

REPORT

First Quarter 2018 Remediation Progress Report SFPP Norwalk Pump Station Norwalk, California

Prepared for

Kinder Morgan Energy Partners, L.P.

April 13, 2018



CH2M HILL Engineers, Inc.
2600 Michelson Drive
Suite 500
Irvine, California 92612

Signature Page

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 CH2M HILL Engineers, Inc. (CH2M) licensed professional.



William Breedlove
CH2M California Professional Chemical Engineer,
No. 5142

April 13, 2018
Date

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Acronyms and Abbreviations

1,2-DCA	1,2-dichloroethane
Air Tech	Air Technology Laboratories
Asset	Asset Laboratories
ASTM	ASTM International
BTEX	benzene, toluene, ethylbenzene, and total xylenes
CH2M	CH2M HILL Engineers, Inc.
EPA	U.S. Environmental Protection Agency
GWE	groundwater extraction
GWTS	groundwater treatment system
Kinder Morgan	Kinder Morgan Energy Partners, L.P.
LGAC	liquid-phase granular activated carbon
MTBE	methyl tertiary butyl ether
No.	number
O&M	operations and maintenance
OWS	oil-water separator
PVC	polyvinyl chloride
RTO	regenerative thermal oxidizer
SCE	Southern California Edison
scfm	standard cubic feet per minute
SFPP	SFPP, L.P.
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
VOC	volatile organic compound
Water Board	California Regional Water Quality Control Board, Los Angeles Region
WSB	West Side Barrier

Introduction

CH2M HILL Engineers, Inc. (CH2M) prepared this report on behalf of SFPP, L.P. (SFPP), an operating partnership of Kinder Morgan Energy Partners, L.P. (Kinder Morgan), to summarize remediation activities performed at the former SFPP Norwalk Pump Station located within the Defense Fuel Support Point Norwalk, at 15306 Norwalk Boulevard, Norwalk, California (the site; Figure 1) during the first quarter 2018 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* (CH2M, 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 2018 with documentation of the following tasks:

- Operations and maintenance (O&M) of remediation systems performed by Kinder Morgan field personnel
- Remediation system evaluation

The remediation activities performed from January through March 2018 and the progress achieved through those activities are summarized in the following sections.

Remediation Systems

Kinder Morgan operates remediation systems consisting of soil vapor extraction (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 SVE wells
 - 1 horizontal biosparge well
- Southeastern Area (24-inch Block Valve Area)
 - 4 TFE wells (GMW-O-15, GMW-O-18, GMW-36, and GMW-SF-9)
 - 3 SVE wells (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 2018. 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 2.2. 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.

2.2 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 an 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 treated using liquid-phase granular activated carbon (LGAC). 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).

2.3 Horizontal Biosparge System

In December 2015, Kinder Morgan completed installation of a horizontal biosparge system in the south-central area of the site. The biosparge well is constructed of 4-inch-diameter Schedule 80 polyvinyl chloride (PVC) casing and screen completed to a vertical depth of approximately 45 feet below ground surface. 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).

The air sparge compressor delivers ambient air to the biosparge well at a maximum design rate of approximately 500 standard cubic feet per minute (scfm). The SVE system has an interlock that ensures the biosparge system cannot operate unless the SVE system is operating. Operation of the SVE system reduces the potential for off-gassing of VOCs during biosparge operations. Pilot testing of the biosparge system commenced in early January 2016 and continued through October 2016. Soil vapor data collected as part of the pilot testing have been submitted to the Water Board and Restoration Advisory Board under separate covers. A comprehensive evaluation report that incorporates soil vapor and groundwater data was submitted to the Water Board in August 2017 (CH2M, 2017). The biosparge was restarted on June 27, 2017, after installation and startup of the new RTO system.

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 below ground surface. The lateral distance of the screen interval is 240 feet centered below the southeast area hydrocarbon plume. A construction completion report documenting construction activities and specifications will be submitted during the second quarter 2018. A new air sparge compressor will be installed in 2018 to deliver ambient air to the new biosparge well, which will be appropriately sized to allow for future system expansion.

Operations and Maintenance

During the first quarter 2018 reporting period, O&M of the remediation systems included the following tasks:

- Performed ongoing weekly maintenance on the GWTS.
- Removed, inspected, and repaired existing TFE/GWE pumps and associated discharge lines.
- Installed pumps and associated equipment necessary for TFE at select wells with measurable free product.
- Replaced the thermocouples, as required annually, for the RTO system.

The remediation systems operated continuously during the first quarter 2018, with the following exceptions:

- The GWTS and SVE systems were shut down from January 9 through January 20, 2018, to facilitate the removal and replacement of a Southern California Edison (SCE) power pole in the south-central area of the site. While the system was off, the existing control panel for the GWTS was relocated to make room for the installation of an equipment pad for the two air compressors that supply the pneumatically operated extraction pumps. A solenoid valve on one of the air compressors was also replaced. The GWTS was restarted on January 22, 2018.
- The air sparge system was shut down on January 28 and February 1, 2018, because the air sparge compressor overheated. The air sparge system was restarted on January 30 and February 6, 2018, respectively. One reason for the high air sparge compressor temperature may have been a low cooling oil level. The cooling oil was filled to full capacity. The oil levels will be checked monthly and if required, oil will be added. Additionally, to reduce oil consumption, the air flow was reduced from an average of 526 scfm earlier in the first quarter 2018 to an average of 391 scfm from March 1 to March 31, 2018.
- The SVE system was shut down on February 23 and March 15, 2018, to replace the thermocouples on the RTO.
- The SVE system was shut down from March 6 through March 9, 2018, because of a fault with the chart recorder. On March 9, 2018, the system was restarted after the chart recorder was repaired and reinstalled.

During this reporting period, and when the system was operating, GWTS inspections were performed on a weekly basis. For these inspections, volumes of extracted groundwater, hours of operation, and other system parameters were recorded during system operation.

During the first quarter 2018, the GWTS was operational approximately 83 percent of the time (100 percent of the time excluding planned shutdowns). The SVE system was operational approximately 83 percent of the time (97 percent of the time excluding planned shutdowns). The biosparge system was operational 74 percent of the time (86 percent of the time excluding planned shutdowns). Table 2 presents the SVE system operation summary. Extracted vapor photoionization detector measurements and analytical results from the first quarter 2018 are summarized in Tables 3 and 4, respectively. The groundwater remediation system operation activities for the first quarter 2018 are summarized in Table 5. The extracted groundwater analytical results for the first quarter 2018 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.

Water samples from the GWTS influent were collected on January 4, February 8, February 27, and March 27, 2018. The water samples were delivered to Asset Laboratories (Asset) of Las Vegas, Nevada, for analysis. Asset is certified by the California Department of Public Health Environmental Laboratory Accreditation Program.

Asset analyzed the water samples for the following:

- Total petroleum hydrocarbons (TPH) quantified as gasoline (TPH-g), TPH quantified as diesel (TPH-d), and TPH quantified as oil (TPH-o) (collectively referred to as TPH-total) using U.S. Environmental Protection Agency (EPA) Method 8015(M)
- VOCs using EPA Method 8260B

Vapor samples from the SVE influent were collected on January 4, February 6, and March 13, 2018. The vapor samples were delivered to Air Technology Laboratories (Air Tech), located in City of Industry, California, for analysis.

Air Tech analyzed the vapor samples for the following:

- Fixed gases (methane, carbon dioxide, oxygen, and argon) using ASTM International (ASTM) D1946
- VOCs using 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 A.

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 8,821 pounds during the first quarter 2018. Since SVE implementation in September 1995, the cumulative mass of VOCs removed was 3,527,670 pounds (Table 2). The cumulative mass removed by SVE does not include the mass removed by naturally occurring in situ biodegradation.

A total of 708,746 gallons of groundwater was extracted during the first quarter 2018 (Table 5). No water was extracted from the WSB area during the first quarter 2018. Approximately 103.2 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 the fourth quarter 2017 did not warrant restarting the WSB system.

Trace-free product (less than 1 gallon) accumulated in the product holding tank during the first quarter 2018. 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 benzene, toluene, ethylbenzene, and total xylene (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 first quarter 2018 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 18,422 pounds. During the first quarter 2018, the mass removal of hydrocarbons was estimated to be 11 pounds. Table 6 shows the extracted groundwater analytical results for the samples collected on January 4, February 8, February 27, and March 27, 2018. TPH concentrations during the first quarter 2018 were less than the concentrations reported in late 2015 and early 2016. This reduction in dissolved-phase hydrocarbon concentrations can be attributed to biosparge operations in the south-central area. BTEX and MTBE concentrations during the first quarter 2018 was in the same order of magnitude as that of third and fourth quarter 2017 but less than the concentrations compared to first and second quarter 2017.

The biosparge system operated for 1,498 hours in the first quarter 2018 (Table 7). The biosparge system flow (air injection) rate ranged from 294 to 629 scfm during the first quarter 2018. Soil vapor samples were collected from 15 locations around the south-central biosparge well in March 2018. Results of the soil vapor sampling will be included in the annual soil vapor monitoring report.

System Evaluation and Optimization

During the first quarter 2018, all SVE well valves (except GMW-9, GMW-22, MW-SF-11, MW-SF-16, and VEW-2) in the south-central area were fully open to ensure maximum vapor extraction from the offsite area. The SVE line for GMW-9 and GMW-22 is the same as the double containment for the water line. With a well pump in GMW-9, no vacuum is generated in either well; therefore, the valves were closed to the SVE for those two wells. The SVE conveyance line for MW-SF-11 has clogged sections and currently is not pulling vacuum from the well; therefore, it was shut down. The conveyance line for MW-SF-16 disconnected at a joint on the conveyance line and was turned off. VEW-2 is disconnected at the well head and was turned off. Repairs will be conducted to the SVE conveyance lines for MW-SF-11 and MW-SF-16, and to VEW-2, during the second quarter 2018. The vapor line for GMW-9 and GMW-22 will be separated from the double containment for the water conveyance line during the second quarter 2018. The SVE wells at the southeastern area are fully open to ensure maximum vapor extraction in that area.

The GWTS continued to operate during the first quarter 2018 for hydraulic control and product recovery in the south-central and southeastern areas. The GWTS was temporarily offline from January 9 to 22, 2018, to facilitate the SCE power pole replacement and maintenance of the system. The system was again offline from January 30 to February 6, 2018, to clean out the OWS and for other system maintenance.

Gauging results from the semiannual monitoring event performed in the fourth quarter 2017 are provided in Table 8. Historical (post-2007) gauging data for all TFE and SVE wells are also provided in the table. During the fourth quarter 2017, only GMW-O-12 had free product in the south-central area with a thickness of 1.20 feet. The substantial decline in measurable product in the south-central area, relative to the fourth quarter 2015 (prebiosparge conditions) (SGI, 2016), is directly attributable to biosparge system operations that were performed in 2016. Biosparge system operation was restarted during the second quarter 2017 on June 27, 2017, and continued to operate through the first quarter 2018.

Planned Second Quarter 2018 Activities

During the second quarter 2018, Kinder Morgan plans to continue to focus remedial efforts on the south-central and southeastern areas. The following maintenance and other activities are planned to be completed during the second quarter 2018:

- Continue operation of SVE and the south-central horizontal biosparge system.
- Conduct one quarterly soil vapor monitoring event for all the soil vapor probes in the south-central area.
- 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 to be analyzed by TO-15 (VOCs), TO-3 (total VOCs as hexane), and ASTM-D 1946 (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 photoionization detector at the manifold.
- Collect and analyze system influent vapor and groundwater samples.
- Perform as-needed carbon changeouts of the LGAC vessels.
- Perform as-needed monitoring and remediation well rehabilitation to remove biofouling and sediment occluding the well screens.
- 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.
- Continue to remove free product from wells without TFE pumps using manual bailing methods.
- Repair the conveyance lines for the SVE well network.

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. System inspections will continue on a weekly basis; system evaluation parameters will be collected as needed. The remediation activities and progress for the second quarter 2018 will be described in the Second Quarter 2018 Remediation Progress Report, to be submitted by July 15, 2018.

Pilot testing of the horizontal biosparge system in the south-central area was completed during the fourth quarter 2016. A comprehensive evaluation report that incorporates soil vapor and groundwater data was submitted to the Water Board in August 2017 (CH2M, 2017). A recommendation for system expansion was included in the report, and an additional horizontal biosparge well was installed in the southeast area in November 2017. The horizontal biosparge system will continue to operate at ideal air flow to decrease product thickness in the south-central area.

References

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The Source Group, Inc. (SGI). 2016. *Second Semiannual 2015 Groundwater Monitoring and Sampling Report, Defense Fuel Support Point Norwalk, 15306 Norwalk Boulevard, Norwalk, California*. January 25.

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 (feet msl)	Well Screen Interval (feet bgs)	Remediation Well Function	Well Operation Status at End of First Quarter 2018	
						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	ON
	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	OFF	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	OFF	OFF
	MW-SF-17	--	--	--	SVE	--	--
	GMW-9	7/8/1991	77.16	20 - 50	SVE; TFE	OFF	ON
	GMW-10	7/8/1991	N/A	25 - 50	SVE; TFE	ON	ON
	GMW-22	8/2/1991	77.24	25 - 60	SVE; TFE	OFF	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	OFF	--
	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	ON
	GMW-O-12	5/21/1992	73.49	20 - 50	SVE	ON	--
	GMW-O-20	6/15/1995	73.32	--	SVE; TFE	ON	ON
	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	ON
	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	--
	BS-01	08/27/14	75.06	--	BIOSPARGE	ON	--
Southeastern	GMW-O-15	4/19/1994	74.23	20 - 50	SVE; TFE	ON	ON
	GMW-O-18	7/25/1994	74.36	21 - 40	SVE; TFE	ON	ON
	GMW-36	4/11/1994	76.66	20 - 50	SVE; TFE	ON	ON
	GMW-SF-9	4/1/2003	73.05	37 - 46	TFE	--	ON
	GMW-SF-10	4/2/2003	75.77	37 - 46	TFE	--	--
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

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. H₂O)	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
1/2/2018	108,424	162	702	1,392	50	2,089
1/4/2018	108,474	50	681	1,479	50	626
1/9/2018	108,594	120	722	1,321	50	1,197
1/23/2018	108,668	74	238	1,343	50	272
1/30/2018	108,839	171	150	1,379	50	389
2/6/2018	109,000	161	162	1,329	50	408
2/8/2018	109,048	48	268	1,406	50	201
2/15/2018	109,215	167	212	1,480	50	553
2/20/2018	109,337	122	226	1,448	50	471
2/27/2018	109,485	148	196	1,449	50	540
3/6/2018	109,653	168	234	1,450	50	732
3/9/2018	109,653	0	210	1,450	50	0
3/13/2018	109,747	94	180	1,500	50	307
3/20/2018	109,906	159	162	1,471	50	479
3/27/2018	110,074	168	196	1,447	50	558
First Quarter 2018 Totals	110,074	1,812	--	--	--	8,821
Cumulative Totals	110,074	--	--	--	--	3,527,670

Notes:

^aThe 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	3/30/2018 (ppmv as Hexane) ^a
South-Central	MW-SF-1	SVE	36
	MW-SF-2	SVE; TFE	158
	MW-SF-3	SVE; TFE	20
	MW-SF-4	SVE	79
	MW-SF-5	SVE	87
	MW-SF-6	SVE; TFE	28
	MW-SF-9	SVE	71
	MW-SF-10	SVE	100
	MW-SF-11	SVE; TFE	OFF
	MW-SF-12	SVE; TFE	19
	MW-SF-13	SVE; TFE	5
	MW-SF-14	SVE; TFE	8
	MW-SF-15	SVE; TFE	34
	MW-SF-16	SVE; TFE	OFF
	MW-SF-17	SVE; TFE	--
	GMW-9	SVE; TFE	OFF
	GMW-10	SVE	675
	GMW-22	SVE; TFE	OFF
	GMW-24	SVE; TFE	137
	GMW-25	SVE; GWE	137
	GWR-3	SVE; GWE	305
	VEW-1	SVE	water
	VEW-2	SVE	68.2
	MW-O-1	SVE; TFE	75
	MW-O-2	SVE; TFE	144
	GMW-O-11	SVE; TFE	88
	GMW-O-12	SVE	26
	GMW-O-20	SVE; TFE	161
	GMW-O-23	SVE; TFE	8
	MW-18 (MID)	SVE	274
	HW-1	SVE	233
	HW-2	SVE	392
Southeastern	GMW-36	SVE; TFE	618
	GMW-O-15	SVE; TFE	618
	GMW-O-18	SVE; TFE	618

Notes:

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

-- = not applicable or not available

GWE = groundwater extraction

ppmv = parts per million by volume

SVE = soil vapor extraction

TFE = total fluids extraction

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)	Ethylbenzene (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
12/11/2012	0.0074	0.84	21.0	53	---	---	130	17	110	173	<5.0

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)	Ethylbenzene (ppbv)	Toluene (ppbv)	Xylenes (ppbv)	MTBE (ppbv)
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
12/10/2016	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	---	220	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	<19
12/8/2017	0.0040	0.77	21	---	250	---	3,600	350	3,000	3,700	<18

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)
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	<1.1
3/13/2018	0.0038	0.74	21	--	79	--	680	110	460	1,150	<11

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

%v = percent by volume

<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

SCAQMD = South Coast Air Quality Management District

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 the South-Central and Southeastern Areas (gallons)	Groundwater Removed from the West Side Barrier Area (gallons)	Total Groundwater Removed (gallons)	Influent TPH-total (TPH-g, TPH-d, TPH-o) Concentration (µg/L)	Estimated Hydrocarbon Mass Removed from the 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
1/1/2018	9,122	0	9,122	4,200	0.32	0
1/2/2018	9,938	0	9,938	4,200	0.35	0
1/3/2018	11,254	0	11,254	4,200	0.39	0
1/4/2018	11,090	0	11,090	4,200	0.39	0
1/5/2018	11,030	0	11,030	3,900	0.36	0
1/6/2018	11,184	0	11,184	3,900	0.36	0
1/7/2018	10,898	0	10,898	3,900	0.35	0
1/8/2018	11,314	0	11,314	3,900	0.37	0
1/9/2018	10,224	0	10,224	3,900	0.33	0
1/10/2018	1,812	0	1,812	3,900	0.06	0
1/11/2018	0	0	0	3,900	0.00	0
1/12/2018	62	0	62	3,900	0.00	0
1/13/2018	0	0	0	3,900	0.00	0
1/14/2018	0	0	0	3,900	0.00	0

