	Incremental Uptime (%)	System Flow ^a (scfm)	BS-01 Sparge Leg Pressure (psi)
1/6/2016	0			60	10
2/16/2016	899	899	91.9	500	13
2/23/2016	1,071	172	99.1	500	14
2/29/2016	1,192	121	85.1	500	13
3/1/2016	1,214	22	98.5	500	13
3/8/2016	1,381	167	99.9	500	14
3/10/2016	1,426	45	98.5	500	14
3/22/2016	1,432	6	2.0	240	7
3/31/2016	1,524	92	42.5	180	8
First Quarter 2016 Total	1,524	1,524	74.7	--	--
4/5/2016	1,644	120	99.2	120	7
4/15/2016	1,645	1	0.4	120	8
4/19/2016	1,735	90	99.4	240	9
4/25/2016	1,856	121	84.6	120	8
4/26/2016	1,881	25	87.7	240	8
4/29/2016	1,955	74	100.0	240	7
5/10/2016	1,955	0	0.0	240	8
5/17/2016	2,123	168	99.8	240	6
5/19/2016	2,140	17	36.9	120	5
5/24/2016	2,254	114	94.4	360	6
5/31/2016	2,422	168	98.7	360	7
6/7/2016	2,591	169	100.0	420	7
6/14/2016	2,754	163	95.3	420	8
6/21/2016	2,906	152	92.7	420	8
6/24/2016	2,982	76	99.6	420	8
Second Quarter 2016 Total	2,982	1,458	71.5	--	--

Table 7. Biosparge System Operation Summary
SFPP Norwalk Pump Station, Norwalk, California

System Inspection Date	Cumulative Hours of Operation (hours)	Incremental Hours of Operation (hours)	Incremental Uptime (%)	System Flow ^a (scfm)	BS-01 Sparge Leg Pressure (psi)
7/1/2016	2,982	0	0.0	120	5
7/7/2016	3,121	139	97.9	250	8
7/12/2016	3,242	121	100.0	420	5
7/19/2016	3,410	168	97.1	420	8
7/26/2016	3,575	165	99.8	420	8
8/2/2016	3,744	169	99.6	425	8
8/11/2016	3,931	187	88.0	240	7
8/16/2016	3,961	30	24.7	220	8
8/24/2016	4,033	72	36.5	120	4
8/25/2016	4,053	20	89.9	220	8
8/26/2016	4,067	14	66.7	78	5
8/30/2016	4,157	90	96.8	300	9
9/6/2016	4,303	146	84.5	85	5
9/13/2016	4,440	137	81.7	400	8
9/20/2016	4,611	171	100.0	586	14
9/27/2016	4,775	164	100.0	559	13
Third Quarter 2016 Total	4,775	1,793	78.7	--	--
10/7/2016	4,776	1	0.4	110	4
10/8/2016	4,797	21	98.7	170	6
10/11/2016	4,866	69	99.9	420	11
10/13/2016	4,916	50	99.9	563	15
10/18/2016	4,965	49	42.1	120	8
10/25/2016	5,133	168	100.0	585	14
11/1/2016	5,302	169	99.8	598	14
Fourth Quarter 2016 Total	5,302	527	62.7	--	--
2016 Totals	5,302	5,302	--	--	--
First Quarter 2017 Total	5,302	0	--	--	--
6/27/2017	5,302	0	0.0	220	6
6/30/2017	5,368	66	22.0	207	7
Second Quarter 2017 Total	5,368	66	--	--	--

Table 7. Biosparge System Operation Summary
SFPP Norwalk Pump Station, Norwalk, California

System Inspection Date	Cumulative Hours of Operation (hours)	Incremental Hours of Operation (hours)	Incremental Uptime (%)	System Flow ^a (scfm)	BS-01 Sparge Leg Pressure (psi)
7/5/2017	5,490	122	92.7	300	9
7/10/2017	5,610	120	100.0	290	8
7/13/2017	5,679	69	95.8	421	11
7/20/2017	5,850	171	100.0	526	14
7/25/2017	5,971	121	100.0	694	14
8/3/2017	6,183	212	94.4	544	13
8/8/2017	6,302	119	99.1	545	15
8/15/2017	6,417	115	68.8	550	14
8/22/2017	6,588	171	100.0	541	14
8/29/2017	6,753	165	99.1	544	14
9/7/2017	6,826	73	33.1	240	7
9/12/2017	6,941	115	100.0	747	14
9/18/2017	7,065	124	85.2	240	7
9/19/2017	7,089	24	100.0	218	7
9/26/2017	7,255	166	99.3	544	15
Third Quarter 2017 Total	7,255	1,887	89.1	--	--
10/6/2017	7,260	5	2.1	260	7
10/10/2017	7,354	94	97.9	521	15
10/12/2017	7,397	43	89.6	556	15
10/16/2017	7,482	85	88.5	250	6
11/2/2017	7,485	3	0.7	260	8
11/7/2017	7,604	119	99.2	549	15
11/21/2017	7,652	48	14.3	280	10
11/28/2017	7,751	99	58.9	594	15
12/5/2017	7,914	163	97.0	705	15
12/8/2017	7,964	50	69.4	697	14
12/12/2017	8,081	117	100.0	774	13
12/19/2017	8,247	166	98.8	782	14
1/2/2018	8,580	333	99.1	755	14
Fourth Quarter 2017 Total	8,580	1,325	56.5		

Table 7. Biosparge System Operation Summary
SFPP Norwalk Pump Station, Norwalk, California

System Inspection Date	Cumulative Hours of Operation (hours)	Incremental Hours of Operation (hours)	Incremental Uptime (%)	System Flow ^a (scfm)	BS-01 Sparge Leg Pressure (psi)
1/9/2018	8,751	171	100.0	589	13
1/23/2018	8,823	72	21.4	625	14
1/30/2018	8,932	109	64.9	294	8
2/6/2018	9,005	73	43.5	295	8
2/15/2018	9,219	214	95.4	624	14
2/20/2018	9,342	123	100.0	624	14
2/27/2018	9,490	148	90.2	629	14
3/13/2018	9,751	261	79.3	359	8
3/20/2018	9,911	160	95.2	412	8
3/27/2018	10,078	167	99.4	403	8
First Quarter 2018 Total	10,078	1,498	74.3	--	--
4/3/2018	10,247	169	100.0	374	8
4/5/2018	10,295	48	100.0	368	8
4/24/2018	10,419	124	27.2	190	7
4/27/2018	10,493	74	100.0	269	8
5/1/2018	10,585	92	95.8	279	8
5/8/2018	10,752	167	99.4	389	8
5/11/2018	10,826	74	100.0	393	9
5/14/2018	10,899	73	100.0	98	5
5/15/2018	10,900	1	4.2	117	5
5/18/2018	10,974	74	100.0	113	5
5/22/2018	11,049	75	78.1	104	5
5/25/2018	11,118	69	95.8	101	5
5/29/2018	11,217	99	100.0	209	6
6/5/2018	11,381	164	97.6	385	8
6/7/2018	11,431	50	100.0	386	9
6/12/2018	11,504	73	60.8	252	7
6/19/2018	11,673	169	100.0	336	8
6/26/2018	11,841	168	100.0	356	8
6/29/2018	11,842	1.0	1.4	101	5
Second Quarter 2018 Total	11,842	1,764	78.2	--	--

Table 7. Biosparge System Operation Summary
SFPP Norwalk Pump Station, Norwalk, California

System Inspection Date	Cumulative Hours of Operation (hours)	Incremental Hours of Operation (hours)	Incremental Uptime (%)	System Flow ^a (scfm)	BS-01 Sparge Leg Pressure (psi)
7/3/2018	11,932	90.0	93.8	203	6
7/12/2018	12,012	80.0	37.0	99	5
7/17/2018	12,127	115.0	95.8	270	8
7/24/2018	12,295	168.0	100.0	379	8
7/31/2018	12,449	154.0	91.7	411	10
8/7/2018	12,613	164.0	97.6	425	8
8/10/2018	12,689	76.0	100.0	406	8
8/14/2018	12,781	92.0	95.8	408	8
8/23/2018	12,869	88.0	40.7	109	5
8/28/2018	12,988	119.0	99.2	411	8
9/4/2018	13,085	97.0	57.7	123	5
9/6/2018	13,129	44.0	91.7	120	5
9/11/2018	13,235	106.0	88.3	340	7
9/18/2018	13,398	163.0	97.0	508	10
9/25/2018	13,567	169.0	100.0	422	9
Third Quarter 2018 Total	13,567	1,725	81.7	--	--
10/5/2018	13,812	245.0	100.0	475	8
10/9/2018	13,905	93.0	96.9	391	8
10/16/2018	14,068	163.0	97.0	114	5
10/22/2018	14,216	148.0	100.0	387	8
10/30/2018	14,216	0.0	0.0	0	0
12/31/2018	14,216	0.0	0.0	0	0
Fourth Quarter 2018 Total	14,216	649	27.9	--	--

Table 7. Biosparge System Operation Summary
SFPP Norwalk Pump Station, Norwalk, California

System Inspection Date	Cumulative Hours of Operation (hours)	Incremental Hours of Operation (hours)	Incremental Uptime (%)	System Flow ^a (scfm)	BS-01 Sparge Leg Pressure (psi)
1/14/2019	14,219	3	0.9	150	20
1/15/2019	14,241	22	91.7	150	20
1/22/2019	14,241	0	0.0	150	2
2/11/2019	14,311	70	14.6	150	1
2/21/2019	14,335	24	10.0	150	2
2/26/2019	14,453	118	98.3	301	7
3/5/2019	14,620	167	99.4	338	6
3/7/2019	14,671	51	100.0	454	5
3/12/2019	14,788	117	97.5	465	4
3/19/2019	14,954	166	98.8	394	4
3/26/2019	15,122	168	100	350	5
First Quarter 2019 Total	15,122	906	44.4	--	--
4/2/2019	15,197	75	44.6	155	8
4/9/2019	15,366	169	100	280	2
4/23/2019	15,366	0	0	150	2
4/29/2019	15,508	142	99	297	2
5/7/2019	15,691	183	95	149	2
5/14/2019	15,857	166	99	267	3
5/21/2019	16,025	168	100	401	8
5/30/2019	16,238	213	99	444	8
6/4/2019	16,360	122	100	158	2
6/11/2019	16,527	167	99	308	2
6/18/2019	16,696	169	100	338	5
6/27/2019	16,895	199	92.1	445	9
Second Quarter 2019 Total	16,895	1,773	79.4	--	--

Table 7. Biosparge System Operation Summary
SFPP Norwalk Pump Station, Norwalk, California

System Inspection Date	Cumulative Hours of Operation (hours)	Incremental Hours of Operation (hours)	Incremental Uptime (%)	System Flow ^a (scfm)	BS-01 Sparge Leg Pressure (psi)
7/2/2019	17,016	121	100	470	8
7/9/2019	17,184	168	100	488	9
7/16/2019	17,351	167	99	157	2
7/23/2019	17,518	167	99	474	5
7/30/2019	17,686	168	100	485	10
8/6/2019	17,856	170	100	494	8
8/13/2019	18,022	166	99	450	10
8/22/2019	18,238	216	100	461	8
8/27/2019	18,341	103	86	524	10
9/3/2019	18,503	162	96	431	8
9/12/2019	18,720	217	100	464	8
9/17/2019	18,843	123	100	200	1
9/24/2019	18,843	0	0	0	1
Third Quarter 2019 Total	18,843	1,948	91.2	--	--
10/1/2019	18,932	89	53	134	7
10/8/2019	19,100	168	100	466	2
10/15/2019	19,267	167	99	447	8
10/22/2019	19,432	165	98	401	8
10/29/2019	19,432	0	0	0	0
11/5/2019	19,432	0	0	0	0
11/7/2019	19,475	43	90	159	2
11/11/2019	19,593	118	100	431	4
11/19/2019	19,766	173	90	442	4
11/26/2019	19,930	164	98	466	5
12/9/2019	19,930	0	0	150	4
12/17/2019	20,119	189	98	394	2
12/26/2019	20,332	213	99	0	0
12/31/2019	20,332	0	0	0	0
Fourth Quarter 2019 Total	20,332	1,489	63.3	--	--

Table 7. Biosparge System Operation Summary*SFPP Norwalk Pump Station, Norwalk, California*

System Inspection Date	Cumulative Hours of Operation (hours)	Incremental Hours of Operation (hours)	Incremental Uptime (%)	System Flow^a (scfm)	BS-01 Sparge Leg Pressure (psi)
1/7/2020	20,332	0	0	0	0
1/14/2020	20,332	0	0	0	0
1/21/2020	20,332	0	0	0	0
1/28/2020	20,332	0	0	0	0
2/4/2020	20,332	0	0	0	0
2/11/2020	20,332	0	0	0	0
2/18/2020	20,332	0	0	0	0
2/25/2020	20,332	0	0	0	0
3/5/2020	20,332	0	0	0	0
3/10/2020	20,322	0	0	0	0
First Quarter 2020 Total	20,322	0	0.0	--	--
Cumulative Totals	20,332	--	55.5	--	--

Notes:

^a Estimated system flow based on header flowmeter.

-- = not applicable or not available

psi = pounds per square inch

scfm = standard cubic feet per minute

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
GMW-9	4/30/2007	74.44	26.71	---	---	47.73	Secor
	11/12/2007	74.44	27.32	27.04	0.28	47.34	Secor
	8/8/2008	74.44	28.01	27.96	0.05	46.47	Envent
	10/16/2008	74.44	28.36	28.35	0.01	46.09	Envent
	12/17/2008	74.44	27.61	---	---	46.83	Envent
	1/15/2009	74.44	28.91	---	---	45.53	Envent
	3/27/2009	74.44	29.04	---	---	45.40	Envent
	4/21/2009	74.44	28.16	---	---	46.28	Envent
	7/21/2009	74.44	28.31	---	---	46.13	Envent
	10/19/2009	74.44	NM	---	---	NC	Blaine Tech
	5/24/2010	74.44	30.47	---	---	43.97	Blaine Tech
	5/28/2010	74.44	30.35	---	---	44.09	Blaine Tech
	10/4/2010	74.44	30.30	---	---	44.14	Blaine Tech
	1/10/2011	74.44	32.02	---	---	42.42	Blaine Tech
	4/11/2011	74.44	25.41	---	---	49.03	Blaine Tech
	7/11/2011	74.44	NM	---	---	NC	
	10/10/2011	74.44	28.91	---	---	45.53	Blaine Tech
	4/16/2012	74.44	31.15	---	---	43.29	Blaine Tech
	7/9/2012	---	31.64	---	---	NC	Blaine Tech
	10/15/2012	77.16	31.82	---	---	45.34	Blaine Tech
	1/14/2013	77.16	31.88	---	---	45.28	Blaine Tech
	4/8/2013	77.16	31.83	---	---	45.33	Blaine Tech
	10/7/2013	77.16	35.30	31.25	4.05	45.02	Blaine Tech
	4/14/2014	77.16	37.66	31.65	6.01	44.19	Blaine Tech
	5/5/2014	77.16	37.81	31.76	6.05	44.07	Nieto & Sons
	5/12/2014	77.16	37.39	31.83	5.56	44.11	Nieto & Sons
	5/20/2014	77.16	37.70	33.85	3.85	42.46	Nieto & Sons
	5/27/2014	77.16	32.41	28.84	3.57	47.53	Nieto & Sons
	6/4/2014	77.16	33.20	---	---	43.96	Nieto & Sons
	6/10/2014	77.16	37.51	32.77	4.74	43.35	Nieto & Sons
	7/3/2014	77.16	39.26	32.59	6.67	43.10	Nieto & Sons
	7/8/2014	77.16	38.59	32.45	6.14	43.36	Blaine Tech
	7/18/2014	77.16	37.15	32.73	4.42	43.46	Blaine Tech
	7/24/2014	77.16	37.78	32.48	5.30	43.51	Blaine Tech
	8/1/2014	77.16	36.72	32.30	4.42	43.89	Blaine Tech
	8/8/2014	77.16	36.55	32.26	4.29	43.96	Blaine Tech
	8/13/2014	77.16	36.25	32.33	3.92	43.97	Blaine Tech
	8/19/2014	77.16	36.04	32.38	3.66	43.97	Blaine Tech
	8/29/2014	77.16	36.23	32.33	3.90	43.97	Blaine Tech
	9/5/2014	77.16	36.26	32.35	3.91	43.95	Blaine Tech
	9/11/2014	77.16	36.27	32.33	3.94	43.96	Blaine Tech
	9/18/2014	77.16	36.42	32.37	4.05	43.90	Blaine Tech
9/26/2014	77.16	36.39	32.35	4.04	43.92	Blaine Tech	
10/1/2014	77.16	36.11	32.42	3.69	43.93	Blaine Tech	
10/6/2014	77.16	35.99	32.42	3.57	43.95	Blaine Tech	
10/14/2014	77.16	36.24	32.34	3.90	43.96	Blaine Tech	
10/23/2014	77.16	36.32	32.35	3.97	43.94	Blaine Tech	
10/27/2014	77.16	36.04	32.42	3.62	43.94	Blaine Tech	
11/3/2014	77.16	36.40	32.35	4.05	43.92	Blaine Tech	
11/10/2014	77.16	36.32	32.41	3.91	43.89	Blaine Tech	
11/18/2014	77.16	36.28	32.43	3.85	43.88	Blaine Tech	
11/25/2014	77.16	36.21	32.49	3.72	43.85	Blaine Tech	
12/3/2014	77.16	36.18	32.43	3.75	43.90	Blaine Tech	
12/12/2014	77.16	36.58	32.74	3.84	43.58	Blaine Tech	
12/19/2014	77.16	37.05	32.76	4.29	43.46	Blaine Tech	
3/6/2015	77.16	39.40	33.13	6.27	42.65	Kinder Morgan	
4/20/2015	77.16	36.98	32.99	3.99	43.29	Blaine Tech	
10/20/2015	77.16	34.61	34.37	0.24	42.74	Kinder Morgan	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	3/14/2016	77.16	36.10	---	---	41.06	Blaine Tech
	4/11/2016	77.16	36.20	---	---	40.96	Blaine Tech
	6/30/2016	77.16	31.02	---	---	46.14	Kinder Morgan
	8/22/2016	77.16	37.27	---	---	39.89	Kinder Morgan
	10/3/2016	77.16	38.02	---	---	39.14	Blaine Tech
	3/7/2017	77.16	35.13	---	---	42.03	CH2M
	4/17/2017	77.16	33.32	---	---	43.84	Blaine Tech
	10/2/2017	77.16	38.43	---	---	38.73	Blaine Tech
	4/16/2018	77.16	37.98	---	---	39.18	Blaine Tech
	11/5/2018	77.16	33.95	---	---	43.21	Blaine Tech
4/23/2019	77.16	29.72	---	---	47.44	Blaine Tech	
10/28/2019	77.16	37.90	---	---	39.26	Blaine Tech	
GMW-10	4/30/2007	74.67	25.90	---	---	48.77	Secor
	11/12/2007	74.67	25.02	25.82	0.83	50.33	Secor
	4/14/2008	74.67	25.38	25.44	0.06	49.34	Secor
	10/13/2008	74.67	24.16	---	---	50.51	Stantec
	4/20/2009	74.67	24.46	---	---	50.21	Blaine Tech
	10/19/2009	74.67	27.20	---	---	47.47	Blaine Tech
	5/24/2010	74.67	26.72	---	---	47.95	Blaine Tech
	5/28/2010	74.67	26.70	---	---	47.97	Blaine Tech
	10/4/2010	74.67	27.15	---	---	47.52	Blaine Tech
	4/11/2011	74.67	25.21	---	---	49.46	Blaine Tech
	10/10/2011	74.67	27.75	---	---	46.92	Blaine Tech
	4/27/2012	74.67	28.47	---	---	46.20	Blaine Tech
	7/9/2012	74.67	NM	---	---	NC	Blaine Tech
	10/15/2012	74.67	29.15	29.02	0.13	45.63	Blaine Tech
	4/8/2013	74.67	33.64	28.12	5.52	45.53	Blaine Tech
	9/26/2013	73.35	36.15	29.25	6.90	42.82	Blaine Tech
	10/7/2013	73.35	31.85	29.32	2.53	43.56	Blaine Tech
	4/14/2014	73.35	29.43	29.01	0.42	44.26	Blaine Tech
	8/19/2014	73.35	29.80	29.53	0.27	43.77	Blaine Tech
	8/29/2014	73.35	29.68	29.25	0.43	44.02	Blaine Tech
	9/26/2014	73.35	29.98	29.23	0.75	43.98	Blaine Tech
	10/1/2014	73.35	29.98	29.19	0.79	44.01	Blaine Tech
	10/6/2014	73.35	30.01	29.16	0.85	44.03	Blaine Tech
	10/14/2014	73.35	30.01	29.18	0.83	44.02	Blaine Tech
	10/23/2014	73.35	30.17	29.15	1.02	44.01	Blaine Tech
	10/27/2014	73.35	30.19	29.12	1.07	44.03	Blaine Tech
	11/3/2014	73.35	30.25	29.13	1.12	44.01	Blaine Tech
	11/10/2014	73.35	29.85	29.28	0.57	43.96	Blaine Tech
	11/18/2014	73.35	29.95	29.28	0.67	43.95	Blaine Tech
	11/25/2014	73.35	30.00	29.27	0.73	43.94	Blaine Tech
	12/3/2014	73.35	30.18	29.27	0.91	43.91	Blaine Tech
	12/12/2014	73.35	30.81	29.45	1.36	43.65	Blaine Tech
	12/19/2014	73.35	30.51	30.35	0.16	42.97	Blaine Tech
	4/20/2015	73.35	34.99	28.42	6.57	43.71	Blaine Tech
	7/17/2015	73.35	36.10	29.41	6.69	42.70	Blaine Tech
	10/20/2015	73.35	32.96	31.02	1.94	41.97	Kinder Morgan
	3/16/2016	73.35	34.47	33.42	1.05	39.74	Kinder Morgan
	4/11/2016	73.35	33.70	32.10	1.60	40.95	Blaine Tech
	6/29/2016	73.35	33.02	---	---	40.33	Blaine Tech
	8/22/2016	73.35	33.82	32.93	0.89	40.26	Blaine Tech
10/3/2016	73.35	35.10	33.65	1.45	39.43	Blaine Tech	
3/8/2017	73.35	32.75	---	---	40.60	CH2M	
04/17/17	73.35	31.15	---	---	42.20	Blaine Tech	
10/2/2017	73.35	33.48	---	---	39.87	Blaine Tech	
4/16/2018	73.35	33.87	33.74	0.13	39.58	Blaine Tech	
11/5/2018	73.35	34.16	34.14	0.02	39.21	Blaine Tech	
4/16/2019	73.35	30.55	--	--	42.80	Blaine Tech	
10/28/2019	73.35	34.12	33.84	0.28	39.45	Blaine Tech	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
GMW-22	4/30/2007	74.17	25.79	---	---	48.38	Secor
	11/12/2007	74.17	26.45	25.91	0.54	48.16	Stantec
	8/12/2008	74.17	26.70	---	---	47.47	Envent
	10/31/2008	74.17	28.25	27.04	1.21	46.91	Envent
	11/4/2008	74.17	26.97	---	---	47.20	Envent
	12/17/2008	74.17	26.65	---	---	47.52	Envent
	1/15/2009	74.17	27.18	---	---	46.99	Envent
	3/27/2009	74.17	27.86	---	---	46.31	Envent
	4/21/2009	74.17	27.30	27.20	0.10	46.95	Envent
	7/21/2009	74.17	27.70	---	---	46.47	Envent
	10/19/2009	74.17	NM	---	---	NC	Blaine Tech
	11/6/2009	74.17	28.12	---	---	46.05	Kinder Morgan
	9/3/2010	74.17	28.36	25.10	3.26	48.47	Kinder Morgan
	10/4/2010	74.17	27.65	---	---	46.52	Blaine Tech
	4/11/2011	74.17	26.45	---	---	47.72	Blaine Tech
	10/10/2011	74.17	29.68	---	---	44.49	Blaine Tech
	4/16/2012	74.17	31.15	---	---	43.02	Blaine Tech
	7/9/2012	---	NM	---	---	NC	Blaine Tech
	10/15/2012	77.24	31.05	---	---	46.19	Blaine Tech
	4/8/2013	77.24	31.92	---	---	45.32	Blaine Tech
	10/7/2013	77.24	34.28	31.65	2.63	45.10	Blaine Tech
	4/14/2014	77.24	35.59	32.30	3.29	44.33	Blaine Tech
	5/6/2014	77.24	35.87	32.35	3.52	44.24	Nieto & Sons
	5/12/2014	77.24	35.76	32.28	3.48	44.32	Nieto & Sons
	5/20/2014	77.24	37.90	32.70	5.20	43.58	Nieto & Sons
	5/27/2014	77.24	36.34	32.71	3.63	43.86	Nieto & Sons
	6/4/2014	77.24	33.36	---	---	43.88	Nieto & Sons
	6/10/2014	77.24	36.74	32.82	3.92	43.69	Nieto & Sons
	7/3/2014	77.24	37.66	32.91	4.75	43.45	Nieto & Sons
	7/8/2014	77.24	36.70	32.79	3.91	43.73	Blaine Tech
	7/18/2014	77.24	36.68	32.77	3.91	43.75	Blaine Tech
	7/24/2014	77.24	36.79	32.62	4.17	43.85	Blaine Tech
	8/1/2014	77.24	35.82	32.44	3.38	44.17	Blaine Tech
	8/8/2014	77.24	35.72	32.44	3.28	44.19	Blaine Tech
	8/13/2014	77.24	35.68	32.45	3.23	44.19	Blaine Tech
	8/19/2014	77.24	35.64	32.45	3.19	44.20	Blaine Tech
	8/29/2014	77.24	35.65	32.44	3.21	44.21	Blaine Tech
	9/5/2014	77.24	35.73	32.46	3.27	44.18	Blaine Tech
	9/11/2014	77.24	35.78	32.47	3.31	44.16	Blaine Tech
	9/18/2014	77.24	35.85	32.49	3.36	44.13	Blaine Tech
	9/26/2014	77.24	35.85	32.46	3.39	44.15	Blaine Tech
	10/1/2014	77.24	35.76	32.45	3.31	44.18	Blaine Tech
10/6/2014	77.24	35.72	32.44	3.28	44.19	Blaine Tech	
10/14/2014	77.24	35.75	32.42	3.33	44.20	Blaine Tech	
10/23/2014	77.24	35.84	32.43	3.41	44.18	Blaine Tech	
10/27/2014	77.24	35.74	32.41	3.33	44.21	Blaine Tech	
11/3/2014	77.24	35.89	32.45	3.44	44.15	Blaine Tech	
11/10/2014	77.24	35.94	32.45	3.49	44.14	Blaine Tech	
11/18/2014	77.24	35.97	32.48	3.49	44.11	Blaine Tech	
11/25/2014	77.24	35.97	32.51	3.46	44.09	Blaine Tech	
12/3/2014	77.24	35.84	32.45	3.39	44.16	Blaine Tech	
12/12/2014	77.24	36.44	32.65	3.79	43.89	Blaine Tech	
12/19/2014	77.24	36.80	34.71	2.09	42.14	Blaine Tech	
4/20/2015	77.24	36.64	32.84	3.80	43.70	Blaine Tech	
7/24/2015	77.24	39.80	33.70	6.10	42.41	Northstar	
10/20/2015	77.24	36.10	34.92	1.18	42.10	Kinder Morgan	
3/16/2016	77.24	39.73	37.61	2.12	39.24	Kinder Morgan	
4/11/2016	77.24	38.59	35.50	3.09	41.17	Blaine Tech	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	6/30/2016	77.24	36.55	---	---	40.69	Blaine Tech
	10/3/2016	77.24	37.70	---	---	39.54	Blaine Tech
	4/17/2017	77.24	34.47	---	---	42.77	Blaine Tech
	10/2/2017	77.24	38.45	---	---	38.79	Blaine Tech
	4/16/2018	77.24	38.23	---	---	39.01	Blaine Tech
	11/5/2018	77.24	38.02	---	---	39.22	Blaine Tech
	4/16/2019	77.24	36.19	---	---	41.05	Blaine Tech
	10/28/2019	77.24	38.65	---	---	38.59	Blaine Tech
GMW-24	4/30/2007	74.04	27.07	---	---	46.97	Secor
	11/12/2007	74.04	27.50	27.46	0.04	46.57	Stantec
	8/12/2008	74.04	NM	---	---	NC	Envent
	8/19/2008	74.04	29.34	28.24	1.10	45.58	Envent
	10/17/2008	74.04	30.88	29.90	0.98	43.94	Envent
	10/21/2008	74.04	29.64	28.30	1.34	45.47	Envent
	12/18/2008	74.04	29.04	---	---	45.00	Envent
	1/15/2009	74.04	30.56	29.80	0.76	44.09	Envent
	3/20/2009	74.04	31.28	---	---	42.76	Envent
	3/27/2009	74.04	30.45	---	---	43.59	Envent
	4/21/2009	74.04	29.91	---	---	44.13	Envent
	7/21/2009	74.04	32.78	---	---	41.26	Envent
	10/19/2009	74.04	NM	---	---	NC	Blaine Tech
	2/4/2010	74.04	29.67	29.40	0.27	44.59	Kinder Morgan
	6/22/2010	74.04	29.47	---	---	44.57	Blaine Tech
	9/3/2010	74.04	29.90	---	---	44.14	Kinder Morgan
	10/4/2010	74.04	29.50	---	---	44.54	Blaine Tech
	4/11/2011	74.04	28.21	---	---	45.83	Blaine Tech
	10/10/2011	74.04	28.78	---	---	45.26	Blaine Tech
	4/16/2012	74.04	30.49	30.31	0.18	43.69	Blaine Tech
	7/9/2012	---	NM	---	---	NC	Blaine Tech
	10/15/2012	77.48	31.34	---	---	46.14	Blaine Tech
	4/8/2013	77.48	NM	---	---	NC	Blaine Tech
	6/14/2013	77.48	33.35	32.40	0.95	44.89	Blaine Tech
	10/7/2013	77.48	35.42	31.61	3.81	45.11	Blaine Tech
	4/14/2014	77.48	37.74	32.01	5.73	44.32	Blaine Tech
	5/5/2014	77.48	37.81	32.09	5.72	44.25	Nieto & Sons
	5/12/2014	77.48	37.52	32.14	5.38	44.26	Nieto & Sons
	5/20/2014	77.48	37.39	32.21	5.18	44.23	Nieto & Sons
	5/27/2014	77.48	37.95	32.90	5.05	43.57	Nieto & Sons
	6/4/2014	77.48	37.00	32.70	4.30	43.92	Nieto & Sons
	6/10/2014	77.48	37.85	32.98	4.87	43.53	Nieto & Sons
	7/3/2014	77.48	39.60	33.04	6.56	43.13	Nieto & Sons
	7/8/2014	77.48	38.67	32.89	5.78	43.43	Blaine Tech
7/18/2014	77.48	38.64	32.86	5.78	43.46	Blaine Tech	
7/24/2014	77.48	38.27	32.82	5.45	43.57	Blaine Tech	
8/1/2014	77.48	37.00	32.55	4.45	44.04	Blaine Tech	
8/8/2014	77.48	36.97	32.51	4.46	44.08	Blaine Tech	
8/13/2014	77.48	36.82	32.54	4.28	44.08	Blaine Tech	
8/19/2014	77.48	36.92	32.55	4.37	44.06	Blaine Tech	
8/29/2014	77.48	36.92	32.51	4.41	44.09	Blaine Tech	
9/5/2014	77.48	36.97	32.55	4.42	44.05	Blaine Tech	
9/11/2014	77.48	37.99	32.57	5.42	43.83	Blaine Tech	
9/18/2014	77.48	36.89	32.60	4.29	44.02	Blaine Tech	
9/26/2014	77.48	36.86	32.58	4.28	44.04	Blaine Tech	
10/1/2014	77.48	36.64	32.61	4.03	44.06	Blaine Tech	
10/6/2014	77.48	36.93	32.92	4.01	43.76	Blaine Tech	
10/14/2014	77.48	36.92	32.88	4.04	43.79	Blaine Tech	
10/23/2014	77.48	37.00	32.90	4.10	43.76	Blaine Tech	
10/27/2014	77.48	36.82	32.91	3.91	43.79	Blaine Tech	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	11/3/2014	77.48	37.01	32.99	4.02	43.69	Blaine Tech
	11/10/2014	77.48	37.33	33.95	3.38	42.85	Blaine Tech
	11/18/2014	77.48	36.96	33.01	3.95	43.68	Blaine Tech
	11/25/2014	77.48	36.91	33.55	3.36	43.26	Blaine Tech
	12/3/2014	77.48	36.87	32.99	3.88	43.71	Blaine Tech
	12/12/2014	77.48	37.36	33.25	4.11	43.41	Blaine Tech
	12/19/2014	77.48	37.75	33.31	4.44	43.28	Blaine Tech
	3/10/2015	77.48	36.25	---	---	41.23	Kinder Morgan
	4/20/2015	77.48	36.29	33.82	2.47	43.17	Blaine Tech
	7/24/2015	77.48	39.80	33.70	6.10	42.56	Blaine Tech
	10/20/2015	77.48	35.44	---	---	42.04	Kinder Morgan
	3/16/2016	77.48	38.83	---	---	38.65	Kinder Morgan
	4/11/2016	77.48	37.10	---	---	40.38	Blaine Tech
	6/29/2016	77.48	38.20	---	---	39.28	Blaine Tech
	8/22/2016	77.48	38.40	---	---	39.08	Blaine Tech
	10/3/2016	77.48	38.70	---	---	39.44	Blaine Tech
	4/17/2017	77.48	35.64	35.09	0.55	42.28	Blaine Tech
	10/2/2017	77.48	39.33	---	---	38.15	Blaine Tech
	4/16/2018	77.48	38.98	---	---	38.50	Blaine Tech
	11/5/2018	77.48	38.63	38.19	0.44	39.20	Blaine Tech
4/16/2019	77.48	38.43	---	---	39.05	Blaine Tech	
10/28/2019	77.48	38.65	---	---	38.83	Blaine Tech	
GMW-25	4/30/2007	74.29	26.60	---	---	47.69	Secor
	11/12/2007	74.29	27.30	27.25	0.05	47.03	Stantec
	8/12/2008	74.29	27.81	---	---	46.48	Envent
	10/17/2008	74.29	28.26	---	---	46.03	Envent
	12/18/2008	74.29	29.01	---	---	45.28	Envent
	1/15/2009	74.29	28.62	---	---	45.67	Envent
	3/24/2009	74.29	28.79	---	---	45.50	Envent
	4/21/2009	74.29	28.35	---	---	45.94	Envent
	7/21/2009	74.29	29.80	---	---	44.49	Envent
	10/19/2009	74.29	30.28	---	---	44.01	Blaine Tech
	6/22/2010	74.29	31.64	---	---	42.65	Blaine Tech
	10/4/2010	74.29	29.25	---	---	45.04	Blaine Tech
	4/11/2011	74.29	26.21	---	---	48.08	Blaine Tech
	10/10/2011	74.29	30.02	---	---	44.27	Blaine Tech
	4/16/2012	74.29	31.30	---	---	42.99	Blaine Tech
	7/9/2012	---	NM	---	---	NC	Blaine Tech
	10/15/2012	78.14	31.88	---	---	46.26	Blaine Tech
	4/8/2013	78.14	32.11	---	---	46.03	Blaine Tech
	10/7/2013	78.14	33.23	33.10	0.13	45.01	Blaine Tech
	4/14/2014	78.14	37.40	33.00	4.40	44.13	Blaine Tech
	5/5/2014	78.14	37.51	33.06	4.45	44.06	Nieto & Sons
	5/12/2014	78.14	34.97	33.73	1.24	44.12	Nieto & Sons
	5/20/2014	78.14	36.75	34.30	2.45	43.28	Nieto & Sons
	5/27/2014	78.14	34.64	34.44	0.20	43.65	Nieto & Sons
	6/4/2014	78.14	35.00	---	---	43.14	Nieto & Sons
	6/10/2014	78.14	36.67	34.18	2.49	43.39	Nieto & Sons
	7/3/2014	78.14	34.21	---	---	43.93	Nieto & Sons
	7/24/2014	78.14	34.29	---	---	43.85	Blaine Tech
	8/1/2014	78.14	35.02	33.99	1.03	43.91	Blaine Tech
	8/8/2014	78.14	34.54	34.06	0.48	43.97	Blaine Tech
8/14/2014	78.14	34.48	34.06	0.42	43.98	Blaine Tech	
8/19/2014	78.14	34.51	34.07	0.44	43.97	Blaine Tech	
8/29/2014	78.14	34.65	33.96	0.69	44.02	Blaine Tech	
9/18/2014	78.14	35.21	34.01	1.20	43.85	Blaine Tech	
9/26/2014	78.14	34.87	34.06	0.81	43.89	Blaine Tech	
10/1/2014	78.14	34.92	33.98	0.94	43.94	Blaine Tech	
10/6/2014	78.14	34.93	33.99	0.94	43.93	Blaine Tech	
10/14/2014	78.14	35.10	33.91	1.19	43.96	Blaine Tech	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	10/23/2014	78.14	35.34	33.91	1.43	43.90	Blaine Tech
	10/27/2014	78.14	34.78	33.95	0.83	44.00	Blaine Tech
	11/3/2014	78.14	34.92	33.98	0.94	43.94	Blaine Tech
	11/10/2014	78.14	35.12	34.02	1.10	43.87	Blaine Tech
	11/18/2014	78.14	34.90	34.11	0.79	43.85	Blaine Tech
	11/25/2014	78.14	35.07	34.07	1.00	43.84	Blaine Tech
	12/3/2014	78.14	35.10	33.98	1.12	43.90	Blaine Tech
	12/12/2014	78.14	35.22	34.30	0.92	43.63	Blaine Tech
	12/19/2014	78.14	35.05	34.50	0.55	43.51	Blaine Tech
	4/20/2015	78.14	35.19	34.47	0.72	43.50	Blaine Tech
	6/25/2015	78.14	36.35	35.40	0.95	42.52	Blaine Tech
	10/20/2015	78.14	35.40	35.38	0.02	42.76	Kinder Morgan
	3/16/2016	78.14	38.99	---	---	39.15	Kinder Morgan
	4/12/2016	78.14	37.15	---	---	40.99	Kinder Morgan
	6/29/2016	78.14	38.40	---	---	39.74	Blaine Tech
	8/22/2016	78.14	38.44	---	---	39.70	Blaine Tech
	10/3/2016	78.14	38.70	---	---	39.44	Blaine Tech
	4/17/2017	78.14	35.23	---	---	42.91	Blaine Tech
	10/2/2017	78.14	39.22	---	---	38.92	Blaine Tech
	4/16/2018	78.14	38.85	---	---	39.29	Blaine Tech
11/5/2018	78.14	38.70	---	---	39.44	Blaine Tech	
4/16/2019	78.14	36.89	---	---	41.25	Blaine Tech	
10/28/2019	78.14	37.10	---	---	41.04	Blaine Tech	
GMW-36	3/12/2007	74.53	24.29	---	---	50.24	Secor
	4/30/2007	74.53	24.40	---	---	50.13	Secor
	8/28/2007	74.53	24.31	---	---	50.22	Stantec
	11/12/2007	74.53	24.86	24.85	0.01	49.68	Stantec
	2/19/2008	74.53	25.50	---	---	49.03	Stantec
	4/14/2008	74.53	24.61	---	---	49.92	Stantec
	8/8/2008	74.53	26.20	26.14	0.06	48.38	Envent
	10/16/2008	74.77	26.11	26.09	0.02	48.68	Envent
	12/18/2008	74.53	28.70	28.65	0.05	45.87	Envent
	1/15/2009	74.53	27.73	27.45	0.28	47.02	Envent
	2/20/2009	74.53	26.39	26.35	0.04	48.17	Envent
	2/23/2009	74.53	26.13	25.80	0.33	48.66	Blaine Tech
	3/24/2009	74.53	29.83	---	---	44.70	Envent
	4/20/2009	74.53	25.63	25.59	0.04	48.93	Blaine Tech
	7/17/2009	74.53	27.40	---	---	47.13	Envent
	7/20/2009	74.53	25.90	---	---	48.63	Blaine Tech
	7/21/2009	74.53	26.03	---	---	48.50	Envent
	7/22/2009	74.53	25.90	---	---	48.63	Blaine Tech
	10/19/2009	74.53	26.56	26.45	0.11	48.06	Blaine Tech
	2/4/2010	74.53	26.93	26.80	0.13	47.70	Kinder Morgan
	3/15/2010	74.53	26.80	---	---	47.73	Blaine Tech
	4/16/2010	74.53	26.90	---	---	47.63	Blaine Tech
	5/24/2010	74.53	25.96	25.90	0.06	48.62	Blaine Tech
	5/28/2010	74.53	25.94	25.88	0.06	48.64	Blaine Tech
	6/22/2010	74.53	25.94	25.91	0.03	48.61	Blaine Tech
	7/12/2010	74.53	NM	---	---	NC	
	8/12/2010	74.53	NM	---	---	NC	
	9/20/2010	74.53	NM	---	---	NC	
	10/4/2010	74.53	26.90	---	---	47.63	
	10/24/2010	74.53	26.90	---	---	47.63	Blaine Tech
11/23/2010	74.53	27.35	27.10	0.25	47.38	Blaine Tech	
12/22/2010	74.53	28.35	26.84	1.51	47.39	Blaine Tech	
1/10/2011	74.53	29.10	27.70	1.40	46.55	Blaine Tech	
2/24/2011	74.53	NM	---	---	NC	Blaine Tech	
3/23/2011	74.53	NM	---	---	NC	Blaine Tech	
4/12/2011	74.53	26.98	25.05	1.93	49.09	Blaine Tech	
5/13/2011	74.53	NM	---	---	NC	Blaine Tech	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	6/22/2011	74.53	NM	---	---	NC	
	7/11/2011	74.53	NM	---	---	NC	
	8/19/2011	74.53	NM	---	---	NC	
	9/22/2011	74.53	NM	---	---	NC	
	10/10/2011	74.53	25.96	---	---	48.57	Blaine Tech
	11/28/2011	74.53	NM	---	---	NC	
	12/2/2011	74.53	26.71	---	---	47.82	Kinder Morgan
	12/21/2011	74.53	28.17	---	---	46.36	Blaine Tech
	1/9/2012	74.53	27.26	---	---	47.27	Blaine Tech
	2/23/2012	74.53	27.85	---	---	46.68	Blaine Tech
	3/28/2012	74.53	NM	---	---	NC	Blaine Tech
	4/16/2012	74.53	27.34	---	---	47.19	Blaine Tech
	5/25/2012	74.53	NM	---	---	NC	Blaine Tech
	6/15/2012	---	33.27	---	---	NC	Blaine Tech
	7/9/2012	---	33.71	---	---	NC	Blaine Tech
	8/29/2012	---	NM	---	---	NC	Blaine Tech
	9/26/2012	---	NM	---	---	NC	Blaine Tech
	10/15/2012	76.66	32.11	---	---	44.55	Blaine Tech
	11/29/2012	76.66	33.93	31.68	2.25	44.53	Blaine Tech
	12/26/2012	76.66	34.86	30.36	4.50	45.40	Blaine Tech
	1/14/2013	76.66	34.12	30.42	3.70	45.50	Blaine Tech
	2/20/2013	76.66	NM	---	---	NC	Blaine Tech
	4/10/2013	76.66	32.42	29.75	2.67	46.38	Blaine Tech
	10/7/2013	76.66	34.65	30.72	3.93	45.15	Blaine Tech
	4/25/2014	76.66	34.71	31.12	3.59	44.82	Blaine Tech
	5/20/2014	76.66	34.95	31.50	3.45	44.47	Nieto & Sons
	5/27/2014	76.66	34.53	31.29	3.24	44.72	Nieto & Sons
	6/4/2014	76.66	34.93	31.50	3.43	44.47	Nieto & Sons
	8/13/2014	76.66	34.86	31.27	3.59	44.67	Blaine Tech
	8/19/2014	76.66	34.20	31.39	2.81	44.71	Blaine Tech
	8/29/2014	76.66	34.31	31.32	2.99	44.74	Blaine Tech
	9/5/2014	76.66	34.35	31.37	2.98	44.69	Blaine Tech
	9/11/2014	76.66	35.00	31.23	3.77	44.68	Blaine Tech
	9/18/2014	76.66	34.42	31.50	2.92	44.58	Blaine Tech
	9/26/2014	76.66	34.15	31.48	2.67	44.65	Blaine Tech
	10/1/2014	76.66	33.51	31.61	1.90	44.67	Blaine Tech
	10/6/2014	76.66	33.29	31.63	1.66	44.70	Blaine Tech
	10/14/2014	76.66	33.48	31.55	1.93	44.72	Blaine Tech
	10/23/2014	76.66	33.64	31.57	2.07	44.68	Blaine Tech
	10/27/2014	76.66	33.02	31.79	1.23	44.62	Blaine Tech
	11/3/2014	76.66	33.75	31.57	2.18	44.65	Blaine Tech
	11/18/2014	76.66	33.17	31.75	1.42	44.63	Blaine Tech
	11/25/2014	76.66	33.13	31.86	1.27	44.55	Blaine Tech
	12/3/2014	76.66	32.93	31.75	1.18	44.67	Blaine Tech
	4/20/2015	76.66	33.64	32.20	1.44	44.17	Blaine Tech
	10/21/2015	76.66	33.55	33.16	0.39	43.42	Blaine Tech
	4/12/2016	76.66	34.30	34.03	0.27	42.58	Kinder Morgan
	10/3/2016	76.66	35.05	34.65	0.40	41.93	Blaine Tech
	3/9/2017	76.66	33.45	---	---	43.21	CH2M
	4/17/2017	76.66	32.96	---	---	43.70	Blaine Tech
	10/2/2017	76.66	34.10	---	---	42.56	Blaine Tech
	4/16/2018	76.66	35.18	---	---	41.48	Blaine Tech
	11/5/2018	76.66	35.91	---	---	40.75	Blaine Tech
	4/23/2019	76.66	33.56	---	---	43.10	Blaine Tech
	10/28/2019	76.66	34.86	34.84	0.02	41.82	Blaine Tech
GMW-O-11	4/30/2007	74.17	23.91	23.90	0.01	50.27	Secor
	11/12/2007	74.17	24.40	---	---	49.77	Stantec
	8/15/2008	74.17	29.30	---	---	44.87	Envent
	10/17/2008	74.17	24.45	---	---	49.72	Envent
	12/19/2008	74.17	24.85	---	---	49.32	Envent

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	1/15/2009	74.17	26.87	24.38	2.49	49.29	Envent
	2/24/2009	74.17	24.31	24.21	0.10	49.94	Envent
	3/27/2009	74.17	31.08	---	---	43.09	Envent
	4/21/2009	74.17	25.36	25.34	0.02	48.83	Envent
	7/21/2009	74.17	26.18	---	---	47.99	Envent
	10/19/2009	74.17	NM	---	---	NC	Blaine Tech
	11/6/2009	74.17	26.33	26.18	0.15	47.96	Kinder Morgan
	10/4/2010	74.17	30.00	---	---	44.17	Blaine Tech
	4/13/2011	74.17	24.19	---	---	49.98	Blaine Tech
	10/10/2011	74.17	24.38	---	---	49.79	Blaine Tech
	4/16/2012	74.17	NM	---	---	NC	Blaine Tech
	7/9/2012	74.17	NM	---	---	NC	Blaine Tech
	10/15/2012	74.17	28.12	---	---	46.05	Blaine Tech
	4/8/2013	74.17	NM	---	---	NC	Blaine Tech
	9/24/2013	74.17	31.25	28.15	3.10	45.40	Blaine Tech
	10/7/2013	74.17	31.19	27.69	3.50	45.78	Blaine Tech
	4/25/2014	74.17	28.96	28.62	0.34	45.48	Blaine Tech
	9/5/2014	74.17	31.13	27.89	3.24	45.63	Blaine Tech
	9/11/2014	74.17	31.12	27.85	3.27	45.67	Blaine Tech
	9/18/2014	74.17	31.22	27.85	3.37	45.65	Blaine Tech
	9/26/2014	74.17	31.34	27.91	3.43	45.57	Blaine Tech
	10/1/2014	74.17	31.19	27.84	3.35	45.66	Blaine Tech
	10/6/2014	74.17	32.19	27.84	4.35	45.46	Blaine Tech
	10/14/2014	74.17	31.18	28.85	2.33	44.85	Blaine Tech
	10/23/2014	74.17	31.34	27.85	3.49	45.62	Blaine Tech
	10/27/2014	74.17	31.28	28.89	2.39	44.80	Blaine Tech
	11/3/2014	74.17	32.34	27.83	4.51	45.44	Blaine Tech
	11/10/2014	74.17	31.46	27.97	3.49	45.50	Blaine Tech
	11/18/2014	74.17	31.41	27.88	3.53	45.58	Blaine Tech
	11/25/2014	74.17	31.48	27.87	3.61	45.58	Blaine Tech
	12/3/2014	74.17	33.34	29.95	3.39	43.54	Blaine Tech
	12/12/2014	74.17	33.25	29.08	4.17	44.26	Blaine Tech
	12/19/2014	74.17	32.52	28.09	4.43	45.19	Blaine Tech
	4/22/2015	74.17	31.54	28.10	3.44	45.38	Blaine Tech
	10/22/2015	74.17	33.08	29.23	3.85	44.17	Kinder Morgan
	3/16/2016	74.17	33.39	33.16	0.23	40.96	Kinder Morgan
	4/12/2016	74.17	33.33	33.12	0.21	41.01	Kinder Morgan
	6/30/2016	74.17	31.50	---	---	42.67	Kinder Morgan
	8/22/2016	74.17	32.75	32.74	0.01	41.43	Kinder Morgan
	10/3/2016	74.17	32.72	32.71	0.01	41.46	Kinder Morgan
	3/24/2017	74.17	31.50	30.45	1.05	43.51	CH2M
	4/17/2017	74.17	30.12	29.96	0.16	44.18	Blaine Tech
	10/2/2017	74.17	33.54	---	---	40.63	Blaine Tech
	4/16/2018	74.17	NM	---	---	NC	Blaine Tech
	11/5/2018	74.17	33.22	33.11	0.11	41.04	Blaine Tech
	4/16/2019	74.17	NM	---	---	NC	Blaine Tech
	10/28/2019	74.17	NM	---	---	NC	Blaine Tech
GMW-O-12	4/30/2007	73.49	22.81	---	---	50.68	Secor
	11/12/2007	73.49	23.13	---	---	50.36	Stantec
	4/14/2008	73.49	23.36	---	---	50.13	Stantec
	10/13/2008	73.49	24.20	---	---	49.29	Stantec
	4/20/2009	73.49	24.21	---	---	49.28	Blaine Tech
	10/19/2009	73.49	25.08	---	---	48.41	Blaine Tech
	5/24/2010	73.49	24.80	---	---	48.69	Blaine Tech
	5/28/2010	73.49	24.74	---	---	48.75	Blaine Tech
	10/4/2010	73.49	25.31	25.20	0.11	48.27	Blaine Tech
	1/10/2011	73.49	26.42	26.32	0.10	47.15	Blaine Tech
	4/11/2011	73.49	24.04	---	---	49.45	Blaine Tech
	7/11/2011	73.49	NM	---	---	NC	
	10/10/2011	73.49	24.68	---	---	48.81	Blaine Tech
	1/9/2012	73.49	25.12	---	---	48.37	Blaine Tech

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	4/16/2012	73.49	25.40	---	---	48.09	Blaine Tech
	7/9/2012	73.49	26.96	---	---	46.53	Blaine Tech
	10/15/2012	73.49	25.48	25.44	0.04	48.04	Blaine Tech
	1/14/2013	73.49	25.62	25.58	0.04	47.90	Blaine Tech
	4/8/2013	73.49	26.60	26.51	0.09	46.96	Blaine Tech
	9/24/2013	73.49	27.90	27.74	0.16	45.72	Blaine Tech
	10/7/2013	73.49	27.34	27.28	0.06	46.20	Blaine Tech
	4/14/2014	73.49	30.34	26.80	3.54	45.96	Blaine Tech
	5/6/2014	73.49	30.93	26.74	4.19	45.89	Nieto & Sons
	5/12/2014	73.49	30.81	26.82	3.99	45.85	Nieto & Sons
	5/20/2014	73.49	31.78	27.32	4.46	45.26	Nieto & Sons
	5/27/2014	73.49	33.04	26.78	6.26	45.43	Nieto & Sons
	6/4/2014	73.49	33.00	27.75	5.25	44.66	Nieto & Sons
	6/10/2014	73.49	34.53	26.81	7.72	45.10	Nieto & Sons
	7/3/2014	73.49	34.27	26.94	7.33	45.05	Blaine Tech
	7/8/2014	73.49	33.87	26.87	7.00	45.19	Blaine Tech
	7/18/2014	73.49	33.36	27.07	6.29	45.13	Blaine Tech
	7/24/2014	73.49	33.00	26.98	6.02	45.28	Blaine Tech
	8/1/2014	73.49	31.80	26.83	4.97	45.64	Blaine Tech
	8/8/2014	73.49	31.26	26.91	4.35	45.69	Blaine Tech
	8/13/2014	73.49	31.18	26.88	4.30	45.73	Blaine Tech
	8/19/2014	73.49	31.01	26.86	4.15	45.78	Blaine Tech
	8/29/2014	73.49	31.03	26.89	4.14	45.75	Blaine Tech
	9/5/2014	73.49	31.19	26.88	4.31	45.73	Blaine Tech
	9/18/2014	73.49	31.30	26.82	4.48	45.75	Blaine Tech
	9/26/2014	73.49	31.33	26.89	4.44	45.69	Blaine Tech
	10/1/2014	73.49	31.21	26.85	4.36	45.75	Blaine Tech
	10/6/2014	73.49	31.20	29.84	1.36	43.37	Blaine Tech
	10/14/2014	73.49	31.14	26.86	4.28	45.75	Blaine Tech
	10/23/2014	73.49	31.30	26.85	4.45	45.73	Blaine Tech
	10/27/2014	73.49	31.28	26.90	4.38	45.69	Blaine Tech
	11/3/2014	73.49	32.30	26.84	5.46	45.53	Blaine Tech
	11/10/2014	73.49	31.45	26.91	4.54	45.65	Blaine Tech
	11/18/2014	73.49	32.34	26.90	5.44	45.47	Blaine Tech
	11/25/2014	73.49	31.57	27.87	3.70	44.86	Blaine Tech
	12/3/2014	73.49	33.87	28.81	5.06	43.64	Blaine Tech
	12/19/2014	73.49	32.78	26.97	5.81	45.33	Blaine Tech
	4/20/2015	73.49	33.35	26.91	6.44	45.26	Blaine Tech
	4/22/2015	73.49	33.35	26.91	6.44	45.26	Blaine Tech
	5/21/2015	73.49	34.31	27.35	6.96	44.71	Northstar
	5/29/2015	73.49	34.15	27.24	6.91	44.83	Northstar
	6/2/2015	73.49	34.00	27.27	6.73	44.84	Northstar
	6/5/2015	73.49	34.00	27.50	6.50	44.66	Northstar
	6/12/2015	73.49	33.96	27.35	6.61	44.78	Northstar
	6/19/2015	73.49	33.98	27.58	6.40	44.60	Northstar
	6/26/2015	73.49	33.97	28.15	5.82	44.15	Northstar
	7/2/2015	73.49	33.83	28.20	5.63	44.14	Northstar
	7/7/2015	73.49	33.60	27.93	5.67	44.40	Northstar
	7/17/2015	73.49	33.57	27.85	5.72	44.47	Northstar
	7/24/2015	73.49	33.15	28.25	4.90	44.24	Northstar
	7/29/2015	73.49	33.02	28.10	4.92	44.38	Northstar
	8/11/2015	73.49	33.00	28.90	4.10	43.75	Northstar
	8/18/2015	73.49	32.65	28.23	4.42	44.35	Northstar
	8/28/2015	73.49	32.41	28.17	4.24	44.45	Kinder Morgan
	9/1/2015	73.49	33.18	28.65	4.53	43.91	Kinder Morgan
	9/25/2015	73.49	34.69	28.03	6.66	44.09	Kinder Morgan
	10/16/2015	73.49	34.63	27.83	6.80	44.27	Kinder Morgan
	10/19/2015	73.49	34.65	27.82	6.83	44.27	Blaine Tech
	10/30/2015	73.49	39.38	28.11	11.27	43.07	Kinder Morgan

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	3/14/2016	73.49	32.40	31.60	0.80	41.73	Blaine Tech
	4/11/2016	73.49	33.35	26.86	6.49	45.30	Blaine Tech
	6/29/2016	73.49	33.90	33.10	0.80	40.23	Blaine Tech
	8/22/2016	73.49	33.56	31.07	2.49	41.91	Blaine Tech
	10/3/2016	73.49	34.20	31.90	2.30	41.12	Blaine Tech
	4/17/2017	73.49	32.90	28.70	4.20	43.95	Blaine Tech
	10/2/2017	73.49	33.20	32.00	1.20	41.25	Blaine Tech
	4/16/2018	73.49	33.04	31.89	1.15	41.37	Blaine Tech
	11/5/2018	73.49	32.65	32.31	0.34	41.11	Blaine Tech
	4/16/2019	73.49	31.62	31.21	0.41	42.20	Blaine Tech
10/28/2019	73.49	32.45	31.85	0.60	41.52	Blaine Tech	
GMW-O-15	4/30/2007	74.23	23.41	23.30	0.11	50.91	Secor
	11/12/2007	74.23	23.95	23.85	0.10	50.36	Stantec
	4/14/2008	74.23	23.64	---	---	50.59	Stantec
	8/8/2008	74.23	24.60	---	---	49.63	Envent
	8/11/2008	74.23	24.40	24.34	0.06	49.88	Stantec
	10/16/2008	74.23	24.53	---	---	49.70	Envent
	12/18/2008	74.23	24.86	---	---	49.37	Envent
	1/2/2009	74.23	24.82	---	---	49.41	Envent
	1/15/2009	74.23	26.01	---	---	48.22	Envent
	2/20/2009	74.23	24.80	---	---	49.43	Envent
	2/23/2009	74.23	24.76	24.74	0.02	49.49	Blaine Tech
	3/24/2009	74.23	25.55	---	---	48.68	Envent
	4/20/2009	74.23	24.66	24.61	0.05	49.61	Blaine Tech
	7/17/2009	74.23	25.01	---	---	49.22	Envent
	7/20/2009	74.23	24.99	24.94	0.05	49.28	Blaine Tech
	7/22/2009	74.23	24.99	24.94	0.05	49.28	Blaine Tech
	10/19/2009	74.23	25.55	25.43	0.12	48.78	Blaine Tech
	2/4/2010	74.23	25.50	25.48	0.02	48.75	Kinder Morgan
	3/15/2010	74.23	NM	---	---	NC	
	4/16/2010	74.23	23.10	---	---	51.13	Blaine Tech
	5/24/2010	74.23	25.67	---	---	48.56	Blaine Tech
	5/28/2010	74.23	25.35	---	---	48.88	Blaine Tech
	6/22/2010	74.23	25.81	---	---	48.42	Blaine Tech
	7/12/2010	74.23	NM	---	---	NC	
	8/12/2010	74.23	NM	---	---	NC	
	9/20/2010	74.23	NM	---	---	NC	
	10/4/2010	74.23	25.85	25.80	0.05	48.42	Blaine Tech
	11/23/2010	74.23	NM	---	---	NC	Blaine Tech
	12/22/2010	74.23	26.31	---	---	47.92	Blaine Tech
	1/10/2011	74.23	25.97	---	---	48.26	Blaine Tech
	2/24/2011	74.23	NM	---	---	NC	Blaine Tech
	3/23/2011	74.23	NM	---	---	NC	Blaine Tech
	4/12/2011	74.23	22.55	22.53	0.02	51.70	Blaine Tech
5/13/2011	74.23	NM	---	---	NC	Blaine Tech	
6/22/2011	74.23	NM	---	---	NC		
7/11/2011	74.23	NM	---	---	NC		
8/19/2011	74.23	NM	---	---	NC		
9/22/2011	74.23	NM	---	---	NC		
10/10/2011	74.23	23.79	23.22	0.57	50.90	Blaine Tech	
11/28/2011	74.23	NM	---	---	NC		
12/2/2011	74.23	23.92	23.86	0.06	50.36	Kinder Morgan	
12/21/2011	74.23	31.13	---	---	43.10	Blaine Tech	
1/9/2012	74.23	27.67	---	---	46.56	Blaine Tech	
2/23/2012	74.23	31.82	---	---	42.41	Blaine Tech	
3/28/2012	74.23	30.30	---	---	43.93	Blaine Tech	
4/16/2012	74.23	26.56	26.51	0.05	47.71	Blaine Tech	
5/25/2012	74.23	26.64	---	---	47.59	Blaine Tech	
6/15/2012	74.23	26.93	---	---	47.30	Blaine Tech	
7/9/2012	74.23	25.47	---	---	48.76	Blaine Tech	
8/29/2012	74.23	NM	---	---	NC	Blaine Tech	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	9/26/2012	74.23	30.64	---	---	43.59	Blaine Tech
	10/15/2012	74.23	31.82	---	---	42.41	Blaine Tech
	11/29/2012	74.23	NM	---	---	NC	Blaine Tech
	12/26/2012	74.23	27.41	---	---	46.82	Blaine Tech
	1/14/2013	74.23	27.62	---	---	46.61	Blaine Tech
	2/20/2013	74.23	NM	---	---	NC	Blaine Tech
	4/10/2013	74.23	NM	---	---	NC	Blaine Tech
	4/26/2013	74.23	27.90	---	---	46.33	Kinder Morgan
	10/7/2013	74.23	29.03	28.26	0.77	45.82	Blaine Tech
	4/18/2014	74.23	28.40	28.08	0.32	46.09	Blaine Tech
	8/14/2014	74.23	32.59	28.26	4.33	45.10	Blaine Tech
	8/19/2014	74.23	32.34	28.23	4.11	45.18	Blaine Tech
	8/29/2014	74.23	31.84	28.25	3.59	45.26	Blaine Tech
	9/5/2014	74.23	31.91	28.29	3.62	45.22	Blaine Tech
	9/11/2014	74.23	32.16	28.79	3.37	44.77	Blaine Tech
	9/18/2014	74.23	32.50	28.23	4.27	45.15	Blaine Tech
	9/26/2014	74.23	32.20	28.27	3.93	45.17	Blaine Tech
	10/1/2014	74.23	31.93	28.28	3.65	45.22	Blaine Tech
	10/6/2014	74.23	31.91	28.27	3.64	45.23	Blaine Tech
	10/14/2014	74.23	31.85	28.29	3.56	45.23	Blaine Tech
	10/23/2014	74.23	32.10	28.30	3.80	45.17	Blaine Tech
	10/27/2014	74.23	31.89	28.30	3.59	45.21	Blaine Tech
	11/18/2014	74.23	31.86	28.39	3.47	45.15	Blaine Tech
	11/25/2014	74.23	32.36	28.35	4.01	45.08	Blaine Tech
	12/3/2014	74.23	31.73	28.36	3.37	45.20	Blaine Tech
	12/12/2014	74.23	32.61	28.54	4.07	44.88	Blaine Tech
	12/19/2014	74.23	32.62	28.37	4.25	45.01	Blaine Tech
	4/20/2015	74.23	31.93	28.82	3.11	44.79	Blaine Tech
	10/19/2015	74.23	31.91	28.89	3.02	44.74	Blaine Tech
	4/12/2016	74.23	29.78	---	---	44.45	Kinder Morgan
	10/3/2016	74.86	31.00	30.92	0.08	43.92	Kinder Morgan
	3/9/2017	74.86	29.94	---	---	44.92	CH2M
4/17/2017	74.86	29.65	29.52	0.13	45.31	Blaine Tech	
10/2/2017	74.86	31.92	30.33	1.59	44.21	Blaine Tech	
4/16/2018	74.86	31.79	31.67	0.12	43.17	Blaine Tech	
11/5/2018	74.86	32.38	--	--	42.48	Blaine Tech	
4/23/2019	74.86	29.84	29.84	0.00	45.02	Blaine Tech	
10/31/2019	74.86	29.28	--	--	45.58	Blaine Tech	
GMW-O-18	4/30/2007	74.36	24.21	---	---	50.15	Secor
	11/12/2007	74.36	22.46	---	---	51.90	Secor
	4/14/2008	74.36	24.50	---	---	49.86	Secor
	10/13/2008	74.36	25.46	---	---	48.90	Stantec
	4/20/2009	74.36	25.59	---	---	48.77	Blaine Tech
	10/19/2009	74.36	26.31	---	---	48.05	Blaine Tech
	3/15/2010	74.36	26.54	---	---	47.82	Blaine Tech
	4/16/2010	74.36	24.25	---	---	50.11	Blaine Tech
	5/24/2010	74.36	26.26	---	---	48.10	Blaine Tech
	5/28/2010	74.36	26.03	---	---	48.33	Blaine Tech
	6/22/2010	74.36	26.41	---	---	47.95	
	7/12/2010	74.36	NM	---	---	NC	
	8/12/2010	74.36	NM	---	---	NC	
	9/20/2010	74.36	NM	---	---	NC	
	10/4/2010	74.36	29.95	---	---	44.41	Blaine Tech
	11/16/2010	74.36	NM	---	---	NC	
	12/22/2010	74.36	NM	---	---	NC	
	1/10/2011	74.36	NM	---	---	NC	
	2/24/2011	74.36	NM	---	---	NC	Blaine Tech
	3/23/2011	74.36	NM	---	---	NC	Blaine Tech
	4/12/2011	74.36	NM	---	---	NC	Blaine Tech
	5/13/2011	74.36	NM	---	---	NC	Blaine Tech
6/22/2011	74.36	NM	---	---	NC		