Table 5. Groundwater Remediation System Operation Summary

SFPD Norwalk Pump Station, Norwalk, California

System Inspection Date	Groundwater Removed from the South-Central and Southeastern Areas (gallons)	Groundwater Removed from the West Side Barrier Area (gallons)	Total Groundwater Removed (gallons)	Influent TPH-total (TPH-g, TPH-d, TPH-o) Concentration (µg/L)	Estimated Hydrocarbon Mass Removed from the South-Central, Southeastern, and West Side Barrier Areas (pounds) ^a	Product Recovery (gallons)
1/15/2018	0	0	0	3,900	0.00	0
1/16/2018	0	0	0	3,900	0.00	0
1/17/2018	0	0	0	3,900	0.00	0
1/18/2018	0	0	0	3,900	0.00	0
1/19/2018	818	0	818	3,900	0.03	0
1/20/2018	0	0	0	3,900	0.00	0
1/21/2018	0	0	0	3,900	0.00	0
1/22/2018	0	0	0	3,900	0.00	0
1/23/2018	6,920	0	6,920	3,900	0.22	0
1/24/2018	8,208	0	8,208	3,900	0.27	0
1/25/2018	6,078	0	6,078	3,900	0.20	0
1/26/2018	5,782	0	5,782	3,900	0.19	0
1/27/2018	5,920	0	5,920	3,900	0.19	0
1/28/2018	5,660	0	5,660	3,900	0.18	0
1/29/2018	5,060	0	5,060	3,900	0.16	0
1/30/2018	2,720	0	2,720	3,900	0.09	0
1/31/2018	0	0	0	3,900	0.00	0
2/1/2018	0	0	0	3,900	0.00	0
2/2/2018	666	0	666	3,900	0.02	0
2/3/2018	0	0	0	3,900	0.00	0
2/4/2018	0	0	0	3,900	0.00	0
2/5/2018	0	0	0	3,900	0.00	0
2/6/2018	7,110	0	7,110	3,900	0.23	0
2/7/2018	15,888	0	15,888	3,900	0.52	0
2/8/2018	18,060	0	18,060	3,900	0.59	0
2/9/2018	14,340	0	14,340	1,200	0.14	0
2/10/2018	12,860	0	12,860	1,200	0.13	0
2/11/2018	12,436	0	12,436	1,200	0.12	0
2/12/2018	12,434	0	12,434	1,200	0.12	0
2/13/2018	11,720	0	11,720	1,200	0.12	0
2/14/2018	11,142	0	11,142	1,200	0.11	0
2/15/2018	11,732	0	11,732	1,200	0.12	0
2/16/2018	11,110	0	11,110	1,200	0.11	0
2/17/2018	11,016	0	11,016	1,200	0.11	0
2/18/2018	11,034	0	11,034	1,200	0.11	0
2/19/2018	10,856	0	10,856	1,200	0.11	0

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

System Inspection Date	Groundwater Removed from the South-Central and Southeastern Areas (gallons)	Groundwater Removed from the West Side Barrier Area (gallons)	Total Groundwater Removed (gallons)	Influent TPH-total (TPH-g, TPH-d, TPH-o) Concentration (µg/L)	Estimated Hydrocarbon Mass Removed from the South-Central, Southeastern, and West Side Barrier Areas (pounds) ^a	Product Recovery (gallons)
2/20/2018	11,016	0	11,016	1,200	0.11	0
2/21/2018	11,160	0	11,160	1,200	0.11	0
2/22/2018	13,044	0	13,044	1,200	0.13	0
2/23/2018	11,404	0	11,404	1,200	0.11	0
2/24/2018	8,032	0	8,032	1,200	0.08	0
2/25/2018	11,108	0	11,108	1,200	0.11	0
2/26/2018	11,324	0	11,324	1,200	0.11	0
2/27/2018	11,820	0	11,820	1,200	0.12	0
2/28/2018	9,636	0	9,636	1,000	0.08	0
3/1/2018	9,010	0	9,010	1,000	0.08	0
3/2/2018	9,351	0	9,351	1,000	0.08	0
3/3/2018	9,351	0	9,351	1,000	0.08	0
3/4/2018	9,351	0	9,351	1,000	0.08	0
3/5/2018	9,351	0	9,351	1,000	0.08	0
3/6/2018	5,477	0	5,477	1,000	0.05	0
3/7/2018	4,635	0	4,635	1,000	0.04	0
3/8/2018	3,891	0	3,891	1,000	0.03	0
3/9/2018	1,520	0	1,520	1,000	0.01	0
3/10/2018	5,312	0	5,312	1,000	0.04	0
3/11/2018	6,076	0	6,076	1,000	0.05	0
3/12/2018	4,900	0	4,900	1,000	0.04	0
3/13/2018	8,768	0	8,768	1,000	0.07	0
3/14/2018	11,774	0	11,774	1,000	0.10	0
3/15/2018	9,454	0	9,454	1,000	0.08	0
3/16/2018	11,668	0	11,668	1,000	0.10	0
3/17/2018	12,380	0	12,380	1,000	0.10	0
3/18/2018	11,920	0	11,920	1,000	0.10	0
3/19/2018	12,050	0	12,050	1,000	0.10	0
3/20/2018	11,090	0	11,090	1,000	0.09	0
3/21/2018	11,600	0	11,600	1,000	0.10	0
3/22/2018	12,016	0	12,016	1,000	0.10	0
3/23/2018	11,612	0	11,612	1,000	0.10	0
3/24/2018	11,560	0	11,560	1,000	0.10	0
3/25/2018	11,616	0	11,616	1,000	0.10	0
3/26/2018	11,472	0	11,472	1,000	0.10	0
3/27/2018	11,420	0	11,420	1,000	0.10	0

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

System Inspection Date	Groundwater Removed from the South-Central and Southeastern Areas (gallons)	Groundwater Removed from the West Side Barrier Area (gallons)	Total Groundwater Removed (gallons)	Influent TPH-total (TPH-g, TPH-d, TPH-o) Concentration (µg/L)	Estimated Hydrocarbon Mass Removed from the South-Central, Southeastern, and West Side Barrier Areas (pounds) ^a	Product Recovery (gallons)
3/28/2018	11,150	0	11,150	1,100	0.10	0
3/29/2018	11,150	0	11,150	1,100	0.10	0
3/30/2018	11,094	0	11,094	1,100	0.10	0
3/31/2018	10,686	0	10,686	1,100	0.10	0
First Quarter 2018 Totals	708,746	0	708,746	--	11	0
Cumulative Total	76,339,897	26,902,652	103,242,549	--	18,422	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

SFPF 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	--	--	--	--

Table 6. Extracted Groundwater Analytical Results^a

SFPF 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)
1/23/2002	--	--	--	--	--	<0.5	<1	<1	<2	2	--	--	--	--
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	--	--	--	--

Table 6. Extracted Groundwater Analytical Results^a

SFPF 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)
1/28/2005	--	--	--	--	--	460	140	520	2,260	610	--	--	--	--
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	--	--	--	--

Table 6. Extracted Groundwater Analytical Results^a

SFPF 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)
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	--	--	--	--
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

Table 6. Extracted Groundwater Analytical Results^a

SFPD 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)
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
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.

Table 6. Extracted Groundwater Analytical Results^a

SFPF 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)
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
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

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)
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

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 A.^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.

-- = not analyzed

<500 = Not detected at or above the laboratory reporting limit (RL) shown

µg/L = micrograms per liter

DAF = dissolved air flotation

DIPE = di-isopropyl ether

ETBE = ethyl tertiary butyl ether

GWTS = groundwater treatment system

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

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 Totals	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 Totals	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 Totals	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 Totals	5,302	527	62.7	--	--
2016 Totals	5,302	5,302	--	--	--
First Quarter 2017 Totals	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 Totals	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 Totals	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 Totals	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 Totals	10,078	1,498	74.3	--	--
Cumulative Totals	10,078	--	51.8	--	--

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
	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
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
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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
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
	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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
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
	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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
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
	6/22/2011	74.53	NM	---	---	NC	
	7/11/2011	74.53	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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	8/19/2011	74.53	NM	---	---	NC	Blaine Tech
	9/22/2011	74.53	NM	---	---	NC	
	10/10/2011	74.53	25.96	---	---	48.57	
	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	
	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
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
	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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
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
	4/16/2012	73.49	25.40	---	---	48.09	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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
	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
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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
	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
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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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	
	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
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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
	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
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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
	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
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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
	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
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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
GWR-3	10/15/2012	75.77	29.88	---	---	45.89	Blaine Tech
	4/8/2013	75.77	DRY	---	---	NC	Blaine Tech
	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
	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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
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
	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
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	23.58	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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
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	71.9	23.31	---	---	48.59	Blaine Tech
	10/10/2011	71.9	27.53	---	---	44.37	Blaine Tech
	1/9/2012	71.9	28.13	---	---	43.77	Blaine Tech
	4/16/2012	71.9	NM	---	---	NC	Blaine Tech
	7/9/2012	71.9	26.53	---	---	45.37	Blaine Tech
	10/15/2012	71.9	26.89	---	---	45.01	Blaine Tech
	1/14/2013	71.9	26.93	---	---	44.97	Blaine Tech
	4/8/2013	71.9	NM	---	---	NC	Blaine Tech
	6/6/2013	71.9	28.99	---	---	42.91	Blaine Tech
	10/7/2013	71.9	29.06	---	---	42.84	Blaine Tech
	4/14/2014	71.9	29.36	---	---	42.54	Blaine Tech
	10/27/2014	71.9	29.81	29.65	0.16	42.22	Blaine Tech
	4/20/2015	71.9	30.94	29.34	1.60	42.24	Blaine Tech
	5/21/2015	71.9	32.50	27.31	5.19	43.55	Northstar
	5/29/2015	71.9	31.52	30.20	1.32	41.44	Northstar
	6/5/2015	71.9	31.45	30.57	0.88	41.15	Northstar
	6/12/2015	71.9	31.05	30.60	0.45	41.21	Northstar
	6/19/2015	71.9	31.10	30.90	0.20	40.96	Northstar
	6/26/2015	71.9	31.66	31.37	0.29	40.47	Northstar
	10/19/2015	71.9	32.39	30.53	1.86	41.00	Blaine Tech
	3/14/2016	71.9	35.49	34.86	0.63	36.91	Blaine Tech
	4/11/2016	71.9	33.03	32.54	0.49	39.26	Blaine Tech
	6/30/2016	71.9	34.20	---	---	37.70	Kinder Morgan
	8/22/2016	71.9	33.93	---	---	37.97	Kinder Morgan
	10/3/2016	71.9	34.30	34.22	0.08	37.66	Blaine Tech
	4/17/2017	71.9	30.91	30.85	0.06	41.04	Blaine Tech
	10/2/2017	71.9	34.67	---	---	37.23	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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
	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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
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
	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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
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
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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
	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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
	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
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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
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
	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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
	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
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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
	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
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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
	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
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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
	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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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	---	---	#VALUE!	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
	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
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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
	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
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

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 (feet msl)	Measured Depth to Groundwater (feet btoc)	Measured Depth to Product (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet msl)	Gauged By
	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
	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

Notes:

Corrected groundwater elevations are based on specific gravity data collected during baildown testing, or a default value of 0.8 feet 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

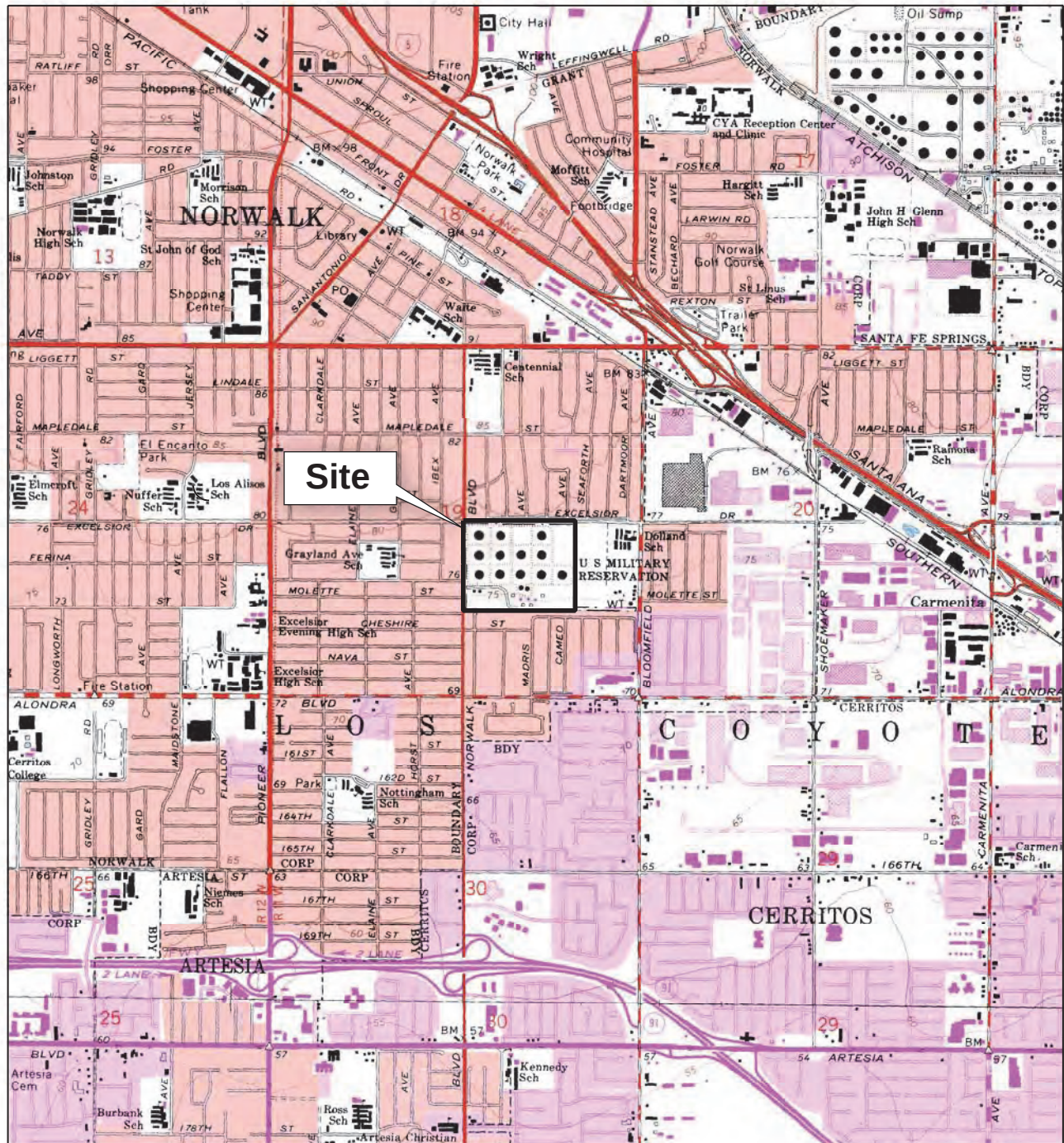
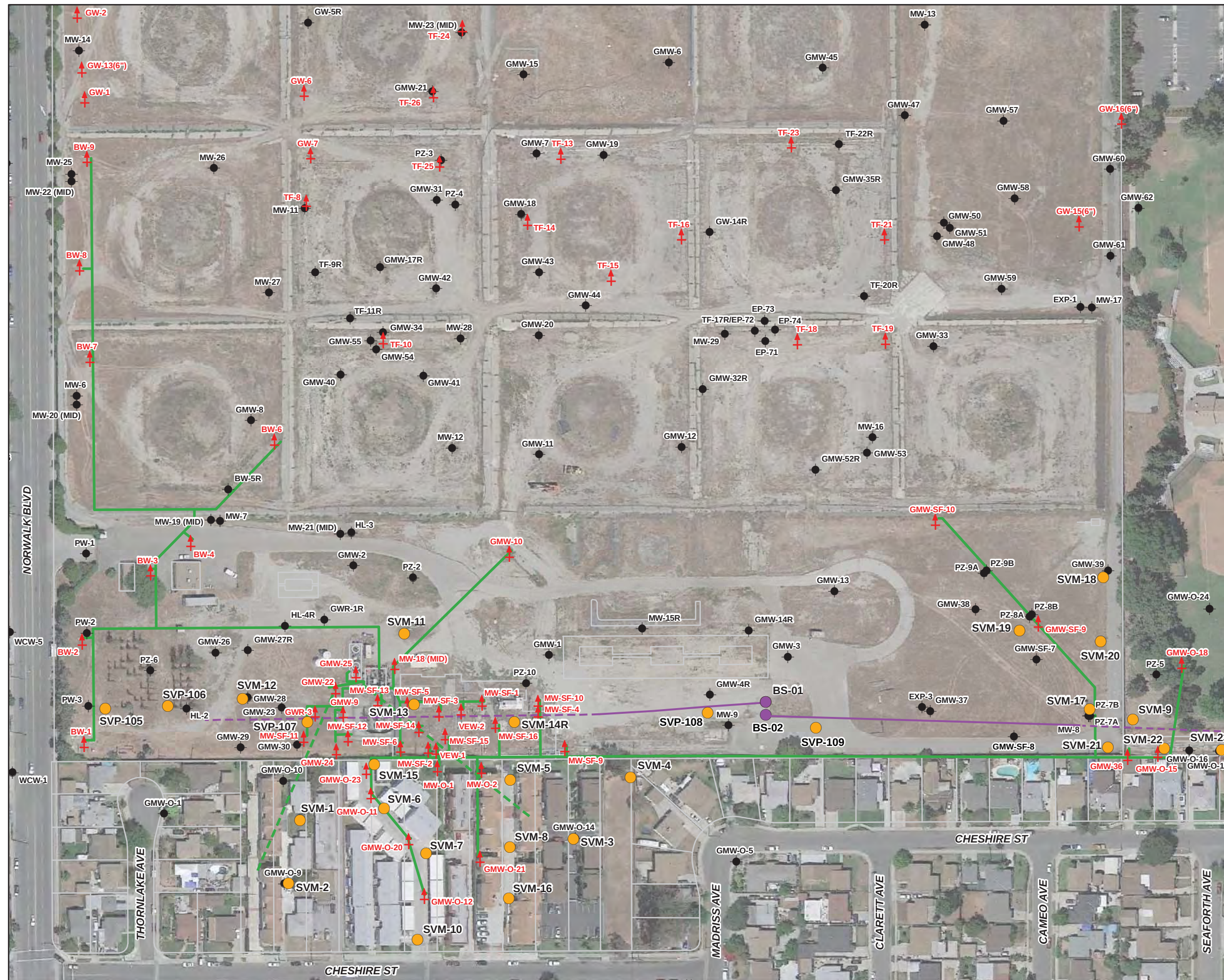


Figure 1
Site Location Map
 SFPP Norwalk Pump Station
 Norwalk, California

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.

EN1014151027SCO figure1.pdf 10/15

ch2m



Legend

- Soil Vapor Monitoring Probe
- Horizontal Biosparge Well Entry Point
- Existing Groundwater Monitoring Well
- ⬮ Existing Remediation Well
- Horizontal Biosparge Well
(dashed line depicts approximate lateral extent of well screen)
- KMEP Remediation Piping Layout
(above ground and below ground)
- Horizontal Vapor Extraction Well Piping

Imagery Source:
Google Earth April 17, 2013.