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	7/11/2011	74.36	NM	---	---	NC	
	8/19/2011	74.36	NM	---	---	NC	
	9/22/2011	74.36	NM	---	---	NC	
	10/10/2011	74.36	23.68	---	---	50.68	Blaine Tech
	11/28/2011	74.36	NM	---	---	NC	
	12/2/2011	74.36	24.22	---	---	50.14	Blaine Tech
	12/21/2011	74.36	27.14	---	---	47.22	Blaine Tech
	2/23/2012	74.36	31.18	---	---	43.18	Blaine Tech
	3/28/2012	74.36	NM	---	---	NC	Blaine Tech
	4/16/2012	74.36	27.10	---	---	47.26	Blaine Tech
	5/25/2012	74.36	27.31	---	---	47.05	Blaine Tech
	6/15/2012	74.36	35.13	---	---	39.23	Blaine Tech
	7/9/2012	74.36	29.51	---	---	44.85	Blaine Tech
	8/29/2012	74.36	NM	---	---	NC	Blaine Tech
	9/26/2012	74.36	30.83	---	---	43.53	Blaine Tech
	10/15/2012	74.36	29.73	---	---	44.63	Blaine Tech
	11/29/2012	74.36	NM	---	---	NC	Blaine Tech
	12/26/2012	74.36	28.87	---	---	45.49	Blaine Tech
	1/14/2013	74.36	28.92	---	---	45.44	Blaine Tech
	2/20/2013	74.36	NM	---	---	NC	Blaine Tech
	4/10/2013	74.36	28.10	---	---	46.26	Blaine Tech
	10/7/2013	74.36	26.67	---	---	47.69	Blaine Tech
	4/18/2014	74.36	29.43	29.37	0.06	44.98	Blaine Tech
	8/14/2014	74.36	29.87	29.45	0.42	44.83	Blaine Tech
	8/19/2014	74.36	29.97	29.58	0.39	44.70	Blaine Tech
	8/29/2014	74.36	29.77	29.34	0.43	44.93	Blaine Tech
	9/11/2014	74.36	29.96	29.61	0.35	44.68	Blaine Tech
	9/18/2014	74.36	29.95	29.56	0.39	44.72	Blaine Tech
	9/26/2014	74.36	29.97	29.55	0.42	44.73	Blaine Tech
	10/1/2014	74.36	29.90	29.52	0.38	44.76	Blaine Tech
	10/6/2014	74.36	29.94	29.56	0.38	44.72	Blaine Tech
	10/14/2014	74.36	29.94	29.58	0.36	44.71	Blaine Tech
	10/23/2014	74.36	30.00	29.62	0.38	44.66	Blaine Tech
	10/27/2014	74.36	29.95	29.52	0.43	44.75	Blaine Tech
	4/20/2015	74.36	28.53	---	---	45.83	Blaine Tech
	10/19/2015	74.36	30.90	---	---	43.46	Blaine Tech
	4/12/2016	74.36	31.63	---	---	42.73	Blaine Tech
	12/13/2016	74.32	35.95	31.01	4.94	42.32	Blaine Tech
	12/14/2016	74.32	32.60	---	---	41.72	Blaine Tech
	3/6/2017	74.32	33.40	32.60	0.80	41.56	CH2M
	4/17/2017	74.32	31.83	31.80	0.03	42.51	Blaine Tech
	10/2/2017	74.32	31.32	31.30	0.02	43.02	Blaine Tech
	4/16/2018	74.32	NM	--	--	NC	Blaine Tech
	11/5/2018	74.32	33.03	32.90	0.13	41.39	Blaine Tech
	4/16/2019	74.32	30.89	--	--	43.43	Blaine Tech
	10/28/2019	74.32	32.05	--	--	42.27	Blaine Tech
GMW-O-20	8/15/2008	73.32	25.90	---	---	47.42	Envent
	10/17/2008	73.32	25.82	---	---	47.50	Envent
	12/19/2008	73.32	27.15	---	---	46.17	Envent
	1/15/2009	73.32	26.53	26.09	0.44	47.15	Envent
	2/24/2009	73.32	27.85	---	---	45.47	Envent
	3/20/2009	73.32	28.81	---	---	44.51	Envent
	3/27/2009	73.32	27.84	---	---	45.48	Envent
	4/21/2009	73.32	28.70	---	---	44.62	Envent
	7/21/2009	73.32	24.10	---	---	49.22	Envent
	10/19/2009	73.32	NM	---	---	NC	Blaine Tech
	11/9/2009	73.32	25.60	25.40	0.20	47.88	Kinder Morgan
	6/22/2010	73.32	24.76	24.66	0.10	48.64	Blaine Tech
	10/4/2010	73.32	31.20	31.10	0.10	42.20	Blaine Tech
1/10/2011	73.32	26.62	26.48	0.14	46.81	Blaine Tech	
4/11/2011	73.32	23.82	---	---	49.50	Blaine Tech	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	7/11/2011	73.32	NM	---	---	NC	
	10/10/2011	73.32	24.05	---	---	49.27	Blaine Tech
	1/9/2012	73.32	24.68	---	---	48.64	Blaine Tech
	4/16/2012	73.32	26.18	---	---	47.14	Blaine Tech
	7/9/2012	73.32	32.92	---	---	40.40	Blaine Tech
	10/15/2012	73.32	32.97	32.95	0.02	40.37	Blaine Tech
	1/14/2013	73.32	32.98	32.93	0.05	40.38	Blaine Tech
	4/8/2013	73.32	29.63	26.46	3.17	46.27	Blaine Tech
	9/24/2013	73.32	31.10	27.20	3.90	45.40	Blaine Tech
	10/7/2013	73.32	32.09	27.06	5.03	45.33	Blaine Tech
	4/25/2014	73.32	28.48	28.40	0.08	44.91	Blaine Tech
	9/18/2014	73.32	30.71	27.72	2.99	45.05	Blaine Tech
	9/26/2014	73.32	30.87	27.75	3.12	44.99	Blaine Tech
	10/1/2014	73.32	30.52	27.65	2.87	45.14	Blaine Tech
	10/6/2014	73.32	30.50	27.66	2.84	45.13	Blaine Tech
	10/14/2014	73.32	30.63	27.62	3.01	45.14	Blaine Tech
	10/23/2014	73.32	30.80	27.70	3.10	45.05	Blaine Tech
	10/27/2014	73.32	30.70	27.76	2.94	45.02	Blaine Tech
	11/3/2014	73.32	30.81	27.62	3.19	45.11	Blaine Tech
	11/10/2014	73.32	30.94	27.75	3.19	44.98	Blaine Tech
	11/18/2014	73.32	30.91	27.65	3.26	45.07	Blaine Tech
	11/25/2014	73.32	30.95	27.65	3.30	45.06	Blaine Tech
	12/3/2014	73.32	32.56	27.83	4.73	44.61	Blaine Tech
	12/19/2014	73.32	31.72	27.93	3.79	44.69	Blaine Tech
	4/22/2015	73.32	32.25	27.98	4.27	44.55	Blaine Tech
	10/22/2015	73.32	31.36	29.38	1.98	43.57	Kinder Morgan
	3/16/2016	73.32	32.54	---	---	40.78	Kinder Morgan
	4/12/2016	73.32	32.48	---	---	40.84	Kinder Morgan
	6/29/2016	73.32	32.50	---	---	40.82	Blaine Tech
	8/22/2016	73.32	32.18	---	---	41.14	Blaine Tech
10/3/2016	73.32	33.12	---	---	40.20	Blaine Tech	
3/23/2017	73.32	30.35	---	---	42.97	CH2M	
4/17/2017	73.32	29.70	---	---	43.62	Blaine Tech	
10/2/2017	73.32	33.03	---	---	40.29	Blaine Tech	
4/16/2018	73.32	32.67	---	---	40.65	Blaine Tech	
11/5/2018	73.32	32.92	---	---	40.40	Blaine Tech	
4/23/2019	73.32	30.55	---	---	42.77	Blaine Tech	
11/1/2019	73.32	32.53	32.50	0.03	40.81	Blaine Tech	
GMW-O-21	12/28/2007	71.43	27.67	---	---	43.76	Geomatrix
	8/15/2008	73.94	NM	---	---	NC	Envent
	10/17/2008	71.43	26.00	---	---	45.43	Envent
	12/19/2008	71.43	24.82	---	---	46.61	Envent
	3/27/2009	71.43	26.41	---	---	45.02	Envent
	7/21/2009	71.43	24.88	---	---	46.55	Envent
	10/19/2009	71.43	NM	---	---	NC	Blaine Tech
	11/9/2009	71.43	25.02	---	---	46.41	Kinder Morgan
	10/4/2010	71.43	25.40	---	---	46.03	Blaine Tech
	4/13/2011	71.43	23.72	---	---	47.71	Blaine Tech
	10/10/2011	71.43	24.65	---	---	46.78	Blaine Tech
	4/16/2012	71.43	NM	---	---	NC	Blaine Tech
	7/9/2012	71.43	NM	---	---	NC	Blaine Tech
	10/15/2012	71.43	32.50	---	---	38.93	Blaine Tech
	4/8/2013	71.43	NM	---	---	NC	Blaine Tech
	9/25/2013	71.43	29.25	---	---	42.18	Blaine Tech
	10/7/2013	71.43	NM	---	---	NC	Blaine Tech
	4/14/2014	71.43	28.65	28.61	0.04	42.81	Blaine Tech
	9/5/2014	71.43	29.61	28.78	0.83	42.48	Blaine Tech
	9/26/2014	71.43	29.85	28.77	1.08	42.44	Blaine Tech
	10/1/2014	71.43	29.79	28.64	1.15	42.56	Blaine Tech
	10/6/2014	71.43	29.40	28.72	0.68	42.57	Blaine Tech
10/27/2014	71.43	29.75	28.93	0.82	42.34	Blaine Tech	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	11/10/2014	71.43	29.98	28.95	1.03	42.27	Blaine Tech
	11/18/2014	71.43	30.05	28.92	1.13	42.28	Blaine Tech
	11/25/2014	71.43	29.73	28.85	0.88	42.40	Blaine Tech
	12/12/2014	71.43	30.61	29.02	1.59	42.09	Blaine Tech
	12/19/2014	71.43	30.62	29.04	1.58	42.07	Blaine Tech
	4/20/2015	71.43	30.15	28.99	1.16	42.21	Blaine Tech
	6/10/2015	71.43	31.00	30.70	0.30	40.67	Blaine Tech
	7/2/2015	71.43	32.30	29.88	2.42	41.07	Northstar
	7/7/2015	71.43	30.65	30.06	0.59	41.25	Northstar
	7/17/2015	71.43	30.40	30.10	0.30	41.27	Northstar
	7/29/2015	71.43	30.40	30.10	0.30	41.27	Northstar
	8/11/2015	71.43	31.00	30.70	0.30	40.67	Northstar
	10/19/2015	71.43	31.43	31.20	0.23	40.18	Blaine Tech
	3/14/2016	71.43	33.20	33.17	0.03	38.25	Blaine Tech
	4/11/2016	71.43	32.17	31.84	0.33	39.52	Blaine Tech
	6/29/2016	71.43	33.03	32.83	0.20	38.56	Blaine Tech
	8/22/2016	71.43	33.72	---	---	37.71	Blaine Tech
	10/3/2016	71.43	33.45	---	---	37.98	Blaine Tech
	4/17/2017	71.43	30.48	---	---	40.95	Blaine Tech
	10/2/2017	71.43	33.45	---	---	37.98	Blaine Tech
4/16/2018	71.43	33.13	---	---	38.30	Blaine Tech	
11/5/2018	71.43	33.68	---	---	37.75	Blaine Tech	
4/16/2019	71.43	32.34	---	---	39.09	Blaine Tech	
11/1/2019	71.43	33.00	---	---	38.43	Blaine Tech	
GMW-O-23	8/14/2007	73.63	23.33	---	---	50.30	Geomatrix
	8/21/2007	73.63	23.31	---	---	50.32	Geomatrix
	8/28/2007	73.63	23.00	---	---	50.63	Stantec
	9/11/2007	73.63	23.42	---	---	50.21	Geomatrix
	10/5/2007	73.63	27.79	---	---	45.84	Geomatrix
	11/2/2007	73.63	25.15	---	---	48.48	Geomatrix
	11/13/2007	73.63	23.90	---	---	49.73	Stantec
	12/28/2007	73.63	24.91	---	---	48.72	Geomatrix
	8/15/2008	73.63	26.28	---	---	47.35	Envent
	10/17/2008	73.63	27.16	---	---	46.47	Envent
	12/19/2008	73.63	27.60	---	---	46.03	Envent
	1/15/2009	73.63	27.54	---	---	46.09	Envent
	2/24/2009	73.63	26.19	---	---	47.44	Envent
	3/27/2009	73.63	23.74	---	---	49.89	Envent
	4/21/2009	73.63	27.30	---	---	46.33	Envent
	10/19/2009	73.63	NM	---	---	NC	Blaine Tech
	11/9/2009	73.63	27.50	---	---	46.13	Kinder Morgan
	6/22/2010	73.63	32.10	---	---	41.53	Blaine Tech
	10/4/2010	73.63	25.92	---	---	47.71	Blaine Tech
	1/10/2011	73.63	27.45	---	---	46.18	Blaine Tech
	4/11/2011	73.63	25.03	---	---	48.60	Blaine Tech
	7/11/2011	73.63	NM	---	---	NC	
	10/10/2011	73.63	25.25	---	---	48.38	Blaine Tech
	1/9/2012	73.63	25.91	---	---	47.72	Blaine Tech
	4/16/2012	73.63	27.38	---	---	46.25	Blaine Tech
	7/9/2012	73.63	27.41	---	---	46.22	Blaine Tech
	10/15/2012	73.63	26.48	---	---	47.15	Blaine Tech
	1/14/2013	73.63	29.35	---	---	44.28	Blaine Tech
	4/8/2013	73.63	29.81	27.74	2.07	45.48	Blaine Tech
	9/23/2013	73.63	29.90	---	---	43.73	Blaine Tech
	10/7/2013	73.63	32.86	28.30	4.56	44.42	Blaine Tech
	4/25/2014	73.63	29.81	29.66	0.15	43.94	Blaine Tech
9/5/2014	73.63	32.57	28.76	3.81	44.11	Blaine Tech	
9/11/2014	73.63	32.94	28.63	4.31	44.14	Blaine Tech	
9/18/2014	73.63	32.80	28.65	4.15	44.15	Blaine Tech	
9/26/2014	73.63	32.87	28.70	4.17	44.10	Blaine Tech	
10/1/2014	73.63	32.56	28.75	3.81	44.12	Blaine Tech	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	10/6/2014	73.63	32.50	28.73	3.77	44.15	Blaine Tech
	10/14/2014	73.63	32.75	28.20	4.55	44.52	Blaine Tech
	10/23/2014	73.63	32.80	28.69	4.11	44.12	Blaine Tech
	10/27/2014	73.63	32.51	28.80	3.71	44.09	Blaine Tech
	11/3/2014	73.63	32.82	29.68	3.14	43.32	Blaine Tech
	11/10/2014	73.63	32.80	28.78	4.02	44.05	Blaine Tech
	11/18/2014	73.63	32.78	29.78	3.00	43.25	Blaine Tech
	11/25/2014	73.63	32.64	28.78	3.86	44.08	Blaine Tech
	12/3/2014	73.63	33.25	28.94	4.31	43.83	Blaine Tech
	12/12/2014	73.63	32.58	29.33	3.25	43.65	Blaine Tech
	12/19/2014	73.63	32.71	29.37	3.34	43.59	Blaine Tech
	3/17/2015	73.63	30.40	30.00	0.40	43.55	Kinder Morgan
	4/22/2015	73.63	33.08	30.36	2.72	42.73	Blaine Tech
	10/22/2015	73.63	32.82	30.46	2.36	42.70	Kinder Morgan
	3/16/2016	73.63	34.43	---	---	39.20	Kinder Morgan
	4/12/2016	73.63	32.59	---	---	41.04	Kinder Morgan
	6/29/2016	73.63	33.90	---	---	39.73	Blaine Tech
	8/22/2016	73.63	33.89	---	---	39.74	Blaine Tech
	10/3/2016	73.63	34.90	---	---	38.73	Blaine Tech
	3/23/2017	73.63	31.65	---	---	41.98	CH2M
4/17/2017	73.63	30.88	---	---	42.75	Blaine Tech	
10/2/2017	73.63	34.70	---	---	38.93	Blaine Tech	
4/16/2018	73.63	34.05	---	---	39.58	Blaine Tech	
11/5/2018	73.63	34.31	---	---	39.32	Blaine Tech	
4/16/2019	73.63	32.99	---	---	40.64	Blaine Tech	
10/28/2019	73.63	34.40	34.39	0.01	39.24	Blaine Tech	
GMW-SF-9	4/21/2009	73.00	24.19	---	---	48.81	Envent
	5/24/2010	73.00	28.31	---	---	44.69	Blaine Tech
	5/28/2010	73.00	28.37	---	---	44.63	Blaine Tech
	10/4/2010	73.00	25.28	---	---	47.72	Blaine Tech
	4/11/2011	73.00	23.90	---	---	49.10	Blaine Tech
	10/10/2011	73.00	24.70	---	---	48.30	Blaine Tech
	4/16/2012	73.00	26.99	---	---	46.01	Blaine Tech
	7/9/2012	73.00	NM	---	---	NC	Blaine Tech
	10/15/2012	73.05	34.21	---	---	38.84	Blaine Tech
	1/14/2013	73.05	34.32	---	---	38.73	Blaine Tech
	4/10/2013	73.05	27.37	---	---	45.68	Blaine Tech
	8/14/2014	73.05	29.35	28.37	0.98	44.48	Blaine Tech
	8/19/2014	73.05	28.46	28.44	0.02	44.61	Blaine Tech
	8/29/2014	73.05	29.32	28.31	1.01	44.54	Blaine Tech
	9/5/2014	73.05	29.33	28.29	1.04	44.55	Blaine Tech
	9/11/2014	73.05	29.49	28.47	1.02	44.38	Blaine Tech
	9/18/2014	73.05	28.95	28.91	0.04	44.13	Blaine Tech
	9/26/2014	73.05	28.93	28.59	0.34	44.39	Blaine Tech
	4/20/2015	73.05	29.01	---	---	44.04	Blaine Tech
	10/21/2015	73.05	29.69	---	---	43.36	Blaine Tech
3/6/2017	73.05	28.88	---	---	44.17	CH2M	
GMW-SF-10	4/21/2009	75.77	27.10	---	---	48.67	Envent
	10/4/2010	75.77	28.03	---	---	47.74	Blaine Tech
	4/11/2011	75.77	26.80	---	---	48.97	Blaine Tech
	10/10/2011	75.77	27.60	---	---	48.17	Blaine Tech
	4/16/2012	75.77	28.81	---	---	46.96	Blaine Tech
	7/9/2012	75.77	NM	---	---	NC	Blaine Tech
	10/15/2012	75.77	29.88	---	---	45.89	Blaine Tech
4/8/2013	75.77	DRY	---	---	NC	Blaine Tech	
GWR-3	4/30/2007	74.93	27.97	---	---	46.96	Secor
	11/12/2007	74.93	27.90	---	---	47.03	Stantec
	10/17/2008	74.93	29.88	---	---	45.05	Envent
	12/17/2008	74.93	19.71	---	---	55.22	Envent
	1/15/2009	74.93	29.27	29.26	0.26	45.88	Envent
	3/27/2009	74.93	27.18	---	---	47.75	Envent

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	4/21/2009	74.93	29.97	---	---	44.96	Envent
	7/21/2009	74.93	28.77	---	---	46.16	Envent
	10/19/2009	74.93	NM	---	---	NC	Blaine Tech
	10/4/2010	74.93	30.67	---	---	44.26	Blaine Tech
	4/11/2011	74.93	29.94	---	---	44.99	Blaine Tech
	10/10/2011	74.93	29.22	---	---	45.71	Blaine Tech
	4/16/2012	74.93	29.56	---	---	45.37	Blaine Tech
	7/9/2012	---	NM	---	---	NC	Blaine Tech
	10/15/2012	77.6	31.21	---	---	46.39	Blaine Tech
	4/8/2013	77.6	29.21	29.18	0.03	48.41	Blaine Tech
	10/7/2013	77.6	36.20	31.67	4.53	45.16	Blaine Tech
	4/14/2014	77.6	38.80	32.23	6.57	44.25	Blaine Tech
	5/5/2014	77.6	38.81	32.31	6.50	44.18	Nieto & Sons
	5/12/2014	77.6	36.34	32.77	3.57	44.22	Nieto & Sons
	5/27/2014	77.6	36.11	33.20	2.91	43.91	Nieto & Sons
	6/4/2014	77.6	34.57	31.61	2.96	45.49	Nieto & Sons
	8/8/2014	77.6	37.92	33.38	4.54	43.45	Blaine Tech
	8/13/2014	77.6	35.38	33.18	2.20	44.05	Blaine Tech
	8/19/2014	77.6	35.28	33.25	2.03	44.00	Blaine Tech
	8/29/2014	77.6	35.72	33.12	2.60	44.04	Blaine Tech
	9/5/2014	77.6	35.68	33.19	2.49	43.99	Blaine Tech
	9/11/2014	77.6	36.05	33.04	3.01	44.05	Blaine Tech
	9/18/2014	77.60	35.34	33.27	2.07	43.98	Blaine Tech
	9/26/2014	77.60	35.25	33.24	2.01	44.02	Blaine Tech
	10/1/2014	77.60	36.44	34.01	2.43	43.18	Blaine Tech
	10/6/2014	77.60	34.71	33.33	1.38	44.04	Blaine Tech
	10/14/2014	77.60	35.15	33.20	1.95	44.07	Blaine Tech
	10/23/2014	77.60	35.36	33.20	2.16	44.03	Blaine Tech
	10/27/2014	77.60	34.68	33.49	1.19	43.91	Blaine Tech
	11/3/2014	77.60	35.43	33.18	2.25	44.04	Blaine Tech
	11/10/2014	77.60	35.02	33.32	1.70	43.99	Blaine Tech
	11/18/2014	77.60	35.05	33.34	1.71	43.97	Blaine Tech
	11/25/2014	77.60	35.04	33.36	1.68	43.95	Blaine Tech
	12/3/2014	77.60	34.95	33.34	1.61	43.99	Blaine Tech
	12/12/2014	77.60	35.11	33.64	1.47	43.71	Blaine Tech
	12/19/2014	77.60	35.55	33.67	1.88	43.61	Blaine Tech
	4/20/2015	77.60	37.25	33.34	3.91	43.60	Blaine Tech
	7/24/2015	77.60	41.30	33.95	7.35	42.40	Northstar
	8/12/2015	77.60	37.03	34.42	2.61	42.74	Northstar
	10/20/2015	77.60	35.98	34.65	1.33	42.72	Blaine Tech
	3/16/2016	77.60	38.60	---	---	39.00	Kinder Morgan
	4/11/2016	77.60	36.90	---	---	40.70	Blaine Tech
	6/29/2016	77.60	37.77	---	---	39.83	Blaine Tech
	8/22/2016	77.60	38.24	---	---	39.36	Blaine Tech
	10/3/2016	77.60	39.20	39.15	0.05	38.44	Blaine Tech
	3/7/2017	77.60	35.62	---	---	41.98	CH2M
	4/17/2017	77.60	34.88	--	--	42.72	Blaine Tech
	10/2/2017	77.60	38.92	---	---	38.68	Blaine Tech
	4/16/2018	77.60	38.73	---	---	38.87	Blaine Tech
	11/5/2018	77.60	38.42	---	---	39.18	Blaine Tech
	4/16/2019	77.60	37.16	---	---	40.44	Blaine Tech
	10/28/2019	77.60	38.58	---	---	39.02	Blaine Tech
MW-18 (MID)	4/30/2007	75.67	29.77	---	---	45.90	Secor
	11/12/2007	75.67	30.23	---	---	45.44	Secor
	4/14/2008	75.67	30.45	---	---	45.22	Secor
	10/13/2008	75.67	31.15	---	---	44.52	Stantec
	4/20/2009	75.67	31.49	---	---	44.18	Blaine Tech
	10/19/2009	75.67	32.62	---	---	43.05	Blaine Tech
	5/24/2010	75.67	32.26	---	---	43.41	Blaine Tech
	5/28/2010	75.67	32.17	---	---	43.50	Blaine Tech
	10/4/2010	75.67	32.30	---	---	43.37	Blaine Tech

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	4/11/2011	75.67	31.28	---	---	44.39	Blaine Tech
	10/10/2011	75.67	31.51	---	---	44.16	Blaine Tech
	4/16/2012	75.67	31.75	---	---	43.92	Blaine Tech
	7/9/2012	75.67	NM	---	---	NC	Blaine Tech
	10/15/2012	75.67	33.41	---	---	42.26	Blaine Tech
	4/8/2013	75.67	30.68	---	---	44.99	Blaine Tech
	10/7/2013	75.67	35.33	---	---	40.34	Blaine Tech
	4/14/2014	75.67	35.40	---	---	40.27	Blaine Tech
	10/27/2014	75.67	35.81	---	---	39.86	Blaine Tech
	4/20/2015	75.67	36.29	---	---	39.38	Blaine Tech
	10/19/2015	75.67	36.99	---	---	38.68	Blaine Tech
	3/14/2016	75.67	40.70	---	---	34.97	Blaine Tech
	4/11/2016	75.67	38.89	---	---	36.78	Blaine Tech
	6/29/2016	75.67	39.94	---	---	35.73	Blaine Tech
	8/22/2016	75.67	40.14	---	---	35.53	Blaine Tech
	10/3/2016	75.67	40.93	---	---	34.74	Blaine Tech
	4/17/2017	75.67	37.50	---	---	38.17	Blaine Tech
	10/2/2017	75.67	40.26	---	---	35.41	Blaine Tech
	4/16/2018	75.67	40.46	---	---	35.21	Blaine Tech
11/5/2018	75.67	40.50	---	---	35.17	Blaine Tech	
4/16/2019	75.67	38.39	---	---	37.28	Blaine Tech	
10/28/2019	75.67	40.42	---	---	35.25	Blaine Tech	
MW-O-1	4/30/2007	75.48	24.10	23.98	0.12	51.48	Secor
	8/14/2007	75.48	25.31	23.78	1.53	51.39	Geomatrix
	8/21/2007	75.48	23.84	23.50	0.26	51.85	Geomatrix
	8/28/2007	75.48	23.07	23.06	0.01	52.42	Stantec
	9/11/2007	75.48	23.86	23.48	0.38	51.92	Geomatrix
	10/5/2007	75.48	24.67	---	---	50.81	Geomatrix
	11/2/2007	75.48	24.25	---	---	51.23	Geomatrix
	11/12/2007	75.48	24.27	24.25	0.02	51.23	Stantec
	12/28/2007	75.48	25.54	25.51	0.03	49.96	Geomatrix
	8/15/2008	75.48	NM	---	---	NC	Envent
	8/19/2008	75.48	25.18	25.13	0.05	50.34	Envent
	10/17/2008	75.48	25.30	---	---	50.18	Envent
	12/19/2008	75.48	26.31	---	---	49.17	Envent
	1/15/2009	75.48	25.84	---	---	49.64	Envent
	4/21/2009	75.48	25.41	---	---	50.07	Envent
	10/19/2009	75.48	26.30	---	---	49.18	Blaine Tech
	10/4/2010	75.48	26.90	---	---	48.58	Blaine Tech
	4/11/2011	75.48	25.59	---	---	49.89	Blaine Tech
	10/10/2011	75.48	26.52	---	---	48.96	Blaine Tech
	4/16/2012	75.48	27.25	---	---	48.23	Blaine Tech
	7/9/2012	75.48	NM	---	---	NC	Blaine Tech
	10/15/2012	75.48	28.94	---	---	46.54	Blaine Tech
	4/8/2013	75.48	28.81	---	---	46.67	Blaine Tech
	10/7/2013	75.48	29.21	---	---	46.27	Blaine Tech
	4/14/2014	75.48	29.82	---	---	45.66	Blaine Tech
	10/27/2014	75.48	29.92	---	---	45.56	Blaine Tech
	4/20/2015	75.48	30.39	---	---	45.09	Blaine Tech
	10/27/2015	75.48	27.67	---	---	47.81	Blaine Tech
	3/14/2016	75.48	DRY	---	---	NC	Blaine Tech
	4/11/2016	75.48	DRY	---	---	NC	Blaine Tech
	6/29/2016	75.48	DRY	---	---	NC	Blaine Tech
	8/22/2016	75.48	DRY	---	---	NC	Blaine Tech
	10/3/2016	75.48	DRY	---	---	NC	Blaine Tech
4/17/2017	75.48	DRY	---	---	NC	Blaine Tech	
10/2/2017	75.48	DRY	---	---	NC	Blaine Tech	
4/16/2018	75.48	DRY	---	---	NC	Blaine Tech	
11/5/2018	75.48	DRY	---	---	NC	Blaine Tech	
4/16/2019	75.48	32.09	---	---	43.39	Blaine Tech	
10/28/2019	75.48	DRY	---	---	NC	Blaine Tech	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
MW-O-2	4/30/2007	74.31	22.53	---	---	51.78	Secor
	11/12/2007	71.90	23.10	---	---	48.80	Stantec
	8/15/2008	71.90	NM	---	---	NC	Envent
	10/17/2008	71.90	24.85	---	---	47.05	Envent
	12/19/2008	71.90	25.51	---	---	46.39	Envent
	3/27/2009	71.90	25.22	---	---	46.68	Envent
	4/21/2009	71.90	NM	---	---	NC	Envent
	7/21/2009	71.90	23.63	---	---	48.27	Envent
	10/19/2009	71.90	NM	---	---	NC	Blaine Tech
	11/9/2009	71.90	25.39	---	---	46.51	Kinder Morgan
	10/4/2010	71.90	26.05	---	---	45.85	Blaine Tech
	4/13/2011	71.90	23.31	---	---	48.59	Blaine Tech
	10/10/2011	71.90	27.53	---	---	44.37	Blaine Tech
	1/9/2012	71.90	28.13	---	---	43.77	Blaine Tech
	4/16/2012	71.90	NM	---	---	NC	Blaine Tech
	7/9/2012	71.90	26.53	---	---	45.37	Blaine Tech
	10/15/2012	71.90	26.89	---	---	45.01	Blaine Tech
	1/14/2013	71.90	26.93	---	---	44.97	Blaine Tech
	4/8/2013	71.90	NM	---	---	NC	Blaine Tech
	6/6/2013	71.90	28.99	---	---	42.91	Blaine Tech
	10/7/2013	71.90	29.06	---	---	42.84	Blaine Tech
	4/14/2014	71.90	29.36	---	---	42.54	Blaine Tech
	10/27/2014	71.90	29.81	29.65	0.16	42.22	Blaine Tech
	4/20/2015	71.90	30.94	29.34	1.60	42.24	Blaine Tech
	5/21/2015	71.90	32.50	27.31	5.19	43.55	Northstar
	5/29/2015	71.90	31.52	30.20	1.32	41.44	Northstar
	6/5/2015	71.90	31.45	30.57	0.88	41.15	Northstar
	6/12/2015	71.90	31.05	30.60	0.45	41.21	Northstar
	6/19/2015	71.90	31.10	30.90	0.20	40.96	Northstar
	6/26/2015	71.90	31.66	31.37	0.29	40.47	Northstar
	10/19/2015	71.90	32.39	30.53	1.86	41.00	Blaine Tech
	3/14/2016	71.90	35.49	34.86	0.63	36.91	Blaine Tech
4/11/2016	71.90	33.03	32.54	0.49	39.26	Blaine Tech	
6/30/2016	71.90	34.20	---	---	37.70	Kinder Morgan	
8/22/2016	71.90	33.93	---	---	37.97	Kinder Morgan	
10/3/2016	71.90	34.30	34.22	0.08	37.66	Blaine Tech	
4/17/2017	71.90	30.91	30.85	0.06	41.04	Blaine Tech	
10/2/2017	71.90	34.67	---	---	37.23	Blaine Tech	
4/16/2018	71.90	34.18	34.16	0.02	37.74	Blaine Tech	
11/5/2018	71.90	34.30	--	--	37.60	Blaine Tech	
4/16/2019	71.90	31.44	--	--	40.46	Blaine Tech	
10/28/2019	71.90	NM	--	--	NC	Blaine Tech	
MW-SF-1	3/12/2007	78.93	28.71	---	---	50.22	Secor
	4/30/2007	78.93	28.44	---	---	50.49	Secor
	8/28/2007	78.93	27.94	---	---	50.99	Stantec
	11/12/2007	78.93	28.76	---	---	50.17	Stantec
	2/19/2008	78.93	29.50	---	---	49.43	Stantec
	4/14/2008	78.93	29.16	---	---	49.77	Stantec
	8/11/2008	78.93	29.75	---	---	49.18	Stantec
	10/13/2008	78.93	29.86	---	---	49.07	Stantec
	2/23/2009	78.93	30.00	---	---	48.93	Blaine Tech
	4/20/2009	78.93	29.97	---	---	48.96	Blaine Tech
	7/20/2009	78.93	30.98	---	---	47.95	Blaine Tech
	7/22/2009	78.93	30.98	---	---	47.95	Blaine Tech
	10/19/2009	78.93	31.11	---	---	47.82	Blaine Tech
	3/15/2010	78.93	31.74	---	---	47.19	Blaine Tech
	5/24/2010	78.93	30.79	---	---	48.14	Blaine Tech
	5/28/2010	78.93	30.57	---	---	48.36	Blaine Tech
	6/22/2010	78.93	30.84	---	---	48.09	Blaine Tech
7/12/2010	78.93	30.51	---	---	48.42	Blaine Tech	
10/4/2010	78.93	30.88	---	---	48.05	Blaine Tech	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	1/10/2011	78.93	32.51	---	---	46.42	Blaine Tech
	4/11/2011	78.93	29.87	---	---	49.06	Blaine Tech
	7/11/2011	78.93	29.84	---	---	49.09	Blaine Tech
	10/10/2011	78.93	29.60	---	---	49.33	Blaine Tech
	1/9/2012	78.93	31.25	---	---	47.68	Blaine Tech
	4/16/2012	78.93	32.59	---	---	46.34	Blaine Tech
	7/9/2012	78.93	31.24	---	---	47.69	Blaine Tech
	10/15/2012	78.93	32.23	---	---	46.70	Blaine Tech
	1/14/2013	78.93	33.88	---	---	45.05	Blaine Tech
	4/8/2013	78.93	33.38	---	---	45.55	Blaine Tech
	10/7/2013	78.93	37.14	31.72	5.42	46.13	Blaine Tech
	4/14/2014	78.93	37.40	32.69	4.71	45.30	Blaine Tech
	5/6/2014	78.93	39.99	32.82	7.17	44.68	Nieto & Sons
	5/12/2014	78.93	37.31	33.55	3.76	44.63	Nieto & Sons
	5/20/2014	78.93	37.10	34.60	2.50	43.83	Nieto & Sons
	5/27/2014	78.93	36.62	34.30	2.32	44.17	Nieto & Sons
	6/4/2014	78.93	35.98	35.27	0.71	43.52	Nieto & Sons
	6/10/2014	78.93	36.91	34.48	2.43	43.96	Nieto & Sons
	7/3/2014	78.93	36.72	34.71	2.01	43.82	Nieto & Sons
	7/8/2014	78.93	36.60	34.45	2.15	44.05	Blaine Tech
	7/18/2014	78.93	35.18	34.77	0.41	44.08	Blaine Tech
	7/24/2014	78.93	35.30	34.62	0.68	44.17	Blaine Tech
	8/1/2014	78.93	34.74	34.44	0.30	44.43	Blaine Tech
	8/14/2014	78.93	34.75	34.41	0.34	44.45	Blaine Tech
	8/19/2014	78.93	34.66	34.37	0.29	44.50	Blaine Tech
	8/29/2014	78.93	35.65	35.38	0.27	43.50	Blaine Tech
	9/18/2014	78.93	34.85	34.49	0.36	44.37	Blaine Tech
	9/26/2014	78.93	34.78	34.45	0.33	44.41	Blaine Tech
	10/1/2014	78.93	34.77	34.41	0.36	44.45	Blaine Tech
	10/6/2014	78.93	34.78	34.42	0.36	44.44	Blaine Tech
	10/14/2014	78.93	34.65	34.41	0.24	44.47	Blaine Tech
	10/23/2014	78.93	34.84	34.45	0.39	44.40	Blaine Tech
	10/27/2014	78.93	34.80	34.43	0.37	44.43	Blaine Tech
	11/10/2014	78.93	34.91	34.51	0.40	44.34	Blaine Tech
	11/18/2014	78.93	34.80	34.43	0.37	44.43	Blaine Tech
	11/25/2014	78.93	34.53	34.51	0.02	44.42	Blaine Tech
	12/12/2014	78.93	35.18	34.78	0.40	44.07	Blaine Tech
	12/19/2014	78.93	35.34	34.88	0.46	43.96	Blaine Tech
	4/20/2015	78.93	34.89	34.48	0.41	44.37	Blaine Tech
	5/19/2015	78.93	38.45	34.55	3.90	43.60	Northstar
	5/29/2015	78.93	36.36	35.22	1.14	43.48	Northstar
	6/5/2015	78.93	36.50	35.43	1.07	43.29	Northstar
	6/12/2015	78.93	35.80	35.41	0.39	43.44	Northstar
	6/19/2015	78.93	36.02	35.42	0.60	43.39	Northstar
	6/26/2015	78.93	36.60	36.45	0.15	42.45	Northstar
	10/19/2015	78.93	36.35	35.53	0.82	43.24	Blaine Tech
	11/17/2015	78.93	35.65	---	---	43.28	Kinder Morgan
	3/14/2016	78.93	40.40	---	---	38.53	Blaine Tech
	4/11/2016	78.93	37.96	---	---	40.97	Blaine Tech
	6/29/2016	78.93	39.05	---	---	39.88	Blaine Tech
	8/22/2016	78.93	39.04	---	---	39.87	Blaine Tech
	10/3/2016	78.93	39.20	---	---	39.73	Blaine Tech
	4/17/2017	78.93	35.75	---	---	43.18	Blaine Tech
	10/2/2017	78.93	39.98	---	---	38.95	Blaine Tech
	4/16/2018	78.93	39.43	---	---	39.50	Blaine Tech
	11/5/2018	78.93	39.20	---	---	39.73	Blaine Tech
	4/16/2019	78.93	37.94	---	---	40.99	Blaine Tech
	10/28/2019	78.93	39.41	---	---	39.52	Blaine Tech
MW-SF-2	4/30/2007	78.45	28.35	28.34	0.01	50.11	Secor
	11/12/2007	78.45	29.18	28.71	0.47	49.65	Stantec
	8/12/2008	78.45	31.11	---	---	47.34	Envent