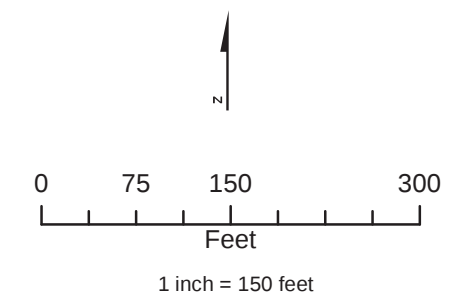


Figure 2
Remediation System Layout
SFPP Norwalk Pump Station
Norwalk, California

Appendix A

Laboratory Analytical Reports



January 18, 2018

CH2M Hill
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: J010503-01/04

Enclosed are results for sample(s) received 1/05/18 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 NELAC Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to Eric Davis and Vladimir Carino 1/18/18.

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 light blue horizontal line.

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

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

J010503-8/04
DATE: 1/4/18
PAGE: 1 of 1

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Section D Sampler Information:	
Company:	CH2M HILL	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:	CH2M	Sampler:	
Email To:	eric.davis@ch2m.com vcarino@ch2m.com	Purchase Order No.:		Name:		Signature:	
Phone:	404-323-1600	Project Name:	5FPP Norwalk	Address:	1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017	Sample Date:	1/4/18
Fax:				Project Manager:	Joann De La Ossa		

Section E Required Sample Information													
ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G-GRAB C-COMP)	Analysis Test				TO-3 (Total VOCs as Hexane)	TO-15 (VOCs, Target Analytes)	ASTM-D 1946 (O2/N2, CO2, CH4, N2)	Comments	
					CONTAINER TYPE	# OF CONTAINERS	PRESERVATIVE	VOLUME (mL)					TOTAL # OF CONTAINERS
1	VEFF-01-04	Effluent (stock)	Vapor	G	1/4/18	10:10	1	X	X			Individually Certified 6-Liter SUMMA	
2	VEFF-01-04 D	Effluent (stock) (duplicate)	Vapor	G	1/4/18	10:10	1	X	X			Individually Certified 6-Liter SUMMA	
3	VPOST-01-04	Influent (post-dilution)	Vapor	G	1/4/18	10:15	1	X	X			Individually Certified 1-Liter SUMMA	
4	VINF-01-04	Influent (pre-dilution)	Vapor	G	1/4/18	10:35	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													
11													
12													

Date / Time: 1/4/18 1530 Signature: [Signature] Date / Time: 1/4/18 1530 Signature: [Signature]		Date / Time: 1/4/18 1530 Signature: [Signature] Date / Time: 1/5/18 1132 Signature: [Signature]	
Turn Around Time (TAT): ☐ A = Same Day ☐ B = 24 Hours ☐ C = 48 Hours ☐ D = 72 Hours ☐ E = 5 Workdays ☒ F = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.		Special Instruction: TAT Starts at 8 AM the following day if samples received after 3:00 PM.	
Matrix: W = Water O = Oil Others/Specify:		Matrix: WW = Wastewater P = Product S = Soil Others/Specify:	
Preservatives: H = HCl Z = Zn(Ac)2 Others/Specify:		Preservatives: H = HCl Z = Zn(Ac)2 Others/Specify:	
Container Type: T = Tube J = Jar M = Metal P = Plastic C = Can		Container Type: T = Tube J = Jar M = Metal P = Plastic C = Can	

Client: CH2M Hill
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 01/05/18
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	J010503-01			J010503-02			J010503-03			J010503-04		
Client Sample I.D.:	VEFF-01-04			VEFF-01-04D			VPOST-01-04			VINP-01-04		
Date/Time Sampled:	1/4/18 10:10			1/4/18 10:10			1/4/18 10:15			1/4/18 10:25		
Date/Time Analyzed:	1/9/18 16:39			1/11/18 19:52			1/9/18 14:40			1/9/18 16:00		
QC Batch No.:	180109MS2A1			180111MS2A1			180109MS2A1			180109MS2A1		
Analyst Initials:	DT			DT			DT			DT		
Dilution Factor:	2.1			2.1			84			84		
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	0.0021	0.00032	ND	0.0021	0.00032	ND	0.084	0.013	ND	0.084	0.013
Chloromethane	ND	0.0042	0.00046	ND	0.0042	0.00046	ND	0.17	0.019	ND	0.17	0.019
1,2-Di-1,1,2,2-F ethane (114)	ND	0.0021	0.00042	ND	0.0021	0.00042	ND	0.084	0.017	ND	0.084	0.017
Vinyl Chloride	ND	0.0021	0.00034	ND	0.0021	0.00034	ND	0.084	0.014	ND	0.084	0.014
Bromomethane	ND	0.0021	0.00062	ND	0.0021	0.00062	ND	0.084	0.025	ND	0.084	0.025
Chloroethane	ND	0.0021	0.0018	ND	0.0021	0.0018	ND	0.084	0.071	ND	0.084	0.071
Trichlorofluoromethane (11)	ND	0.0021	0.00045	ND	0.0021	0.00045	ND	0.084	0.018	ND	0.084	0.018
1,1-Dichloroethene	ND	0.0021	0.00048	ND	0.0021	0.00048	ND	0.084	0.019	ND	0.084	0.019
Carbon Disulfide	0.043	0.011	0.00050	0.031	0.011	0.00050	0.039 J	0.42	0.020	ND	0.42	0.020
1,1,2-Di-1,2,2-F ethane (113)	ND	0.0021	0.00057	ND	0.0021	0.00057	ND	0.084	0.023	ND	0.084	0.023
Acetone	0.023	0.011	0.00061	0.014	0.011	0.00061	ND	0.42	0.024	ND	0.42	0.024
Methylene Chloride	ND	0.0021	0.00060	ND	0.0021	0.00060	ND	0.084	0.024	ND	0.084	0.024
t-1,2-Dichloroethene	ND	0.0021	0.00063	ND	0.0021	0.00063	ND	0.084	0.025	ND	0.084	0.025
1,1-Dichloroethane	ND	0.0021	0.00029	ND	0.0021	0.00029	ND	0.084	0.011	ND	0.084	0.011
c-1,2-Dichloroethene	ND	0.0021	0.00041	ND	0.0021	0.00041	ND	0.084	0.016	ND	0.084	0.016
2-Butanone	0.014	0.0021	0.0013	0.011	0.0021	0.0013	ND	0.084	0.052	ND	0.084	0.052
t-Butyl Methyl Ether (MTBE)	0.0048	0.0021	0.00047	0.0042	0.0021	0.00047	ND	0.084	0.019	0.97	0.084	0.019
Chloroform	ND	0.0021	0.00029	ND	0.0021	0.00029	ND	0.084	0.012	ND	0.084	0.012
1,1,1-Trichloroethane	ND	0.0021	0.00021	ND	0.0021	0.00021	ND	0.084	0.0084	ND	0.084	0.0084
Carbon Tetrachloride	ND	0.0021	0.00037	ND	0.0021	0.00037	ND	0.084	0.015	ND	0.084	0.015
Benzene	0.024	0.0021	0.00020	0.022	0.0021	0.00020	3.9	0.084	0.0081	3.9	0.084	0.0081
1,2-Dichloroethane	ND	0.0021	0.00016	ND	0.0021	0.00016	ND	0.084	0.0063	ND	0.084	0.0063
Trichloroethene	ND	0.0021	0.00030	ND	0.0021	0.00030	ND	0.084	0.012	ND	0.084	0.012
1,2-Dichloropropane	ND	0.0021	0.00038	ND	0.0021	0.00038	ND	0.084	0.015	ND	0.084	0.015
Bromodichloromethane	ND	0.0021	0.00013	ND	0.0021	0.00013	ND	0.084	0.0051	ND	0.084	0.0051
c-1,3-Dichloropropene	ND	0.0021	0.00025	ND	0.0021	0.00025	ND	0.084	0.010	ND	0.084	0.010
4-Methyl-2-Pentanone	ND	0.0021	0.00014	ND	0.0021	0.00014	ND	0.084	0.0057	ND	0.084	0.0057
Toluene	0.020	0.0021	0.00017	0.019	0.0021	0.00017	3.0	0.084	0.0067	3.1	0.084	0.0067
t-1,3-Dichloropropene	ND	0.0021	0.00022	ND	0.0021	0.00022	ND	0.084	0.0087	ND	0.084	0.0087
1,1,2-Trichloroethane	ND	0.0021	0.00034	ND	0.0021	0.00034	ND	0.084	0.014	ND	0.084	0.014
1,3-Dichloropropane	ND	0.0021	0.00010	ND	0.0021	0.00010	ND	0.084	0.0042	ND	0.084	0.0042
Tetrachloroethene	ND	0.0021	0.00025	ND	0.0021	0.00025	ND	0.084	0.010	ND	0.084	0.010
2-Hexanone	ND	0.0021	0.00043	ND	0.0021	0.00043	ND	0.084	0.017	ND	0.084	0.017
Dibromochloromethane	ND	0.0021	0.00038	ND	0.0021	0.00038	ND	0.084	0.015	ND	0.084	0.015
1,2-Dibromoethane	ND	0.0021	0.00019	ND	0.0021	0.00019	ND	0.084	0.0077	ND	0.084	0.0077
Chlorobenzene	ND	0.0021	0.00016	ND	0.0021	0.00016	ND	0.084	0.0066	ND	0.084	0.0066
Ethylbenzene	0.0033	0.0021	0.00012	0.0027	0.0021	0.00012	0.39	0.084	0.0048	0.44	0.084	0.0048
p,&m-Xylene	0.021	0.0021	0.00024	0.018	0.0021	0.00024	2.5	0.084	0.0095	2.7	0.084	0.0095
o-Xylene	0.0097	0.0021	0.00026	0.0090	0.0021	0.00026	1.1	0.084	0.010	1.3	0.084	0.010



Client: CH2M Hill
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 01/05/18
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	J010503-01			J010503-02			J010503-03			J010503-04		
Client Sample I.D.:	VEFF-01-04			VEFF-01-04D			VPOST-01-04			VINF-01-04		
Date/Time Sampled:	1/4/18 10:10			1/4/18 10:10			1/4/18 10:15			1/4/18 10:25		
Date/Time Analyzed:	1/9/18 16:39			1/11/18 19:52			1/9/18 14:40			1/9/18 16:00		
QC Batch No.:	180109MS2A1			180111MS2A1			180109MS2A1			180109MS2A1		
Analyst Initials:	DT			DT			DT			DT		
Dilution Factor:	2.1			2.1			84			84		
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	0.00067 J	0.0021	0.00027	0.00067 J	0.0021	0.00027	0.043 J	0.084	0.011	0.054 J	0.084	0.011
Bromoform	ND	0.0021	0.00012	ND	0.0021	0.00012	ND	0.084	0.0047	ND	0.084	0.0047
Isopropyl benzene	0.00033 J	0.0021	0.00022	0.00036 J	0.0021	0.00022	0.025 J	0.084	0.0088	0.026 J	0.084	0.0088
1,1,2,2-Tetrachloroethane	ND	0.0042	0.00013	ND	0.0042	0.00013	ND	0.17	0.0052	ND	0.17	0.0052
Benzyl Chloride	ND	0.0021	0.00039	ND	0.0021	0.00039	ND	0.084	0.015	ND	0.084	0.015
1,2,3-Trichloropropane	ND	0.0021	0.00057	ND	0.0021	0.00057	ND	0.084	0.023	ND	0.084	0.023
n-Propyl Benzene	0.00068 J	0.0021	0.00012	0.00067 J	0.0021	0.00012	0.059 J	0.084	0.0049	0.065 J	0.084	0.0049
4-Ethyl Toluene	0.0052	0.0021	0.00013	0.0049	0.0021	0.00013	0.47	0.084	0.0053	0.59	0.084	0.0053
1,3,5-Trimethylbenzene	0.0028 J	0.0042	0.00036	0.0026 J	0.0042	0.00036	0.26	0.17	0.015	0.33	0.17	0.015
4-Chlorotoluene	ND	0.0021	0.00025	ND	0.0021	0.00025	ND	0.084	0.010	ND	0.084	0.010
tert-Butylbenzene	ND	0.0021	0.00019	ND	0.0021	0.00019	ND	0.084	0.0076	ND	0.084	0.0076
1,2,4-Trimethylbenzene	0.0035 J	0.0042	0.00024	0.0034 J	0.0042	0.00024	0.22	0.17	0.0096	0.29	0.17	0.0096
sec-Butylbenzene	ND	0.0021	0.00020	ND	0.0021	0.00020	ND	0.084	0.0082	ND	0.084	0.0082
p-Isopropyltoluene	0.0015 J	0.0021	0.00027	0.0025	0.0021	0.00027	0.019 J	0.084	0.011	0.027 J	0.084	0.011
1,3-Dichlorobenzene	ND	0.0021	0.00026	ND	0.0021	0.00026	ND	0.084	0.010	ND	0.084	0.010
1,4-Dichlorobenzene	ND	0.0021	0.00031	ND	0.0021	0.00031	ND	0.084	0.012	ND	0.084	0.012
n-Butylbenzene	0.00045 J	0.0021	0.00015	ND	0.0021	0.00015	ND	0.084	0.0062	ND	0.084	0.0062
1,2-Dichlorobenzene	ND	0.0021	0.00026	ND	0.0021	0.00026	ND	0.084	0.010	ND	0.084	0.010
1,2,4-Trichlorobenzene	ND	0.0042	0.00035	ND	0.0042	0.00035	ND	0.17	0.014	ND	0.17	0.014
Hexachlorobutadiene	ND	0.0021	0.00012	ND	0.0021	0.00012	ND	0.084	0.0049	ND	0.084	0.0049
t-Butanol	ND	0.011	0.00040	0.00055 J	0.011	0.00040	ND	0.42	0.016	0.026 J	0.42	0.016
n-Hexane	0.051	0.011	0.00028	0.041	0.011	0.00028	10	0.42	0.011	10	0.42	0.011
Isopropyl ether	ND	0.011	0.00023	ND	0.011	0.00023	ND	0.42	0.0094	ND	0.42	0.0094
t-Butyl ethyl ether	ND	0.011	0.00042	ND	0.011	0.00042	ND	0.42	0.017	ND	0.42	0.017
2,2-Dichloropropane	ND	0.011	0.00020	ND	0.011	0.00020	ND	0.42	0.0080	ND	0.42	0.0080
t-Amyl methyl ether	ND	0.011	0.00015	ND	0.011	0.00015	ND	0.42	0.0059	ND	0.42	0.0059
1,4-Dioxane	ND	0.011	0.00037	ND	0.011	0.00037	ND	0.42	0.015	ND	0.42	0.015
Naphthalene	ND	0.011	0.00081	ND	0.011	0.00081	ND	0.42	0.032	ND	0.42	0.032
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 _____

1/18/18

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 2 of 2

Client: CH2M Hill
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 01/05/18
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	METHOD BLANK			METHOD BLANK								
Client Sample I.D.:	-			-								
Date/Time Sampled:	-			-								
Date/Time Analyzed:	1/9/18 13:30			1/11/18 12:11								
QC Batch No.:	180109MS2A1			180111MS2A1								
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-DI-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-DI-1,2,2-F ethane (113)	ND	0.00020	0.000054	ND	0.00020	0.000054						
Acetone	ND	0.0010	0.000058	ND	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: CH2M Hill
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 01/05/18
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	METHOD BLANK			METHOD BLANK								
Client Sample I.D.:	-			-								
Date/Time Sampled:	-			-								
Date/Time Analyzed:	1/9/18 13:30			1/11/18 12:11								
QC Batch No.:	180109MS2A1			180111MS2A1								
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	0.000033 J	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	--	--						

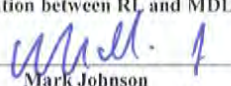
MDL = Method Detection Limit

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: 1/18/18

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 2 of 2

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 180109MS2A1

Matrix: Air

EPA Method TO-14/TO-15											
Lab No:	Method Blank		LCS		LCSD						
Date/Time Analyzed:	1/9/18 13:30		1/9/18 12:03		1/9/18 12:42						
Data File ID:	09JAN006.D		09JAN004.D		09JAN005.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	9.7	97	9.7	97	0.9	70	130	30	Pass
Methylene Chloride	0.0	10.0	10.2	102	9.7	97	4.5	70	130	30	Pass
Trichloroethene	0.0	10.0	10.3	103	9.7	97	5.6	70	130	30	Pass
Toluene	0.0	10.0	10.1	101	9.6	96	4.5	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	8.9	89	8.6	86	2.6	70	130	30	Pass

RPD = Relative Percent Difference

Reviewed/Approved By: _____


 Mark Johnson
 Operations Manager

Date: _____


 1/18/18

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 180111MS2A1

Matrix: Air

EPA Method TO-14/TO-15											
Lab No:	Method Blank		LCS		LCSD						
Date/Time Analyzed:	1/11/18 12:11		1/11/18 10:13		1/11/18 10:51						
Data File ID:	11JAN008.D		11JAN005.D		11JAN006.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	8.1	81	8.0	80	1.1	70	130	30	Pass
Methylene Chloride	0.0	10.0	8.7	87	8.7	87	0.3	70	130	30	Pass
Trichloroethene	0.0	10.0	10.4	104	9.8	98	6.2	70	130	30	Pass
Toluene	0.0	10.0	9.3	93	8.9	89	4.0	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	8.0	80	7.6	76	4.8	70	130	30	Pass

RPD = Relative Percent Difference

Reviewed/Approved By: _____


 Mark Johnson
 Operations Manager

Date: _____


 1/18/18

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

Client: CH2M Hill
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 01/05/18
 Matrix: Air
 Reporting Units: ppmv

EPA METHOD TO3

Lab No.:	J010503-01			J010503-02			J010503-03			J010503-04				
Client Sample I.D.:	VEFF-01-04			VEFF-01-04D			VPOST-01-04			VINP-01-04				
Date/Time Sampled:	1/4/18 10:10			1/4/18 10:10			1/4/18 10:15			1/4/18 10:25				
Date/Time Analyzed:	1/8/18 11:50			1/8/18 12:12			1/8/18 12:35			1/8/18 12:57				
QC Batch No.:	180108GC11A1			180108GC11A1			180108GC11A1			180108GC11A1				
Analyst Initials:	AS			AS			AS			AS				
Dilution Factor:	2.1			2.1			2.1			2.1				
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		
TVOC as Hexane	0.86	J	2.1	0.37	0.93	J	2.1	0.37	220	2.1	0.37	230	2.1	0.37

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 _____



The cover letter is an integral part of this analytical report



QC Batch No: 180108GC11A1

Matrix: Air

Reporting Units: ppmv

EPA METHOD TO3
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK	LCS	LCSD								
Date Analyzed:	1/8/18 11:27	1/8/18 10:43	1/8/18 11:06								
Analyst Initials:	AS	AS	AS								
Dilution Factor:	1.0	1.0	1.0								
ANALYTE	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	% Rec.	Result ppmv	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
TVOC as Hexane	ND	1.0	0.18	4.68	94	4.68	94	0.0	70	130	25

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 1/6/18

The cover letter is an integral part of this analytical report



Client: CH2M Hill
Attn: Eric Davis
Project Name: SFPP Norwalk
Project No.: NA
Date Received: 01/05/18
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	J010503-04											
Client Sample I.D.:	VINF-01-04											
Date/Time Sampled:	1/4/18 10:25											
Date/Time Analyzed:	1/8/18 11:23											
QC Batch No.:	180108GC8A1											
Analyst Initials:	AS											
Dilution Factor:	2.1											
ANALYTE	Result % v/v	RL % v/v	MDL % v/v									
Carbon Dioxide	0.72	0.021	0.00089									
Oxygen/Argon	21	1.1	0.077									
Nitrogen	78	2.1	0.31									
Methane	0.0047	0.0021	0.000096									

Results normalized including non-methane hydrocarbons

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 _____


1/16/18

The cover letter is an integral part of this analytical report



QC Batch No: 180108GC8A1
 Matrix: Air
 Reporting Units: % v/v

ASTM D1946
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK					LCS		LCSD					
Date Analyzed:	1/8/18 10:53					1/8/18 10:10		1/8/18 10:24					
Analyst Initials:	AS					AS		AS					
Dilution Factor:	1.0					1.0		1.0					
										Limits			
ANALYTE	Result % v/v	RL % v/v	MDL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD	
Carbon Dioxide	0.00070 J	0.010	0.00042	10	8.98	90	8.84	88	1.6	70	130	30	
Oxygen/Argon	0.14 J	0.50	0.037	15	15.3	103	15.1	101	1.4	70	130	30	
Nitrogen	0.49 J	1.0	0.14	70	69.7	99	68.7	97	1.4	70	130	30	
Methane	ND	0.0010	0.000046	0.10	0.108	108	0.108	108	0.7	70	130	30	

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 of Mark Johnson
 Operations Manager

Date: 1/15/18

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832



February 19, 2018

CH2M Hill
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: J020701-01/04

Enclosed are results for sample(s) received 2/07/18 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 NELAC Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to Eric Davis and Vladimir Carino 2/16/18.

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.

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: 2/6/18
PAGE: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Section D Sampler Information:	
Company:	CH2M HILL	Report To:	Eric Davis (eric.davis@ch2m.com)	Attention:	Eric Davis	Sampler Name:	James Dye
Address:	1000 Wilshire Blvd. Suite 2100	Copy To:	Vladimir Carino (vcarino@ch2m.com)	Company:	CH2M	Sampler:	
Email To:	eric.davis@ch2m.com vcarino@ch2m.com	Purchase Order No.:		Name:	1000 Wilshire Blvd. Suite 2100	Signature:	
Phone:	404-323-1600	Project Name:	SFPD Norwalk	Address:	Los Angeles, CA 90017	Sample:	
Fax:		Project Manager:	Joann De La Ossa			Date:	2/6/18

Section E Required Sample Information		Section F Analysis Test		Section G Comments	
ITEM #	LOCATION/ DESCRIPTION	SAMPLE TYPE (G-GRAB C-COMP)	DATE	TOTAL # OF CONTAINERS	Comments
1	VEFF-02-06	Vapor G	2/6/18 0745	1	Individually Certified 6-Liter SUMMA
2	VEFF-02-06-D	Vapor G	2/6/18 0745	1	Individually Certified 6-Liter SUMMA
3	VPOST-02-06	Vapor G	2/6/18 0850	1	Individually Certified 1-Liter SUMMA
4	VINF-02-06	Vapor G	2/6/18 0900	1	Batch Certified 1-Liter Summa
5					Target analytes includes Historical VOCs and remaining ATU list per subcontract
6					
7					
8					
9					
10					
11					
12					

Section H Required Signature and Printed Name		Section I Required Signature and Printed Name		Section J Required Signature and Printed Name		Section K Required Signature and Printed Name	
Signature	Date / Time	Signature	Date / Time	Signature	Date / Time	Signature	Date / Time
	2/6/18 1000		2/6/18 1530		2/6/18 1530		2/6/18 1530
Signature	Date / Time	Signature	Date / Time	Signature	Date / Time	Signature	Date / Time
	2/6/18 1000		2/6/18 1530		2/6/18 1530		2/6/18 1530
Signature	Date / Time	Signature	Date / Time	Signature	Date / Time	Signature	Date / Time
	2/6/18 1000		2/6/18 1530		2/6/18 1530		2/6/18 1530

Special Instructions:		Container Type:	
Turn Around Time (TAT): ☐ A = Same Day ☐ B = 24 Hours ☐ C = 48 Hours ☐ D = 72 Hours ☐ E = 5 Workdays ☒ F = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.		T = Tube V = VOA P = Pint A = Amber	
Preservatives: H = HCl N = HNO3 S = H2SO4 Z = Zn/ACD O = NaOH T = Na2S2O3		J = Jar B = Tedlar G = Glass M = Metal P = Plastic C = Can	
Others/Specify:			

Client: CH2M Hill
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 02/07/18
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	J020701-01			J020701-02			J020701-03			J020701-04		
Client Sample I.D.:	VEFF-02-06			VEFF-02-06D			VPOST-02-06			VINP-02-06		
Date/Time Sampled:	2/6/18 7:45			2/6/18 7:45			2/6/18 8:50			2/6/18 9:00		
Date/Time Analyzed:	2/14/18 5:14			2/14/18 5:53			2/15/18 8:38			2/15/18 9:23		
QC Batch No.:	180214MS2A1			180214MS2A1			180215MS2A1			180215MS2A1		
Analyst Initials:	DT			DT			DT					
Dilution Factor:	2.1			2.1			10			5.1		
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	0.0021	0.00032	ND	0.0021	0.00032	ND	0.010	0.0016	ND	0.0051	0.00078
Chloromethane	ND	0.0042	0.00046	ND	0.0042	0.00046	ND	0.020	0.0022	ND	0.010	0.0011
1,2-Di-1,1,2,2-F ethane (114)	ND	0.0021	0.00042	ND	0.0021	0.00042	ND	0.010	0.0020	ND	0.0051	0.0010
Vinyl Chloride	ND	0.0021	0.00034	ND	0.0021	0.00034	ND	0.010	0.0016	ND	0.0051	0.00082
Bromomethane	0.00068 J	0.0021	0.00062	ND	0.0021	0.00062	ND	0.010	0.0030	ND	0.0051	0.0015
Chloroethane	ND	0.0021	0.0018	ND	0.0021	0.0018	ND	0.010	0.0085	ND	0.0051	0.0042
Trichlorofluoromethane (11)	ND	0.0021	0.00045	ND	0.0021	0.00045	ND	0.010	0.0022	ND	0.0051	0.0011
1,1-Dichloroethene	ND	0.0021	0.00048	ND	0.0021	0.00048	ND	0.010	0.0023	ND	0.0051	0.0011
Carbon Disulfide	0.041	0.011	0.00050	0.012	0.011	0.00050	ND	0.051	0.0024	0.0053 J	0.025	0.0012
1,1,2-Di-1,2,2-F ethane (113)	ND	0.0021	0.00057	ND	0.0021	0.00057	ND	0.010	0.0027	ND	0.0051	0.0014
Acetone	0.018	0.011	0.00061	0.014	0.011	0.00061	0.28	0.051	0.0029	0.14	0.025	0.0015
Methylene Chloride	ND	0.0021	0.00060	ND	0.0021	0.00060	ND	0.010	0.0029	ND	0.0051	0.0014
t-1,2-Dichloroethene	ND	0.0021	0.00063	ND	0.0021	0.00063	ND	0.010	0.0030	ND	0.0051	0.0015
1,1-Dichloroethane	ND	0.0021	0.00029	ND	0.0021	0.00029	ND	0.010	0.0014	ND	0.0051	0.00069
c-1,2-Dichloroethene	ND	0.0021	0.00041	ND	0.0021	0.00041	ND	0.010	0.0020	ND	0.0051	0.00098
2-Butanone	0.0086	0.0021	0.0013	0.0072	0.0021	0.0013	0.40	0.010	0.0062	0.18	0.0051	0.0031
t-Butyl Methyl Ether (MTBE)	ND	0.0021	0.00047	ND	0.0021	0.00047	ND	0.010	0.0023	ND	0.0051	0.0011
Chloroform	ND	0.0021	0.00029	ND	0.0021	0.00029	ND	0.010	0.0014	ND	0.0051	0.00071
1,1,1-Trichloroethane	ND	0.0021	0.00021	ND	0.0021	0.00021	ND	0.010	0.0010	ND	0.0051	0.00051
Carbon Tetrachloride	ND	0.0021	0.00037	ND	0.0021	0.00037	ND	0.010	0.0018	ND	0.0051	0.00088
Benzene	0.0022	0.0021	0.00020	0.0021	0.0021	0.00020	0.30	0.010	0.00097	0.14	0.0051	0.00049
1,2-Dichloroethane	ND	0.0021	0.00016	ND	0.0021	0.00016	ND	0.010	0.00075	ND	0.0051	0.00038
Trichloroethene	ND	0.0021	0.00030	ND	0.0021	0.00030	ND	0.010	0.0014	ND	0.0051	0.00072
1,2-Dichloropropane	ND	0.0021	0.00038	ND	0.0021	0.00038	ND	0.010	0.0018	ND	0.0051	0.00091
Bromodichloromethane	ND	0.0021	0.00013	ND	0.0021	0.00013	ND	0.010	0.00061	ND	0.0051	0.00030
c-1,3-Dichloropropene	ND	0.0021	0.00025	ND	0.0021	0.00025	ND	0.010	0.0012	ND	0.0051	0.00060
4-Methyl-2-Pentanone	ND	0.0021	0.00014	ND	0.0021	0.00014	ND	0.010	0.00068	ND	0.0051	0.00034
Toluene	0.0028	0.0021	0.00017	0.0029	0.0021	0.00017	0.31	0.010	0.00080	0.15	0.0051	0.00040
t-1,3-Dichloropropene	ND	0.0021	0.00022	ND	0.0021	0.00022	ND	0.010	0.0010	ND	0.0051	0.00052
1,1,2-Trichloroethane	ND	0.0021	0.00034	ND	0.0021	0.00034	ND	0.010	0.0016	ND	0.0051	0.00082
1,3-Dichloropropane	ND	0.0021	0.00010	ND	0.0021	0.00010	ND	0.010	0.00050	ND	0.0051	0.00025
Tetrachloroethene	ND	0.0021	0.00025	ND	0.0021	0.00025	ND	0.010	0.0012	ND	0.0051	0.00061
2-Hexanone	ND	0.0053	0.00043	ND	0.0053	0.00043	ND	0.025	0.0021	ND	0.013	0.0010
Dibromochloromethane	ND	0.0021	0.00038	ND	0.0021	0.00038	ND	0.010	0.0018	ND	0.0051	0.00092
1,2-Dibromoethane	ND	0.0021	0.00019	ND	0.0021	0.00019	ND	0.010	0.00092	ND	0.0051	0.00046
Chlorobenzene	ND	0.0021	0.00016	ND	0.0021	0.00016	0.0054 J	0.010	0.00079	0.0026 J	0.0051	0.00039
Ethylbenzene	0.00042 J	0.0021	0.00012	0.00044 J	0.0021	0.00012	0.049	0.010	0.00058	0.023	0.0051	0.00029
p-&m-Xylene	0.0038	0.0021	0.00024	0.0038	0.0021	0.00024	0.37	0.010	0.0011	0.18	0.0051	0.00057
o-Xylene	0.0022	0.0021	0.00026	0.0022	0.0021	0.00026	0.26	0.010	0.0012	0.13	0.0051	0.00061



Client: CH2M Hill
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 02/07/18
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	J020701-01			J020701-02			J020701-03			J020701-04		
Client Sample I.D.:	VEFF-02-06			VEFF-02-06D			VPOST-02-06			VINP-02-06		
Date/Time Sampled:	2/6/18 7:45			2/6/18 7:45			2/6/18 8:50			2/6/18 9:00		
Date/Time Analyzed:	2/14/18 5:14			2/14/18 5:53			2/15/18 8:38			2/15/18 9:23		
QC Batch No.:	180214MS2A1			180214MS2A1			180215MS2A1			180215MS2A1		
Analyst Initials:	DT			DT			DT					
Dilution Factor:	2.1			2.1			10			5.1		
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	0.0021	0.00027	ND	0.0021	0.00027	0.011	0.010	0.0013	0.0054	0.0051	0.00065
Bromoform	ND	0.0021	0.00012	ND	0.0021	0.00012	ND	0.010	0.00056	ND	0.0051	0.00028
Isopropyl benzene	ND	0.0021	0.00022	ND	0.0021	0.00022	0.0043 J	0.010	0.0011	0.0024 J	0.0051	0.00053
1,1,2,2-Tetrachloroethane	ND	0.0042	0.00013	ND	0.0042	0.00013	ND	0.020	0.00062	ND	0.010	0.00031
Benzyl Chloride	ND	0.0021	0.00039	ND	0.0021	0.00039	ND	0.010	0.0019	ND	0.0051	0.00093
1,2,3-Trichloropropane	ND	0.0021	0.00057	ND	0.0021	0.00057	ND	0.010	0.0027	ND	0.0051	0.0014
n-Propyl Benzene	ND	0.0021	0.00012	ND	0.0021	0.00012	0.0079 J	0.010	0.00059	0.0037 J	0.0051	0.00029
4-Ethyl Toluene	0.0017 J	0.0021	0.00013	0.0017 J	0.0021	0.00013	0.11	0.010	0.00064	0.053	0.0051	0.00032
1,3,5-Trimethylbenzene	0.0011 J	0.0042	0.00036	0.0012 J	0.0042	0.00036	0.12	0.020	0.0017	0.060	0.010	0.00087
4-Chlorotoluene	ND	0.0021	0.00025	ND	0.0021	0.00025	ND	0.010	0.0012	ND	0.0051	0.00060
tert-Butylbenzene	ND	0.0021	0.00019	ND	0.0021	0.00019	ND	0.010	0.00092	ND	0.0051	0.00046
1,2,4-Trimethylbenzene	0.0013 J	0.0042	0.00024	0.0014 J	0.0042	0.00024	0.055	0.020	0.0011	0.028	0.010	0.00057
sec-Butylbenzene	ND	0.0021	0.00020	ND	0.0021	0.00020	0.0016 J	0.010	0.00098	0.00089 J	0.0051	0.00049
p-Isopropyltoluene	ND	0.0021	0.00027	0.00061 J	0.0021	0.00027	0.0032 J	0.010	0.0013	0.0018 J	0.0051	0.00066
1,3-Dichlorobenzene	ND	0.0021	0.00026	ND	0.0021	0.00026	ND	0.010	0.0012	ND	0.0051	0.00061
1,4-Dichlorobenzene	ND	0.0021	0.00031	ND	0.0021	0.00031	ND	0.010	0.0015	ND	0.0051	0.00074
n-Butylbenzene	0.00021 J	0.0021	0.00015	ND	0.0021	0.00015	ND	0.010	0.00074	ND	0.0051	0.00037
1,2-Dichlorobenzene	ND	0.0021	0.00026	ND	0.0021	0.00026	ND	0.010	0.0013	ND	0.0051	0.00063
1,2,4-Trichlorobenzene	ND	0.0042	0.00035	ND	0.0042	0.00035	ND	0.020	0.0017	ND	0.010	0.00084
Hexachlorobutadiene	ND	0.0021	0.00012	ND	0.0021	0.00012	ND	0.010	0.00059	ND	0.0051	0.00030
t-Butanol	ND	0.011	0.00040	ND	0.011	0.00040	ND	0.051	0.0019	ND	0.025	0.00097
n-Hexane	0.0069 J	0.011	0.00028	0.0067 J	0.011	0.00028	1.8	0.051	0.0014	0.97	0.025	0.00068
Isopropyl ether	ND	0.011	0.00023	ND	0.011	0.00023	ND	0.051	0.0011	ND	0.025	0.00056
t-Butyl ethyl ether	ND	0.011	0.00042	ND	0.011	0.00042	ND	0.051	0.0020	ND	0.025	0.0010
2,2-Dichloropropane	ND	0.011	0.00020	ND	0.011	0.00020	ND	0.051	0.00096	ND	0.025	0.00048
t-Amyl methyl ether	ND	0.011	0.00015	ND	0.011	0.00015	ND	0.051	0.00071	ND	0.025	0.00036
1,4-Dioxane	ND	0.011	0.00037	ND	0.011	0.00037	ND	0.051	0.0018	ND	0.025	0.00088
Naphthalene	ND	0.011	0.00081	ND	0.011	0.00081	ND	0.051	0.0039	ND	0.025	0.0019
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 2/16/18

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 2 of 2

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

Client: CH2M Hill
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 02/07/18
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	METHOD BLANK			METHOD BLANK								
Client Sample I.D.:	-			-								
Date/Time Sampled:	-			-								
Date/Time Analyzed:	2/14/18 4:35			2/15/18 6:29								
QC Batch No.:	180214MS2A1			180215MS2A1								
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	ND	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	0.0000099	ND	0.00020	0.0000099						
Tetrachloroethene	ND	0.00020	0.000024	ND	0.00020	0.000024						
2-Hexanone	ND	0.00050	0.000041	ND	0.00050	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: CH2M Hill
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 02/07/18
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	METHOD BLANK			METHOD BLANK								
Client Sample I.D.:	-			-								
Date/Time Sampled:	-			-								
Date/Time Analyzed:	2/14/18 4:35			2/15/18 6:29								
QC Batch No.:	180214MS2A1			180215MS2A1								
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 JohnsonMark Johnson
Operations ManagerDate 2/6/18

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 2 of 2

LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 180214MS2A1

Matrix: Air

EPA Method TO-14/TO-15

Lab No:	Method Blank		LCS		LCSD						
Date/Time Analyzed:	2/14/18 4:35		2/14/18 3:15		2/14/18 3:54						
Data File ID:	14FEB007.D		14FEB005.D		14FEB006.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	8.5	85	8.4	84	0.8	70	130	30	Pass
Methylene Chloride	0.0	10.0	8.3	83	8.2	82	2.1	70	130	30	Pass
Trichloroethene	0.0	10.0	8.6	86	8.6	86	1.0	70	130	30	Pass
Toluene	0.0	10.0	8.5	85	8.4	84	2.1	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	8.5	85	8.3	83	2.0	70	130	30	Pass

RPD = Relative Percent Difference

Reviewed/Approved By: _____

Mark Johnson
Operations Manager

Date: _____

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 180215MS2A1

Matrix: Air

EPA Method TO-14/TO-15

Lab No:	Method Blank		LCS		LCSD						
Date/Time Analyzed:	2/15/18 6:29		2/15/18 5:08		2/15/18 5:46						
Data File ID:	15FEB007.D		15FEB005.D		15FEB006.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	9.0	90	8.5	85	5.8	70	130	30	Pass
Methylene Chloride	0.0	10.0	8.6	86	7.8	78	9.2	70	130	30	Pass
Trichloroethene	0.0	10.0	8.5	85	8.3	83	2.5	70	130	30	Pass
Toluene	0.0	10.0	8.6	86	8.4	84	2.6	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	8.4	84	8.2	82	2.6	70	130	30	Pass

RPD = Relative Percent Difference

Reviewed/Approved By: _____

Mark Johnson
Operations Manager

Date: _____

2/16/18

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

Client: CH2M Hill
Attn: Eric Davis
Project Name: SFPP Norwalk
Project No.: NA
Date Received: 02/07/18
Matrix: Air
Reporting Units: ppmv

EPA METHOD TO3

Lab No.:	J020701-01			J020701-02			J020701-03			J020701-04		
Client Sample I.D.:	VEFF-02-06			VEFF-02-06D			VPOST-02-06			VINF-02-06		
Date/Time Sampled:	2/6/18 7:45			2/6/18 7:45			2/6/18 8:50			2/6/18 9:00		
Date/Time Analyzed:	2/8/18 10:02			2/8/18 10:25			2/8/18 10:47			2/8/18 11:10		
QC Batch No.:	180208GC11A1			180208GC11A1			180208GC11A1			180208GC11A1		
Analyst Initials:	AS			AS			AS			AS		
Dilution Factor:	2.1			2.1			2.0			2.0		
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
TVOC as Hexane	ND	2.1	0.37	ND	2.1	0.37	55	2.0	0.36	27	2.0	0.36

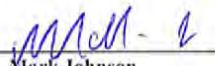
MDL = Method Detection Limit

ND= Not Detected (below MDL)

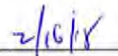
RL = Reporting Limit

J = Trace amount. Analyte concentration between RL and MDL.