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	10/17/2008	78.45	31.55	31.50	0.05	46.94	Envent
	12/18/2008	78.53	32.75	32.55	0.20	45.94	Envent
	1/15/2009	78.53	30.84	30.57	0.27	47.91	Envent
	3/24/2009	78.53	28.85	---	---	49.68	Envent
	4/21/2009	78.53	29.98	---	---	48.55	Envent
	7/21/2009	78.53	29.85	---	---	48.68	Envent
	10/19/2009	78.53	NM	---	---	NC	Blaine Tech
	12/9/2009	78.53	31.45	---	---	47.08	Kinder Morgan
	10/4/2010	78.53	30.96	30.75	0.21	47.74	Blaine Tech
	1/10/2011	78.53	32.62	32.50	0.12	46.01	Blaine Tech
	4/11/2011	78.53	29.83	---	---	48.70	Blaine Tech
	7/11/2011	78.53	NM	---	---	NC	
	10/10/2011	78.53	29.82	---	---	48.71	Blaine Tech
	1/9/2012	78.53	30.52	---	---	48.01	Blaine Tech
	4/16/2012	78.53	31.28	---	---	47.25	Blaine Tech
	7/9/2012	78.53	33.18	---	---	45.35	Blaine Tech
	10/15/2012	78.53	32.11	---	---	46.42	Blaine Tech
	1/14/2013	78.53	33.59	---	---	44.94	Blaine Tech
	4/8/2013	78.53	33.32	---	---	45.21	Blaine Tech
	10/7/2013	78.53	34.58	33.08	1.50	45.15	Blaine Tech
	4/14/2014	78.53	37.50	33.27	4.23	44.41	Blaine Tech
	5/6/2014	78.53	37.71	33.24	4.47	44.40	Nieto & Sons
	5/12/2014	78.53	37.53	33.34	4.19	44.35	Nieto & Sons
	5/20/2014	78.53	37.62	33.51	4.11	44.20	Nieto & Sons
	5/27/2014	78.53	38.24	33.77	4.47	43.87	Nieto & Sons
	6/4/2014	78.53	34.63	---	---	43.90	Nieto & Sons
	6/10/2014	78.53	38.49	34.00	4.49	43.63	Nieto & Sons
	8/8/2014	78.53	36.23	33.82	2.41	44.23	Blaine Tech
	8/13/2014	78.53	36.75	33.59	3.16	44.31	Blaine Tech
	8/19/2014	78.53	36.90	33.60	3.30	44.27	Blaine Tech
	8/29/2014	78.53	37.11	33.53	3.58	44.28	Blaine Tech
	9/5/2014	78.53	37.09	33.51	3.58	44.30	Blaine Tech
	9/11/2014	78.53	37.12	33.51	3.61	44.30	Blaine Tech
	9/18/2014	78.53	36.89	33.60	3.29	44.27	Blaine Tech
	9/26/2014	78.53	37.28	33.54	3.74	44.24	Blaine Tech
	10/1/2014	78.53	37.18	33.56	3.62	44.25	Blaine Tech
	10/6/2014	78.53	37.16	33.59	3.57	44.23	Blaine Tech
	10/14/2014	78.53	37.15	33.64	3.51	44.19	Blaine Tech
	10/23/2014	78.53	37.24	33.61	3.63	44.19	Blaine Tech
	10/27/2014	78.53	37.04	33.54	3.50	44.29	Blaine Tech
	11/3/2014	78.53	37.14	33.55	3.59	44.26	Blaine Tech
	11/10/2014	78.53	37.33	33.56	3.77	44.22	Blaine Tech
	11/18/2014	78.53	37.21	33.64	3.57	44.18	Blaine Tech
	11/25/2014	78.53	37.40	33.69	3.71	44.10	Blaine Tech
	12/3/2014	78.53	37.16	33.60	3.56	44.22	Blaine Tech
	12/12/2014	78.53	38.05	33.91	4.14	43.79	Blaine Tech
	12/19/2014	78.53	38.40	33.95	4.45	43.69	Blaine Tech
	4/20/2015	78.53	36.15	34.73	1.42	43.52	Blaine Tech
	6/25/2015	78.53	38.95	35.57	3.38	42.28	Blaine Tech
	10/21/2015	78.53	36.32	36.13	0.19	42.36	Kinder Morgan
	3/16/2016	78.53	39.27	---	---	39.26	Kinder Morgan
	4/11/2016	78.53	37.47	---	---	41.06	Blaine Tech
	6/29/2016	78.53	38.08	---	---	40.45	Blaine Tech
	8/22/2016	78.53	38.83	---	---	39.70	Blaine Tech
	10/3/2016	78.53	39.60	---	---	38.93	Blaine Tech
	3/10/2017	78.53	36.47	---	---	42.06	CH2M
	4/17/2017	78.53	35.78	---	---	42.75	Blaine Tech
	10/2/2017	78.53	39.68	---	---	38.85	Blaine Tech
	4/16/2018	78.53	39.47	---	---	39.06	Blaine Tech
	11/5/2018	78.53	39.55	---	---	38.98	Blaine Tech
	4/16/2019	78.53	37.95	---	---	40.58	Blaine Tech
	10/28/2019	78.53	39.26	---	---	39.27	Blaine Tech

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
MW-SF-3	4/30/2007	77.62	27.72	27.45	0.27	50.12	Secor
	11/12/2007	77.62	29.34	28.28	1.06	49.13	Stantec
	8/12/2008	77.62	30.30	29.05	1.25	48.32	Envent
	10/17/2008	77.62	29.45	---	---	48.17	Envent
	12/18/2008	78.12	31.08	30.82	0.26	47.25	Envent
	1/15/2009	78.12	29.96	29.94	0.02	48.18	Envent
	3/20/2009	78.12	31.10	---	---	47.02	Envent
	3/24/2009	78.12	27.82	---	---	50.30	Envent
	4/21/2009	78.12	29.51	29.50	0.01	48.62	Envent
	7/21/2009	78.12	30.07	---	---	48.05	Envent
	10/19/2009	78.12	NM	---	---	NC	Blaine Tech
	11/6/2009	78.12	30.37	30.35	0.02	47.77	Kinder Morgan
	12/9/2009	78.12	30.53	---	---	47.59	Kinder Morgan
	9/3/2010	78.12	30.97	30.42	0.55	47.59	Kinder Morgan
	10/4/2010	78.12	30.88	30.30	0.58	47.70	Blaine Tech
	4/12/2011	78.12	29.44	---	---	48.68	Blaine Tech
	10/10/2011	78.12	30.75	---	---	47.37	Blaine Tech
	4/16/2012	78.12	NM	---	---	NC	Blaine Tech
	7/9/2012	78.12	NM	---	---	NC	Blaine Tech
	10/15/2012	78.12	32.47	---	---	45.65	Blaine Tech
	5/24/2013	78.12	33.35	32.51	0.84	45.44	Blaine Tech
	9/25/2013	78.12	34.40	---	---	43.72	Blaine Tech
	10/7/2013	78.12	NM	---	---	NC	Blaine Tech
	11/14/2013	78.12	33.26	---	---	44.86	Blaine Tech
	4/18/2014	78.12	33.72	33.62	0.10	44.48	Blaine Tech
	8/8/2014	78.12	34.07	33.71	0.36	44.34	Blaine Tech
	10/14/2014	78.12	34.55	33.92	0.63	44.07	Blaine Tech
	10/23/2014	78.12	34.57	33.94	0.63	44.05	Blaine Tech
	10/27/2014	78.12	34.49	33.85	0.64	44.14	Blaine Tech
	11/10/2014	78.12	34.65	33.94	0.71	44.04	Blaine Tech
	11/18/2014	78.12	34.62	33.88	0.74	44.09	Blaine Tech
	11/25/2014	78.12	34.22	33.94	0.28	44.12	Blaine Tech
	12/12/2014	78.12	34.89	34.38	0.51	43.64	Blaine Tech
	12/19/2014	78.12	35.04	34.43	0.61	43.57	Blaine Tech
4/20/2015	78.12	34.52	---	---	43.60	Blaine Tech	
10/21/2015	78.12	35.18	---	---	42.94	Kinder Morgan	
3/14/2016	78.12	39.43	39.40	0.03	38.71	Blaine Tech	
4/11/2016	78.12	37.17	---	---	40.95	Blaine Tech	
6/30/2016	78.12	38.28	---	---	39.84	Kinder Morgan	
8/22/2016	78.12	38.33	---	---	39.79	Kinder Morgan	
10/3/2016	78.12	39.40	---	---	38.72	Kinder Morgan	
3/8/2017	78.12	35.75	---	---	42.37	CH2M	
4/17/2017	78.12	35.15	---	---	42.97	Blaine Tech	
10/2/2017	78.12	39.20	---	---	38.92	Blaine Tech	
4/16/2018	78.12	38.81	---	---	39.31	Blaine Tech	
11/5/2018	78.12	38.69	---	---	39.43	Blaine Tech	
4/16/2019	78.12	NM	---	---	NC	Blaine Tech	
10/28/2019	78.12	38.77	---	---	39.35	Blaine Tech	
MW-SF-4	3/12/2007	79.38	30.01	29.41	0.60	49.85	Secor
	4/30/2007	79.38	29.96	29.11	0.85	50.10	Secor
	8/14/2007	79.38	30.34	28.38	1.96	50.60	Geomatrix
	8/28/2007	79.38	29.95	28.30	1.65	50.74	Stantec
	9/11/2007	79.38	29.98	28.43	1.55	50.63	Geomatrix
	10/5/2007	79.38	30.68	28.85	1.83	50.15	Geomatrix
	10/12/2007	79.38	30.27	29.96	0.31	49.36	Geomatrix
	10/19/2007	79.38	30.28	---	---	49.10	Geomatrix
	10/26/2007	79.38	30.52	---	---	48.86	Geomatrix
	11/2/2007	79.38	30.68	---	---	48.70	Geomatrix
	11/12/2007	79.38	29.70	29.69	0.01	49.69	Stantec
	12/21/2007	79.38	30.69	---	---	48.69	Geomatrix

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	2/19/2008	79.38	30.22	---	---	49.16	Stantec
	3/21/2008	79.38	30.07	---	---	49.31	Envent
	4/14/2008	79.38	29.95	---	---	49.43	Stantec
	8/8/2008	79.38	30.51	---	---	48.87	Envent
	8/11/2008	79.38	30.57	---	---	48.81	Stantec
	10/16/2008	79.38	30.77	---	---	48.61	Envent
	1/15/2009	79.38	31.14	---	---	48.24	Envent
	2/20/2009	79.38	30.84	---	---	48.54	Envent
	2/23/2009	79.38	30.96	---	---	48.42	Blaine Tech
	4/20/2009	79.38	30.02	29.94	0.08	49.42	Blaine Tech
	4/28/2009	79.38	30.78	---	---	48.60	Envent
	7/17/2009	79.38	31.85	---	---	47.53	Envent
	7/20/2009	79.38	31.65	31.61	0.04	47.76	Blaine Tech
	7/22/2009	79.38	31.65	31.61	0.04	47.76	Blaine Tech
	10/19/2009	79.38	31.93	31.90	0.03	47.47	Blaine Tech
	3/15/2010	79.38	31.95	31.91	0.04	47.46	Blaine Tech
	5/24/2010	79.38	31.60	---	---	47.78	Blaine Tech
	5/28/2010	79.38	26.40	---	---	52.98	Blaine Tech
	6/22/2010	79.38	31.63	---	---	47.75	Blaine Tech
	7/12/2010	79.38	31.37	---	---	48.01	Blaine Tech
	10/4/2010	79.38	31.81	---	---	47.57	Blaine Tech
	1/10/2011	79.38	32.99	---	---	46.39	Blaine Tech
	4/11/2011	79.38	30.85	---	---	48.53	Blaine Tech
	7/11/2011	79.38	30.35	---	---	49.03	Blaine Tech
	10/10/2011	79.38	NM	---	---	NC	Blaine Tech
	1/9/2012	79.38	32.07	---	---	47.31	Blaine Tech
	4/16/2012	79.38	33.35	---	---	46.03	Blaine Tech
	7/9/2012	79.38	32.11	---	---	47.27	Blaine Tech
	10/15/2012	79.38	34.04	---	---	45.34	Blaine Tech
	1/14/2013	79.38	34.52	---	---	44.86	Blaine Tech
	4/8/2013	79.38	DRY	---	---	NC	Blaine Tech
	10/7/2013	79.38	DRY	---	---	NC	Blaine Tech
	4/25/2014	79.38	40.03	34.23	5.80	43.96	Blaine Tech
	5/6/2014	79.38	39.78	33.91	5.87	44.27	Nieto & Sons
	5/12/2014	79.38	37.02	34.64	2.38	44.25	Nieto & Sons
	5/20/2014	79.38	36.60	35.60	1.00	43.58	Nieto & Sons
	5/27/2014	79.38	36.12	35.45	0.67	43.79	Nieto & Sons
	6/4/2014	79.38	36.54	35.91	0.63	43.34	Nieto & Sons
	6/10/2014	79.38	37.02	35.38	1.64	43.66	Nieto & Sons
	7/3/2014	79.38	36.98	35.63	1.35	43.47	Nieto & Sons
	7/8/2014	79.38	36.78	35.34	1.44	43.74	Blaine Tech
	7/18/2014	79.38	35.88	35.55	0.33	43.76	Blaine Tech
	7/24/2014	79.38	35.98	35.42	0.56	43.85	Blaine Tech
	8/1/2014	79.38	35.57	35.30	0.27	44.02	Blaine Tech
	8/14/2014	79.38	35.42	35.23	0.19	44.11	Blaine Tech
	8/19/2014	79.38	35.36	35.21	0.15	44.14	Blaine Tech
	8/29/2014	79.38	35.32	35.20	0.12	44.16	Blaine Tech
	9/18/2014	79.38	35.55	35.30	0.25	44.03	Blaine Tech
	9/26/2014	79.38	35.56	35.30	0.26	44.03	Blaine Tech
	10/1/2014	79.38	35.56	35.24	0.32	44.07	Blaine Tech
	10/6/2014	79.38	35.48	35.22	0.26	44.11	Blaine Tech
	10/14/2014	79.38	35.33	35.20	0.13	44.15	Blaine Tech
	10/23/2014	79.38	35.51	35.22	0.29	44.10	Blaine Tech
	10/27/2014	79.38	35.54	35.25	0.29	44.07	Blaine Tech
	11/18/2014	79.38	35.56	35.25	0.31	44.07	Blaine Tech
	11/25/2014	79.38	35.66	35.32	0.34	43.99	Blaine Tech
	12/12/2014	79.38	35.81	35.58	0.23	43.75	Blaine Tech
	12/19/2014	79.38	35.75	35.62	0.13	43.73	Blaine Tech
	4/20/2015	79.38	37.78	35.29	2.49	43.58	Blaine Tech
	5/19/2015	79.38	39.22	35.28	3.94	43.29	Northstar

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	5/29/2015	79.38	37.10	35.80	1.30	43.31	Northstar
	6/5/2015	79.38	36.85	36.15	0.70	43.09	Northstar
	6/12/2015	79.38	36.55	36.15	0.40	43.15	Northstar
	6/19/2015	79.38	36.68	36.42	0.26	42.91	Northstar
	6/26/2015	79.38	37.23	36.96	0.27	42.36	Northstar
	10/19/2015	79.38	38.12	36.25	1.87	42.75	Blaine Tech
	11/17/2015	79.38	37.83	35.98	1.85	43.02	Kinder Morgan
	3/14/2016	79.38	40.80	---	---	38.58	Kinder Morgan
	4/11/2016	79.38	37.76	---	---	41.62	Blaine Tech
	6/29/2016	79.38	39.54	---	---	39.84	Blaine Tech
	8/22/2016	79.38	39.76	---	---	39.62	Blaine Tech
	10/3/2016	79.38	41.05	---	---	38.33	Blaine Tech
	4/17/2017	79.38	36.67	---	---	42.71	Blaine Tech
	10/2/2017	79.38	40.07	---	---	39.31	Blaine Tech
	4/16/2018	79.38	39.90	---	---	39.48	Blaine Tech
11/5/2018	79.38	39.78	---	---	39.60	Blaine Tech	
4/16/2019	79.38	38.45	---	---	40.93	Blaine Tech	
10/28/2019	79.38	39.75	---	---	39.63	Blaine Tech	
MW-SF-5	4/30/2007	79.74	29.54	---	---	50.20	Secor
	8/21/2007	79.74	28.36	---	---	51.38	Geomatrix
	8/28/2007	79.74	28.84	---	---	50.90	Stantec
	10/5/2007	79.74	29.50	---	---	50.24	Geomatrix
	11/2/2007	79.74	31.50	---	---	48.24	Geomatrix
	11/12/2007	79.74	29.93	---	---	49.81	Stantec
	12/21/2007	79.74	31.00	---	---	48.74	Geomatrix
	4/14/2008	79.74	30.20	---	---	49.54	Stantec
	8/11/2008	79.74	30.85	---	---	48.89	Stantec
	10/13/2008	79.74	30.93	---	---	48.81	Stantec
	4/20/2009	79.74	30.99	---	---	48.75	Blaine Tech
	10/19/2009	79.74	NM	---	---	NC	Blaine Tech
	5/24/2010	79.74	31.55	---	---	48.19	Blaine Tech
	5/28/2010	79.74	31.44	---	---	48.30	Blaine Tech
	6/22/2010	79.74	31.57	---	---	48.17	Blaine Tech
	10/4/2010	79.74	31.39	---	---	48.35	Blaine Tech
	1/10/2011	79.74	33.80	---	---	45.94	Blaine Tech
	4/11/2011	79.74	31.03	---	---	48.71	Blaine Tech
	7/11/2011	79.74	NM	---	---	NC	
	10/10/2011	79.74	31.28	---	---	48.46	Blaine Tech
	1/9/2012	79.74	32.12	---	---	47.62	Blaine Tech
	4/16/2012	79.74	33.30	---	---	46.44	Blaine Tech
	7/9/2012	79.74	34.45	---	---	45.29	Blaine Tech
	10/15/2012	79.74	33.28	---	---	46.46	Blaine Tech
	1/14/2013	79.74	33.37	---	---	46.37	Blaine Tech
	4/8/2013	79.74	34.28	---	---	45.46	Blaine Tech
	10/7/2013	79.74	34.58	---	---	45.16	Blaine Tech
	4/14/2014	79.74	35.33	---	---	44.41	Blaine Tech
	10/27/2014	79.74	35.48	---	---	44.26	Blaine Tech
	4/20/2015	79.74	36.05	---	---	43.69	Blaine Tech
	10/19/2015	79.74	36.82	---	---	42.92	Blaine Tech
	3/14/2016	79.74	DRY	---	---	NC	Blaine Tech
	4/11/2016	79.74	DRY	---	---	NC	Blaine Tech
6/29/2016	79.74	DRY	---	---	NC	Blaine Tech	
8/22/2016	79.74	DRY	---	---	NC	Blaine Tech	
10/3/2016	79.74	DRY	---	---	NC	Blaine Tech	
4/17/2017	79.74	36.88	---	---	42.86	Blaine Tech	
10/2/2017	79.74	DRY	---	---	NC	Blaine Tech	
4/16/2018	79.74	DRY	---	---	NC	Blaine Tech	
11/5/2018	79.74	DRY	---	---	NC	Blaine Tech	
4/16/2019	79.74	DRY	---	---	NC	Blaine Tech	
10/28/2019	79.74	DRY	---	---	NC	Blaine Tech	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
MW-SF-6	4/30/2007	79.96	27.44	27.20	0.24	52.71	Secor
	11/12/2007	79.96	27.14	---	---	52.82	Stantec
	8/12/2008	79.96	29.82	---	---	50.14	Envent
	10/17/2008	79.96	29.75	---	---	50.21	Envent
	12/18/2008	76.8	30.73	---	---	46.07	Envent
	1/15/2009	76.8	31.35	---	---	45.45	Envent
	3/24/2009	76.80	30.50	---	---	46.30	Envent
	4/21/2009	76.80	28.45	---	---	48.35	Envent
	7/21/2009	76.80	27.22	---	---	49.58	Envent
	10/19/2009	76.80	NM	---	---	NC	Blaine Tech
	11/6/2009	76.80	29.10	---	---	47.70	Kinder Morgan
	12/9/2009	76.80	31.35	---	---	45.45	Kinder Morgan
	10/4/2010	76.80	29.09	---	---	47.71	Blaine Tech
	1/10/2011	76.80	30.87	---	---	45.93	Blaine Tech
	4/11/2011	76.80	28.16	---	---	48.64	Blaine Tech
	7/11/2011	76.80	NM	---	---	NC	
	10/10/2011	76.80	28.21	---	---	48.59	Blaine Tech
	1/9/2012	76.80	29.03	---	---	47.77	Blaine Tech
	4/16/2012	76.80	29.66	---	---	47.14	Blaine Tech
	7/9/2012	76.80	31.46	---	---	45.34	Blaine Tech
	10/15/2012	76.80	31.44	---	---	45.36	Blaine Tech
	1/14/2013	76.80	31.53	---	---	45.27	Blaine Tech
	4/8/2013	76.80	30.21	28.81	1.40	47.71	Blaine Tech
	10/7/2013	76.80	NM	---	---	NC	Blaine Tech
	11/14/2013	76.80	31.90	---	---	44.90	Blaine Tech
	4/18/2014	76.80	33.30	32.15	1.15	44.42	Blaine Tech
	8/8/2014	76.8	34.50	33.31	1.19	43.25	Blaine Tech
	8/13/2014	76.8	32.95	32.54	0.41	44.18	Blaine Tech
	8/19/2014	76.8	32.87	32.62	0.25	44.13	Blaine Tech
	8/29/2014	76.8	32.79	32.56	0.23	44.19	Blaine Tech
	9/5/2014	76.8	32.81	32.59	0.22	44.17	Blaine Tech
	9/18/2014	76.8	32.95	32.65	0.30	44.09	Blaine Tech
	9/26/2014	76.8	32.94	32.61	0.33	44.12	Blaine Tech
10/1/2014	76.8	32.91	32.60	0.31	44.14	Blaine Tech	
10/6/2014	76.8	32.90	32.61	0.29	44.13	Blaine Tech	
10/14/2014	76.8	33.72	33.60	0.12	43.18	Blaine Tech	
10/23/2014	76.8	34.57	33.94	0.63	42.73	Blaine Tech	
10/27/2014	76.8	32.92	32.58	0.34	44.15	Blaine Tech	
11/18/2014	76.8	32.99	32.62	0.37	44.11	Blaine Tech	
11/25/2014	76.8	32.66	32.58	0.08	44.20	Blaine Tech	
12/12/2014	76.8	33.45	33.07	0.38	43.65	Blaine Tech	
12/19/2014	76.8	33.60	33.15	0.45	43.56	Blaine Tech	
4/20/2015	76.8	33.23	33.11	0.12	43.67	Blaine Tech	
10/21/2015	76.8	34.28	---	---	42.52	Kinder Morgan	
3/14/2016	76.8	38.10	38.08	0.02	38.72	Blaine Tech	
4/11/2016	76.8	35.83	---	---	40.97	Blaine Tech	
6/29/2016	76.8	36.89	---	---	39.91	Blaine Tech	
8/22/2016	76.8	37.11	---	---	39.69	Blaine Tech	
10/3/2016	76.8	38.45	---	---	38.35	Blaine Tech	
4/17/2017	76.8	34.03	---	---	42.77	Blaine Tech	
10/2/2017	76.8	37.89	---	---	38.91	Blaine Tech	
4/16/2018	76.8	37.65	---	---	39.15	Blaine Tech	
11/5/2018	76.8	37.70	---	---	39.10	Blaine Tech	
4/16/2019	76.8	36.13	---	---	40.67	Blaine Tech	
10/28/2019	76.8	37.41	---	---	39.39	Blaine Tech	
MW-SF-9	4/30/2007	74.1	22.66	---	---	51.44	Secor
	8/14/2007	74.1	28.73	28.61	0.12	45.47	Geomatrix
	8/21/2007	74.1	26.55	---	---	47.55	Geomatrix
	8/28/2007	74.1	20.55	---	---	53.55	Stantec
	9/11/2007	74.1	19.40	---	---	54.70	Geomatrix
	10/5/2007	74.1	26.84	---	---	47.26	Geomatrix
	11/2/2007	74.1	22.76	---	---	51.34	Geomatrix

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	11/12/2007	74.1	22.96	---	---	51.14	Stantec
	12/21/2007	74.1	24.05	---	---	50.05	Geomatrix
	4/14/2008	74.1	24.23	---	---	49.87	Stantec
	10/13/2008	74.1	24.83	---	---	49.27	Stantec
	4/20/2009	74.10	25.27	---	---	48.83	Blaine Tech
	10/19/2009	74.10	26.45	---	---	47.65	Blaine Tech
	5/24/2010	74.10	25.80	---	---	48.30	Blaine Tech
	5/28/2010	74.10	25.66	---	---	48.44	Blaine Tech
	6/22/2010	74.10	25.84	---	---	48.26	Blaine Tech
	10/4/2010	74.10	26.10	---	---	48.00	Blaine Tech
	1/10/2011	74.10	27.41	---	---	46.69	Blaine Tech
	4/11/2011	74.10	24.16	---	---	49.94	Blaine Tech
	7/11/2011	74.10	NM	---	---	NC	
	10/10/2011	74.10	25.02	---	---	49.08	Blaine Tech
	1/9/2012	74.10	25.98	---	---	48.12	Blaine Tech
	4/16/2012	74.10	25.92	---	---	48.18	Blaine Tech
	7/9/2012	74.10	26.44	---	---	47.66	Blaine Tech
	10/15/2012	74.10	NM	---	---	NC	Blaine Tech
	4/8/2013	74.10	DRY	---	---	NC	Blaine Tech
	6/6/2013	74.10	28.53	---	---	45.57	Blaine Tech
	10/7/2013	74.10	28.95	---	---	45.15	Blaine Tech
	4/25/2014	74.10	34.75	27.95	6.80	44.89	Blaine Tech
	5/5/2014	74.10	37.81	31.76	6.05	41.22	Nieto & Sons
	5/12/2014	74.10	32.32	29.11	3.21	44.40	Nieto & Sons
	5/20/2014	74.10	30.75	29.95	0.80	44.00	Nieto & Sons
	5/27/2014	74.1	38.08	32.32	5.76	40.71	Nieto & Sons
	6/4/2014	74.1	32.19	28.61	3.58	44.83	Nieto & Sons
	6/10/2014	74.1	36.27	28.85	7.42	43.88	Nieto & Sons
	7/3/2014	74.1	39.26	32.59	6.67	40.28	Nieto & Sons
	7/8/2014	74.1	36.40	28.60	7.80	44.06	Blaine Tech
	7/18/2014	74.1	31.04	29.66	1.38	44.18	Blaine Tech
	7/24/2014	74.1	31.15	29.85	1.30	44.01	Blaine Tech
	8/1/2014	74.1	30.25	29.85	0.40	44.18	Blaine Tech
	8/14/2014	74.1	30.13	29.82	0.31	44.22	Blaine Tech
	8/19/2014	74.1	30.08	29.85	0.23	44.21	Blaine Tech
	8/29/2014	74.1	30.10	29.81	0.29	44.24	Blaine Tech
	9/5/2014	74.1	30.13	29.84	0.29	44.21	Blaine Tech
	9/11/2014	74.1	29.49	28.47	1.02	45.44	Blaine Tech
	9/18/2014	74.1	30.29	29.90	0.39	44.13	Blaine Tech
	9/26/2014	74.1	30.25	29.84	0.41	44.18	Blaine Tech
	10/1/2014	74.1	30.24	29.84	0.40	44.19	Blaine Tech
	10/6/2014	74.1	30.24	29.83	0.41	44.19	Blaine Tech
	10/14/2014	74.1	30.12	29.81	0.31	44.23	Blaine Tech
	10/23/2014	74.1	30.27	29.85	0.42	44.17	Blaine Tech
	10/27/2014	74.1	30.29	29.89	0.40	44.14	Blaine Tech
	11/18/2014	74.1	30.35	29.86	0.49	44.15	Blaine Tech
	11/25/2014	74.1	30.42	29.91	0.51	44.10	Blaine Tech
	12/12/2014	74.1	30.65	30.10	0.55	43.90	Blaine Tech
	12/19/2014	74.1	30.80	30.13	0.67	43.85	Blaine Tech
	4/20/2015	74.1	36.69	27.67	9.02	44.76	Blaine Tech
	5/19/2015	74.1	35.68	26.83	8.85	45.63	Blaine Tech
	5/21/2015	74.1	32.50	27.31	5.19	45.83	Northstar
	5/29/2015	74.1	32.95	30.10	2.85	43.47	Northstar
	6/2/2015	74.1	31.67	30.45	1.22	43.42	Northstar
	6/5/2015	74.10	31.85	30.60	1.25	43.27	Northstar
	6/12/2015	74.10	31.28	30.75	0.53	43.25	Northstar
	6/19/2015	74.10	31.30	31.00	0.30	43.04	Northstar
	6/26/2015	74.10	31.20	29.50	1.70	44.29	Northstar
	8/11/2015	74.10	36.90	29.90	7.00	42.90	Northstar
	8/18/2015	74.10	35.19	30.25	4.94	42.94	Northstar
	8/28/2015	74.10	31.60	30.75	0.85	43.19	Kinder Morgan