Reviewed/Approved By: _____


Mark Johnson
Operations Manager

Date _____


2/6/18

The cover letter is an integral part of this analytical report



QC Batch No: 180208GC11A1

Matrix: Air

Reporting Units: ppmv

**EPA METHOD TO3
LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK	LCS	LCS D								
Date Analyzed:	2/8/18 9:40	2/8/18 8:37	2/8/18 8:59								
Analyst Initials:	AS	AS	AS								
Dilution Factor:	1.0	1.0	1.0								
ANALYTE	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	% Rec.	Result ppmv	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
TVOC as Hexane	ND	1.0	0.18	4.58	92	4.56	91	0.4	70	130	25

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 ManagerDate 2/16/18

The cover letter is an integral part of this analytical report



Client: CH2M Hill
Attn: Eric Davis
Project Name: SFPP Norwalk
Project No.: NA
Date Received: 02/07/18
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	J020701-04												
Client Sample I.D.:	VINF-02-06												
Date/Time Sampled:	2/6/18 9:00												
Date/Time Analyzed:	2/8/18 13:01												
QC Batch No.:	180208GC8A2												
Analyst Initials:	AS												
Dilution Factor:	2.0												
ANALYTE	Result % v/v	RL % v/v	MDL % v/v										
Carbon Dioxide	0.42	0.020	0.00086										
Oxygen/Argon	22	1.0	0.074										
Nitrogen	78	2.0	0.29										
Methane	0.0042	0.0020	0.000092										

Results normalized including non-methane hydrocarbons

MDL = Method Detection Limit

ND= Not Detected (below MDL)

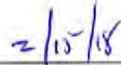
RL = Reporting Limit

J = Trace amount. Analyte concentration between RL and MDL.

Reviewed/Approved By: _____


Mark Johnson
Operations Manager

Date



The cover letter is an integral part of this analytical report



QC Batch No: 180208GC8A2
 Matrix: Air
 Reporting Units: % v/v

ASTM D1946
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK				LCS		LCSD					
Date Analyzed:	2/8/18 12:32				2/8/18 11:48		2/8/18 12:03					
Analyst Initials:	AS				AS		AS					
Dilution Factor:	1.0				1.0		1.0					
ANALYTE	Result % v/v	RL % v/v	MDL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Limits		
										Low %Rec	High %Rec	Max. RPD
Carbon Dioxide	ND	0.010	0.00042	10	9.36	93	9.35	93	0.0	70	130	30
Oxygen/Argon	0.11 J	0.50	0.037	15	15.7	105	15.7	105	0.0	70	130	30
Nitrogen	0.37 J	1.0	0.14	70	71.2	101	71.1	101	0.1	70	130	30
Methane	0.00025 J	0.0010	0.000046	0.10	0.109	109	0.109	109	0.1	70	130	30

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: 2/15/18

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832



March 29, 2018

CH2M Hill
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: J031401-01/04

Enclosed are results for sample(s) received 3/14/18 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 NELAC Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to Eric Davis and Vladimir Carino 3/28/18.

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", with a stylized flourish at the end.

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

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

J031401-01/04

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: 3/13/18
PAGE: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Section D Sampler Information:	
Company:	CH2M HILL	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:	CH2M	Sampler Signature:	
Email To:	eric.davis@ch2m.com vcarino@ch2m.com	Purchase Order No.:		Name:		Sample:	3/13/18
Phone:	404-323-1600	Project Name:	SPPP Norwalk	Address:	1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017	Date:	
Fax:				Project Manager:	Joann De La Ossa		

Section E Required Sample Information		Section F Analysis Test		Section G Comments	
ITEM #	SAMPLE ID	LOCATION / DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	DATE
1	VEFF-03-13	Effluent (stack)	Vapor	G	3/13/18 1400
2	VEFF-03-13 D	Effluent (stack) (duplicate)	Vapor	G	3/13/18 1400
3	VPOST-03-13	Influent (post-dilution)	Vapor	G	3/13/18 1415
4	VINF-03-13	Influent (pre-dilution)	Vapor	G	3/13/18 1425
5					
6					
7					
8					
9					
10					
11					
12					

Section H Required Signatures and Printed Names:		Section I Special Instructions:	
Signature:	Date / Time: 3/13/18 1530	Turn Around Time (TAT): ☐ A = Same Day ☐ B = 24 Hours ☐ C = 48 Hours ☐ D = 72 Hours ☐ E = 5 Workdays ☒ F = 10 Workdays	TAT Starts at 8 AM the following day if samples received after 3:00 PM.
Signature:	Date / Time: 3/14/18 1149	Preservatives: H = HCl N = HNO3 O = NaOH Z = Zn(Ac)2 Others/Specify:	Container Type: T = Tube V = VDA P = Pint A = Amber B = Tedlar G = Glass M = Metal P = Plastic C = Can
Matrix: W = Water O = Oil WW = Wastewater P = Product S = Soil Others/Specify:			

01
02
03
04

Client: CH2M Hill
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 03/14/18
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	J031401-01			J031401-02			J031401-03			J031401-04		
Client Sample I.D.:	VEFF-03-13			VEFF-03-13D			VPOST-03-13			VINP-03-13		
Date/Time Sampled:	3/13/18 14:00			3/13/18 14:00			3/13/18 14:15			3/13/18 14:25		
Date/Time Analyzed:	3/21/18 0:01			3/21/18 0:40			3/21/18 4:34			3/21/18 5:13		
QC Batch No.:	180320MS2A1			180320MS2A1			180320MS2A1			180320MS2A1		
Analyst Initials:	DT			DT			DT			DT		
Dilution Factor:	2.1			2.1			11			11		
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	0.0021	0.00032	ND	0.0021	0.00032	ND	0.011	0.0016	ND	0.011	0.0016
Chloromethane	ND	0.0042	0.00046	ND	0.0042	0.00046	ND	0.021	0.0023	0.0088 J	0.021	0.0023
1,2-Di-1,1,2,2-F ethane (114)	ND	0.0021	0.00042	ND	0.0021	0.00042	ND	0.011	0.0021	ND	0.011	0.0021
Vinyl Chloride	ND	0.0021	0.00034	ND	0.0021	0.00034	ND	0.011	0.0017	ND	0.011	0.0017
Bromomethane	ND	0.0021	0.00062	ND	0.0021	0.00062	ND	0.011	0.0031	ND	0.011	0.0031
Chloroethane	ND	0.0021	0.0018	ND	0.0021	0.0018	ND	0.011	0.0088	ND	0.011	0.0088
Trichlorofluoromethane (11)	ND	0.0021	0.00045	ND	0.0021	0.00045	ND	0.011	0.0023	ND	0.011	0.0023
1,1-Dichloroethene	ND	0.0021	0.00048	ND	0.0021	0.00048	ND	0.011	0.0024	ND	0.011	0.0024
Carbon Disulfide	0.070	0.011	0.00050	0.23	0.011	0.00050	0.0052 J	0.053	0.0025	0.046 J	0.053	0.0025
1,1,2-Di-1,2,2-F ethane (113)	ND	0.0021	0.00057	ND	0.0021	0.00057	ND	0.011	0.0028	ND	0.011	0.0028
Acetone	0.028	0.011	0.00061	0.027	0.011	0.00061	ND	0.053	0.0030	ND	0.053	0.0030
Methylene Chloride	ND	0.0021	0.00060	ND	0.0021	0.00060	ND	0.011	0.0030	ND	0.011	0.0030
t-1,2-Dichloroethene	ND	0.0021	0.00063	ND	0.0021	0.00063	ND	0.011	0.0031	ND	0.011	0.0031
1,1-Dichloroethane	ND	0.0021	0.00029	ND	0.0021	0.00029	ND	0.011	0.0014	ND	0.011	0.0014
c-1,2-Dichloroethene	ND	0.0021	0.00041	ND	0.0021	0.00041	ND	0.011	0.0020	ND	0.011	0.0020
2-Butanone	0.013	0.0021	0.0013	0.012	0.0021	0.0013	0.0066 J	0.011	0.0065	ND	0.011	0.0065
t-Butyl Methyl Ether (MTBE)	0.00071 J	0.0021	0.00047	0.00078 J	0.0021	0.00047	ND	0.011	0.0024	ND	0.011	0.0024
Chloroform	ND	0.0021	0.00029	ND	0.0021	0.00029	ND	0.011	0.0015	0.0035 J	0.011	0.0015
1,1,1-Trichloroethane	ND	0.0021	0.00021	ND	0.0021	0.00021	ND	0.011	0.0011	ND	0.011	0.0011
Carbon Tetrachloride	ND	0.0021	0.00037	ND	0.0021	0.00037	ND	0.011	0.0018	ND	0.011	0.0018
Benzene	0.0059	0.0021	0.00020	0.0056	0.0021	0.00020	0.77	0.011	0.0010	0.68	0.011	0.0010
1,2-Dichloroethane	ND	0.0021	0.00016	ND	0.0021	0.00016	ND	0.011	0.00078	0.0028 J	0.011	0.00078
Trichloroethene	ND	0.0021	0.00030	ND	0.0021	0.00030	ND	0.011	0.0015	ND	0.011	0.0015
1,2-Dichloropropane	ND	0.0021	0.00038	ND	0.0021	0.00038	ND	0.011	0.0019	ND	0.011	0.0019
Bromodichloromethane	ND	0.0021	0.00013	ND	0.0021	0.00013	ND	0.011	0.00063	ND	0.011	0.00063
c-1,3-Dichloropropene	ND	0.0021	0.00025	ND	0.0021	0.00025	ND	0.011	0.0013	ND	0.011	0.0013
4-Methyl-2-Pentanone	ND	0.0021	0.00014	ND	0.0021	0.00014	ND	0.011	0.00071	ND	0.011	0.00071
Toluene	0.0036	0.0021	0.00017	0.0036	0.0021	0.00017	0.56	0.011	0.00084	0.46	0.011	0.00084
t-1,3-Dichloropropene	ND	0.0021	0.00022	ND	0.0021	0.00022	ND	0.011	0.0011	ND	0.011	0.0011
1,1,2-Trichloroethane	ND	0.0021	0.00034	ND	0.0021	0.00034	ND	0.011	0.0017	ND	0.011	0.0017
1,3-Dichloropropane	ND	0.0021	0.00010	ND	0.0021	0.00010	ND	0.011	0.00052	ND	0.011	0.00052
Tetrachloroethene	ND	0.0021	0.00025	ND	0.0021	0.00025	ND	0.011	0.0013	ND	0.011	0.0013
2-Hexanone	ND	0.0021	0.00043	ND	0.0021	0.00043	ND	0.011	0.0022	ND	0.011	0.0022
Dibromochloromethane	ND	0.0021	0.00038	ND	0.0021	0.00038	ND	0.011	0.0019	ND	0.011	0.0019
1,2-Dibromoethane	ND	0.0021	0.00019	ND	0.0021	0.00019	ND	0.011	0.00096	ND	0.011	0.00096
Chlorobenzene	ND	0.0021	0.00016	ND	0.0021	0.00016	ND	0.011	0.00082	0.0053 J	0.011	0.00082
Ethylbenzene	0.00081 J	0.0021	0.00012	0.0011 J	0.0021	0.00012	0.12	0.011	0.00061	0.11	0.011	0.00061
p.&m-Xylene	0.0062	0.0021	0.00024	0.0069	0.0021	0.00024	0.90	0.011	0.0012	0.75	0.011	0.0012
o-Xylene	0.0040	0.0021	0.00026	0.0033	0.0021	0.00026	0.48	0.011	0.0013	0.40	0.011	0.0013



Client: CH2M Hill
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 03/14/18
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	J031401-01			J031401-02			J031401-03			J031401-04		
Client Sample I.D.:	VEFF-03-13			VEFF-03-13D			VPOST-03-13			VINP-03-13		
Date/Time Sampled:	3/13/18 14:00			3/13/18 14:00			3/13/18 14:15			3/13/18 14:25		
Date/Time Analyzed:	3/21/18 0:01			3/21/18 0:40			3/21/18 4:34			3/21/18 5:13		
QC Batch No.:	180320MS2A1			180320MS2A1			180320MS2A1			180320MS2A1		
Analyst Initials:	DT			DT			DT			DT		
Dilution Factor:	2.1			2.1			11			11		
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	0.00028 J	0.0021	0.00027	0.00029 J	0.0021	0.00027	0.017	0.011	0.0014	0.015	0.011	0.0014
Bromoform	ND	0.0021	0.00012	ND	0.0021	0.00012	ND	0.011	0.00059	ND	0.011	0.00059
Isopropyl benzene	ND	0.0021	0.00022	ND	0.0021	0.00022	0.0083 J	0.011	0.0011	0.0073 J	0.011	0.0011
1,1,2,2-Tetrachloroethane	ND	0.0042	0.00013	ND	0.0042	0.00013	ND	0.021	0.00064	ND	0.021	0.00064
Benzyl Chloride	ND	0.0021	0.00039	ND	0.0021	0.00039	ND	0.011	0.0019	ND	0.011	0.0019
1,2,3-Trichloropropane	ND	0.0021	0.00057	ND	0.0021	0.00057	ND	0.011	0.0028	ND	0.011	0.0028
n-Propyl Benzene	ND	0.0021	0.00012	ND	0.0021	0.00012	0.017	0.011	0.00061	0.015	0.011	0.00061
4-Ethyl Toluene	0.0019 J	0.0021	0.00013	0.0018 J	0.0021	0.00013	0.24	0.011	0.00067	0.21	0.011	0.00067
1,3,5-Trimethylbenzene	0.0017 J	0.0042	0.00036	0.0016 J	0.0042	0.00036	0.23	0.021	0.0018	0.20	0.021	0.0018
4-Chlorotoluene	ND	0.0021	0.00025	ND	0.0021	0.00025	ND	0.011	0.0013	ND	0.011	0.0013
tert-Butylbenzene	ND	0.0021	0.00019	ND	0.0021	0.00019	ND	0.011	0.00095	ND	0.011	0.00095
1,2,4-Trimethylbenzene	0.0016 J	0.0042	0.00024	0.0016 J	0.0042	0.00024	0.15	0.021	0.0012	0.13	0.021	0.0012
sec-Butylbenzene	ND	0.0021	0.00020	ND	0.0021	0.00020	0.0041 J	0.011	0.0010	0.0033 J	0.011	0.0010
n-Isopropyltoluene	0.0019 J	0.0021	0.00027	0.00089 J	0.0021	0.00027	0.0064 J	0.011	0.0014	0.0061 J	0.011	0.0014
1,3-Dichlorobenzene	ND	0.0021	0.00026	ND	0.0021	0.00026	ND	0.011	0.0013	ND	0.011	0.0013
1,4-Dichlorobenzene	ND	0.0021	0.00031	ND	0.0021	0.00031	ND	0.011	0.0015	ND	0.011	0.0015
n-Butylbenzene	ND	0.0021	0.00015	0.00056 J	0.0021	0.00015	ND	0.011	0.00077	ND	0.011	0.00077
1,2-Dichlorobenzene	ND	0.0021	0.00026	ND	0.0021	0.00026	ND	0.011	0.0013	ND	0.011	0.0013
1,2,4-Trichlorobenzene	ND	0.0042	0.00035	ND	0.0042	0.00035	ND	0.021	0.0017	ND	0.021	0.0017
Hexachlorobutadiene	ND	0.0021	0.00012	ND	0.0021	0.00012	ND	0.011	0.00062	ND	0.011	0.00062
t-Butanol	ND	0.011	0.00040	ND	0.011	0.00040	ND	0.053	0.0020	0.015 J	0.053	0.0020
n-Hexane	0.013	0.011	0.00028	0.013	0.011	0.00028	3.2 d	0.053	0.0014	2.7 d	0.053	0.0014
Isopropyl ether	ND	0.011	0.00023	ND	0.011	0.00023	ND	0.053	0.0012	ND	0.053	0.0012
t-Butyl ethyl ether	ND	0.011	0.00042	ND	0.011	0.00042	ND	0.053	0.0021	ND	0.053	0.0021
2,2-Dichloropropane	ND	0.011	0.00020	ND	0.011	0.00020	ND	0.053	0.0010	ND	0.053	0.0010
t-Amyl methyl ether	ND	0.011	0.00015	ND	0.011	0.00015	ND	0.053	0.00074	ND	0.053	0.00074
1,4-Dioxane	ND	0.011	0.00037	ND	0.011	0.00037	ND	0.053	0.0018	ND	0.053	0.0018
Naphthalene	ND	0.011	0.00081	ND	0.011	0.00081	ND	0.053	0.0040	ND	0.053	0.0040
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.

d = Result obtained from secondary dilution. QC Batch ID: 180321MS2A1

Reviewed/Approved By: _____

Mark Johnson
 Operations Manager

Date: _____

The cover letter is an integral part of this analytical report

Client: CH2M Hill
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 03/14/18
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	METHOD BLANK			METHOD BLANK								
Client Sample I.D.:	--			--								
Date/Time Sampled:	--			--								
Date/Time Analyzed:	3/20/18 13:12			3/21/18 14:34								
QC Batch No.:	180320MS2A1			180321MS2A1								
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	0.00020 J	0.0010	0.000058	0.00027 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	0.00011 J	0.00020	0.000019	0.000091 J	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	0.000039 J	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	0.0000099	ND	0.00020	0.0000099						
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: CH2M Hill
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 03/14/18
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	METHOD BLANK			METHOD BLANK								
Client Sample I.D.:	--			--								
Date/Time Sampled:	--			--								
Date/Time Analyzed:	3/20/18 13:12			3/21/18 14:34								
QC Batch No.:	180320MS2A1			180321MS2A1								
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	0.000055 J	0.00020	0.000021	0.00013 J	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
 Mark Johnson
 Operations Manager

Date

3/28/18

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



AirTECHNOLOGY Laboratories, Inc.

page 2 of 2

LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 180320MS2A1

Matrix: Air

EPA Method TO-14/TO-15

Lab No:	Method Blank		LCS		LCSD		Limits				
Date/Time Analyzed:	3/20/18 13:12		3/20/18 11:10		3/20/18 12:08						
Data File ID:	20MAR005.D		20MAR003.D		20MAR004.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	Low %Rec	High %Rec	Max. RPD	Pass/ Fail
1,1-Dichloroethene	0.0	10.0	9.9	99	9.0	90	9.0	70	130	30	Pass
Methylene Chloride	0.0	10.0	9.6	96	9.4	94	1.4	70	130	30	Pass
Trichloroethene	0.0	10.0	10.4	104	9.7	97	7.1	70	130	30	Pass
Toluene	0.0	10.0	9.4	94	9.1	91	3.4	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	8.9	89	8.6	86	3.6	70	130	30	Pass

LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 180321MS2A1

Matrix: Air

EPA Method TO-14/TO-15

Lab No:	Method Blank		LCS		LCSD						
Date/Time Analyzed:	3/21/18 14:34		3/21/18 12:19		3/22/18 6:56						
Data File ID:	21MAR007.D		21MAR004.D		22MAR005.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	9.0	90	9.7	97	7.5	70	130	30	Pass
Methylene Chloride	0.0	10.0	9.5	95	10.3	103	8.7	70	130	30	Pass
Trichloroethene	0.0	10.0	9.9	99	10.4	104	5.0	70	130	30	Pass
Toluene	0.0	10.0	9.0	90	9.3	93	3.7	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	8.4	84	8.9	89	5.4	70	130	30	Pass

RPD = Relative Percent Difference

Reviewed/Approved By: _____


 Mark Johnson
 Operations Manager

Date: _____

3/28/18

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

Client: CH2M Hill
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 03/14/18
 Matrix: Air
 Reporting Units: ppmv

EPA METHOD TO3

Lab No.:	J031401-01			J031401-02			J031401-03			J031401-04		
Client Sample I.D.:	VEFF-03-13			VEFF-03-13D			VPOST-03-13			VINF-03-13		
Date/Time Sampled:	3/13/18 14:00			3/13/18 14:00			3/13/18 14:15			3/13/18 14:25		
Date/Time Analyzed:	3/15/18 13:58			3/15/18 14:20			3/15/18 14:43			3/15/18 15:05		
QC Batch No.:	180315GC11A1			180315GC11A1			180315GC11A1			180315GC11A1		
Analyst Initials:	AS			AS			AS			AS		
Dilution Factor:	2.1			2.1			2.1			2.1		
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
TVOC as Hexane	ND	2.1	0.37	ND	2.1	0.37	88	2.1	0.37	79	2.1	0.37

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 _____



The cover letter is an integral part of this analytical report



QC Batch No: 180315GC11A1

Matrix: Air

Reporting Units: ppmv

EPA METHOD TO3
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK	LCS	LCSD								
Date Analyzed:	3/15/18 12:28	3/15/18 11:43	3/15/18 12:06								
Analyst Initials:	AS	AS	AS								
Dilution Factor:	1.0	1.0	1.0								
ANALYTE	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	% Rec.	Result ppmv	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
TVOC as Hexane	ND	1.0	0.18	4.37	87	4.38	88	0.2	70	130	25

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 3/28/18

The cover letter is an integral part of this analytical report



Client: CH2M Hill
Attn: Eric Davis
Project Name: SFPP Norwalk
Project No.: NA
Date Received: 03/14/18
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	J031401-04												
Client Sample I.D.:	VINF-03-13												
Date/Time Sampled:	3/13/18 14:25												
Date/Time Analyzed:	3/15/18 11:05												
QC Batch No.:	180315GC8A1												
Analyst Initials:	AS												
Dilution Factor:	2.1												
ANALYTE	Result % v/v	RL % v/v	MDL % v/v										
Carbon Dioxide	0.74	0.021	0.00089										
Oxygen/Argon	21	1.1	0.077										
Nitrogen	78	2.1	0.31										
Methane	0.0038	0.0021	0.000096										

Results normalized including non-methane hydrocarbons

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

3/20/18

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QC Batch No: 180315GC8A1
 Matrix: Air
 Reporting Units: % v/v

**ASTM D1946
 LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK				LCS		LCSD					
Date Analyzed:	3/15/18 10:50				3/15/18 10:06		3/15/18 10:21					
Analyst Initials:	AS				AS		AS					
Dilution Factor:	1.0				1.0		1.0					
ANALYTE	Result % v/v	RL % v/v	MDL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Limits		
										Low %Rec	High %Rec	Max. RPD
Carbon Dioxide	ND	0.010	0.00042	10	9.45	94	9.33	93	1.2	70	130	30
Oxygen/Argon	0.15 J	0.50	0.037	15	16.1	107	16.0	107	0.2	70	130	30
Nitrogen	0.47 J	1.0	0.14	70	71.8	102	71.6	102	0.2	70	130	30
Methane	0.00010 J	0.0010	0.000046	0.10	0.109	109	0.109	108	0.4	70	130	30

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 J. Mark Johnson
 Operations Manager

Date _____

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AirTECHNOLOGY Laboratories, Inc.

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

January 08, 2018

Eric Davis
CH2MHill
1000 Wilshire Blvd.
Los Angeles, CA 90017

TEL:

FAX:

Workorder No.: N027818

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on January 04, 2018 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Quennie Manimtim
Laboratory Director

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CLIENT: CH2MHill
Project: SFPP Norwalk
Lab Order: N027818

CASE NARRATIVE**SAMPLE RECEIVING/GENERAL COMMENTS:**

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Sample was analyzed within method holding time.

Results were J-Flag. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" Flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Analytical Comments for EPA 8260B:

Matrix Spike (MS) is outside recovery criteria for some analytes possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

RPD for Matrix Spike (MS)/Matrix Spike Duplicate (MSD) is outside criteria for some analytes possibly due to non-homogeneity of sample; however, the analytical batch was validated by the Laboratory Control Sample (LCS).



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ASSET Laboratories

Date: 08-Jan-18

CLIENT: CH2MHill
Project: SFPP Norwalk
Lab Order: N027818
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N027818-001A	INF-01-04	Wastewater	1/4/2018 1:25:00 PM	1/4/2018	1/8/2018
N027818-001B	INF-01-04	Wastewater	1/4/2018 1:25:00 PM	1/4/2018	1/8/2018



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ASSET Laboratories
ANALYTICAL RESULTS

Print Date: 08-Jan-18

CLIENT: CH2MHill
Lab Order: N027818
Project: SFPP Norwalk
Lab ID: N027818-001

Client Sample ID: INF-01-04
Collection Date: 1/4/2018 1:25:00 PM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
EPA 8260B							
RunID: NV00922-MS5_180105A	QC Batch: P18VW005		PrepDate:		Analyst: QBM		
1,1,1,2-Tetrachloroethane	ND	0.38	1.0		ug/L	1	1/5/2018 05:16 PM
1,1,1-Trichloroethane	ND	0.38	1.0		ug/L	1	1/5/2018 05:16 PM
1,1,2,2-Tetrachloroethane	ND	0.34	1.0		ug/L	1	1/5/2018 05:16 PM
1,1,2-Trichloroethane	ND	0.29	1.0		ug/L	1	1/5/2018 05:16 PM
1,1-Dichloroethane	ND	0.45	0.50		ug/L	1	1/5/2018 05:16 PM
1,1-Dichloroethene	ND	0.34	1.0		ug/L	1	1/5/2018 05:16 PM
1,1-Dichloropropene	ND	0.32	1.0		ug/L	1	1/5/2018 05:16 PM
1,2,3-Trichlorobenzene	ND	0.28	1.0		ug/L	1	1/5/2018 05:16 PM
1,2,3-Trichloropropane	ND	0.26	1.0		ug/L	1	1/5/2018 05:16 PM
1,2,4-Trichlorobenzene	ND	0.21	1.0		ug/L	1	1/5/2018 05:16 PM
1,2,4-Trimethylbenzene	67	0.33	1.0		ug/L	1	1/5/2018 05:16 PM
1,2-Dibromo-3-chloropropane	ND	0.67	2.0		ug/L	1	1/5/2018 05:16 PM
1,2-Dibromoethane	ND	0.31	1.0		ug/L	1	1/5/2018 05:16 PM
1,2-Dichlorobenzene	ND	0.29	1.0		ug/L	1	1/5/2018 05:16 PM
1,2-Dichloroethane	ND	0.29	0.50		ug/L	1	1/5/2018 05:16 PM
1,2-Dichloropropane	ND	0.24	1.0		ug/L	1	1/5/2018 05:16 PM
1,3,5-Trimethylbenzene	55	0.27	1.0		ug/L	1	1/5/2018 05:16 PM
1,3-Dichlorobenzene	ND	0.28	1.0		ug/L	1	1/5/2018 05:16 PM
1,3-Dichloropropane	ND	0.32	1.0		ug/L	1	1/5/2018 05:16 PM
1,4-Dichlorobenzene	ND	0.32	1.0		ug/L	1	1/5/2018 05:16 PM
2,2-Dichloropropane	ND	0.32	1.0		ug/L	1	1/5/2018 05:16 PM
2-Butanone	ND	4.9	10		ug/L	1	1/5/2018 05:16 PM
2-Chlorotoluene	ND	0.28	1.0		ug/L	1	1/5/2018 05:16 PM
4-Chlorotoluene	ND	0.30	1.0		ug/L	1	1/5/2018 05:16 PM
4-Isopropyltoluene	1.2	0.33	1.0		ug/L	1	1/5/2018 05:16 PM
4-Methyl-2-pentanone	ND	3.2	10		ug/L	1	1/5/2018 05:16 PM
Acetone	ND	9.7	10		ug/L	1	1/5/2018 05:16 PM
Benzene	190	3.4	10		ug/L	10	1/5/2018 05:40 PM
Bromobenzene	ND	0.25	1.0		ug/L	1	1/5/2018 05:16 PM
Bromochloromethane	ND	0.41	1.0		ug/L	1	1/5/2018 05:16 PM
Bromodichloromethane	ND	0.38	1.0		ug/L	1	1/5/2018 05:16 PM
Bromoform	ND	0.39	1.0		ug/L	1	1/5/2018 05:16 PM
Bromomethane	ND	0.79	1.0		ug/L	1	1/5/2018 05:16 PM
Carbon disulfide	ND	0.81	1.0		ug/L	1	1/5/2018 05:16 PM
Carbon tetrachloride	ND	0.40	0.50		ug/L	1	1/5/2018 05:16 PM
Chlorobenzene	ND	0.30	1.0		ug/L	1	1/5/2018 05:16 PM

Qualifiers: B Analyte detected in the associated Method Blank E Value above quantitation range
 H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits
 ND Not Detected at the Reporting Limit S Spike/Surrogate outside of limits due to matrix interference
 Results are wet unless otherwise specified DO Surrogate Diluted Out



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ASSET Laboratories
ANALYTICAL RESULTS

Print Date: 08-Jan-18

CLIENT: CH2MHill
Lab Order: N027818
Project: SFPP Norwalk
Lab ID: N027818-001

Client Sample ID: INF-01-04
Collection Date: 1/4/2018 1:25:00 PM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
EPA 8260B							
RunID: NV00922-MS5_180105A	QC Batch: P18VW005		PrepDate:		Analyst: QBM		
Chloroethane	ND	0.97	1.0		ug/L	1	1/5/2018 05:16 PM
Chloroform	ND	0.27	1.0		ug/L	1	1/5/2018 05:16 PM
Chloromethane	ND	0.36	1.0		ug/L	1	1/5/2018 05:16 PM
cis-1,2-Dichloroethene	ND	0.32	1.0		ug/L	1	1/5/2018 05:16 PM
cis-1,3-Dichloropropene	ND	0.28	1.0		ug/L	1	1/5/2018 05:16 PM
Di-isopropyl ether	5.4	0.079	1.0		ug/L	1	1/5/2018 05:16 PM
Dibromochloromethane	ND	0.41	1.0		ug/L	1	1/5/2018 05:16 PM
Dibromomethane	ND	0.28	1.0		ug/L	1	1/5/2018 05:16 PM
Dichlorodifluoromethane	ND	0.29	1.0		ug/L	1	1/5/2018 05:16 PM
Ethyl tert-butyl ether	ND	0.30	1.0		ug/L	1	1/5/2018 05:16 PM
Ethylbenzene	4.9	0.31	1.0		ug/L	1	1/5/2018 05:16 PM
Freon-113	ND	0.35	1.0		ug/L	1	1/5/2018 05:16 PM
Hexachlorobutadiene	ND	0.30	1.0		ug/L	1	1/5/2018 05:16 PM
Isopropylbenzene	1.0	0.26	1.0		ug/L	1	1/5/2018 05:16 PM
m,p-Xylene	270	2.3	10		ug/L	10	1/5/2018 05:40 PM
Methylene chloride	ND	1.9	2.0		ug/L	1	1/5/2018 05:16 PM
MTBE	160	3.4	10		ug/L	10	1/5/2018 05:40 PM
n-Butylbenzene	ND	0.34	1.0		ug/L	1	1/5/2018 05:16 PM
n-Propylbenzene	1.3	0.32	1.0		ug/L	1	1/5/2018 05:16 PM
Naphthalene	35	0.42	1.0		ug/L	1	1/5/2018 05:16 PM
o-Xylene	140	3.1	10		ug/L	10	1/5/2018 05:40 PM
sec-Butylbenzene	0.54	0.32	1.0	J	ug/L	1	1/5/2018 05:16 PM
Styrene	ND	0.21	1.0		ug/L	1	1/5/2018 05:16 PM
Tert-amyl methyl ether	ND	0.26	1.0		ug/L	1	1/5/2018 05:16 PM
Tert-Butanol	240	2.4	5.0		ug/L	1	1/5/2018 05:16 PM
tert-Butylbenzene	ND	0.28	1.0		ug/L	1	1/5/2018 05:16 PM
Tetrachloroethene	ND	0.30	1.0		ug/L	1	1/5/2018 05:16 PM
Toluene	30	0.46	2.0		ug/L	1	1/5/2018 05:16 PM
trans-1,2-Dichloroethene	ND	0.40	1.0		ug/L	1	1/5/2018 05:16 PM
trans-1,3-Dichloropropene	ND	0.25	1.0		ug/L	1	1/5/2018 05:16 PM
Trichloroethene	ND	0.37	1.0		ug/L	1	1/5/2018 05:16 PM
Trichlorofluoromethane	ND	0.37	1.0		ug/L	1	1/5/2018 05:16 PM
Vinyl chloride	ND	0.29	0.50		ug/L	1	1/5/2018 05:16 PM
Xylenes, Total	410	15	20		ug/L	10	1/5/2018 05:40 PM
Surr: 1,2-Dichloroethane-d4	97.4	0	72-119		%REC	10	1/5/2018 05:40 PM
Surr: 1,2-Dichloroethane-d4	96.2	0	72-119		%REC	1	1/5/2018 05:16 PM

Qualifiers: B Analyte detected in the associated Method Blank E Value above quantitation range
 H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits
 ND Not Detected at the Reporting Limit S Spike/Surrogate outside of limits due to matrix interference
 Results are wet unless otherwise specified DO Surrogate Diluted Out



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ASSET Laboratories
ANALYTICAL RESULTS

Print Date: 08-Jan-18

CLIENT: CH2MHill
Lab Order: N027818
Project: SFPP Norwalk
Lab ID: N027818-001

Client Sample ID: INF-01-04
Collection Date: 1/4/2018 1:25:00 PM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS BY GC/MS
EPA 8260B

RunID: NV00922-MS5_180105A	QC Batch: P18VW005	PrepDate:	Analyst: QBM			
Surr: 4-Bromofluorobenzene	100	0	76-119	%REC	10	1/5/2018 05:40 PM
Surr: 4-Bromofluorobenzene	96.5	0	76-119	%REC	1	1/5/2018 05:16 PM
Surr: Dibromofluoromethane	91.4	0	85-115	%REC	1	1/5/2018 05:16 PM
Surr: Dibromofluoromethane	98.8	0	85-115	%REC	10	1/5/2018 05:40 PM
Surr: Toluene-d8	95.9	0	81-120	%REC	1	1/5/2018 05:16 PM
Surr: Toluene-d8	102	0	81-120	%REC	10	1/5/2018 05:40 PM

TPH EXTRACTABLE BY GC/FID
EPA 3510C
EPA 8015B

RunID: NV00922-GC1_180105B	QC Batch: 66275	PrepDate: 1/5/2018	Analyst: SS			
TPH-Diesel (C13-C22)	1500	16	25	ug/L	1	1/5/2018 06:53 PM
TPH-Oil (C23-C36)	560	14	25	ug/L	1	1/5/2018 06:53 PM
Surr: Octacosane	100	0	26-152	%REC	1	1/5/2018 06:53 PM
Surr: p-Terphenyl	99.4	0	57-132	%REC	1	1/5/2018 06:53 PM

GASOLINE RANGE ORGANICS BY GC/FID
EPA 8015B

RunID: NV00922-GC4_180105A	QC Batch: E18VW003	PrepDate:	Analyst: QBM			
TPH-Gasoline (C4-C12)	1800	16	50	ug/L	1	1/5/2018 09:20 PM
Surr: Chlorobenzene - d5	88.7	0	74-138	%REC	1	1/5/2018 09:20 PM

TOTAL TPH
EPA 8015B

RunID: NV00922-GC1_180105B	QC Batch: R121258	PrepDate:	Analyst: SS			
Total TPH	3900	16	50	ug/L	1	1/5/2018

Qualifiers: B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 Results are wet unless otherwise specified

E Value above quantitation range
 J Analyte detected below quantitation limits
 S Spike/Surrogate outside of limits due to matrix interference
 DO Surrogate Diluted Out



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CLIENT: CH2MHill
Work Order: N027818
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT**TestCode: 8015_W_FP_SFPP**

Sample ID: MB-66275	SampType: MBLK	TestCode: 8015_W_FP_	Units: ug/L	Prep Date: 1/5/2018	RunNo: 121258						
Client ID: PBW	Batch ID: 66275	TestNo: EPA 8015B	EPA 3510C	Analysis Date: 1/5/2018	SeqNo: 2888288						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel (C13-C22)	ND	25									
TPH-Oil (C23-C36)	ND	25									
Surr: Octacosane	84.717		80.00		106	26	152				
Surr: p-Terphenyl	79.420		80.00		99.3	57	132				

Qualifiers:

- | | | | | | |
|---|--|----|-------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike/Surrogate outside of limits due to matrix interference | DO | Surrogate Diluted Out | | Calculations are based on raw values |



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CLIENT: CH2MHill
Work Order: N027818
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_SFPTOT

Sample ID: MB-R121258	SampType: MBLK	TestCode: 8015_W_SFP	Units: ug/L	Prep Date:				RunNo: 121258			
Client ID: PBW	Batch ID: R121258	TestNo: EPA 8015B		Analysis Date: 1/5/2018				SeqNo: 2888296			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH	ND	50									

Qualifiers:

- | | | | | | |
|---|--|----|-------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike/Surrogate outside of limits due to matrix interference | DO | Surrogate Diluted Out | | Calculations are based on raw values |



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CLIENT: CH2MHill
Work Order: N027818
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_WSFPP