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	9/1/2015	74.10	31.78	30.90	0.88	43.04	Kinder Morgan
	10/16/2015	74.10	31.60	31.09	0.51	42.92	Blaine Tech
	10/19/2015	74.10	31.44	31.04	0.40	42.99	Kinder Morgan
	10/30/2015	74.10	32.60	32.06	0.54	41.94	Kinder Morgan
	11/17/2015	74.10	31.71	31.68	0.03	42.41	Kinder Morgan
	3/14/2016	74.10	34.14	---	---	39.96	Blaine Tech
	4/11/2016	74.10	32.89	---	---	41.21	Blaine Tech
	6/29/2016	74.10	34.00	---	---	40.10	Blaine Tech
MW-SF-10	10/17/2008	76.53	27.49	---	---	49.04	Envent
	10/19/2009	76.53	28.61	---	---	47.92	Blaine Tech
	10/4/2010	76.53	28.50	28.36	0.14	48.14	Blaine Tech
	4/11/2011	76.53	27.41	27.37	0.04	49.15	Blaine Tech
	10/10/2011	76.53	27.60	---	---	48.93	Blaine Tech
	4/16/2012	76.53	28.81	---	---	47.72	Blaine Tech
	7/9/2012	76.53	NM	---	---	NC	Blaine Tech
	10/15/2012	76.53	29.27	---	---	47.26	Blaine Tech
	4/8/2013	76.53	DRY	---	---	NC	Blaine Tech
	10/7/2013	76.53	DRY	---	---	NC	Blaine Tech
	4/14/2014	76.53	DRY	---	---	NC	Blaine Tech
	10/27/2014	76.53	DRY	---	---	NC	Blaine Tech
	4/20/2015	76.53	DRY	---	---	NC	Blaine Tech
	10/19/2015	76.53	DRY	---	---	NC	Blaine Tech
	3/14/2016	76.53	DRY	---	---	NC	Blaine Tech
	4/11/2016	76.53	DRY	---	---	NC	Blaine Tech
	6/29/2016	76.53	DRY	---	---	NC	Blaine Tech
	8/22/2016	76.53	DRY	---	---	NC	Blaine Tech
	10/3/2016	76.53	DRY	---	---	NC	Blaine Tech
	4/17/2017	76.53	DRY	---	---	NC	Blaine Tech
10/2/2017	76.53	DRY	---	---	NC	Blaine Tech	
4/16/2018	76.53	DRY	---	---	NC	Blaine Tech	
11/5/2018	76.53	DRY	---	---	NC	Blaine Tech	
4/16/2019	76.53	DRY	---	---	NC	Blaine Tech	
10/28/2019	76.53	DRY	---	---	NC	Blaine Tech	
MW-SF-11	8/14/2007	78.56	28.58	28.30	0.28	50.20	Geomatrix
	8/21/2007	78.56	28.76	28.63	0.13	49.90	Geomatrix
	8/28/2007	78.56	28.22	---	---	50.34	Stantec
	9/11/2007	78.56	26.90	---	---	51.66	Geomatrix
	10/5/2007	78.56	28.43	---	---	50.13	Geomatrix
	11/2/2007	78.56	29.48	29.38	0.10	49.16	Geomatrix
	11/12/2007	78.56	29.03	---	---	49.53	Stantec
	8/15/2008	78.56	30.13	---	---	48.43	Envent
	10/17/2008	78.56	30.50	---	---	48.06	Envent
	12/18/2008	78.56	29.92	---	---	48.64	Envent
	1/15/2009	78.56	30.32	---	---	48.24	Envent
	3/24/2009	78.56	31.05	---	---	47.51	Envent
	4/21/2009	78.56	30.03	---	---	48.53	Envent
	7/21/2009	78.56	30.89	---	---	47.67	Envent
	10/19/2009	78.56	NM	---	---	NC	Blaine Tech
	11/9/2009	78.56	31.00	---	---	47.56	Kinder Morgan
	9/3/2010	78.56	31.22	---	---	47.34	Kinder Morgan
	10/4/2010	78.56	30.94	---	---	47.62	Blaine Tech
	4/12/2011	78.56	30.82	---	---	47.74	Blaine Tech
	10/10/2011	78.56	30.10	---	---	48.46	Blaine Tech
	4/16/2012	78.56	NM	---	---	NC	Blaine Tech
	7/9/2012	78.56	NM	---	---	NC	Blaine Tech
	10/15/2012	78.56	33.28	---	---	45.28	Blaine Tech
	4/8/2013	78.56	33.11	---	---	45.45	Blaine Tech
	10/7/2013	78.56	33.91	---	---	44.65	Blaine Tech
4/14/2014	78.56	35.20	34.95	0.25	43.56	Blaine Tech	
5/5/2014	78.56	36.52	33.71	2.81	44.29	Nieto & Sons	
5/12/2014	78.56	35.45	33.87	1.58	44.37	Nieto & Sons	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	5/27/2014	78.56	35.38	34.65	0.73	43.76	Nieto & Sons
	6/4/2014	78.56	35.40	35.32	0.08	43.22	Nieto & Sons
	8/8/2014	78.56	36.22	33.11	3.11	44.83	Blaine Tech
	8/13/2014	78.56	36.22	33.47	2.75	44.54	Blaine Tech
	8/19/2014	78.56	36.46	33.94	2.52	44.12	Blaine Tech
	8/29/2014	78.56	36.68	33.83	2.85	44.16	Blaine Tech
	9/5/2014	78.56	36.62	33.80	2.82	44.20	Blaine Tech
	9/11/2014	78.56	37.15	33.78	3.37	44.11	Blaine Tech
	9/18/2014	78.56	36.79	33.93	2.86	44.06	Blaine Tech
	9/26/2014	78.56	36.89	33.88	3.01	44.08	Blaine Tech
	10/1/2014	78.56	34.95	33.32	1.63	44.91	Blaine Tech
	10/6/2014	78.56	36.36	33.95	2.41	44.13	Blaine Tech
	10/14/2014	78.56	36.67	33.86	2.81	44.14	Blaine Tech
	10/23/2014	78.56	36.86	33.86	3.00	44.10	Blaine Tech
	10/27/2014	78.56	36.20	33.99	2.21	44.13	Blaine Tech
	11/3/2014	78.56	36.91	33.84	3.07	44.11	Blaine Tech
	11/18/2014	78.56	36.78	33.95	2.83	44.04	Blaine Tech
	11/25/2014	78.56	36.65	34.03	2.62	44.01	Blaine Tech
	12/3/2014	78.56	36.71	33.94	2.77	44.07	Blaine Tech
	12/12/2014	78.56	37.29	34.08	3.21	43.84	Blaine Tech
	12/19/2014	78.56	38.03	34.04	3.99	43.72	Blaine Tech
	3/17/2015	78.56	35.94	35.50	0.44	42.97	Kinder Morgan
	4/20/2015	78.56	38.89	34.86	4.03	42.89	Kinder Morgan
	10/20/2015	78.56	37.42	35.38	2.04	42.77	Kinder Morgan
	3/16/2016	78.56	39.56	---	---	39.00	Kinder Morgan
	4/11/2016	78.56	37.62	---	---	40.94	Blaine Tech
	6/29/2016	78.56	37.06	---	---	41.50	Blaine Tech
	8/22/2016	78.56	39.25	---	---	39.31	Blaine Tech
	10/3/2016	78.56	40.05	---	---	38.51	Blaine Tech
	3/10/2017	78.56	36.56	---	---	42.00	CH2M
4/17/2017	78.56	35.91	---	---	42.65	Blaine Tech	
10/2/2017	78.56	40.09	---	---	38.47	Blaine Tech	
4/16/2018	78.56	39.90	---	---	38.66	Blaine Tech	
11/5/2018	78.56	39.52	---	---	39.04	Blaine Tech	
4/16/2019	78.56	38.52	---	---	40.04	Blaine Tech	
10/28/2019	78.56	39.13	---	---	39.43	Blaine Tech	
MW-SF-12	8/14/2007	78.07	27.76	---	---	50.31	Geomatrix
	8/21/2007	78.07	27.43	---	---	50.64	Geomatrix
	8/28/2007	78.07	27.58	---	---	50.49	Stantec
	9/11/2007	78.07	27.73	---	---	50.34	Geomatrix
	10/5/2007	78.07	28.06	---	---	50.01	Geomatrix
	11/2/2007	78.07	29.59	---	---	48.48	Geomatrix
	11/12/2007	78.07	28.33	---	---	49.74	Stantec
	8/12/2008	78.07	30.02	---	---	48.05	Envent
	10/17/2008	78.07	30.42	---	---	47.65	Envent
	12/18/2008	78.07	31.55	---	---	46.52	Envent
	1/15/2009	78.07	30.11	---	---	47.96	Envent
	3/24/2009	78.07	29.41	---	---	48.66	Envent
	4/21/2009	78.07	29.52	---	---	48.55	Envent
	7/21/2009	78.07	28.58	---	---	49.49	Envent
	10/19/2009	78.07	NM	---	---	NC	Blaine Tech
	11/4/2009	78.07	30.36	---	---	47.71	Kinder Morgan
	2/4/2010	78.07	29.20	---	---	48.87	Kinder Morgan
	10/4/2010	78.07	30.70	---	---	47.37	Blaine Tech
	4/11/2011	78.07	29.47	---	---	48.60	Blaine Tech
	10/10/2011	78.07	26.60	---	---	51.47	Blaine Tech
	4/16/2012	78.07	31.40	---	---	46.67	Blaine Tech
	7/9/2012	78.07	NM	---	---	NC	Blaine Tech
10/15/2012	78.07	32.12	---	---	45.95	Blaine Tech	
4/8/2013	78.07	DRY	---	---	NC	Blaine Tech	
10/7/2013	78.07	NM	---	---	NC	Blaine Tech	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	4/14/2014	78.07	38.04	32.67	5.37	44.33	Blaine Tech
	5/20/2014	78.07	37.80	32.90	4.90	44.19	Nieto & Sons
	5/27/2014	78.07	33.27	---	---	44.80	Nieto & Sons
	6/4/2014	78.07	32.78	---	---	45.29	Nieto & Sons
	6/10/2014	78.07	33.76	---	---	44.31	Nieto & Sons
	7/3/2014	78.07	NM	33.58	---	NC	Nieto & Sons
	7/24/2014	78.07	NM	33.35	3.97	NC	Blaine Tech
	8/1/2014	78.07	37.20	33.17	4.03	44.09	Blaine Tech
	9/5/2014	78.07	38.52	32.93	5.59	44.02	Blaine Tech
	9/11/2014	78.07	38.56	32.98	5.58	43.97	Blaine Tech
	9/18/2014	78.07	38.25	33.09	5.16	43.95	Blaine Tech
	9/26/2014	78.07	38.03	33.03	5.00	44.04	Blaine Tech
	10/1/2014	78.07	37.82	33.08	4.74	44.04	Blaine Tech
	10/6/2014	78.07	37.63	33.07	4.56	44.09	Blaine Tech
	10/14/2014	78.07	37.56	33.13	4.43	44.05	Blaine Tech
	10/23/2014	78.07	37.56	33.06	4.50	44.11	Blaine Tech
	10/27/2014	78.07	37.40	33.08	4.32	44.13	Blaine Tech
	11/3/2014	78.07	37.48	33.09	4.39	44.10	Blaine Tech
	11/18/2014	78.07	37.44	33.15	4.29	44.06	Blaine Tech
	11/25/2014	78.07	37.35	33.21	4.14	44.03	Blaine Tech
	12/3/2014	78.07	37.31	33.12	4.19	44.11	Blaine Tech
	12/12/2014	78.07	37.92	33.45	4.47	43.73	Blaine Tech
	12/19/2014	78.07	38.25	33.50	4.75	43.62	Blaine Tech
	3/17/2015	78.07	36.42	34.05	2.37	43.55	Kinder Morgan
	4/20/2015	78.07	36.42	34.05	2.37	43.55	Blaine Tech
	10/20/2015	78.07	36.78	34.84	1.94	42.84	Kinder Morgan
	3/16/2016	78.07	39.03	---	---	39.04	Kinder Morgan
	4/11/2016	78.07	37.13	---	---	40.94	Blaine Tech
	6/29/2016	78.07	38.34	38.28	0.06	39.78	Blaine Tech
	8/22/2016	78.07	38.60	---	---	39.47	Blaine Tech
	10/3/2016	78.07	39.45	---	---	38.62	Blaine Tech
	3/10/2017	78.07	36.09	---	---	41.98	CH2M
4/17/2017	78.07	35.12	---	---	42.95	Blaine Tech	
10/2/2017	78.07	39.31	---	---	38.76	Blaine Tech	
4/16/2018	78.07	39.09	---	---	38.98	Blaine Tech	
11/5/2018	78.07	38.96	---	---	39.11	Blaine Tech	
4/16/2019	78.07	37.53	---	---	40.54	Blaine Tech	
10/28/2019	78.07	38.78	---	---	39.29	Blaine Tech	
MW-SF-13	8/14/2007	73.40	22.98	---	---	50.42	Geomatrix
	8/21/2007	73.40	23.11	---	---	50.29	Geomatrix
	8/28/2007	73.40	22.85	---	---	50.55	Stantec
	9/11/2007	73.40	23.10	---	---	50.30	Geomatrix
	10/5/2007	73.40	28.11	---	---	45.29	Geomatrix
	11/2/2007	73.40	25.43	25.41	0.02	47.99	Geomatrix
	11/12/2007	73.40	23.70	---	---	49.70	Stantec
	12/21/2007	73.40	24.45	24.42	0.03	48.97	Geomatrix
	8/15/2008	73.40	27.38	24.11	3.27	48.47	Envent
	10/17/2008	73.40	27.28	24.33	2.95	48.33	Envent
	10/21/2008	73.40	27.14	24.26	2.88	48.42	Envent
	12/17/2008	73.40	26.21	24.70	1.51	48.32	Envent
	1/15/2009	73.40	26.90	24.80	2.10	48.08	Envent
	3/27/2009	73.40	26.46	25.49	0.97	47.67	Envent
	4/21/2009	73.40	24.86	24.78	0.08	48.60	Envent
	7/21/2009	73.40	25.72	25.48	0.24	47.86	Envent
	10/19/2009	73.40	NM	---	---	NC	Blaine Tech
	11/6/2009	73.40	25.72	---	---	47.68	Kinder Morgan
	2/4/2010	73.40	25.43	25.30	0.13	48.07	Kinder Morgan
	9/3/2010	73.40	27.40	25.71	1.69	47.27	Kinder Morgan
10/4/2010	73.40	26.95	25.92	1.03	47.22	Blaine Tech	
4/12/2011	73.40	24.79	24.78	0.01	48.62	Blaine Tech	
10/10/2011	73.40	26.00	---	---	47.40	Blaine Tech	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	4/16/2012	73.40	27.19	---	---	46.21	Blaine Tech
	7/9/2012	73.40	NM	---	---	NC	Blaine Tech
	10/15/2012	73.40	27.01	---	---	46.39	Blaine Tech
	4/8/2013	73.40	27.90	---	---	45.50	Blaine Tech
	10/7/2013	73.40	NM	---	---	NC	Blaine Tech
	11/14/2013	73.40	29.95	28.25	1.70	44.73	Blaine Tech
	4/14/2014	73.40	31.36	28.47	2.89	44.21	Blaine Tech
	5/5/2014	73.40	31.62	28.49	3.13	44.13	Nieto & Sons
	5/12/2014	73.40	30.02	28.88	1.14	44.24	Nieto & Sons
	5/20/2014	73.40	31.10	29.77	1.33	43.30	Nieto & Sons
	5/27/2014	73.40	30.17	29.48	0.69	43.75	Nieto & Sons
	6/4/2014	73.40	30.22	---	---	43.18	Nieto & Sons
	6/10/2014	73.40	30.20	29.76	0.44	43.53	Nieto & Sons
	7/3/2014	73.40	30.49	29.88	0.61	43.37	Nieto & Sons
	7/24/2014	73.40	30.50	29.54	0.96	43.62	Blaine Tech
	8/1/2014	73.40	29.82	29.25	0.57	44.01	Blaine Tech
	8/8/2014	73.40	34.07	33.71	0.36	39.60	Blaine Tech
	8/14/2014	73.40	29.96	29.13	0.83	44.06	Blaine Tech
	8/19/2014	73.40	29.91	29.15	0.76	44.06	Blaine Tech
	8/29/2014	73.40	30.15	29.02	1.13	44.10	Blaine Tech
	9/5/2014	73.40	30.19	29.08	1.11	44.04	Blaine Tech
	9/11/2014	73.40	30.66	28.91	1.75	44.05	Blaine Tech
	9/18/2014	73.40	30.41	29.15	1.26	43.94	Blaine Tech
	9/26/2014	73.40	30.18	29.14	1.04	44.00	Blaine Tech
	10/1/2014	73.40	30.38	29.05	1.33	44.02	Blaine Tech
	10/6/2014	73.40	30.10	29.12	0.98	44.04	Blaine Tech
	10/13/2014	73.40	30.28	29.07	1.21	44.03	Blaine Tech
	10/23/2014	73.40	30.72	28.95	1.77	44.01	Blaine Tech
	10/27/2014	73.40	30.21	29.06	1.15	44.05	Blaine Tech
	11/3/2014	73.40	30.62	28.93	1.69	44.05	Blaine Tech
	11/18/2014	73.40	30.54	29.11	1.43	43.93	Blaine Tech
	11/25/2014	73.40	29.48	29.14	0.34	44.18	Blaine Tech
	12/3/2014	73.40	31.02	28.93	2.09	43.95	Blaine Tech
	12/12/2014	73.40	31.05	29.40	1.65	43.59	Blaine Tech
	12/19/2014	73.40	31.11	29.40	1.71	43.57	Blaine Tech
	4/20/2015	73.40	32.44	29.04	3.40	43.51	Blaine Tech
	10/19/2015	73.40	35.16	29.31	5.85	42.63	Blaine Tech
	3/14/2016	73.40	34.72	---	---	38.68	Blaine Tech
	4/11/2016	73.40	32.28	---	---	41.12	Blaine Tech
	6/29/2016	73.40	33.62	---	---	39.78	Blaine Tech
	8/22/2016	73.40	33.66	---	---	39.74	Blaine Tech
	10/3/2016	73.40	34.20	---	---	39.20	Blaine Tech
	3/24/2017	73.40	31.25	---	---	42.15	CH2M
	4/17/2017	73.40	30.40	---	---	43.00	Blaine Tech
	10/2/2017	73.40	34.52	---	---	38.88	Blaine Tech
	4/16/2018	73.40	34.26	---	---	39.14	Blaine Tech
	11/5/2018	73.40	34.43	---	---	38.97	Blaine Tech
	4/16/2019	73.40	32.29	---	---	41.11	Blaine Tech
	11/1/2019	73.40	33.76	---	---	39.64	Blaine Tech
MW-SF-14	8/14/2007	78.16	27.68	---	---	50.48	Geomatrix
	8/21/2007	78.16	27.60	---	---	50.56	Geomatrix
	8/28/2007	78.16	27.53	---	---	50.63	Stantec
	9/11/2007	78.16	27.66	---	---	50.50	Geomatrix
	10/5/2007	78.16	27.75	---	---	50.41	Geomatrix
	11/2/2007	78.16	29.83	---	---	48.33	Geomatrix
	11/12/2007	78.16	NM	---	---	NC	Secor
	8/15/2008	78.16	29.77	29.24	0.53	48.81	Envent
	10/17/2008	78.16	29.52	29.50	0.02	48.66	Envent
	12/18/2008	78.16	30.62	---	---	47.54	Envent
	1/15/2009	78.16	30.08	---	---	48.08	Envent
	3/24/2009	78.16	29.73	---	---	48.43	Envent

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	4/21/2009	78.16	29.61	---	---	48.55	Envent
	7/21/2009	78.16	29.20	---	---	48.96	Envent
	10/19/2009	78.16	NM	---	---	NC	Blaine Tech
	11/6/2009	78.16	30.48	---	---	47.68	Kinder Morgan
	12/9/2009	78.16	30.68	---	---	47.48	Kinder Morgan
	6/22/2010	78.16	26.17	---	---	51.99	Blaine Tech
	10/4/2010	78.16	30.54	---	---	47.62	Blaine Tech
	4/12/2011	78.16	29.55	---	---	48.61	Blaine Tech
	10/10/2011	78.16	29.84	---	---	48.32	Blaine Tech
	4/16/2012	78.16	NM	---	---	NC	Blaine Tech
	7/9/2012	78.16	NM	---	---	NC	Blaine Tech
	10/15/2012	78.16	30.02	---	---	48.14	Blaine Tech
	4/8/2013	78.16	32.75	---	---	45.41	Blaine Tech
	5/24/2013	78.16	32.75	---	---	45.41	Blaine Tech
	9/26/2013	78.16	34.50	34.25	0.25	43.86	Blaine Tech
	10/7/2013	78.16	NM	---	---	NC	Blaine Tech
	11/14/2013	78.16	33.57	33.19	0.38	44.89	Blaine Tech
	4/14/2014	78.16	34.81	33.56	1.25	44.35	Blaine Tech
	8/8/2014	78.16	34.24	33.98	0.26	44.13	Blaine Tech
	10/14/2014	78.16	34.36	33.80	0.56	44.25	Blaine Tech
	10/23/2014	78.16	34.49	34.43	0.06	43.72	Blaine Tech
	10/27/2014	78.16	34.40	33.97	0.43	44.10	Blaine Tech
	11/18/2014	78.16	34.27	34.07	0.20	44.05	Blaine Tech
	4/20/2015	78.16	34.48	---	---	43.68	Blaine Tech
	10/21/2015	78.16	35.25	---	---	42.91	Blaine Tech
	3/14/2016	78.16	36.21	---	---	41.95	Blaine Tech
	4/11/2016	78.16	37.14	---	---	41.02	Blaine Tech
	6/29/2016	78.16	37.36	---	---	40.80	Blaine Tech
	8/22/2016	78.16	DRY	---	---	NC	Blaine Tech
	10/3/2016	78.16	DRY	---	---	NC	Blaine Tech
4/17/2017	78.16	35.40	---	---	42.76	Blaine Tech	
10/2/2017	78.16	DRY	---	---	NC	Blaine Tech	
4/16/2018	78.16	DRY	---	---	NC	Blaine Tech	
11/5/2018	78.16	DRY	---	---	NC	Blaine Tech	
4/16/2019	78.16	DRY	---	---	NC	Blaine Tech	
4/16/2019	78.16	DRY	---	---	NC	Blaine Tech	
MW-SF-15	8/14/2007	78.27	27.78	27.75	0.03	50.51	Geomatrix
	8/21/2007	78.27	27.69	27.65	0.04	50.61	Geomatrix
	8/28/2007	78.27	27.65	27.61	0.04	50.65	Stantec
	9/11/2007	78.27	27.62	---	---	50.65	Geomatrix
	10/5/2007	78.27	28.15	---	---	50.12	Geomatrix
	11/2/2007	78.27	30.45	30.20	0.25	48.02	Geomatrix
	11/12/2007	78.27	28.75	---	---	49.52	Stantec
	8/15/2008	78.27	30.12	29.35	0.77	48.77	Envent
	10/17/2008	78.27	30.80	29.44	1.36	48.56	Envent
	10/21/2008	78.27	30.80	29.31	1.49	48.66	Envent
	12/18/2008	78.27	32.11	30.56	1.55	47.40	Envent
	1/15/2009	78.27	31.75	29.70	2.05	48.16	Envent
	3/24/2009	78.27	30.32	29.93	0.39	48.26	Envent
	4/21/2009	78.27	29.96	29.60	0.36	48.60	Envent
	7/21/2009	78.27	30.45	---	---	47.82	Envent
	10/19/2009	78.27	NM	---	---	NC	Blaine Tech
	11/4/2009	78.27	31.10	30.45	0.36	47.46	Kinder Morgan
	12/9/2009	78.27	30.87	---	---	47.40	Kinder Morgan
	10/4/2010	78.27	30.66	30.65	0.01	47.62	Blaine Tech
	4/12/2011	78.27	30.50	29.40	1.10	48.65	Blaine Tech
	10/10/2011	78.27	29.60	---	---	48.67	Blaine Tech
	12/2/2011	78.27	31.40	30.05	1.35	47.95	Blaine Tech
4/16/2012	78.27	32.48	32.39	0.09	45.86	Blaine Tech	
7/9/2012	78.27	NM	---	---	NC	Blaine Tech	
10/15/2012	78.16	33.04	---	---	45.12	Blaine Tech	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells
SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	4/8/2013	78.27	33.90	---	---	44.37	Blaine Tech
	5/24/2013	78.27	33.90	---	---	44.37	Blaine Tech
	10/7/2013	78.27	NM	---	---	NC	Blaine Tech
	11/14/2013	78.27	33.41	33.38	0.03	44.88	Blaine Tech
	4/18/2014	78.27	33.85	---	---	44.42	Blaine Tech
	8/8/2014	78.27	34.87	33.96	0.91	44.13	Blaine Tech
	8/13/2014	78.27	34.89	33.95	0.94	44.13	Blaine Tech
	8/19/2014	78.27	34.90	33.94	0.96	44.14	Blaine Tech
	8/29/2014	78.27	35.65	35.38	0.27	42.84	Blaine Tech
	10/27/2014	78.27	35.82	---	---	42.45	Blaine Tech
	4/20/2015	78.27	36.63	34.12	2.51	43.65	Blaine Tech
	10/19/2015	78.27	37.90	34.87	3.03	42.79	Blaine Tech
	11/17/2015	78.27	37.71	35.36	2.35	42.44	Kinder Morgan
	3/14/2016	78.27	39.70	---	---	38.57	Blaine Tech
	4/11/2016	78.27	37.24	---	---	41.03	Blaine Tech
	6/29/2016	78.27	38.70	---	---	39.57	Blaine Tech
	8/22/2016	78.27	38.78	---	---	39.49	Blaine Tech
	10/3/2016	78.27	39.56	---	---	38.71	Blaine Tech
	3/23/2017	78.27	36.10	---	---	42.17	CH2M
	4/17/2017	78.27	35.39	---	---	42.88	Blaine Tech
10/2/2017	78.27	39.40	---	---	38.87	Blaine Tech	
4/16/2018	78.27	39.10	---	---	39.17	Blaine Tech	
11/5/2018	78.27	39.00	---	---	39.27	Blaine Tech	
4/23/2019	78.27	36.15	---	---	42.12	Blaine Tech	
10/28/2019	78.27	38.92	---	---	39.35	Blaine Tech	
MW-SF-16	8/14/2007	78.21	27.68	---	---	50.53	Geomatrix
	8/21/2007	78.21	27.33	---	---	50.88	Geomatrix
	8/28/2007	78.21	27.51	---	---	50.70	Stantec
	9/11/2007	78.21	27.59	---	---	50.62	Geomatrix
	10/5/2007	78.21	28.10	---	---	50.11	Geomatrix
	11/2/2007	78.21	29.81	---	---	48.40	Geomatrix
	11/12/2007	78.21	28.40	---	---	49.81	Stantec
	8/15/2008	78.21	29.36	---	---	48.85	Envent
	10/17/2008	78.21	29.51	---	---	48.70	Envent
	12/18/2008	78.21	30.94	---	---	47.27	Envent
	1/15/2009	78.21	30.01	30.00	0.01	48.21	Envent
	3/24/2009	78.21	29.82	---	---	48.39	Envent
	4/21/2009	78.21	29.60	---	---	48.61	Envent
	7/21/2009	78.21	30.36	---	---	47.85	Envent
	10/19/2009	78.21	NM	---	---	NC	Blaine Tech
	11/4/2009	78.21	30.58	---	---	47.63	Kinder Morgan
	2/4/2010	78.21	30.36	---	---	47.85	Kinder Morgan
	9/3/2010	78.21	30.25	---	---	47.96	Kinder Morgan
	10/4/2010	78.21	30.49	---	---	47.72	Blaine Tech
	4/12/2011	78.21	29.52	---	---	48.69	Blaine Tech
	10/10/2011	78.21	29.85	---	---	48.36	Blaine Tech
	4/16/2012	78.21	NM	---	---	NC	Blaine Tech
	7/9/2012	78.21	NM	---	---	NC	Blaine Tech
	10/15/2012	78.21	32.47	---	---	45.74	Blaine Tech
	4/8/2013	78.21	32.97	32.73	0.24	45.43	Blaine Tech
	5/24/2013	78.21	32.97	32.73	0.24	45.43	Blaine Tech
	10/7/2013	78.21	NM	---	---	NC	Blaine Tech
	11/14/2013	78.21	33.80	33.21	0.59	44.88	Blaine Tech
	4/18/2014	78.21	34.20	33.65	0.55	44.45	Blaine Tech
	8/8/2014	78.21	34.06	34.05	0.01	44.16	Blaine Tech
10/27/2014	78.21	34.25	---	---	43.96	Blaine Tech	
4/20/2015	78.21	34.52	---	---	43.69	Blaine Tech	
6/8/2015	78.21	35.17	35.00	0.17	43.18	Blaine Tech	
10/21/2015	78.21	34.56	---	---	43.65	Kinder Morgan	
3/14/2016	78.21	39.60	---	---	38.61	Blaine Tech	
4/11/2016	78.21	37.15	---	---	41.06	Blaine Tech	

Table 8. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation	Measured Depth to Groundwater	Measured Depth to Product	Apparent Product Thickness	Corrected Groundwater Elevation	Gauged By
		(feet msl)	(feet btoc)	(feet btoc)	(feet)	(feet msl)	
	6/29/2016	78.21	38.35	---	---	39.86	Blaine Tech
	8/22/2016	78.21	38.51	---	---	39.70	Blaine Tech
	10/3/2016	78.21	39.35	---	---	38.86	Blaine Tech
	4/17/2017	78.21	35.20	---	---	43.01	Blaine Tech
	10/2/2017	78.21	DRY	---	---	NC	Blaine Tech
	4/16/2018	78.21	DRY	---	---	NC	Blaine Tech
	11/5/2018	78.21	DRY	---	---	NC	Blaine Tech
	4/16/2019	78.21	DRY	---	---	NC	Blaine Tech
	10/28/2019	78.21	DRY	---	---	NC	Blaine Tech

Notes:

Corrected groundwater elevations are based on specific gravity data collected during baildown testing, or a default value of 0.8 foot msl was used for wells not tested.

--- = not detected or not applicable

DRY = no measurable water observed in the well

feet btoc = feet below top of casing

feet msl = feet above mean sea level based on National Geodetic Vertical Datum of 1929

NC = not calculated

NM = not measured

Figures

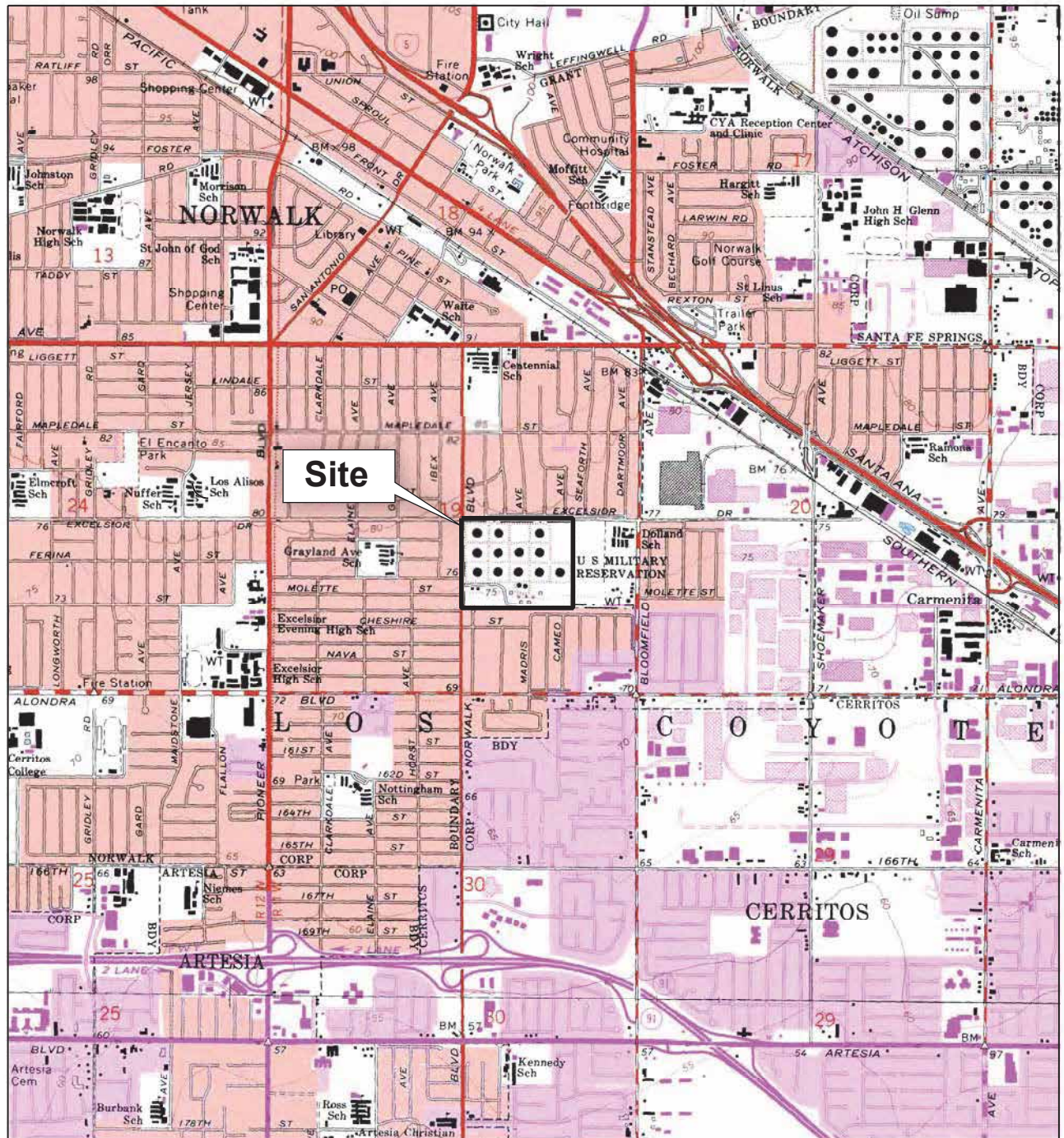
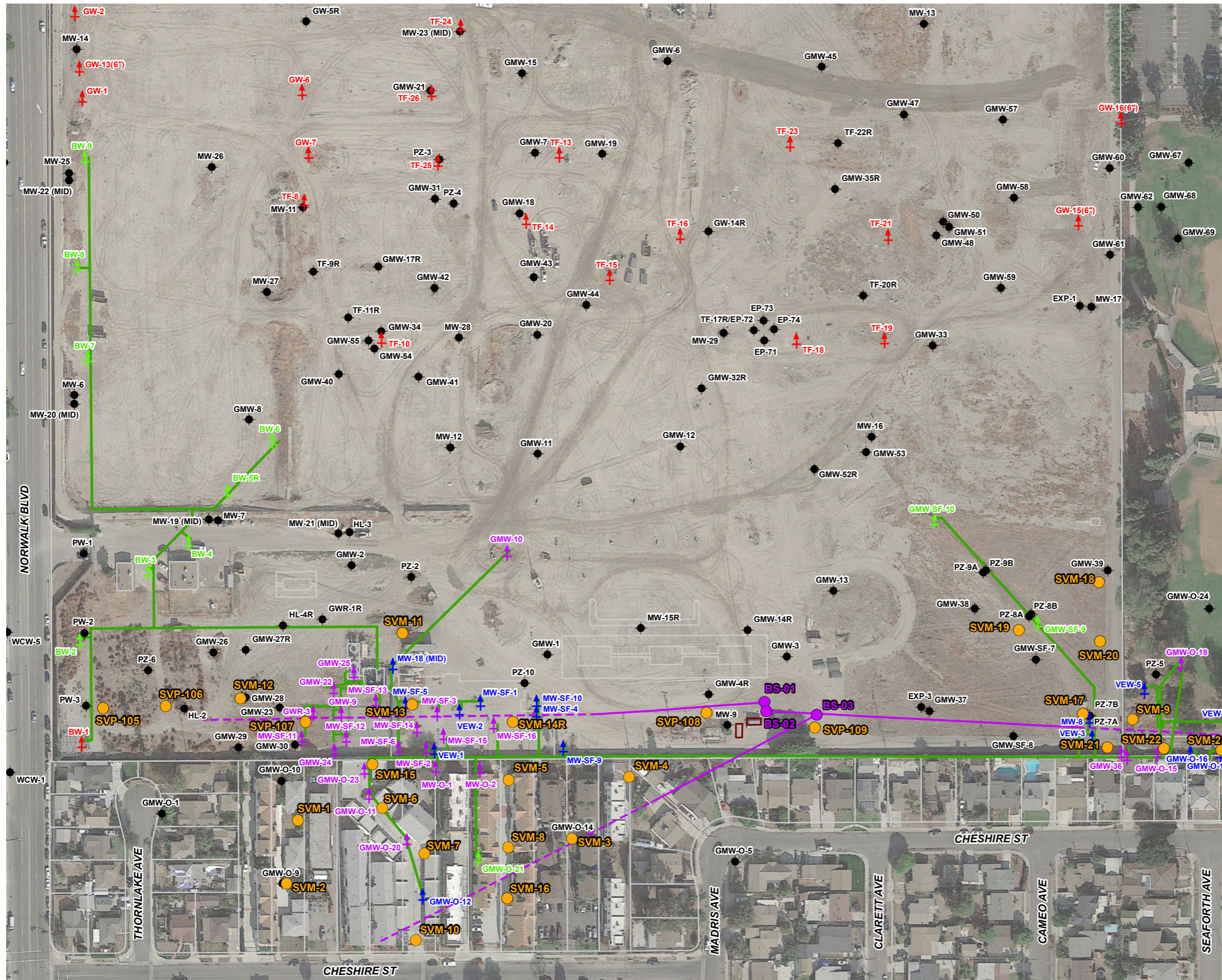


Figure 1. Site Location Map
 SFPP Norwalk Pump Station
 Norwalk, California

BASEMAP MODIFIED FROM U.S.G.S. 7.5 MINUTE QUADRANGLE MAP
 LOS ALAMITOS 1964, CALIFORNIA. PHOTO-REVISED 1981.
 WHITTIER 1965, CALIFORNIA. PHOTO-REVISED 1981.





- LEGEND**
- Soil Vapor Probe/Soil Vapor Monitoring Probe
 - Horizontal Biosparging Well Entry Point
 - Existing Groundwater Monitoring Well
 - ↑ Existing Remediation Well
 - ↑ Kinder Morgan Combined Soil Vapor and Total Fluids Extraction Wells
 - ↑ Kinder Morgan Soil Vapor Extraction Wells
 - ↑ Kinder Morgan Total Fluids and/or Groundwater Extraction Wells
 - Kinder Morgan Remediation Piping Layout (Above Ground and Below Ground)
 - Horizontal Biosparging Well (Dashed Line Depicts Approximate Lateral Extent of Well Screen)
 - Air Compressor System

Imagery Source:
Google Earth December 3, 2017.

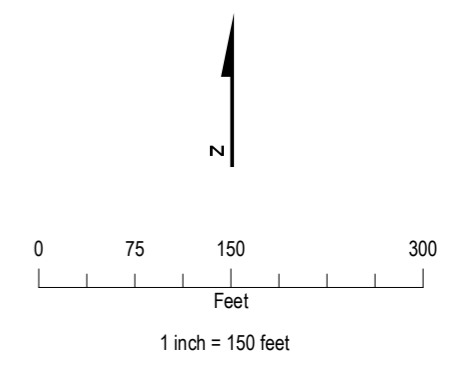
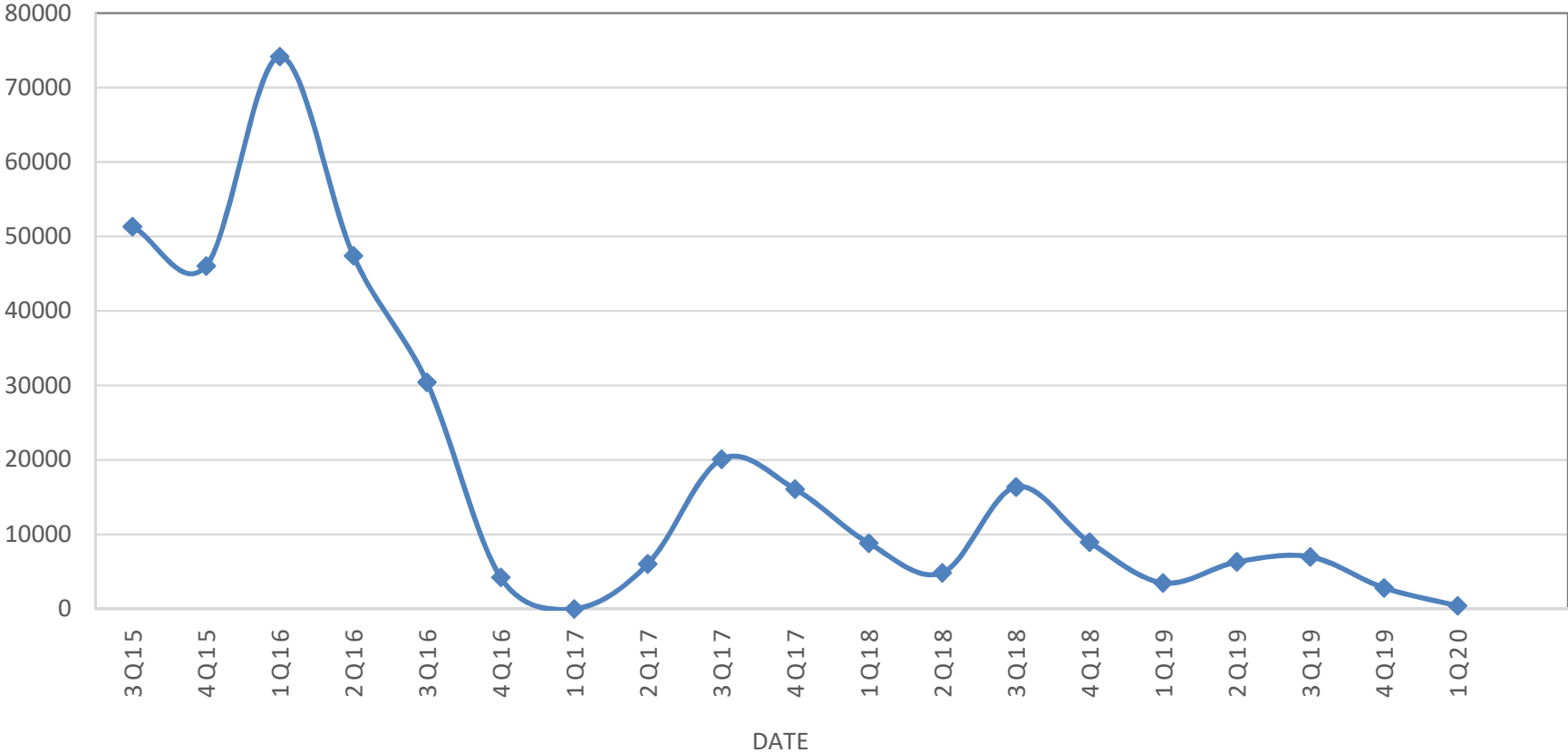


Figure 2. Remediation System Layout
SFPP Norwalk Pump Station
Norwalk, California

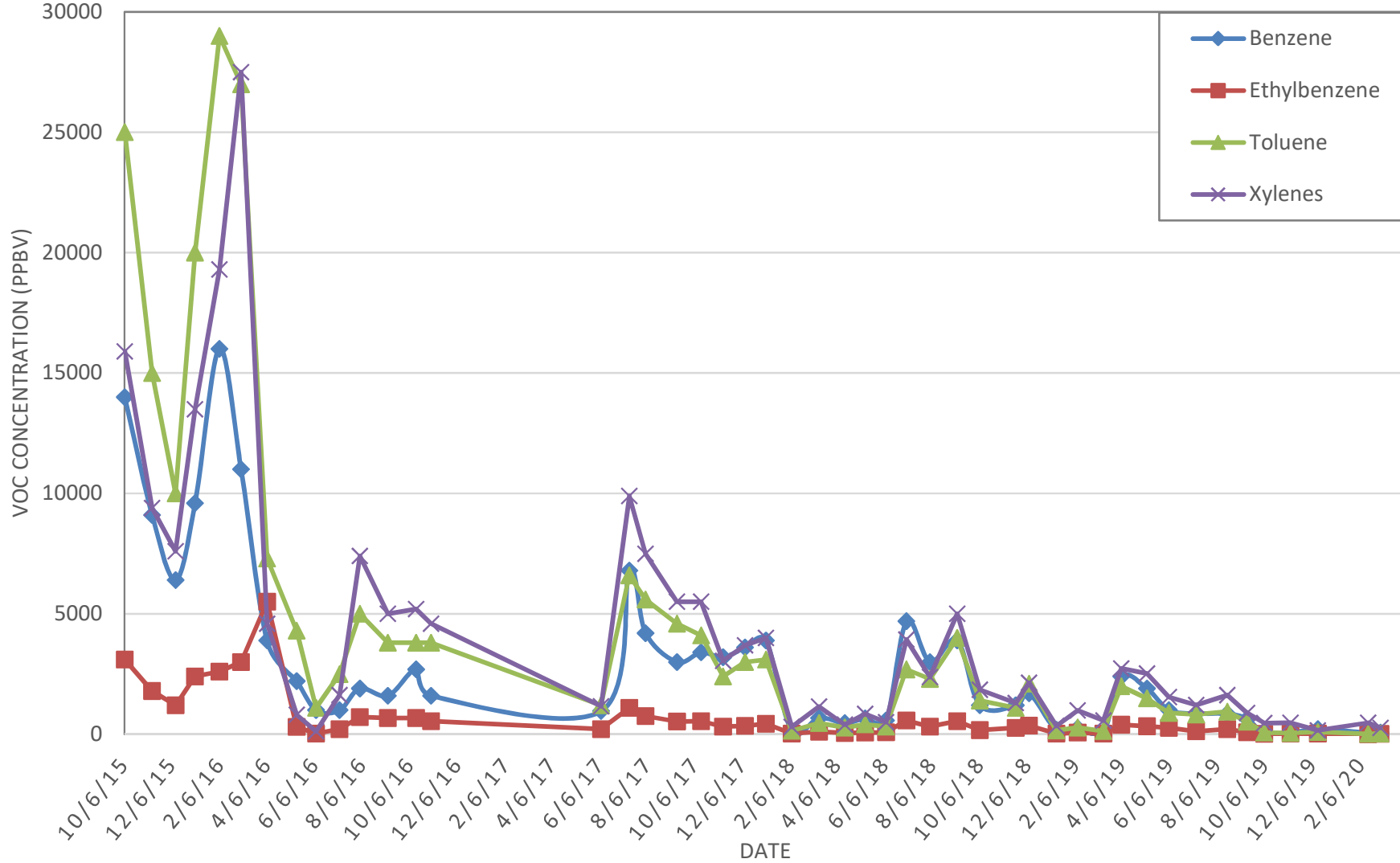
Mass of Volatile Organic Compounds Removed Quarterly by the Soil Vapor Extraction System



Note:
VOC = volatile organic compound

**Figure 3. Mass of VOCs Removed Quarterly
by the Soil Vapor Extraction System**
SFPP Norwalk Pump Station
Norwalk, California

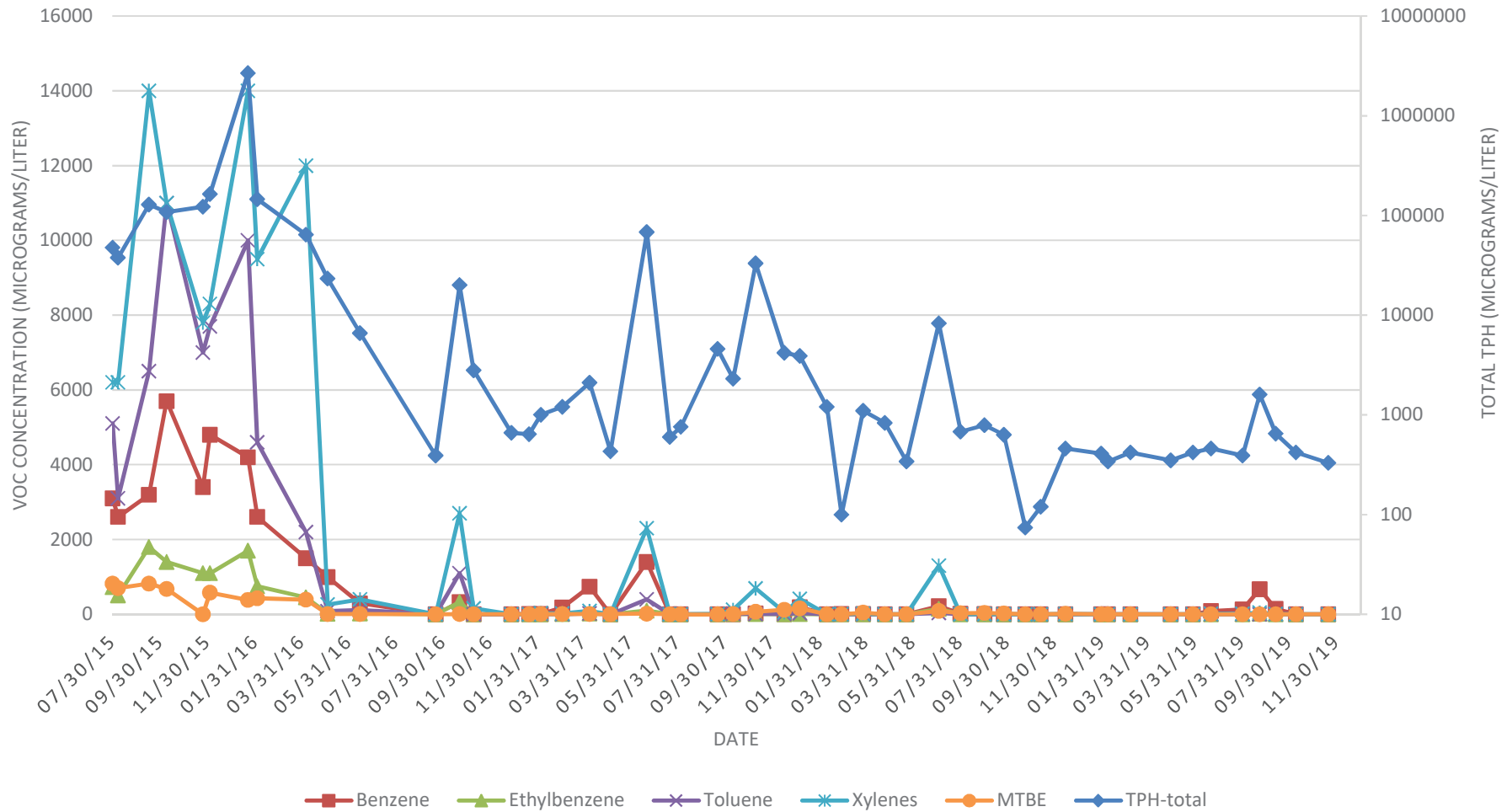
Influent VOC Concentrations into the Soil Vapor Extraction System



Note:
 PPBV = parts per billion by volume
 VOC = volatile organic compound

Figure 4. Influent VOC Concentrations into the Soil Vapor Extraction System
 SFPP Norwalk Pump Station
 Norwalk, California

Influent VOC and TPH-Total Concentrations into the Groundwater Extraction System



Note:
 TPH = total petroleum hydrocarbons
 VOC = volatile organic compound

**Figure 5. Influent VOC and TPH-Total Concentrations
 into the Groundwater Extraction System**
 SFPP Norwalk Pump Station
 Norwalk, California

Appendix A
Expanded Southeastern Area Soil Vapor
Extraction System Capture Zone
Reassessment

Appendix A. Expanded Southeastern Area Soil Vapor Extraction System Capture Zone Reassessment, SFPP Norwalk Pump Station, Norwalk, California

A.1 Introduction

The southeastern area soil vapor extraction (SVE) system at the SFPP Norwalk Pump Station (the site), located in 15306 Norwalk Boulevard, Norwalk, California (Figure 1), was recently enhanced to increase the radius of influence (ROI) of each SVE well and expand the capture zone of the SVE well network in preparation for startup of horizontal biosparge well BS-02. This appendix provides a comparative analysis of the ROI and capture zone measured in 2018 prior to system enhancements (i.e., baseline) and in 2020 following system enhancements.

A.2 2018 Baseline SVE Capture Zone Assessment

SVE Wells Tested: GMW-36, GMW-O-15, and GMW-O-18

On June 26 and 27, 2018, Jacobs personnel conducted field testing to evaluate the SVE system operation and capabilities by observing flow and vacuum relationships for existing SVE wells GMW-36, GMW-O-15, and GMW-O-18. Soil hydraulic properties tests (single-well extraction) were performed by extracting vapors from each well in isolation over a prolonged duration (1 hour) to establish a relationship between flow rate and vacuum applied at each well. In addition, vacuum readings were collected at nearby groundwater extraction wells and soil vapor monitoring probes to observe induced vacuum to calculate the ROI of individual extraction wells and approximate the capture zone of the SVE system. The limit of the capture zone of a single extraction well was defined as a measured induced vacuum above 0.1 inch of water column (in. WC). Measured vacuums less than 0.1 in. WC (typically at greater distances) were excluded from the evaluation as they may suggest a larger ROI than what is reasonable. A logarithmic trendline of this data was generated and used to estimate the ROI of the SVE wells.

Vacuum loss through the SVE conveyance line header from the SVE manifold to the southeastern area wellfield was a significant factor in test setup and results. The SVE conveyance line was approximately 1,250 feet from the SVE manifold at the treatment pad to GMW-36 (the closest of the SVE wells) and vacuum measurements during the 2-day tests showed a significant vacuum loss from 62 in. WC at the manifold to as little as 1.8 in. WC at the southeast wellheads. This was determined to be a result from leaks in the conveyance line, design considerations (pipe-within-pipe [2-inch within 4-inch] construction), and entrapped condensate. After attempting to repair leaks, the highest vacuum achieved at the wellheads ranged from 29 to 30 in. WC.

ROIs of 59 feet, 72 feet, and 84 feet were estimated for GMW-36, GMW-O-15, and GMW-O-18, respectively. The lowest measured ROI of 59 feet was used to estimate the ROI for each well for the southeast SVE system. The results of the capture zone assessment for GMW-36, GMW-O-15, and GMW-O-18 indicated their ROI would largely encompass the light nonaqueous phase liquid (LNAPL) plume (areas with elevated concentrations of dissolved-phase hydrocarbons) and the zone of influence of the biosparge well (BS-02) in the southeastern area of the site. This estimate assumed the three existing monitoring wells (MW-8, GMW-O-16, and GMW-O-19) would be converted to SVE wells and that up to three new SVE wells (VEW-3, VEW-4, and VEW-5) would be installed. Refer to the *Horizontal Biosparge System Construction Work Plan Addendum*¹ for more details of the 2018 capture zone assessment, including soil permeability testing at the test wells.

¹ Jacobs. 2018. *Horizontal Biosparge System Construction Work Plan Addendum – Results from the Southeastern SVE Capture Zone Assessment, SFPP Norwalk Pump Station, 15306 Norwalk Boulevard, Norwalk, California*. October 23.

A.3 2019 SVE System Expansion Activities

The performance of the three existing SVE wells (GMW-36, GMW-O-16, GMW-O-18) was evaluated during the 2018 baseline capture zone assessment and provided the basis of design for the expansion of the southeastern area SVE well network. From September 30 to November 19, 2019, the southeastern area SVE system was expanded in preparation for startup of horizontal biosparge well BS-02. The expansion activities included the installation of three new SVE wells (VEW-3, VEW-4, and VEW-5) and conversion of three existing groundwater monitoring wells (MW-8, GMW-O-16, GMW-O-19) to dedicated SVE wells. Including the three existing total fluids extraction (TFE) wells in the area, the expansion project increased the total number of SVE wells in the southeastern area to nine. In addition, the old 4-inch Schedule 80 polyvinyl chloride (PVC) soil vapor conveyance header connecting the well network to the existing regenerative thermal oxidizer (RTO) was replaced with a dedicated 1,200-foot-long, 6-inch high density polyethylene (HDPE) soil vapor conveyance header to mitigate vacuum loss in the conveyance line. The 6-inch HDPE header contains a condensate collection system to prevent water from being entrapped in the conveyance line. The old 4-inch PVC line remains to provide secondary containment to the 2-inch groundwater line from the TFE wells. Figure 2 depicts the current remediation system layout, including the updated southeastern area well network and conveyance lines.

A.4 2020 Post-enhancement SVE Capture Zone Assessment

SVE Wells Tested: GMW-36, GMW-O-15, GMW-O-18, GMW-O-16, GMW-O-19, MW-8, VEW-3, VEW-4, and VEW-5

On February 14 and 20, 2020, Jacobs personnel conducted field testing to evaluate the southeastern SVE system's operations and capabilities by observing flow and vacuum relationships for nine SVE wells. Specifically, soil hydraulic properties tests (single-well extraction) were performed at wells GMW-36, GMW-O-15, GMW-O-18, GMW-O-16, GMW-O-19, MW-8, VEW-3, VEW-4, and VEW-5 in the southeastern area. The objective of this ROI testing was to confirm the effectiveness and performance capabilities of the SVE treatment system and to confirm the estimated capture zone of the extraction wells. Testing was performed by extracting vapors from each well in isolation over a prolonged duration to establish a relationship between flow rate and vacuum applied to each well. In addition, for each isolated extraction well, vacuum readings were collected at each southeastern SVE observation well and at soil vapor monitoring probe SVM-17 to observe induced vacuum to estimate the ROI of individual extraction wells. The results from SVM-17 were disregarded due to vacuum interference from a similarly located observation well, VEW-3. These results were used to approximate the capture zone of the SVE system.

Nine soil hydraulic properties tests were performed using the nine SVE wells in the southeastern area. Each test was conducted by extracting from the testing well individually under vacuum conditions over a duration of 30 minutes to 1 hour. The observed vacuum ranged from 48 to 50 in. WC at the wellhead of each extraction well. The limit of the capture zone of a single extraction well was defined as a measured induced vacuum above 0.1 in. WC. A logarithmic trendline of this data was generated and used to estimate the ROI of the SVE wells. Testing at each individual well is discussed in detail below and presented in Table 1 and Figure 3.

- **GMW-36:** With an extraction rate of 24 standard cubic feet per minute (scfm) and a wellhead vacuum of 50 in. WC, vacuum ROI was observed at SVE well GMW-O-16, located approximately 107 feet from GMW-36. Approximately 0.7 in. WC induced vacuum was measured at GMW-36. Assuming an effective vacuum limit of 0.1 in. WC, an ROI of 116 feet was estimated based on the induced vacuum at GMW-O-16 and its proximity to GMW-36.
- **GMW-O-15:** With an extraction rate of 18 scfm and a wellhead vacuum of 50 in. WC, vacuum ROI was observed at SVE well GMW-O-19, located approximately 96 feet from GMW-O-15. Approximately 0.12 in. WC induced vacuum was measured at GMW-O-19. Assuming an effective vacuum limit of 0.1 in. WC, an ROI of 92 feet was estimated based on the induced vacuum at GMW-O-19 and its proximity to GMW-O-15.

- **GMW-O-16:** With an extraction rate of 24 scfm and a wellhead vacuum of 50 in. WC, vacuum ROI was observed at SVE well VEW-5, located approximately 122 feet from GMW-O-16. Approximately 2.4 in. WC induced vacuum was measured at GMW-O-16. Additionally, the next furthest SVE well from extraction well GMW-O-16 with a vacuum ROI was GMW-O-19, located approximately 45 feet from GMW-O-16. Approximately 0.7 in. WC induced vacuum was measured at GMW-O-19. Assuming an effective vacuum limit of 0.1 in. WC, an ROI of 90 feet was estimated based on the induced vacuums at VEW-5 and GMW-O-19.
- **GMW-O-18:** With an extraction rate of 33 scfm and a wellhead vacuum of 50 in. WC, vacuum ROI was observed at SVE well GMW-O-15, located approximately 138 feet from GMW-O-18. Approximately 0.5 in. WC induced vacuum was measured at GMW-O-15. Additionally, the next furthest SVE well from the extraction well GMW-O-19 with a vacuum ROI was GMW-O-16, located approximately 137 feet from GMW-O-18. Approximately 0.25 in. WC induced vacuum was measured at GMW-O-16. Assuming an effective vacuum limit of 0.1 in. WC, an ROI of 131 feet was estimated based on the induced vacuums at GMW-O-15 and GMW-O-16.
- **GMW-O-19:** With an extraction rate of 80 scfm and a wellhead vacuum of 47 in. WC, vacuum ROI was observed at SVE well VEW-5, located approximately 134 feet from GMW-O-19. Approximately 0.1 in. WC induced vacuum was measured at VEW-5. Assuming an effective vacuum limit of 0.1 in. WC, an ROI of 134 feet was estimated based on the induced vacuum at VEW-5.
- **MW-8:** With an extraction rate of 28 scfm and a wellhead vacuum of 50 in. WC, vacuum ROI was observed at SVE well GMW-O-19, located approximately 205 feet from MW-8. Approximately 0.5 in. WC induced vacuum was measured at GMW-O-19. Assuming an effective vacuum limit of 0.1 in. WC, an ROI of 175 feet was estimated based on the induced vacuum at GMW-O-19.
- **VEW-3:** With an extraction rate of 71 scfm and a wellhead vacuum of 48 in. WC, vacuum ROI was observed at GMW-O-19, located approximately 192 feet from VEW-3. Approximately 0.1 in. WC induced vacuum was measured at GMW-O-19. Assuming an effective vacuum limit of 0.1 in. WC, an ROI of 138 feet was estimated based on the induced vacuum at GMW-O-19.
- **VEW-4:** With an extraction rate of 27 scfm and a wellhead vacuum of 50 in. WC, vacuum ROI was observed at SVE well GMW-O-18, located approximately 120 feet from VEW-4. Approximately 0.1 in. WC induced vacuum was measured at GMW-O-18. Assuming an effective vacuum limit of 0.1 in. WC, an ROI of 93 feet was estimated based on the induced vacuum at GMW-O-18.
- **VEW-5:** With an extraction rate of 34 scfm and a wellhead vacuum of 50 in. WC, vacuum ROI was observed at GMW-O-19, located approximately 155 feet from VEW-5. Approximately 0.18 in. WC induced vacuum was measured at GMW-O-19. Assuming an effective vacuum limit of 0.1 in. WC, an ROI of 117 feet was estimated based on the induced vacuum at GMW-O-19.

As discussed above, the observed vacuum during the baseline capture zone assessment ranged from 48 to 50 in. WC. This vacuum corresponded to extraction rates of approximately 13 to 80 scfm at each wellhead. Under enhanced conditions, the ROI ranges from 90 feet in GMW-O-16 to 175 feet in MW-08. Using the measured induced vacuums collected on the nearby vapor extraction wells, the average measured ROI was conservatively estimated to be 90 feet. Figure 3 shows the capture zone of the active southeastern SVE wells extracting at approximately 50 scfm each, with the estimated ROI of 90 feet. This measured ROI exceeds the estimated design ROI of 59 feet and provides a conservative estimate of the capture zone of the southeastern SVE well network that covers the footprint of the southeastern area LNAPL plume, areas with elevated concentrations of dissolved-phase hydrocarbons, and the zone of influence of biosparge well BS-02 in the southeastern area of the site. Figure 4 depicts approximated ROIs extending from each well before and after the system was expanded, illustrating the enhancement value of the capture zone. In addition, many of the SVE wells that comprise the enhanced capture zone overlap, providing a buffer in case of individual well outages.

Table 1. Radius of Influence Assessment

SFPP Norwalk Pump Station, Norwalk, California

Extraction Well	Extraction Well Vacuum (in. WC)	Extraction Well Flow (scfm)	Observation Well	Observation Well Vacuum (in. WC)	Distance (feet)
MW-8	50	28.00	GMW-36	2.9	80
			GMW-O-15	2.0	125
			GMW-O-16	1.3	168
			GMW-O-19	0.5	205
GMW-O-19	47	80.22	VEW-4	4.1	45
			VEW-5	0.1	155
			GMW-O-15	1.6	96
			GMW-O-16	5.6	45
			GMW-O-18	0.03	150
VEW-3	48	71.00	VEW-5	0.04	111
			GMW-36	3.0	57
			GMW-O-15	0.5	105
			GMW-O-16	0.3	158
			GMW-O-18	0.02	183
			GMW-O-19	0.1	192
GMW-O-16	50	24.00	VEW-4	0.0	71
			VEW-5	2.4	122
			GMW-O-15	1.8	52
			GMW-O-18	0.0	137
			GMW-O-19	0.8	45
GMW-36	50	12.62	VEW-5	0.0	107
			GMW-O-15	1.5	55
			GMW-O-16	0.8	107
			GMW-O-18	0.0	154
			GMW-O-19	0.06	153
GMW-O-15	50	18.15	VEW-5	0.0	103
			GMW-O-16	0.7	52
			GMW-O-18	0.0	138
			GMW-O-19	0.12	96
VEW-5	50	43.00	GMW-O-15	0.9	103
			GMW-O-16	0.7	122
			GMW-O-18	0.6	69
			GMW-O-19	0.18	155

Table 1. Radius of Influence Assessment*SFPP Norwalk Pump Station, Norwalk, California*

Extraction Well	Extraction Well Vacuum (in. WC)	Extraction Well Flow (scfm)	Observation Well	Observation Well Vacuum (in. WC)	Distance (feet)
GMW-O-18	50	33.00	VEW-4	0.3	120
			VEW-5	2.6	69
			GMW-O-15	0.5	138
			GMW-O-16	0.25	137
			GMW-O-19	0.0	150
VEW-4	50	27.00	VEW-5	0.08	134
			GMW-O-15	0.3	117
			GMW-O-16	0.16	71
			GMW-O-18	0.10	120
			GMW-O-19	0.10	45

Notes:

Soil vapor monitoring probe data from SVM-17 were excluded due to influence from a leaking observation well (VEW-3).

Observation well data from MW-8 were excluded because of the poor (<0.1 in. WC) ROI observed despite the distance from the extraction well.

Observation well data collected from wells (VEW-3, VEW-4, and GMW-36) influenced by a process valve leakage were excluded for having a falsely high induced vacuum when the the leakage was observed.

in. WC = inches of water column

ROI = radius of influence

scfm = standard cubic feet per minute

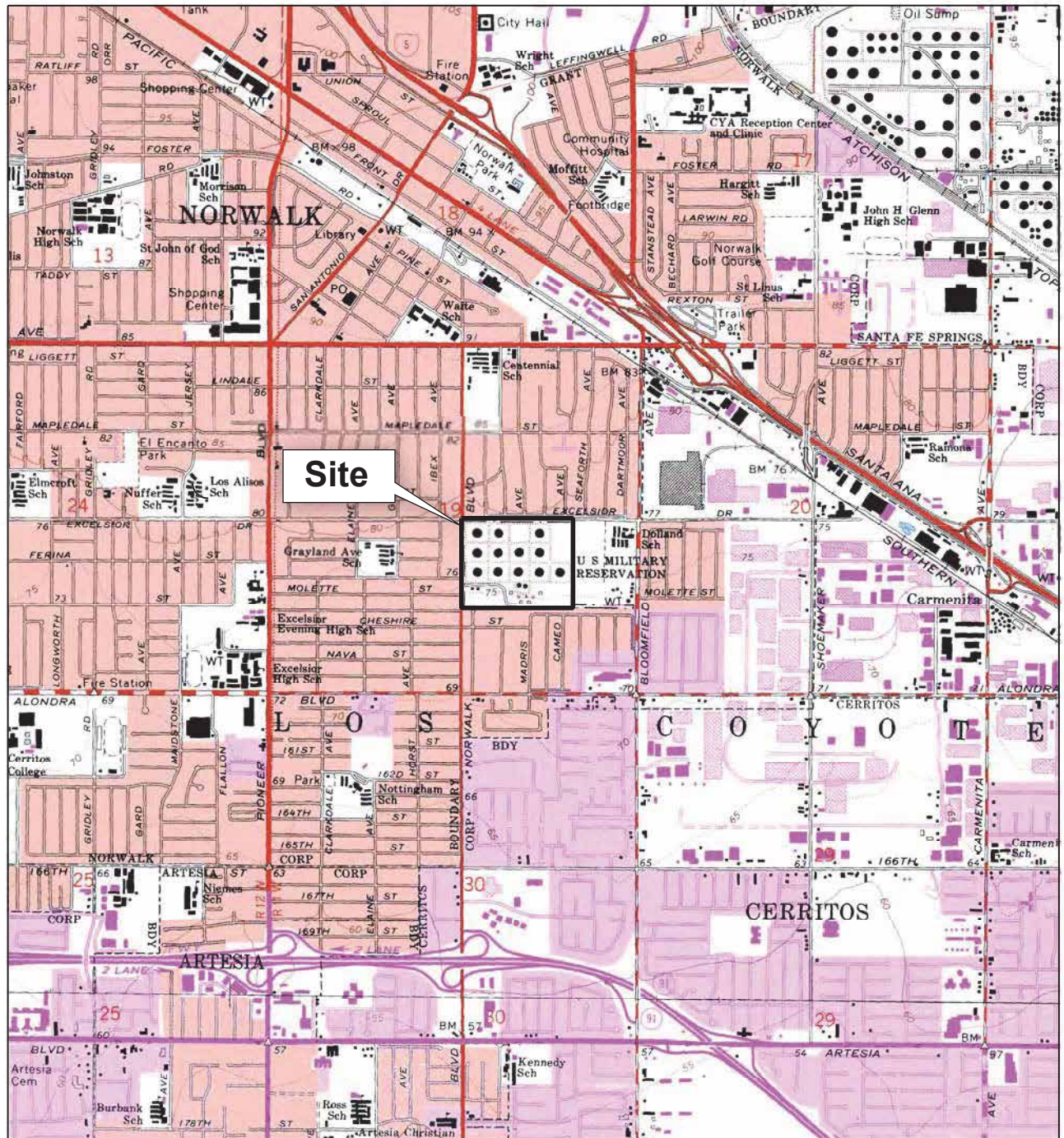
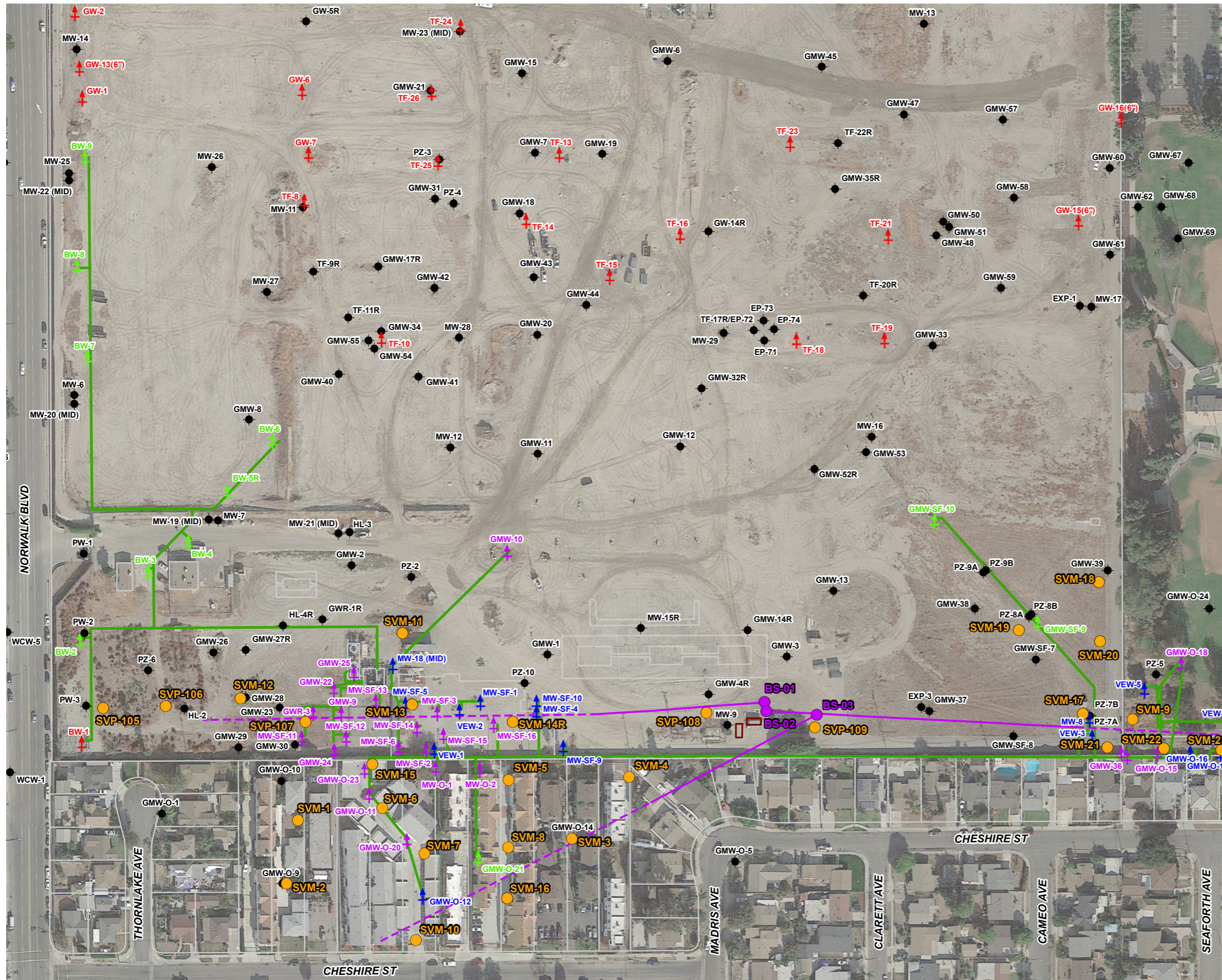


Figure 1. Site Location Map
 SFPP Norwalk Pump Station
 Norwalk, California

BASEMAP MODIFIED FROM U.S.G.S. 7.5 MINUTE QUADRANGLE MAP
 LOS ALAMITOS 1964, CALIFORNIA. PHOTO-REVISED 1981.
 WHITTIER 1965, CALIFORNIA. PHOTO-REVISED 1981.