Sample ID: E180105LCS	SampType: LCS	TestCode: 8015GAS_WS Units: ug/L				Prep Date:			RunNo: 121250		
Client ID: LCSW	Batch ID: E18VW003	TestNo: EPA 8015B				Analysis Date: 1/5/2018			SeqNo: 2887450		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	933.000	50	1000	0	93.3	67	136				
Surr: Chlorobenzene - d5	43822.000		50000		87.6	74	138				

Sample ID: E180105MB1	SampType: MBLK	TestCode: 8015GAS_WS Units: ug/L				Prep Date:			RunNo: 121250		
Client ID: PBW	Batch ID: E18VW003	TestNo: EPA 8015B				Analysis Date: 1/5/2018			SeqNo: 2887451		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	ND	50									
Surr: Chlorobenzene - d5	49449.000		50000		98.9	74	138				

Sample ID: N027817-004AMS	SampType: MS	TestCode: 8015GAS_WS Units: ug/L				Prep Date:			RunNo: 121250		
Client ID: ZZZZZZ	Batch ID: E18VW003	TestNo: EPA 8015B				Analysis Date: 1/5/2018			SeqNo: 2887458		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	952.000	50	1000	0	95.2	67	136				
Surr: Chlorobenzene - d5	51787.000		50000		104	74	138				

Sample ID: N027817-004AMSD	SampType: MSD	TestCode: 8015GAS_WS Units: ug/L				Prep Date:			RunNo: 121250		
Client ID: ZZZZZZ	Batch ID: E18VW003	TestNo: EPA 8015B				Analysis Date: 1/5/2018			SeqNo: 2887459		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	731.000	50	1000	0	73.1	67	136	952.0	26.3	30	
Surr: Chlorobenzene - d5	42221.000		50000		84.4	74	138		0	0	

Qualifiers:

- | | | | | | |
|---|--|----|-------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike/Surrogate outside of limits due to matrix interference | DO | Surrogate Diluted Out | | Calculations are based on raw values |



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EPA ID CA01638

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3151 W. Post Rd., Las Vegas, NV 89118
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CLIENT: CH2MHill
Work Order: N027818
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P180105LCS	SampType: LCS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 121254						
Client ID: LCSW	Batch ID: P18VW005	TestNo: EPA 8260B	Analysis Date: 1/5/2018	SeqNo: 2887728							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	20.750	1.0	20.00	0	104	81	129				
1,1,1-Trichloroethane	20.210	1.0	20.00	0	101	67	132				
1,1,2,2-Tetrachloroethane	17.650	1.0	20.00	0	88.2	63	128				
1,1,2-Trichloroethane	19.210	1.0	20.00	0	96.0	75	125				
1,1-Dichloroethane	17.700	0.50	20.00	0	88.5	69	133				
1,1-Dichloroethene	18.680	1.0	20.00	0	93.4	68	130				
1,1-Dichloropropene	19.310	1.0	20.00	0	96.6	73	132				
1,2,3-Trichlorobenzene	20.580	1.0	20.00	0	103	67	137				
1,2,3-Trichloropropane	17.700	1.0	20.00	0	88.5	73	124				
1,2,4-Trichlorobenzene	20.020	1.0	20.00	0	100	66	134				
1,2,4-Trimethylbenzene	21.200	1.0	20.00	0	106	74	132				
1,2-Dibromo o-3-chloropropane	17.450	2.0	20.00	0	87.2	50	132				
1,2-Dibromoethane	19.150	1.0	20.00	0	95.8	80	121				
1,2-Dichlorobenzene	19.540	1.0	20.00	0	97.7	71	122				
1,2-Dichloroethane	20.110	0.50	20.00	0	101	69	132				
1,2-Dichloropropane	18.330	1.0	20.00	0	91.7	75	125				
1,3,5-Trimethylbenzene	20.580	1.0	20.00	0	103	74	131				
1,3-Dichlorobenzene	20.340	1.0	20.00	0	102	75	124				
1,3-Dichloropropane	19.260	1.0	20.00	0	96.3	73	126				
1,4-Dichlorobenzene	19.410	1.0	20.00	0	97.0	74	123				
2,2-Dichloropropane	19.170	1.0	20.00	0	95.9	69	137				
2-Butanone	159.480	10	200.0	0	79.7	49	136				
2-Chlorotoluene	19.870	1.0	20.00	0	99.4	73	126				
4-Chlorotoluene	19.940	1.0	20.00	0	99.7	74	128				
4-Isopropyltoluene	20.770	1.0	20.00	0	104	73	130				
4-Methyl-2-pentanone	181.610	10	200.0	0	90.8	58	134				
Acetone	157.720	10	200.0	0	78.9	40	135				
Benzene	19.230	1.0	20.00	0	96.2	81	122				
Bromobenzene	20.000	1.0	20.00	0	100	76	124				
Bromochloromethane	20.450	1.0	20.00	0	102	65	129				

Qualifiers:

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S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values



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11110 Artesia Blvd., Ste B, Cerritos, CA 90703
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EPA ID CA01638

NEVADA | P: 702.307.2659 F: 702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
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"Serving Clients with Passion and Professionalism"

CLIENT: CH2MHill
Work Order: N027818
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P180105LCS	SampType: LCS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 121254						
Client ID: LCSW	Batch ID: P18VW005	TestNo: EPA 8260B	Analysis Date: 1/5/2018	SeqNo: 2887728							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromodichloromethane	19.720	1.0	20.00	0	98.6	76	121				
Bromoform	21.280	1.0	20.00	0	106	69	128				
Bromomethane	15.690	1.0	20.00	0	78.4	53	141				
Carbon disulfide	19.640	1.0	20.00	0	98.2	75	125				
Carbon tetrachloride	21.500	0.50	20.00	0	108	66	138				
Chlorobenzene	20.190	1.0	20.00	0	101	81	122				
Chloroethane	18.970	1.0	20.00	0	94.8	58	133				
Chloroform	18.460	1.0	20.00	0	92.3	69	128				
Chloromethane	16.630	1.0	20.00	0	83.2	56	131				
cis-1,2-Dichloroethene	17.540	1.0	20.00	0	87.7	72	126				
cis-1,3-Dichloropropene	18.890	1.0	20.00	0	94.4	69	131				
Di-isopropyl ether	17.500	1.0	20.00	0	87.5	70	130				
Dibromochloromethane	21.170	1.0	20.00	0	106	66	133				
Dibromomethane	19.320	1.0	20.00	0	96.6	76	125				
Dichlorodifluoromethane	21.390	1.0	20.00	0	107	53	153				
Ethyl tert-butyl ether	18.280	1.0	20.00	0	91.4	70	130				
Ethylbenzene	19.560	1.0	20.00	0	97.8	73	127				
Freon-113	19.740	1.0	20.00	0	98.7	75	125				
Hexachlorobutadiene	20.940	1.0	20.00	0	105	67	131				
Isopropylbenzene	20.600	1.0	20.00	0	103	75	127				
m,p-Xylene	40.470	1.0	40.00	0	101	76	128				
Methylene chloride	19.060	2.0	20.00	0	95.3	63	137				
MTBE	17.430	1.0	20.00	0	87.2	65	123				
n-Butylbenzene	20.920	1.0	20.00	0	105	69	137				
n-Propylbenzene	20.940	1.0	20.00	0	105	72	129				
Naphthalene	19.240	1.0	20.00	0	96.2	54	138				
o-Xylene	20.200	1.0	20.00	0	101	80	121				
sec-Butylbenzene	20.900	1.0	20.00	0	104	72	127				
Styrene	19.510	1.0	20.00	0	97.6	65	134				
Tert-amyl methyl ether	18.360	1.0	20.00	0	91.8	70	130				

Qualifiers:

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11110 Artesia Blvd., Ste B, Cerritos, CA 90703
ELAP Cert 2921
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3151 W. Post Rd., Las Vegas, NV 89118
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CLIENT: CH2MHill
Work Order: N027818
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P180105LCS	SampType: LCS	TestCode: 8260_WP_SF Units: ug/L				Prep Date:			RunNo: 121254		
Client ID: LCSW	Batch ID: P18VW005	TestNo: EPA 8260B				Analysis Date: 1/5/2018			SeqNo: 2887728		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tert-Butanol	72.340	5.0	100.0	0	72.3	70	130				
tert-Butylbenzene	20.480	1.0	20.00	0	102	70	129				
Tetrachloroethene	20.660	1.0	20.00	0	103	66	128				
Toluene	18.870	2.0	20.00	0	94.4	77	122				
trans-1,2-Dichloroethene	17.870	1.0	20.00	0	89.4	63	137				
trans-1,3-Dichloropropene	19.730	1.0	20.00	0	98.6	59	135				
Trichloroethene	19.730	1.0	20.00	0	98.6	70	127				
Trichlorofluoromethane	20.560	1.0	20.00	0	103	57	129				
Vinyl chloride	20.970	0.50	20.00	0	105	50	134				
Xylenes, Total	60.670	2.0	60.00	0	101	75	125				
Surr: 1,2-Dichloroethane-d4	24.660		25.00		98.6	72	119				
Surr: 4-Bromofluorobenzene	25.210		25.00		101	76	119				
Surr: Dibromofluoromethane	24.630		25.00		98.5	85	115				
Surr: Toluene-d8	25.200		25.00		101	81	120				

Sample ID: N027817-004AMS	SampType: MS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:				RunNo: 121254			
Client ID: ZZZZZZ	Batch ID: P18VW005	TestNo: EPA 8260B	Analysis Date: 1/5/2018				SeqNo: 2887729				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	20.040	1.0	20.00	0	100	81	129				
1,1,1-Trichloroethane	21.180	1.0	20.00	0	106	67	132				
1,1,2,2-Tetrachloroethane	17.830	1.0	20.00	0	89.2	63	128				
1,1,2-Trichloroethane	19.890	1.0	20.00	0	99.4	75	125				
1,1-Dichloroethane	18.540	0.50	20.00	0	92.7	69	133				
1,1-Dichloroethene	20.610	1.0	20.00	0	103	68	130				
1,1-Dichloropropene	20.830	1.0	20.00	0	104	73	132				
1,2,3-Trichlorobenzene	19.790	1.0	20.00	0	99.0	67	137				
1,2,3-Trichloropropane	18.320	1.0	20.00	0	91.6	73	124				
1,2,4-Trichlorobenzene	20.320	1.0	20.00	0	102	66	134				
1,2,4-Trimethylbenzene	21.320	1.0	20.00	0	107	74	132				

Qualifiers:

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11110 Artesia Blvd., Ste B, Cerritos, CA 90703
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NEVADA | P: 702.307.2659 F: 702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
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CLIENT: CH2MHill
Work Order: N027818
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: N027817-004AMS	SampType: MS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 121254						
Client ID: ZZZZZZ	Batch ID: P18VW005	TestNo: EPA 8260B	Analysis Date: 1/5/2018	SeqNo: 2887729							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	17.280	2.0	20.00	0	86.4	50	132				
1,2-Dibromoethane	19.010	1.0	20.00	0	95.1	80	121				
1,2-Dichlorobenzene	20.060	1.0	20.00	0	100	71	122				
1,2-Dichloroethane	20.640	0.50	20.00	0	103	69	132				
1,2-Dichloropropane	19.060	1.0	20.00	0	95.3	75	125				
1,3,5-Trimethylbenzene	21.310	1.0	20.00	0	107	74	131				
1,3-Dichlorobenzene	20.810	1.0	20.00	0	104	75	124				
1,3-Dichloropropane	18.580	1.0	20.00	0	92.9	73	126				
1,4-Dichlorobenzene	20.200	1.0	20.00	0	101	74	123				
2,2-Dichloropropane	20.120	1.0	20.00	0	101	69	137				
2-Butanone	152.650	10	200.0	0	76.3	49	136				
2-Chlorotoluene	20.460	1.0	20.00	0	102	73	126				
4-Chlorotoluene	20.550	1.0	20.00	0	103	74	128				
4-Isopropyltoluene	21.710	1.0	20.00	0	109	73	130				
4-Methyl-2-pentanone	176.040	10	200.0	0	88.0	58	134				
Acetone	235.620	10	200.0	0	118	40	135				
Benzene	20.740	1.0	20.00	0	104	81	122				
Bromobenzene	19.820	1.0	20.00	0	99.1	76	124				
Bromochloromethane	19.330	1.0	20.00	0	96.7	65	129				
Bromodichloromethane	20.220	1.0	20.00	0	101	76	121				
Bromoform	20.740	1.0	20.00	0	104	69	128				
Bromomethane	16.430	1.0	20.00	0	82.2	53	141				
Carbon disulfide	22.160	1.0	20.00	0	111	75	125				
Carbon tetrachloride	23.520	0.50	20.00	0	118	66	138				
Chlorobenzene	21.050	1.0	20.00	0	105	81	122				
Chloroethane	23.430	1.0	20.00	0	117	58	133				
Chloroform	18.310	1.0	20.00	0	91.6	69	128				
Chloromethane	17.480	1.0	20.00	0	87.4	56	131				
cis-1,2-Dichloroethene	18.380	1.0	20.00	0	91.9	72	126				
cis-1,3-Dichloropropene	19.650	1.0	20.00	0	98.2	69	131				

Qualifiers:

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11110 Artesia Blvd., Ste B, Cerritos, CA 90703
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NEVADA | P: 702.307.2659 F: 702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
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CLIENT: CH2MHill
Work Order: N027818
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: N027817-004AMS	SampType: MS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 121254						
Client ID: ZZZZZZ	Batch ID: P18VW005	TestNo: EPA 8260B	Analysis Date: 1/5/2018	SeqNo: 2887729							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Di-isopropyl ether	17.500	1.0	20.00	0	87.5	70	130				
Dibromochloromethane	21.090	1.0	20.00	0	105	66	133				
Dibromomethane	19.520	1.0	20.00	0	97.6	76	125				
Dichlorodifluoromethane	22.980	1.0	20.00	0	115	53	153				
Ethyl tert-butyl ether	17.990	1.0	20.00	0	90.0	70	130				
Ethylbenzene	20.110	1.0	20.00	0	101	73	127				
Freon-113	22.230	1.0	20.00	0	111	75	125				
Hexachlorobutadiene	22.150	1.0	20.00	0	111	67	131				
Isopropylbenzene	21.520	1.0	20.00	0	108	75	127				
m,p-Xylene	42.310	1.0	40.00	0	106	76	128				
Methylene chloride	29.800	2.0	20.00	0	149	63	137				S
MTBE	25.650	1.0	20.00	0	128	65	123				S
n-Butylbenzene	22.360	1.0	20.00	0	112	69	137				
n-Propylbenzene	21.530	1.0	20.00	0	108	72	129				
Naphthalene	18.700	1.0	20.00	0	93.5	54	138				
o-Xylene	20.440	1.0	20.00	0	102	80	121				
sec-Butylbenzene	22.210	1.0	20.00	0	111	72	127				
Styrene	19.600	1.0	20.00	0	98.0	65	134				
Tert-amyl methyl ether	18.570	1.0	20.00	0	92.8	70	130				
Tert-Butanol	75.190	5.0	100.0	0	75.2	70	130				
tert-Butylbenzene	21.610	1.0	20.00	0	108	70	129				
Tetrachloroethene	21.180	1.0	20.00	0	106	66	128				
Toluene	19.640	2.0	20.00	0	98.2	77	122				
trans-1,2-Dichloroethene	28.060	1.0	20.00	0	140	63	137				S
trans-1,3-Dichloropropene	20.320	1.0	20.00	0	102	59	135				
Trichloroethene	21.570	1.0	20.00	0	108	70	127				
Trichlorofluoromethane	23.780	1.0	20.00	0	119	57	129				
Vinyl chloride	20.500	0.50	20.00	0	103	50	134				
Xylenes, Total	62.750	2.0	60.00	0	105	75	125				
Surr: 1,2-Dichloroethane-d4	24.620		25.00		98.5	72	119				

Qualifiers:

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CLIENT: CH2MHill
Work Order: N027818
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: N027817-004AMS	SampType: MS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 121254						
Client ID: ZZZZZZ	Batch ID: P18VW005	TestNo: EPA 8260B		Analysis Date: 1/5/2018	SeqNo: 2887729						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	25.370		25.00		101	76	119				
Surr: Dibromofluoromethane	25.290		25.00		101	85	115				
Surr: Toluene-d8	25.570		25.00		102	81	120				

Sample ID: N027817-004AMSD	SampType: MSD	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 121254						
Client ID: ZZZZZZ	Batch ID: P18VW005	TestNo: EPA 8260B		Analysis Date: 1/5/2018	SeqNo: 2887730						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	21.130	1.0	20.00	0	106	81	129	20.04	5.30	20	
1,1,1-Trichloroethane	20.890	1.0	20.00	0	104	67	132	21.18	1.38	20	
1,1,2,2-Tetrachloroethane	18.280	1.0	20.00	0	91.4	63	128	17.83	2.49	20	
1,1,2-Trichloroethane	18.940	1.0	20.00	0	94.7	75	125	19.89	4.89	20	
1,1-Dichloroethane	18.580	0.50	20.00	0	92.9	69	133	18.54	0.216	20	
1,1-Dichloroethene	17.980	1.0	20.00	0	89.9	68	130	20.61	13.6	20	
1,1-Dichloropropene	21.360	1.0	20.00	0	107	73	132	20.83	2.51	20	
1,2,3-Trichlorobenzene	20.240	1.0	20.00	0	101	67	137	19.79	2.25	20	
1,2,3-Trichloropropane	18.640	1.0	20.00	0	93.2	73	124	18.32	1.73	20	
1,2,4-Trichlorobenzene	19.920	1.0	20.00	0	99.6	66	134	20.32	1.99	20	
1,2,4-Trimethylbenzene	20.670	1.0	20.00	0	103	74	132	21.32	3.10	20	
1,2-Dibromo-3-chloropropane	16.990	2.0	20.00	0	85.0	50	132	17.28	1.69	20	
1,2-Dibromoethane	19.580	1.0	20.00	0	97.9	80	121	19.01	2.95	20	
1,2-Dichlorobenzene	19.220	1.0	20.00	0	96.1	71	122	20.06	4.28	20	
1,2-Dichloroethane	20.300	0.50	20.00	0	102	69	132	20.64	1.66	20	
1,2-Dichloropropane	18.830	1.0	20.00	0	94.2	75	125	19.06	1.21	20	
1,3,5-Trimethylbenzene	20.620	1.0	20.00	0	103	74	131	21.31	3.29	20	
1,3-Dichlorobenzene	20.350	1.0	20.00	0	102	75	124	20.81	2.24	20	
1,3-Dichloropropane	19.330	1.0	20.00	0	96.7	73	126	18.58	3.96	20	
1,4-Dichlorobenzene	20.010	1.0	20.00	0	100	74	123	20.20	0.945	20	
2,2-Dichloropropane	19.950	1.0	20.00	0	99.8	69	137	20.12	0.849	20	
2-Butanone	162.240	10	200.0	0	81.1	49	136	152.6	6.09	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
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S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values



ASSET LABORATORIES

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"Serving Clients with Passion and Professionalism"