- LEGEND**
- Soil Vapor Probe/Soil Vapor Monitoring Probe
 - Horizontal Biosparge Well Entry Point
 - Existing Groundwater Monitoring Well
 - + Existing Remediation Well
 - + Kinder Morgan Combined Soil Vapor and Total Fluids Extraction Wells
 - + Kinder Morgan Soil Vapor Extraction Wells
 - + Kinder Morgan Total Fluids and/or Groundwater Extraction Wells
 - Kinder Morgan Remediation Piping Layout (Above Ground and Below Ground)
 - Horizontal Biosparge Well (Dashed Line Depicts Approximate Lateral Extent of Well Screen)
 - Air Compressor System

Imagery Source:
Google Earth December 3, 2017.

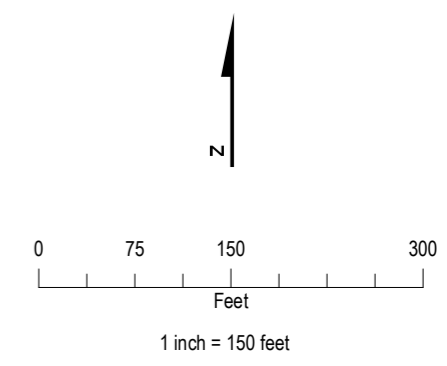
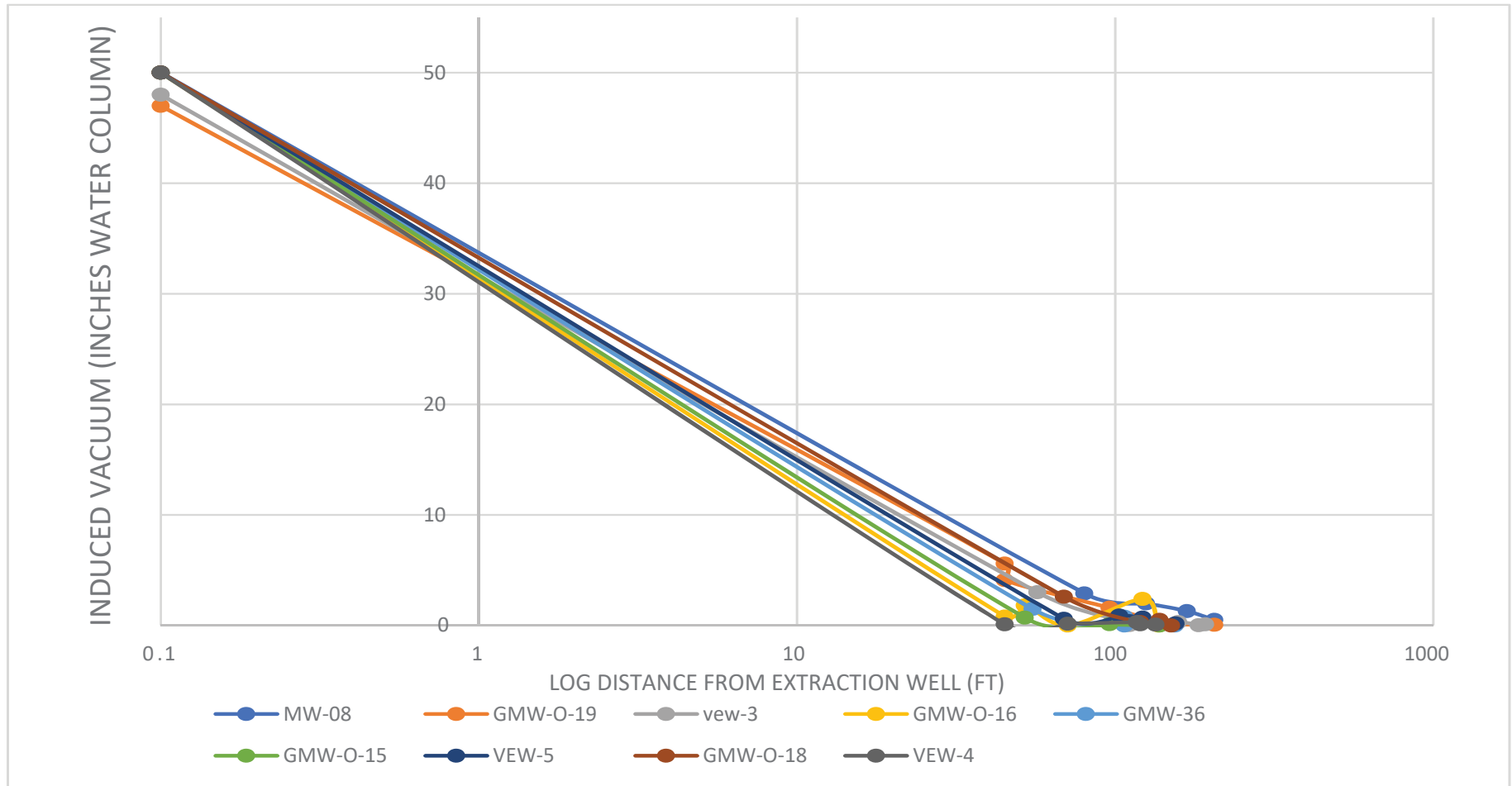
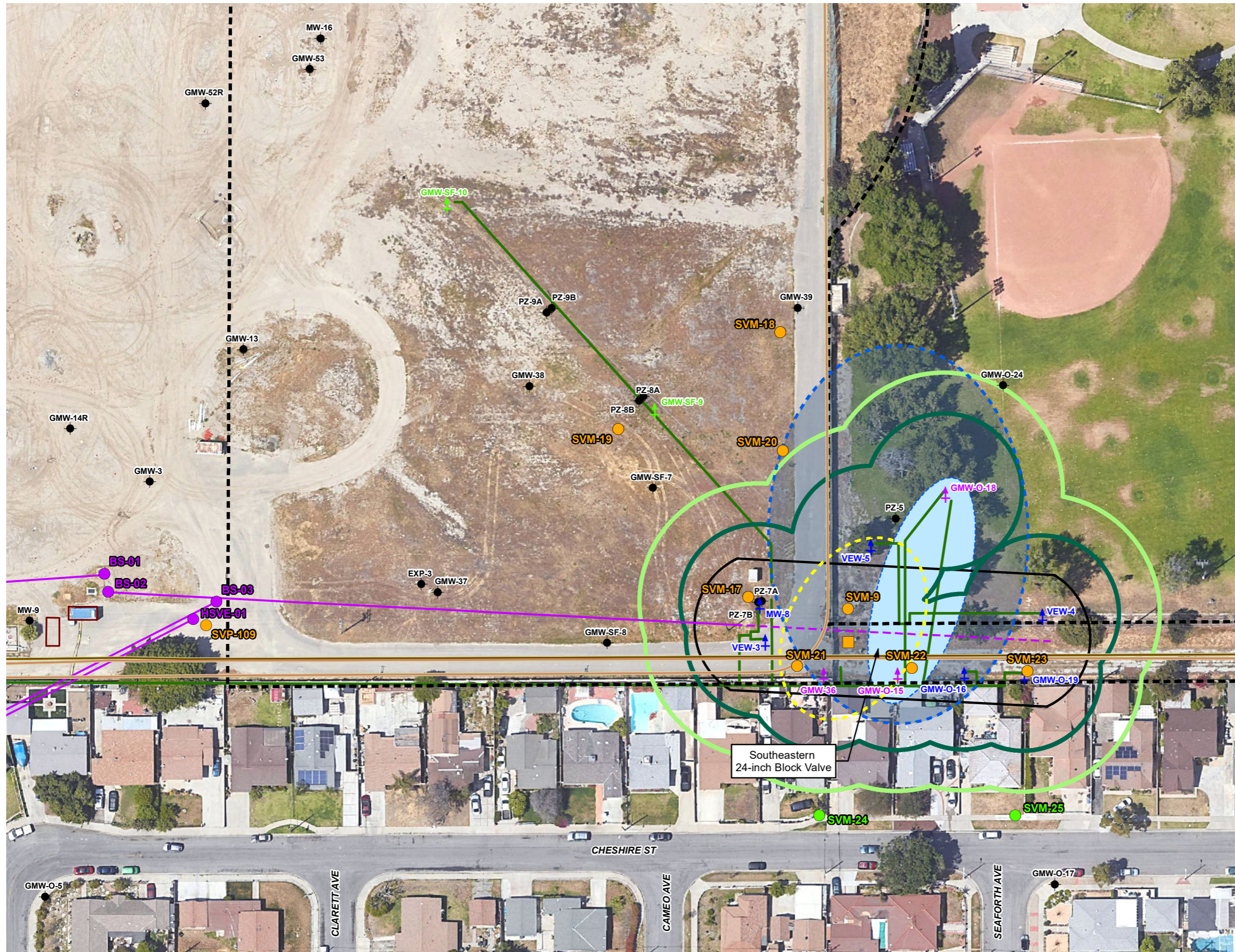


Figure 2. Remediation System Layout
SFPP Norwalk Pump Station
Norwalk, California



Extraction Well	Equation of Logarithmic Trendline
MW-08	$y = -6.646\ln(x) + 34.407$
VEW-3	$y = -6.54\ln(x) + 32.306$
VEW-4	$y = -7.167\ln(x) + 32.602$
VEW-5	$y = -7.018\ln(x) + 33.513$
GMW-36	$y = -6.993\ln(x) + 33.337$
GMW-O-15	$y = -7.239\ln(x) + 32.866$
GMW-O-16	$y = -7.175\ln(x) + 32.416$
GMW-O-18	$y = -6.926\ln(x) + 33.850$
GMW-O-19	$y = -6.388\ln(x) + 31.399$

Figure 3. Observed Radius of Infuence
 SFPP Norwalk Pump Station
 Norwalk, California



- LEGEND**
- Existing Groundwater Monitoring Well
 - ✚ Kinder Morgan Combined Soil Vapor and Total Fluids Extraction Wells
 - ✚ Kinder Morgan Soil Vapor Extraction Wells
 - ✚ Kinder Morgan Total Fluids and/or Groundwater Extraction Wells
 - Soil Vapor Probe/Soil Vapor Monitoring Probe
 - Proposed Soil Vapor Monitoring Probe Location
 - Horizontal Biosparge Well Entry Point
 - Estimated Location of Cathodic Protection Well
 - KMEP Remediation Piping Layout (Above Ground and Below Ground)
 - 16" Pipeline (approximate)
 - 24" Pipeline (approximate)
 - - - Eastern 15-Acre Parcel Boundary
 - Horizontal Biosparge Well (Dashed Line Depicts Approximate Lateral Extent of Well Screen)
 - - - Inferred Historical Extent of LNAPL Zone (Smear Zone) from LNAPL Characterization Work Plan (AMEC Geomatrix, 2010)
 - Approximate Extent of Dissolved Phase in Groundwater
 - - - Estimated Extent of Measurable LNAPL on Groundwater. Based on April 2017/2018 Semiannual Groundwater Monitoring Event. Dashed Where Inferred.
 - Air Compressor System
 - Estimated Zone of Influence of SE Bio-Sparge System (BS-02)
 - Estimated Radius of Influence - 59 feet
 - Measured Radius of Influence - 90 feet

Imagery Source:
Google Earth April 2, 2018.

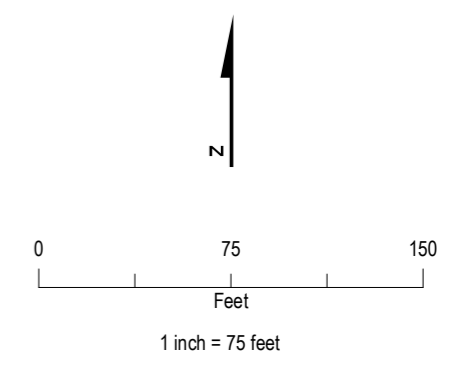


Figure 4. Southeastern Area Biosparge Soil Vapor Extraction Well Location Map
SFPP Norwalk Pump Station
Norwalk, California

Appendix B
Laboratory Analytical Reports



March 9, 2020

Jacobs
ATTN: Eric Davis
1000 Wilshire Blvd., Suite 2100
Los Angeles, CA 90017



LA Cert #04140
EPA Methods TO3, TO14A, TO15, 25C/3C,
RSK-175

TX Cert T104704450-14-6
EPA Methods TO14A, TO15

UT Cert CA0133332015-3
EPA Methods TO3, TO14A, TO15, RSK-175

LABORATORY TEST RESULTS

Project Reference: SFPP Norwalk
Lab Number: L021904-01/04

Enclosed are results for sample(s) received 2/19/20 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the TNI Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to Eric Davis, Nils Orliczky and Danny Hill on 3/06/20.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,

A handwritten signature in blue ink, appearing to read "Mark Johnson".

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

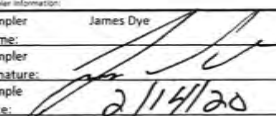
Note: The cover letter is an integral part of this analytical report.

L021904-01/04

Air Technology Laboratories, Inc.
18501 Gale Ave. #130
City of Industry, CA 91748
Tel: 626-964-4032
Joann De La Ossa (JDeLaOssa@airtechlabs.com)

CHAIN OF CUSTODY RECORD

DATE: 2/14/20
PAGE: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Service Information:		Section D Sampler Information:	
Company: CH2M HILL Attention: Eric Davis	Address: 1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017	Report To: Eric Davis (eric.davis@ch2m.com)	Copy To: Vladimir Carino (vcarino@ch2m.com)	Attention: Eric Davis	Company: CH2M	Sampler Name: James Dye	Signature: 
Email To: eric.davis@ch2m.com vcarino@ch2m.com	Phone: 404-323-1600 Fax:	Purchase Order No.:	Project Name: SFPP Norwalk	Address: 1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017	Project Manager: Joann De La Ossa	Sample Date: 2/14/20	

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (Original or COMP)	SAMPLING		TOTAL # OF CONTAINERS	Analysis Test	TO-3 (Total VOCs as Heptane)	TO-15 (VOCs, Target Analytes)	ASTM-D 1946 (O2/Argon, CO2, CH4, N2)	Comments
					DATE	TIME						
1	VEFF-02-14	Effluent (stack)	Vapor	G	2/14/20	0855	1	X	X			Individually Certified 6-Liter SUMMA
2	VEFF-02-14 D	Effluent (stack) (duplicate)	Vapor	G	2/14/20	0855	1	X	X			Individually Certified 6-Liter SUMMA
3	VPOST-02-14	Influent (post-dilution)	Vapor	G	2/14/20	0900	1	X	X			Individually Certified 1-Liter SUMMA
4	VINF-02-14	Influent (pre-dilution)	Vapor	G	2/14/20	0910	1	X	X	X		Batch Certified 1-Liter Summa
5												Target analytes includes Historical VOCs and remaining ATLI list per subcontract.
6												
7												
8												
9												
10												

Retrieved by (Signature and Printed Name):  Date / Time: 2/14/20 1400	Retrieved by (Signature and Printed Name): FED EX Date / Time: 2/14/20 1400	Turn Around Time (TAT): <input type="checkbox"/> A = Same Day <input type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input type="checkbox"/> E = 5 Workdays <input checked="" type="checkbox"/> F = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.	Special Instruction:
Retrieved by (Signature and Printed Name): TEN EX Date / Time: 2/19/20	Retrieved by (Signature and Printed Name): Dwyer Date / Time: 2/19/20 1813		
Retrieved by (Signature and Printed Name):	Retrieved by (Signature and Printed Name):		

Matrix: W = Water O = Oil Others/Specify:	Preservatives: H = HCl Z = Zn(Ac)2 Others/Specify:	Container Type: T = Tube J = Jar M = Metal V = VOA B = Tedlar P = Plastic P = Pint G = Glass C = Can As = Amber
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Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 02/19/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15												
Lab No.:	L021904-01			L021904-02			L021904-03			L021904-04		
Client Sample I.D.:	VEFF-02-14			VEFF-02-14D			VPOST-02-14			VINP-02-14		
Date/Time Sampled:	2/14/20 8:55			2/14/20 8:55			2/14/20 9:00			2/14/20 9:10		
Date/Time Analyzed:	3/6/20 9:16			3/6/20 9:55			3/6/20 10:47			3/6/20 11:28		
QC Batch No.:	200306MS2A1			200306MS2A1			200306MS2A1			200306MS2A1		
Analyst Initials:	DT			DT			DT			DT		
Dilution Factor:	2.0			2.0			2.8			5.0		
ANALYTE	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv
Benzene	0.0012 J	0.0020	0.00019	0.0011 J	0.0020	0.00019	0.060	0.0028	0.00027	0.063	0.0050	0.00048
Chloroform	ND	0.0020	0.00028	ND	0.0020	0.00028	0.0011 J	0.0028	0.00039	ND	0.0050	0.00070
Carbon Tetrachloride	ND	0.0020	0.00035	ND	0.0020	0.00034	ND	0.0028	0.00048	ND	0.0050	0.00087
1,4-Dioxane	ND	0.010	0.00035	ND	0.0099	0.00035	ND	0.014	0.00049	ND	0.025	0.00088
1,4-Dichlorobenzene	ND	0.0020	0.00030	ND	0.0020	0.00029	ND	0.0028	0.00041	ND	0.0050	0.00073
1,1-Dichloroethene	ND	0.0020	0.00046	ND	0.0020	0.00045	ND	0.0028	0.00063	ND	0.0050	0.0011
Ethylbenzene	0.0010 J	0.0020	0.00012	0.00065 J	0.0020	0.00011	0.0098	0.0028	0.00016	0.0077	0.0050	0.00029
1,2-Dichloroethane	ND	0.0020	0.00015	ND	0.0020	0.00015	0.00084 J	0.0028	0.00021	ND	0.0050	0.00037
Methylene Chloride	ND	0.0020	0.00058	ND	0.0020	0.00057	ND	0.0028	0.00079	ND	0.0050	0.0014
t-Butyl Methyl Ether (MTBE)	ND	0.0020	0.00045	ND	0.0020	0.00044	ND	0.0028	0.00062	ND	0.0050	0.0011
Tetrachloroethene	ND	0.0020	0.00024	ND	0.0020	0.00024	ND	0.0028	0.00033	ND	0.0050	0.00060
1,1,2-Trichloroethane	ND	0.0020	0.00033	ND	0.0020	0.00032	ND	0.0028	0.00045	ND	0.0050	0.00081
Trichloroethene	ND	0.0020	0.00029	ND	0.0020	0.00028	ND	0.0028	0.00039	ND	0.0050	0.00071
Vinyl Chloride	ND	0.0020	0.00033	ND	0.0020	0.00032	ND	0.0028	0.00045	ND	0.0050	0.00081
Naphthalene	0.0019 J	0.010	0.00078	0.0013 J	0.0099	0.00076	0.0022 J	0.014	0.0011	0.0039 J	0.025	0.0019
Dichlorodifluoromethane (12)	ND	0.0020	0.00031	ND	0.0020	0.00030	0.00052 J	0.0028	0.00043	ND	0.0050	0.00077
Chloromethane	ND	0.0040	0.00044	0.00091 J	0.0040	0.00044	ND	0.0056	0.00061	ND	0.010	0.0011
1,2-Cl-1,1,2,2-F ethane (114)	ND	0.0020	0.00041	ND	0.0020	0.00040	ND	0.0028	0.00056	ND	0.0050	0.0010
Bromomethane	ND	0.0020	0.00059	ND	0.0020	0.00058	ND	0.0028	0.00081	ND	0.0050	0.0015
Chloroethane	ND	0.0020	0.0017	ND	0.0020	0.0017	ND	0.0028	0.0023	ND	0.0050	0.0042
Trichlorofluoromethane (11)	ND	0.0020	0.00044	ND	0.0020	0.00043	ND	0.0028	0.00060	ND	0.0050	0.0011
Carbon Disulfide	0.031	0.010	0.00048	0.016	0.0099	0.00048	0.017	0.014	0.00067	0.014 J	0.025	0.0012
1,1,2-Cl 1,2,2-F ethane (113)	ND	0.0020	0.00054	ND	0.0020	0.00053	ND	0.0028	0.00075	ND	0.0050	0.0013
Acetone	0.017	0.010	0.00058	0.0098 J	0.0099	0.00057	0.025	0.014	0.00080	0.025	0.025	0.0014
t-1,2-Dichloroethene	ND	0.0020	0.00060	ND	0.0020	0.00059	ND	0.0028	0.00083	ND	0.0050	0.0015
1,1-Dichloroethane	ND	0.0020	0.00028	ND	0.0020	0.00027	ND	0.0028	0.00038	ND	0.0050	0.00068
c-1,2-Dichloroethene	0.00054 J	0.0020	0.00039	ND	0.0020	0.00038	ND	0.0028	0.00054	ND	0.0050	0.00097
2-Butanone	0.012	0.0020	0.0012	0.0071	0.0020	0.0012	0.015	0.0028	0.0017	0.014	0.0050	0.0031
1,1,1-Trichloroethane	ND	0.0020	0.00020	ND	0.0020	0.00020	ND	0.0028	0.00028	ND	0.0050	0.00050
1,2-Dichloropropane	ND	0.0020	0.00037	ND	0.0020	0.00036	ND	0.0028	0.00050	ND	0.0050	0.00091
Bromodichloromethane	ND	0.0020	0.00012	ND	0.0020	0.00012	ND	0.0028	0.00017	ND	0.0050	0.00030
c-1,3-Dichloropropene	ND	0.0020	0.00024	ND	0.0020	0.00024	ND	0.0028	0.00033	ND	0.0050	0.00060
4-Methyl-2-Pentanone	ND	0.0020	0.00014	ND	0.0020	0.00013	ND	0.0028	0.00019	ND	0.0050	0.00034
Toluene	0.0018 J	0.0020	0.00016	0.00098 J	0.0020	0.00016	0.014	0.0028	0.00022	0.012	0.0050	0.00040
t-1,3-Dichloropropene	ND	0.0020	0.00021	ND	0.0020	0.00020	ND	0.0028	0.00029	ND	0.0050	0.00052
1,3-Dichloropropane	ND	0.0020	0.00010	ND	0.0020	0.000099	ND	0.0028	0.00014	ND	0.0050	0.00025
2-Hexanone	ND	0.0020	0.00042	ND	0.0020	0.00041	ND	0.0028	0.00057	ND	0.0050	0.0010
Dibromochloromethane	ND	0.0020	0.00037	ND	0.0020	0.00036	ND	0.0028	0.00051	ND	0.0050	0.00091
1,2-Dibromoethane	ND	0.0020	0.00018	ND	0.0020	0.00018	ND	0.0028	0.00025	ND	0.0050	0.00046
Chlorobenzene	ND	0.0020	0.00016	ND	0.0020	0.00015	0.0012 J	0.0028	0.00022	ND	0.0050	0.00039
p,&m-Xylene	0.0069	0.0020	0.00023	0.0056	0.0020	0.00022	0.084	0.0028	0.00031	0.069	0.0050	0.00057
o-Xylene	0.0031	0.0020	0.00025	0.0025	0.0020	0.00024	0.049	0.0028	0.00034	0.040	0.0050	0.00061
Styrene	ND	0.0020	0.00026	ND	0.0020	0.00025	0.0017 J	0.0028	0.00036	0.0014 J	0.0050	0.00064
Bromoform	ND	0.0020	0.00011	ND	0.0020	0.00011	ND	0.0028	0.00015	ND	0.0050	0.00028
Isopropyl benzene	ND	0.0020	0.00021	ND	0.0020	0.00021	0.00085 J	0.0028	0.00029	ND	0.0050	0.00052



Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 02/19/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15												
Lab No.:	L021904-01			L021904-02			L021904-03			L021904-04		
Client Sample I.D.:	VEFF-02-14			VEFF-02-14D			VPOST-02-14			VINP-02-14		
Date/Time Sampled:	2/14/20 8:55			2/14/20 8:55			2/14/20 9:00			2/14/20 9:10		
Date/Time Analyzed:	3/6/20 9:16			3/6/20 9:55			3/6/20 10:47			3/6/20 11:28		
QC Batch No.:	200306MS2A1			200306MS2A1			200306MS2A1			200306MS2A1		
Analyst Initials:	DT			DT			DT			DT		
Dilution Factor:	2.0			2.0			2.8			5.0		
ANALYTE	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv
1,1,2,2-Tetrachloroethane	ND	0.0040	0.00012	ND	0.0040	0.00012	ND	0.0056	0.00017	ND	0.010	0.00031
Benzyl Chloride	ND	0.0020	0.00037	ND	0.0020	0.00036	ND	0.0028	0.00051	ND	0.0050	0.00092
1,2,3-Trichloropropane	ND	0.0020	0.00054	ND	0.0020	0.00053	ND	0.0028	0.00075	ND	0.0050	0.0013
n-Propyl Benzene	ND	0.0020	0.00012	ND	0.0020	0.00012	0.0012 J	0.0028	0.00016	0.00072 J	0.0050	0.00029
4-Ethyl Toluene	0.0027	0.0020	0.00013	0.0022	0.0020	0.00013	0.021	0.0028	0.00018	0.015	0.0050	0.00032
1,3,5-Trimethylbenzene	0.0020 J	0.0040	0.00035	0.0016 J	0.0040	0.00034	0.018	0.0056	0.00048	0.013	0.010	0.00087
4-Chlorotoluene	ND	0.0020	0.00024	ND	0.0020	0.00024	ND	0.0028	0.00033	ND	0.0050	0.00060
tert-Butylbenzene	ND	0.0020	0.00018	ND	0.0020	0.00018	ND	0.0028	0.00025	ND	0.0050	0.00045
1,2,4-Trimethylbenzene	0.0040	0.0040	0.00023	0.0030 J	0.0040	0.00022	0.018	0.0056	0.00032	0.013	0.010	0.00057
sec-Butylbenzene	ND	0.0020	0.00020	ND	0.0020	0.00019	ND	0.0028	0.00027	ND	0.0050	0.00049
p-Isopropyltoluene	0.0034	0.0020	0.00026	0.00029 J	0.0020	0.00026	0.0026 J	0.0028	0.00036	ND	0.0050	0.00065
1,3-Dichlorobenzene	ND	0.0020	0.00025	ND	0.0020	0.00024	ND	0.0028	0.00034	ND	0.0050	0.00061
n-Butylbenzene	0.00057 J	0.0020	0.00015	0.00055 J	0.0020	0.00014	ND	0.0028	0.00020	0.0017 J	0.0050	0.00037
1,2-Dichlorobenzene	ND	0.0020	0.00025	ND	0.0020	0.00025	ND	0.0028	0.00035	ND	0.0050	0.00062
1,2,4-Trichlorobenzene	ND	0.0040	0.00033	ND	0.0040	0.00033	ND	0.0056	0.00046	ND	0.010	0.00083
Hexachlorobutadiene	ND	0.0020	0.00012	ND	0.0020	0.00012	ND	0.0028	0.00016	ND	0.0050	0.00029
t-Butanol	ND	0.010	0.00039	ND	0.0099	0.00038	0.011 J	0.014	0.00053	0.0094 J	0.025	0.00096
n-Hexane	0.0034 J	0.010	0.00027	0.0030 J	0.0099	0.00027	0.51	0.014	0.00037	0.54	0.025	0.00067
Isopropyl ether	ND	0.010	0.00022	ND	0.0099	0.00022	ND	0.014	0.00031	ND	0.025	0.00056
t-Butyl ethyl ether	ND	0.010	0.00040	ND	0.0099	0.00040	ND	0.014	0.00055	ND	0.025	0.0010
2,2-Dichloropropane	ND	0.010	0.00019	ND	0.0099	0.00019	ND	0.014	0.00026	ND	0.025	0.00048
t-Amyl methyl ether	ND	0.010	0.00014	ND	0.0099	0.00014	ND	0.014	0.00020	ND	0.025	0.00035
1,2,3-Trichlorobenzene (TIC)	ND	--	--	ND	--	--	ND	--	--	ND	--	--

MDL = Method Detection Limit
 ND= Not Detected (below MDL)
 RL = Reporting Limit
 J = Trace amount. Analyte concentration between RL and MDL.

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date: 3/6/20

The cover letter is an integral part of this analytical report



Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 02/19/20
 Matrix: Air
 Reporting Units ppmv

EPA Method TO15			
Lab No.:	METHOD BLANK		
Client Sample I.D.:	-		
Date/Time Sampled:	-		
Date/Time Analyzed:	3/6/20 7:53		
QC Batch No.:	200306MS2A1		
Analyst Initials:	DT		
Dilution Factor:	0.20		
ANALYTE	Result ppmv	RL ppmv	MDL ppmv
Benzene	ND	0.00020	0.000019
Chloroform	ND	0.00020	0.000028
Carbon Tetrachloride	ND	0.00020	0.000035
1,4-Dioxane	ND	0.0010	0.000035
1,4-Dichlorobenzene	ND	0.00020	0.000029
1,1-Dichloroethene	ND	0.00020	0.000045
Ethylbenzene	ND	0.00020	0.000011
1,2-Dichloroethane	ND	0.00020	0.000015
Methylene Chloride	ND	0.00020	0.000057
t-Butyl Methyl Ether (MTBE)	ND	0.00020	0.000045
Tetrachloroethene	ND	0.00020	0.000024
1,1,2-Trichloroethane	ND	0.00020	0.000032
Trichloroethene	ND	0.00020	0.000028
Vinyl Chloride	ND	0.00020	0.000032
Naphthalene	0.000099 J	0.0010	0.000077
Dichlorodifluoromethane (12)	ND	0.00020	0.000031
Chloromethane	ND	0.00040	0.000044
1,2-CI-1,1,2,2-F ethane (114)	ND	0.00020	0.000040
Bromomethane	ND	0.00020	0.000059
Chloroethane	ND	0.00020	0.00017
Trichlorofluoromethane (11)	ND	0.00020	0.000043
Carbon Disulfide	ND	0.0010	0.000048
1,1,2-CI 1,2,2-F ethane (113)	ND	0.00020	0.000054
Acetone	ND	0.0010	0.000058
t-1,2-Dichloroethene	ND	0.00020	0.000060
1,1-Dichloroethane	ND	0.00020	0.000027
c-1,2-Dichloroethene	ND	0.00020	0.000039
2-Butanone	ND	0.00020	0.00012
1,1,1-Trichloroethane	ND	0.00020	0.000020
1,2-Dichloropropane	ND	0.00020	0.000036
Bromodichloromethane	ND	0.00020	0.000012
c-1,3-Dichloropropene	ND	0.00020	0.000024
4-Methyl-2-Pentanone	ND	0.00020	0.000013
Toluene	ND	0.00020	0.000016
t-1,3-Dichloropropene	ND	0.00020	0.000021
1,3-Dichloropropane	ND	0.00020	0.000099
2-Hexanone	ND	0.00020	0.000041
Dibromochloromethane	ND	0.00020	0.000036
1,2-Dibromoethane	ND	0.00020	0.000018

Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 02/19/20
 Matrix: Air
 Reporting Units ppmv

EPA Method TO15			
Lab No.:	METHOD BLANK		
Client Sample I.D.:	-		
Date/Time Sampled:	-		
Date/Time Analyzed:	3/6/20 7:53		
QC Batch No.:	200306MS2A1		
Analyst Initials:	DT		
Dilution Factor:	0.20		
ANALYTE	Result ppmv	RL ppmv	MDL ppmv
Chlorobenzene	ND	0.00020	0.000016
p,&m-Xylene	ND	0.00020	0.000023
o-Xylene	ND	0.00020	0.000024
Styrene	ND	0.00020	0.000026
Bromoform	ND	0.00020	0.000011
Isopropyl benzene	ND	0.00020	0.000021
1,1,2,2-Tetrachloroethane	ND	0.00040	0.000012
Benzyl Chloride	ND	0.00020	0.000037
1,2,3-Trichloropropane	ND	0.00020	0.000054
n-Propyl Benzene	ND	0.00020	0.000012
4-Ethyl Toluene	ND	0.00020	0.000013
1,3,5-Trimethylbenzene	ND	0.00040	0.000035
4-Chlorotoluene	ND	0.00020	0.000024
tert-Butylbenzene	ND	0.00020	0.000018
1,2,4-Trimethylbenzene	ND	0.00040	0.000023
sec-Butylbenzene	ND	0.00020	0.000019
p-Isopropyltoluene	ND	0.00020	0.000026
1,3-Dichlorobenzene	ND	0.00020	0.000024
n-Butylbenzene	ND	0.00020	0.000015
1,2-Dichlorobenzene	ND	0.00020	0.000025
1,2,4-Trichlorobenzene	ND	0.00040	0.000033
Hexachlorobutadiene	ND	0.00020	0.000012
t-Butanol	ND	0.0010	0.000038
n-Hexane	ND	0.0010	0.000027
Isopropyl ether	ND	0.0010	0.000022
t-Butyl ethyl ether	ND	0.0010	0.000040
2,2-Dichloropropane	ND	0.0010	0.000019
t-Amyl methyl ether	ND	0.0010	0.000014
1,2,3-Trichlorobenzene (TIC)	ND	--	--

MDL = Method Detection Limit
 ND= Not Detected (below MDL)
 RL = Reporting Limit
 J = Trace amount. Analyte concentration between RL and MDL.

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date 3/6/20

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 200306MS2A1

Matrix: Air

EPA Method TO-14/TO-15											
Lab No:	Method Blank		LCS		LCSD						
Date/Time Analyzed:	3/6/20 7:53		3/6/20 5:56		3/6/20 6:35						
Data File ID:	06MAR007.D		06MAR004.D		06MAR005.D						
Analyst Initials:	DT		DT		DT						
Dilution Factor:	0.2		1.0		1.0		Limits				
ANALYTE	Result ppbv	Spike Amount	Result ppbv	% Rec	Result ppbv	% Rec	RPD	Low %Rec	High %Rec	Max. RPD	Pass/Fail
1,1-Dichloroethene	0.0	10.0	9.9	99	10.1	101	2.5	70	130	30	Pass
Methylene Chloride	0.0	10.0	9.5	95	9.6	96	0.8	70	130	30	Pass
Trichloroethene	0.0	10.0	9.8	98	9.6	96	2.7	70	130	30	Pass
Toluene	0.0	10.0	9.7	97	9.8	98	0.8	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	10.0	100	9.9	99	1.6	70	130	30	Pass

RPD = Relative Percent Difference

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date: 3/6/20

The cover letter is an integral part of this analytical report



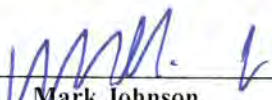
Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 02/19/20
 Matrix: Air
 Reporting Units: ppmv

EPA METHOD TO3

Lab No.:	L021904-01	L021904-02	L021904-03	L021904-04				
Client Sample I.D.:	VEFF-02-14	VEFF-02-14D	VPOST-02-14	VINF-02-14				
Date/Time Sampled:	2/14/20 8:55	2/14/20 8:55	2/14/20 9:00	2/14/20 9:10				
Date/Time Analyzed:	2/21/20 12:27	2/21/20 12:50	2/21/20 13:12	2/21/20 13:35				
QC Batch No.:	200221GC11A1	200221GC11A1	200221GC11A1	200221GC11A1				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	2.0	2.0	1.9	1.9				
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
TVOC as Hexane	ND	2.0	ND	2.0	17	1.9	17	1.9

ND = Not Detected (below RL)
 RL = Reporting Limit

Reviewed/Approved By: _____


 Mark Johnson
 Operations Manager

Date _____

3/6/20

The cover letter is an integral part of this analytical report



QC Batch No: 200221GC11A1

Matrix: Air

Reporting Units: ppmv

**EPA METHOD TO3
LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK	LCS		LCSD						
Date Analyzed:	2/21/20 10:56	2/21/20 10:10		2/21/20 10:33						
Analyst Initials:	AS	AS		AS						
Dilution Factor:	1.0	1.0		1.0						
ANALYTE	Result ppmv	RL ppmv	Result ppmv	% Rec.	Result ppmv	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
TVOC as Hexane	ND	1.0	5.45	109	5.41	108	0.7	70	130	25

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____

Mark Johnson

Mark Johnson
Operations Manager

Date _____

3/6/20

The cover letter is an integral part of this analytical report





March 20, 2020

Jacobs
ATTN: Eric Davis
1000 Wilshire Blvd., Suite 2100
Los Angeles, CA 90017



LA Cert #04140
EPA Methods TO3, TO14A, TO15, 25C/3C,
RSK-175

TX Cert T104704450-14-6
EPA Methods TO14A, TO15

UT Cert CA0133332015-3
EPA Methods TO3, TO14A, TO15, RSK-175

LABORATORY TEST RESULTS

Project Reference: SFPP Norwalk
Lab Number: L030507-01/04

Enclosed are results for sample(s) received 3/05/20 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the TNI Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to Eric Davis, Nils Orliczky and Danny Hill on 3/19/20.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,

A handwritten signature in blue ink, appearing to read "Mark Johnson", is written over a white background.

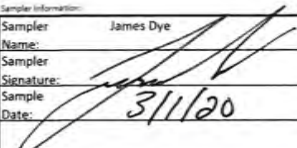
Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Note: The cover letter is an integral part of this analytical report.

L030507-01/04

Air Technology Laboratories, Inc.
18501 Gale Ave. #130
City of Industry, CA 91748
Tel: 626-964-4032
Joann De La Ossa (JDeLaOssa@airtechlabs.com)

CHAIN OF CUSTODY RECORD
DATE: 3/1/20
PAGE: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Service Information:		Section D Sampler Information:	
Company: CH2M HILL Attention: Eric Davis		Report To: Eric Davis (eric.davis@ch2m.com)		Attention: Eric Davis		Sampler Name: James Dye	
Address: 1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017		Copy To: Vladimir Carino (vcarino@ch2m.com)		Company Name: CH2M		Sampler Signature: 	
Email To: eric.davis@ch2m.com vcarino@ch2m.com		Purchase Order No.:		Address: 1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017		Sample Date: 3/1/20	
Phone: 404-323-1600 Fax:		Project Name: SFPP Norwalk		Project Manager: Joann De La Ossa			

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	CONTAINER TYPE		TOTAL # OF CONTAINERS	Analysis Test			Comments
					# OF CONTAINERS	PRESERVATIVE		VOLUME (mL)	TO-3 (Total VOCs as Hexane)	TO-15 (VOCs, Target Analytes)	
		SAMPLING		DATE	TIME						
1	VEFF- 03 - 01	Effluent (stack)	Vapor	G	3/1/20	1100	1	X	X		Individually Certified 6-Liter SUMMA
2	VEFF- 03 - 01 D	Effluent (stack) (duplicate)	Vapor	G	3/1/20	1100	1	X	X		Individually Certified 6-Liter SUMMA
3	VPOST- 03 - 01	Influent (post-dilution)	Vapor	G	3/1/20	1110	1	X	X		Individually Certified 1-Liter SUMMA
4	VINF- 03 - 01	Influent (pre-dilution)	Vapor	G	3/1/20	1130	1	X	X	X	Batch Certified 1-Liter Summa
5											Target analytes includes Historical VOCs and remaining ATU list per subcontract
6											
7											
8											
9											
10											

Retrieved by (Signature and Printed Name):  Date / Time: 3/1/20 1500	Retrieved by (Signature and Printed Name): FRED EX Date / Time: 3/4/20 1400	Turn Around Time (TAT): <input type="checkbox"/> A = Same Day <input type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input type="checkbox"/> E = 5 Workdays <input type="checkbox"/> F = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.	Special Instruction:
Retrieved by (Signature and Printed Name): FRED EX Date / Time: 3/5/20	Retrieved by (Signature and Printed Name):  Date / Time: 3/5/20 1056		
Retrieved by (Signature and Printed Name):	Retrieved by (Signature and Printed Name):		

Matrix:	Preservatives:	Container Type:
W = Water O = Oil Others/Specify:	WW = Wastewater P = Product S = Soil H = HCl N = HNO3 O = NaOH Z = Zn(AC)2 Others/Specify:	S = H2SO4 T = Na2S2O3 M = Metal P = Plastic C = Can T = Tube V = VOA J = Jar B = Tedlar G = Glass

Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 03/05/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	L030507-01			L030507-02			L030507-03			L030507-04		
Client Sample I.D.:	VEFF-03-01			VEFF-03-01D			VPOST-03-01			VINP-03-01		
Date/Time Sampled:	3/1/20 11:00			3/1/20 11:00			3/1/20 11:10			3/1/20 11:30		
Date/Time Analyzed:	3/10/20 13:19			3/10/20 8:05			3/10/20 8:43			3/10/20 9:22		
QC Batch No.:	200310MS2A1			200309MS2A1			200309MS2A1			200309MS2A1		
Analyst Initials:	DT			DT			DT			DT		
Dilution Factor:	2.0			2.0			2.8			2.8		
ANALYTE	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv
Dichlorodifluoromethane (12)	ND	0.0020	0.00031	ND	0.0020	0.00031	0.00059 J	0.0028	0.00043	0.00055 J	0.0028	0.00043
Chloromethane	ND	0.0040	0.00044	ND	0.0040	0.00044	ND	0.0056	0.00061	0.00087 J	0.0056	0.00061
1,2-CI-1,1,2,2-F ethane (114)	ND	0.0020	0.00041	ND	0.0020	0.00041	ND	0.0028	0.00056	ND	0.0028	0.00056
Vinyl Chloride	ND	0.0020	0.00033	ND	0.0020	0.00033	ND	0.0028	0.00045	ND	0.0028	0.00045
Bromomethane	ND	0.0020	0.00059	ND	0.0020	0.00059	ND	0.0028	0.00081	ND	0.0028	0.00081
Chloroethane	ND	0.0020	0.0017	ND	0.0020	0.0017	ND	0.0028	0.0023	ND	0.0028	0.0023
Trichlorofluoromethane (11)	ND	0.0020	0.00044	ND	0.0020	0.00044	ND	0.0028	0.00060	ND	0.0028	0.00060
1,1-Dichloroethene	ND	0.0020	0.00046	ND	0.0020	0.00046	0.0010 J	0.0028	0.00063	ND	0.0028	0.00063
Carbon Disulfide	0.19	0.010	0.00048	0.075	0.010	0.00048	0.037	0.014	0.00067	0.0096 J	0.014	0.00067
1,1,2-CI 1,2,2-F ethane (113)	ND	0.0020	0.00054	ND	0.0020	0.00054	ND	0.0028	0.00075	ND	0.0028	0.00075
Acetone	0.033	0.010	0.00058	0.022	0.010	0.00058	0.012 J	0.014	0.00080	0.016	0.014	0.00080
Methylene Chloride	ND	0.0020	0.00058	ND	0.0020	0.00058	ND	0.0028	0.00079	ND	0.0028	0.00079
t-1,2-Dichloroethene	ND	0.0020	0.00060	ND	0.0020	0.00060	ND	0.0028	0.00083	ND	0.0028	0.00083
1,1-Dichloroethane	ND	0.0020	0.00028	ND	0.0020	0.00028	0.00071 J	0.0028	0.00038	0.0011 J	0.0028	0.00038
c-1,2-Dichloroethene	ND	0.0020	0.00039	ND	0.0020	0.00039	ND	0.0028	0.00054	ND	0.0028	0.00054
2-Butanone	0.011	0.0020	0.0012	0.011	0.0020	0.0012	0.0046	0.0028	0.0017	0.0092	0.0028	0.0017
t-Butyl Methyl Ether (MTBE)	ND	0.0020	0.00045	ND	0.0020	0.00045	ND	0.0028	0.00062	ND	0.0028	0.00062
Chloroform	ND	0.0020	0.00028	ND	0.0020	0.00028	0.00079 J	0.0028	0.00039	ND	0.0028	0.00039
1,1,1-Trichloroethane	ND	0.0020	0.00020	ND	0.0020	0.00020	0.012	0.0028	0.00028	0.00034 J	0.0028	0.00028
Carbon Tetrachloride	ND	0.0020	0.00035	ND	0.0020	0.00035	ND	0.0028	0.00048	ND	0.0028	0.00048
Benzene	0.0011 J	0.0020	0.00019	0.0012 J	0.0020	0.00019	0.079	0.0028	0.00027	0.075	0.0028	0.00027
1,2-Dichloroethane	ND	0.0020	0.00015	ND	0.0020	0.00015	0.0014 J	0.0028	0.00021	0.0012 J	0.0028	0.00021
Trichloroethene	ND	0.0020	0.00029	ND	0.0020	0.00029	ND	0.0028	0.00039	0.00098 J	0.0028	0.00039
1,2-Dichloropropane	ND	0.0020	0.00037	ND	0.0020	0.00037	ND	0.0028	0.00050	ND	0.0028	0.00050
Bromodichloromethane	ND	0.0020	0.00012	ND	0.0020	0.00012	ND	0.0028	0.00017	ND	0.0028	0.00017
c-1,3-Dichloropropene	ND	0.0020	0.00024	ND	0.0020	0.00024	ND	0.0028	0.00033	ND	0.0028	0.00033
4-Methyl-2-Pentanone	ND	0.0020	0.00014	ND	0.0020	0.00014	ND	0.0028	0.00019	ND	0.0028	0.00019
Toluene	0.00087 J	0.0020	0.00016	0.0013 J	0.0020	0.00016	0.040	0.0028	0.00022	0.033	0.0028	0.00022
t-1,3-Dichloropropene	ND	0.0020	0.00021	ND	0.0020	0.00021	ND	0.0028	0.00029	ND	0.0028	0.00029
1,1,2-Trichloroethane	ND	0.0020	0.00033	ND	0.0020	0.00033	ND	0.0028	0.00045	ND	0.0028	0.00045
1,3-Dichloropropane	ND	0.0020	0.00010	ND	0.0020	0.00010	ND	0.0028	0.00014	ND	0.0028	0.00014
Tetrachloroethene	ND	0.0020	0.00024	ND	0.0020	0.00024	0.0032	0.0028	0.00033	0.0019 J	0.0028	0.00033
2-Hexanone	ND	0.0020	0.00042	ND	0.0020	0.00042	ND	0.0028	0.00057	ND	0.0028	0.00057
Dibromochloromethane	ND	0.0020	0.00037	ND	0.0020	0.00037	ND	0.0028	0.00051	ND	0.0028	0.00051
1,2-Dibromoethane	ND	0.0020	0.00018	ND	0.0020	0.00018	ND	0.0028	0.00025	ND	0.0028	0.00025
Chlorobenzene	ND	0.0020	0.00016	ND	0.0020	0.00016	0.0029	0.0028	0.00022	0.0021 J	0.0028	0.00022
Ethylbenzene	0.00072 J	0.0020	0.00012	0.00077 J	0.0020	0.00012	0.026	0.0028	0.00016	0.019	0.0028	0.00016
p,&m-Xylene	0.0055	0.0020	0.00023	0.0056	0.0020	0.00023	0.22	0.0028	0.00031	0.17	0.0028	0.00031
o-Xylene	0.0030	0.0020	0.00025	0.0029	0.0020	0.00025	0.13	0.0028	0.00034	0.093	0.0028	0.00034



Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 03/05/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	L030507-01			L030507-02			L030507-03			L030507-04		
Client Sample I.D.:	VEFF-03-01			VEFF-03-01D			VPOST-03-01			VINP-03-01		
Date/Time Sampled:	3/1/20 11:00			3/1/20 11:00			3/1/20 11:10			3/1/20 11:30		
Date/Time Analyzed:	3/10/20 13:19			3/10/20 8:05			3/10/20 8:43			3/10/20 9:22		
QC Batch No.:	200310MS2A1			200309MS2A1			200309MS2A1			200309MS2A1		
Analyst Initials:	DT			DT			DT			DT		
Dilution Factor:	2.0			2.0			2.8			2.8		
ANALYTE	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv
Styrene	ND	0.0020	0.00026	0.00048 J	0.0020	0.00026	0.0042	0.0028	0.00036	0.0033	0.0028	0.00036
Bromoform	ND	0.0020	0.00011	ND	0.0020	0.00011	ND	0.0028	0.00015	ND	0.0028	0.00015
Isopropyl benzene	0.00032 J	0.0020	0.00021	ND	0.0020	0.00021	0.0027 J	0.0028	0.00029	0.0021 J	0.0028	0.00029
1,1,2,2-Tetrachloroethane	ND	0.0040	0.00012	ND	0.0040	0.00012	ND	0.0056	0.00017	ND	0.0056	0.00017
Benzyl Chloride	ND	0.0020	0.00037	ND	0.0020	0.00037	0.0012 J	0.0028	0.00051	ND	0.0028	0.00051
1,2,3-Trichloropropane	ND	0.0020	0.00054	ND	0.0020	0.00054	0.0019 J	0.0028	0.00075	0.00099 J	0.0028	0.00075
n-Propyl Benzene	ND	0.0020	0.00012	ND	0.0020	0.00012	0.0039	0.0028	0.00016	0.0026 J	0.0028	0.00016
4-Ethyl Toluene	0.0026	0.0020	0.00013	0.0024	0.0020	0.00013	0.088	0.0028	0.00018	0.051	0.0028	0.00018
1,3,5-Trimethylbenzene	0.0019 J	0.0040	0.00035	0.0018 J	0.0040	0.00035	0.065	0.0056	0.00048	0.040	0.0056	0.00048
4-Chlorotoluene	ND	0.0020	0.00024	ND	0.0020	0.00024	ND	0.0028	0.00033	ND	0.0028	0.00033
tert-Butylbenzene	ND	0.0020	0.00018	ND	0.0020	0.00018	ND	0.0028	0.00025	ND	0.0028	0.00025
1,2,4-Trimethylbenzene	0.0037 J	0.0040	0.00023	0.0031 J	0.0040	0.00023	0.070	0.0056	0.00032	0.040	0.0056	0.00032
sec-Butylbenzene	ND	0.0020	0.00020	ND	0.0020	0.00020	0.00053 J	0.0028	0.00027	0.00060 J	0.0028	0.00027
p-Isopropyltoluene	0.0025	0.0020	0.00026	0.0052	0.0020	0.00026	0.0026 J	0.0028	0.00036	0.0043	0.0028	0.00036
1,3-Dichlorobenzene	ND	0.0020	0.00025	ND	0.0020	0.00025	ND	0.0028	0.00034	ND	0.0028	0.00034
1,4-Dichlorobenzene	ND	0.0020	0.00030	ND	0.0020	0.00030	ND	0.0028	0.00041	0.00043 J	0.0028	0.00041
n-Butylbenzene	0.00068 J	0.0020	0.00015	0.00060 J	0.0020	0.00015	ND	0.0028	0.00020	ND	0.0028	0.00020
1,2-Dichlorobenzene	ND	0.0020	0.00025	ND	0.0020	0.00025	ND	0.0028	0.00035	ND	0.0028	0.00035
1,2,4-Trichlorobenzene	ND	0.0040	0.00033	ND	0.0040	0.00033	ND	0.0056	0.00046	ND	0.0056	0.00046
Hexachlorobutadiene	ND	0.0020	0.00012	ND	0.0020	0.00012	ND	0.0028	0.00016	ND	0.0028	0.00016
t-Butanol	ND	0.010	0.00039	ND	0.010	0.00039	ND	0.014	0.00053	ND	0.014	0.00053
n-Hexane	0.0028 J	0.010	0.00027	0.0030 J	0.010	0.00027	0.58	0.014	0.00037	0.53	0.014	0.00037
Isopropyl ether	ND	0.010	0.00022	ND	0.010	0.00022	ND	0.014	0.00031	ND	0.014	0.00031
t-Butyl ethyl ether	ND	0.010	0.00040	ND	0.010	0.00040	ND	0.014	0.00055	ND	0.014	0.00055
2,2-Dichloropropane	ND	0.010	0.00019	ND	0.010	0.00019	ND	0.014	0.00026	ND	0.014	0.00026
t-Amyl methyl ether	ND	0.010	0.00014	ND	0.010	0.00014	ND	0.014	0.00020	ND	0.014	0.00020
1,4-Dioxane	ND	0.010	0.00035	ND	0.010	0.00035	ND	0.014	0.00049	ND	0.014	0.00049
Naphthalene	0.011	0.010	0.00078	0.0051 J	0.010	0.00078	0.0066 J	0.014	0.0011	0.0014 J	0.014	0.0011
1,2,3-Trichlorobenzene (TIC)	ND	--	--	ND	--	--	ND	--	--	ND	--	--

MDL = Method Detection Limit
 ND= Not Detected (below MDL)
 RL = Reporting Limit
 J = Trace amount. Analyte concentration between RL and MDL.

Reviewed/Approved By: Mark Johnson
 Operations Manager

Date 3/19/20

The cover letter is an integral part of this analytical report



Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 03/05/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	METHOD BLANK			METHOD BLANK								
Client Sample I.D.:	-			-								
Date/Time Sampled:	-			-								
Date/Time Analyzed:	3/9/20 12:32			3/10/20 12:40								
QC Batch No.:	200309MS2A1			200310MS2A1								
Analyst Initials:	DT			DT								
Dilution Factor:	0.20			0.20								
ANALYTE	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv						
Dichlorodifluoromethane (12)	ND	0.00020	0.000031	ND	0.00020	0.000031						
Chloromethane	ND	0.00040	0.000044	ND	0.00040	0.000044						
1,2-CI-1,1,2,2-F ethane (114)	ND	0.00020	0.000040	ND	0.00020	0.000040						
Vinyl Chloride	ND	0.00020	0.000032	ND	0.00020	0.000032						
Bromomethane	ND	0.00020	0.000059	ND	0.00020	0.000059						
Chloroethane	ND	0.00020	0.00017	ND	0.00020	0.00017						
Trichlorofluoromethane (11)	ND	0.00020	0.000043	ND	0.00020	0.000043						
1,1-Dichloroethene	ND	0.00020	0.000045	ND	0.00020	0.000045						
Carbon Disulfide	ND	0.0010	0.000048	ND	0.0010	0.000048						
1,1,2-CI 1,2,2-F ethane (113)	ND	0.00020	0.000054	ND	0.00020	0.000054						
Acetone	ND	0.0010	0.000058	0.000073 J	0.0010	0.000058						
Methylene Chloride	ND	0.00020	0.000057	ND	0.00020	0.000057						
t-1,2-Dichloroethene	ND	0.00020	0.000060	ND	0.00020	0.000060						
1,1-Dichloroethane	ND	0.00020	0.000027	ND	0.00020	0.000027						
c-1,2-Dichloroethene	ND	0.00020	0.000039	ND	0.00020	0.000039						
2-Butanone	ND	0.00020	0.00012	ND	0.00020	0.00012						
t-Butyl Methyl Ether (MTBE)	ND	0.00020	0.000045	ND	0.00020	0.000045						
Chloroform	ND	0.00020	0.000028	ND	0.00020	0.000028						
1,1,1-Trichloroethane	ND	0.00020	0.000020	ND	0.00020	0.000020						
Carbon Tetrachloride	ND	0.00020	0.000035	ND	0.00020	0.000035						
Benzene	ND	0.00020	0.000019	ND	0.00020	0.000019						
1,2-Dichloroethane	ND	0.00020	0.000015	ND	0.00020	0.000015						
Trichloroethene	ND	0.00020	0.000028	ND	0.00020	0.000028						
1,2-Dichloropropane	ND	0.00020	0.000036	ND	0.00020	0.000036						
Bromodichloromethane	ND	0.00020	0.000012	ND	0.00020	0.000012						
c-1,3-Dichloropropene	ND	0.00020	0.000024	ND	0.00020	0.000024						
4-Methyl-2-Pentanone	ND	0.00020	0.000013	ND	0.00020	0.000013						
Toluene	ND	0.00020	0.000016	ND	0.00020	0.000016						
t-1,3-Dichloropropene	ND	0.00020	0.000021	ND	0.00020	0.000021						
1,1,2-Trichloroethane	ND	0.00020	0.000032	ND	0.00020	0.000032						
1,3-Dichloropropane	ND	0.00020	0.000009	ND	0.00020	0.000009						
Tetrachloroethene	ND	0.00020	0.000024	ND	0.00020	0.000024						
2-Hexanone	ND	0.00020	0.000041	ND	0.00020	0.000041						
Dibromochloromethane	ND	0.00020	0.000036	ND	0.00020	0.000036						
1,2-Dibromoethane	ND	0.00020	0.000018	ND	0.00020	0.000018						
Chlorobenzene	ND	0.00020	0.000016	ND	0.00020	0.000016						
Ethylbenzene	ND	0.00020	0.000011	ND	0.00020	0.000011						
p,&m-Xylene	ND	0.00020	0.000023	ND	0.00020	0.000023						
o-Xylene	ND	0.00020	0.000024	ND	0.00020	0.000024						



Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 03/05/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	METHOD BLANK			METHOD BLANK								
Client Sample I.D.:	-			-								
Date/Time Sampled:	-			-								
Date/Time Analyzed:	3/9/20 12:32			3/10/20 12:40								
QC Batch No.:	200309MS2A1			200310MS2A1								
Analyst Initials:	DT			DT								
Dilution Factor:	0.20			0.20								
ANALYTE	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv						
Styrene	ND	0.00020	0.000026	ND	0.00020	0.000026						
Bromoform	ND	0.00020	0.000011	ND	0.00020	0.000011						
Isopropyl benzene	ND	0.00020	0.000021	ND	0.00020	0.000021						
1,1,2,2-Tetrachloroethane	ND	0.00040	0.000012	ND	0.00040	0.000012						
Benzyl Chloride	ND	0.00020	0.000037	ND	0.00020	0.000037						
1,2,3-Trichloropropane	ND	0.00020	0.000054	ND	0.00020	0.000054						
n-Propyl Benzene	ND	0.00020	0.000012	ND	0.00020	0.000012						
4-Ethyl Toluene	ND	0.00020	0.000013	ND	0.00020	0.000013						
1,3,5-Trimethylbenzene	ND	0.00040	0.000035	ND	0.00040	0.000035						
4-Chlorotoluene	ND	0.00020	0.000024	ND	0.00020	0.000024						
tert-Butylbenzene	ND	0.00020	0.000018	ND	0.00020	0.000018						
1,2,4-Trimethylbenzene	ND	0.00040	0.000023	ND	0.00040	0.000023						
sec-Butylbenzene	ND	0.00020	0.000019	ND	0.00020	0.000019						
p-Isopropyltoluene	ND	0.00020	0.000026	ND	0.00020	0.000026						
1,3-Dichlorobenzene	ND	0.00020	0.000024	ND	0.00020	0.000024						
1,4-Dichlorobenzene	ND	0.00020	0.000029	ND	0.00020	0.000029						
n-Butylbenzene	ND	0.00020	0.000015	ND	0.00020	0.000015						
1,2-Dichlorobenzene	ND	0.00020	0.000025	ND	0.00020	0.000025						
1,2,4-Trichlorobenzene	ND	0.00040	0.000033	ND	0.00040	0.000033						
Hexachlorobutadiene	ND	0.00020	0.000012	ND	0.00020	0.000012						
t-Butanol	ND	0.0010	0.000038	ND	0.0010	0.000038						
n-Hexane	ND	0.0010	0.000027	ND	0.0010	0.000027						
Isopropyl ether	ND	0.0010	0.000022	ND	0.0010	0.000022						
t-Butyl ethyl ether	ND	0.0010	0.000040	ND	0.0010	0.000040						
2,2-Dichloropropane	ND	0.0010	0.000019	ND	0.0010	0.000019						
t-Amyl methyl ether	ND	0.0010	0.000014	ND	0.0010	0.000014						
1,4-Dioxane	ND	0.0010	0.000035	ND	0.0010	0.000035						
Naphthalene	ND	0.0010	0.000077	ND	0.0010	0.000077						
1,2,3-Trichlorobenzene (TIC)	ND	--	--	ND	--	--						

MDL = Method Detection Limit
 ND= Not Detected (below MDL)
 RL = Reporting Limit
 J = Trace amount. Analyte concentration between RL and MDL.

Reviewed/Approved By: Mark Johnson
 Operations Manager

Date 3/19/20

The cover letter is an integral part of this analytical report



LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 200309MS2A1

Matrix: Air

EPA Method TO-14/TO-15											
Lab No:	Method Blank		LCS		LCSD						
Date/Time Analyzed:	3/9/20 12:32		3/9/20 11:15		3/9/20 11:54						
Data File ID:	09MAR005.D		09MAR003.D		09MAR004.D						
Analyst Initials:	DT		DT		DT						
Dilution Factor:	0.2		1.0		1.0		Limits				
ANALYTE	Result ppbv	Spike Amount	Result ppbv	% Rec	Result ppbv	% Rec	RPD	Low %Rec	High %Rec	Max. RPD	Pass/Fail
1,1-Dichloroethene	0.0	10.0	9.8	98	9.5	95	2.9	70	130	30	Pass
Methylene Chloride	0.0	10.0	9.1	91	9.1	91	0.1	70	130	30	Pass
Trichloroethene	0.0	10.0	9.7	97	9.5	95	2.7	70	130	30	Pass
Toluene	0.0	10.0	9.8	98	9.6	96	1.8	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	9.6	96	9.6	96	0.1	70	130	30	Pass

RPD = Relative Percent Difference

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date: 3/9/20

The cover letter is an integral part of this analytical report.



LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 200310MS2A1

Matrix: Air

EPA Method TO-14/TO-15												
Lab No:	Method Blank		LCS		LCSD							
Date/Time Analyzed:	3/10/20 12:40		3/10/20 11:23	3/10/20 12:01								
Data File ID:	10MAR005.D		10MAR003.D	10MAR004.D								
Analyst Initials:	DT		DT	DT								
Dilution Factor:	0.2		1.0	1.0								
ANALYTE		Result ppbv	Spike Amount	Result ppbv	% Rec	Result ppbv	% Rec	RPD	Limits			Pass/Fail
									Low %Rec	High %Rec	Max. RPD	
1,1-Dichloroethene	0.0	10.0	9.6	96	9.5	95	0.8	70	130	30	Pass	
Methylene Chloride	0.0	10.0	9.5	95	9.3	93	2.0	70	130	30	Pass	
Trichloroethene	0.0	10.0	9.6	96	9.6	96	0.1	70	130	30	Pass	
Toluene	0.0	10.0	9.6	96	9.7	97	0.2	70	130	30	Pass	
1,1,2,2-Tetrachloroethane	0.0	10.0	9.3	93	9.1	91	1.4	70	130	30	Pass	

RPD = Relative Percent Difference

Reviewed/Approved By: _____

Mark Johnson
Operations Manager



Date: _____

3/19/20

The cover letter is an integral part of this analytical report



Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 03/05/20
 Matrix: Air
 Reporting Units: ppmv

EPA METHOD TO3

Lab No.:	L030507-01	L030507-02	L030507-03	L030507-04				
Client Sample I.D.:	VEFF-03-01	VEFF-03-01D	VPOST-03-01	VINF-03-01				
Date/Time Sampled:	3/1/20 11:00	3/1/20 11:00	3/1/20 11:10	3/1/20 11:30				
Date/Time Analyzed:	3/10/20 13:16	3/10/20 11:59	3/10/20 12:22	3/10/20 12:44				
QC Batch No.:	200310GC11A1	200310GC11A1	200310GC11A1	200310GC11A1				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	2.0	2.0	1.9	1.9				
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv
TVOC as Hexane	ND	2.0	ND	2.0	29	1.9	23	1.9

ND = Not Detected (below RL)
 RL = Reporting Limit

Reviewed/Approved By: _____

Mark Johnson
 Mark Johnson
 Operations Manager

Date 3/13/20

The cover letter is an integral part of this analytical report



QC Batch No: 200310GC11A1

Matrix: Air

Reporting Units: ppmv

**EPA METHOD TO3
LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK	LCS		LCSD						
Date Analyzed:	3/10/20 10:03	3/10/20 9:18		3/10/20 9:40						
Analyst Initials:	AS	AS		AS						
Dilution Factor:	1.0	1.0		1.0						
ANALYTE	Result ppmv	RL ppmv	Result ppmv	% Rec.	Result ppmv	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
TVOC as Hexane	ND	1.0	4.42	88	4.54	91	2.7	70	130	25

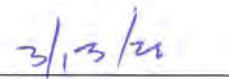
ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____


Mark Johnson
Operations Manager

Date _____



The cover letter is an integral part of this analytical report



QC Batch No: 200309GC8A1
Matrix: Air
Reporting Units: % v/v

**ASTM D1946
LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK			LCS		LCSD					
Date Analyzed:	3/9/20 9:15			3/9/20 9:29		3/9/20 9:44					
Analyst Initials:	CM			CM		CM					
Dilution Factor:	1.0			1.0		1.0		Limits			
ANALYTE	Result % v/v	RL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
Carbon Dioxide	ND	0.010	10	10.6	106	10.6	106	0.1	70	130	30
Oxygen/Argon	ND	0.50	15	15.1	102	15.1	102	0.1	70	130	30
Nitrogen	ND	1.0	70	68.8	98	68.8	98	0.1	70	130	30
Methane	ND	0.0010	0.10	0.104	104	0.103	103	1.3	70	130	30

ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: Mark Johnson
Mark Johnson
Operations Manager

Date 3/13/20

The cover letter is an integral part of this analytical report.