CLIENT: CH2MHill
Work Order: N027818
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: N027817-004AMSD	SampType: MSD	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 121254						
Client ID: ZZZZZZ	Batch ID: P18VW005	TestNo: EPA 8260B	Analysis Date: 1/5/2018	SeqNo: 2887730							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chlorotoluene	20.170	1.0	20.00	0	101	73	126	20.46	1.43	20	
4-Chlorotoluene	20.470	1.0	20.00	0	102	74	128	20.55	0.390	20	
4-Isopropyltoluene	21.060	1.0	20.00	0	105	73	130	21.71	3.04	20	
4-Methyl-2-pentanone	184.050	10	200.0	0	92.0	58	134	176.0	4.45	20	
Acetone	155.380	10	200.0	0	77.7	40	135	235.6	41.0	20	R
Benzene	20.230	1.0	20.00	0	101	81	122	20.74	2.49	20	
Bromobenzene	19.820	1.0	20.00	0	99.1	76	124	19.82	0	20	
Bromochloromethane	20.340	1.0	20.00	0	102	65	129	19.33	5.09	20	
Bromodichloromethane	20.010	1.0	20.00	0	100	76	121	20.22	1.04	20	
Bromoform	22.380	1.0	20.00	0	112	69	128	20.74	7.61	20	
Bromomethane	15.110	1.0	20.00	0	75.6	53	141	16.43	8.37	20	
Carbon disulfide	19.080	1.0	20.00	0	95.4	75	125	22.16	14.9	20	
Carbon tetrachloride	22.860	0.50	20.00	0	114	66	138	23.52	2.85	20	
Chlorobenzene	20.630	1.0	20.00	0	103	81	122	21.05	2.02	20	
Chloroethane	19.010	1.0	20.00	0	95.1	58	133	23.43	20.8	20	R
Chloroform	18.310	1.0	20.00	0	91.6	69	128	18.31	0	20	
Chloromethane	16.940	1.0	20.00	0	84.7	56	131	17.48	3.14	20	
cis-1,2-Dichloroethene	19.050	1.0	20.00	0	95.2	72	126	18.38	3.58	20	
cis-1,3-Dichloropropene	19.160	1.0	20.00	0	95.8	69	131	19.65	2.53	20	
Di-isopropyl ether	17.900	1.0	20.00	0	89.5	70	130	17.50	2.26	20	
Dibromochloromethane	21.450	1.0	20.00	0	107	66	133	21.09	1.69	20	
Dibromomethane	19.050	1.0	20.00	0	95.2	76	125	19.52	2.44	20	
Dichlorodifluoromethane	21.940	1.0	20.00	0	110	53	153	22.98	4.63	20	
Ethyl tert-butyl ether	18.330	1.0	20.00	0	91.7	70	130	17.99	1.87	20	
Ethylbenzene	20.470	1.0	20.00	0	102	73	127	20.11	1.77	20	
Freon-113	20.130	1.0	20.00	0	101	75	125	22.23	9.92	20	
Hexachlorobutadiene	22.000	1.0	20.00	0	110	67	131	22.15	0.680	20	
Isopropylbenzene	21.050	1.0	20.00	0	105	75	127	21.52	2.21	20	
m,p-Xylene	42.570	1.0	40.00	0	106	76	128	42.31	0.613	20	
Methylene chloride	19.430	2.0	20.00	0	97.2	63	137	29.80	42.1	20	R

Qualifiers:

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S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N027818
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: N027817-004AMSD	SampType: MSD	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 121254						
Client ID: ZZZZZZ	Batch ID: P18VW005	TestNo: EPA 8260B		Analysis Date: 1/5/2018	SeqNo: 2887730						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
MTBE	18.320	1.0	20.00	0	91.6	65	123	25.65	33.3	20	R
n-Butylbenzene	21.740	1.0	20.00	0	109	69	137	22.36	2.81	20	
n-Propylbenzene	21.180	1.0	20.00	0	106	72	129	21.53	1.64	20	
Naphthalene	18.950	1.0	20.00	0	94.8	54	138	18.70	1.33	20	
o-Xylene	20.500	1.0	20.00	0	103	80	121	20.44	0.293	20	
sec-Butylbenzene	21.310	1.0	20.00	0	107	72	127	22.21	4.14	20	
Styrene	18.910	1.0	20.00	0	94.6	65	134	19.60	3.58	20	
Tert-amyl methyl ether	19.060	1.0	20.00	0	95.3	70	130	18.57	2.60	20	
Tert-Butanol	77.640	5.0	100.0	0	77.6	70	130	75.19	3.21	20	
tert-Butylbenzene	21.200	1.0	20.00	0	106	70	129	21.61	1.92	20	
Tetrachloroethene	22.170	1.0	20.00	0	111	66	128	21.18	4.57	20	
Toluene	19.220	2.0	20.00	0	96.1	77	122	19.64	2.16	20	
trans-1,2-Dichloroethene	19.290	1.0	20.00	0	96.5	63	137	28.06	37.0	20	R
trans-1,3-Dichloropropene	20.610	1.0	20.00	0	103	59	135	20.32	1.42	20	
Trichloroethene	21.120	1.0	20.00	0	106	70	127	21.57	2.11	20	
Trichlorofluoromethane	21.580	1.0	20.00	0	108	57	129	23.78	9.70	20	
Vinyl chloride	21.280	0.50	20.00	0	106	50	134	20.50	3.73	20	
Xylenes, Total	63.070	2.0	60.00	0	105	75	125	62.75	0.509	20	
Surr: 1,2-Dichloroethane-d4	24.480		25.00		97.9	72	119		0		
Surr: 4-Bromofluorobenzene	25.620		25.00		102	76	119		0		
Surr: Dibromofluoromethane	24.650		25.00		98.6	85	115		0		
Surr: Toluene-d8	25.350		25.00		101	81	120		0		

Sample ID: P180105MB3	SampType: MBLK	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 121254						
Client ID: PBW	Batch ID: P18VW005	TestNo: EPA 8260B		Analysis Date: 1/5/2018	SeqNo: 2887733						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0									
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									

Qualifiers:

- | | | | | | |
|---|--|----|-------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike/Surrogate outside of limits due to matrix interference | DO | Surrogate Diluted Out | | Calculations are based on raw values |

CLIENT: CH2MHill
Work Order: N027818
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P180105MB3	SampType: MBLK	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:					RunNo: 121254		
Client ID: PBW	Batch ID: P18VW005	TestNo: EPA 8260B			Analysis Date: 1/5/2018				SeqNo: 2887733		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	0.50									
1,1-Dichloroethene	ND	1.0									
1,1-Dichloropropene	ND	1.0									
1,2,3-Trichlorobenzene	ND	1.0									
1,2,3-Trichloropropane	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromo-3-chloropropane	ND	2.0									
1,2-Dibromoethane	ND	1.0									
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	0.50									
1,2-Dichloropropane	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,3-Dichloropropane	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
2,2-Dichloropropane	ND	1.0									
2-Butanone	ND	10									
2-Chlorotoluene	ND	1.0									
4-Chlorotoluene	ND	1.0									
4-Isopropyltoluene	ND	1.0									
4-Methyl-2-pentanone	ND	10									
Acetone	ND	10									
Benzene	ND	1.0									
Bromobenzene	ND	1.0									
Bromochloromethane	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	1.0									

Qualifiers:

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CLIENT: CH2MHill
Work Order: N027818
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P180105MB3	SampType: MBLK	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:					RunNo: 121254			
Client ID: PBW	Batch ID: P18VW005	TestNo: EPA 8260B			Analysis Date: 1/5/2018					SeqNo: 2887733		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Carbon disulfide	ND	1.0										
Carbon tetrachloride	ND	0.50										
Chlorobenzene	ND	1.0										
Chloroethane	ND	1.0										
Chloroform	ND	1.0										
Chloromethane	ND	1.0										
cis-1,2-Dichloroethene	ND	1.0										
cis-1,3-Dichloropropene	ND	1.0										
Di-isopropyl ether	ND	1.0										
Dibromochloromethane	ND	1.0										
Dibromomethane	ND	1.0										
Dichlorodifluoromethane	ND	1.0										
Ethyl tert-butyl ether	ND	1.0										
Ethylbenzene	ND	1.0										
Freon-113	ND	1.0										
Hexachlorobutadiene	ND	1.0										
Isopropylbenzene	ND	1.0										
m,p-Xylene	ND	1.0										
Methylene chloride	ND	2.0										
MTBE	ND	1.0										
n-Butylbenzene	ND	1.0										
n-Propylbenzene	ND	1.0										
Naphthalene	ND	1.0										
o-Xylene	ND	1.0										
sec-Butylbenzene	ND	1.0										
Styrene	ND	1.0										
Tert-amyl methyl ether	ND	1.0										
Tert-Butanol	ND	5.0										
tert-Butylbenzene	ND	1.0										
Tetrachloroethene	ND	1.0										

Qualifiers:

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CLIENT: CH2MHill
Work Order: N027818
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ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P180105MB3	SampType: MBLK	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:					RunNo: 121254		
Client ID: PBW	Batch ID: P18VW005	TestNo: EPA 8260B		Analysis Date: 1/5/2018					SeqNo: 2887733		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	ND	2.0									
trans-1,2-Dichloroethene	ND	1.0									
trans-1,3-Dichloropropene	ND	1.0									
Trichloroethene	ND	1.0									
Trichlorofluoromethane	ND	1.0									
Vinyl chloride	ND	0.50									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	24.250		25.00		97.0	72	119				
Surr: 4-Bromofluorobenzene	25.390		25.00		102	76	119				
Surr: Dibromofluoromethane	25.820		25.00		103	85	115				
Surr: Toluene-d8	25.350		25.00		101	81	120				

Qualifiers:

- | | | | | | |
|---|--|----|-------------------------------------|---|--|
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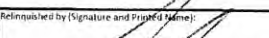
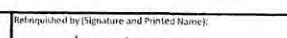
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NO2+818

DATE: 1/4/18
PAGE: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Section D Sampler Information:	
Company:	Kinder Morgan Energy Partners Attention: Steve Defibaugh	Report To:	Eric Davis	Attention:	Steve Defibaugh - Ref. AFE# 81195	Sampler	James Dye
Address:	1100 Town & Country Road Orange, CA 92868	Copy To:	Steve Defibaugh	Company Name:	Kinder Morgan Energy Partners	Name:	
Email To:	steve_defibaugh@kindermorgan.com eric.davis@ch2m.com	Purchase Order No.:		Address:	1100 Town & Country Road Orange, CA 92868	Signature:	
Phone: 714-560-4802	Fax: 714-560-4801	Project Name:	SFPP Norwalk	ATL Project Manager:	Marlon Carlin	Sample Date:	

[illegible]

Relinquished by (Signature and Printed Name):  J. Ben	Date / Time: 1/4/18 1430	Relinquished by (Signature and Printed Name):  J. Ben	Date / Time: 1/4/18 1500	Turn Around Time (TAT): ☐ A = Same Day ☒ B = 24 Hours ☐ C = 48 Hours ☐ D = 72 Hours ☐ E = 5 Workdays ☐ F = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.	Special instruction: 2.8°C IR # 2
Relinquished by (Signature and Printed Name):  J. Ben	Date / Time: 1/4/18 1600	Relinquished by (Signature and Printed Name):  Y. Ben	Date / Time: 1/5/18 8:27 am		
Relinquished by (Signature and Printed Name):  J. Ben	Date / Time: 1/5/18 8:27 am	Relinquished by (Signature and Printed Name):  Y. Ben	Date / Time: 1/5/18 8:27 am		

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

650 #: 6959

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 1/4/2018 Workorder: N027818
Rep sample Temp (Deg C): 2.8 IR Gun ID: 2
Temp Blank: ☒ Yes ☐ No
Carrier name: Golden State Overnight
Last 4 digits of Tracking No.: 6959 Packing Material Used: Bubble Wrap
Cooling process: ☒ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

- | | | | |
|---|---|-----------------------------|---|
| 1. Shipping container/cooler in good condition? | Yes ☒ | No ☐ | Not Present ☐ |
| 2. Custody seals intact, signed, dated on shipping container/cooler? | Yes ☐ | No ☐ | Not Present ☒ |
| 3. Custody seals intact on sample bottles? | Yes ☐ | No ☐ | Not Present ☒ |
| 4. Chain of custody present? | Yes ☒ | No ☐ | |
| 5. Sampler's name present in COC? | Yes ☒ | No ☐ | |
| 6. Chain of custody signed when relinquished and received? | Yes ☒ | No ☐ | |
| 7. Chain of custody agrees with sample labels? | Yes ☒ | No ☐ | |
| 8. Samples in proper container/bottle? | Yes ☒ | No ☐ | |
| 9. Sample containers intact? | Yes ☒ | No ☐ | |
| 10. Sufficient sample volume for indicated test? | Yes ☒ | No ☐ | |
| 11. All samples received within holding time? | Yes ☒ | No ☐ | |
| 12. Temperature of rep sample or Temp Blank within acceptable limit? | Yes ☒ | No ☐ | NA ☐ |
| 13. Water - VOA vials have zero headspace? | Yes ☒ | No ☐ | NA ☐ |
| 14. Water - pH acceptable upon receipt?
Example: pH > 12 for (CN,S); pH<2 for Metals | Yes ☐ | No ☐ | NA ☒ |
| 15. Did the bottle labels indicate correct preservatives used? | Yes ☒ | No ☐ | NA ☐ |
| 16. Were there Non-Conformance issues at login? | Yes ☐ | No ☐ | NA ☒ |
| Was Client notified? | Yes ☐ | No ☐ | NA ☒ |

Comments:

Checklist Completed By: YR YR 1/5/2018

Reviewed By: HS 01/05/2018

ASSET Laboratories

WORK ORDER Summary

05-Jan-18

WorkOrder: N027818

Client ID: CH2HI03

Project: SFPP Norwalk

QC Level: RTNE

Date Received: 1/4/2018

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N027818-001A	INF-01-04	1/4/2018 1:25:00 PM	1/5/2018	Wastewater	EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	☐	☐	☐	VW
			1/5/2018		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW
N027818-001B			1/5/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	☐	☐	☐	WW
			1/5/2018		EPA 8015B	TPH EXTRACTABLE BY GC/FID	☐	☐	☐	WW
			1/5/2018		EPA 8015B	Total TPH	☐	☐	☐	WW
N027818-002A	FOLDER	1/5/2018	1/5/2018		Folder	Folder	☐	☐	☐	LAB
			1/5/2018		Folder	Folder	☐	☐	☐	LAB



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LAS VEGAS, NV 89118

COD: \$0.00

Weight: 0 lb(s)

Reference:

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Signature Type: NOT REQUIRED

2 of 4

Tracking #: 538986959

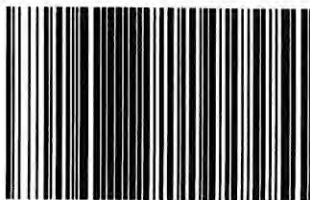
CPS



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77522550

Print Date: 1/4/2018 5:31 PM

Package 2 of 4

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.

Step 2: Fold this page in half.

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By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at www.gso.com.

2.80
JTH 2

February 12, 2018

Eric Davis
CH2MHill
1000 Wilshire Blvd.
Los Angeles, CA 90017

TEL:

FAX:

Workorder No.: N028515

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on February 08, 2018 by ASSET Laboratories .
The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in
accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Quennie Manimtim
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in
its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

CLIENT: CH2MHill
Project: SFPP Norwalk
Lab Order: N028515

CASE NARRATIVE**SAMPLE RECEIVING/GENERAL COMMENTS:**

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Results were J-Flag. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" Flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Analytical Comments for EPA 8260B:

Laboratory Control Sample (LCS), Matrix Spike (MS) and Matrix Spike Duplicate (MSD) recoveries biased high for some analytes. Sample results were non-detect (ND) for these analytes therefore reanalysis of the sample was not necessary.



ASSET Laboratories

Date: 12-Feb-18

CLIENT: CH2MHill
Project: SFPP Norwalk
Lab Order: N028515

Work Order Sample Summary

Contract No:

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N028515-001A	INF-02-08	Wastewater	2/8/2018 7:45:00 AM	2/8/2018	2/12/2018
N028515-001B	INF-02-08	Wastewater	2/8/2018 7:45:00 AM	2/8/2018	2/12/2018



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ASSET Laboratories
ANALYTICAL RESULTS

Print Date: 12-Feb-18

CLIENT: CH2MHill
Lab Order: N028515
Project: SFPP Norwalk
Lab ID: N028515-001

Client Sample ID: INF-02-08
Collection Date: 2/8/2018 7:45:00 AM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS BY GC/MS
EPA 8260B

RunID: NV00922-MS5_180211A	QC Batch: P18VW020	PrepDate	Analyst: QBM			
1,1,1,2-Tetrachloroethane	ND	0.38	1.0	ug/L	1	2/11/2018 07:40 PM
1,1,1-Trichloroethane	ND	0.38	1.0	ug/L	1	2/11/2018 07:40 PM
1,1,2,2-Tetrachloroethane	ND	0.34	1.0	ug/L	1	2/11/2018 07:40 PM
1,1,2-Trichloroethane	ND	0.29	1.0	ug/L	1	2/11/2018 07:40 PM
1,1-Dichloroethane	ND	0.45	0.50	ug/L	1	2/11/2018 07:40 PM
1,1-Dichloroethene	ND	0.34	1.0	ug/L	1	2/11/2018 07:40 PM
1,1-Dichloropropene	ND	0.32	1.0	ug/L	1	2/11/2018 07:40 PM
1,2,3-Trichlorobenzene	ND	0.28	1.0	ug/L	1	2/11/2018 07:40 PM
1,2,3-Trichloropropane	ND	0.26	1.0	ug/L	1	2/11/2018 07:40 PM
1,2,4-Trichlorobenzene	ND	0.21	1.0	ug/L	1	2/11/2018 07:40 PM
1,2,4-Trimethylbenzene	ND	0.33	1.0	ug/L	1	2/11/2018 07:40 PM
1,2-Dibromo-3-chloropropane	ND	0.67	2.0	ug/L	1	2/11/2018 07:40 PM
1,2-Dibromoethane	ND	0.31	1.0	ug/L	1	2/11/2018 07:40 PM
1,2-Dichlorobenzene	ND	0.29	1.0	ug/L	1	2/11/2018 07:40 PM
1,2-Dichloroethane	ND	0.29	0.50	ug/L	1	2/11/2018 07:40 PM
1,2-Dichloropropane	ND	0.24	1.0	ug/L	1	2/11/2018 07:40 PM
1,3,5-Trimethylbenzene	1.0	0.27	1.0	ug/L	1	2/11/2018 07:40 PM
1,3-Dichlorobenzene	ND	0.28	1.0	ug/L	1	2/11/2018 07:40 PM
1,3-Dichloropropane	ND	0.32	1.0	ug/L	1	2/11/2018 07:40 PM
1,4-Dichlorobenzene	ND	0.32	1.0	ug/L	1	2/11/2018 07:40 PM
2,2-Dichloropropane	ND	0.32	1.0	ug/L	1	2/11/2018 07:40 PM
2-Butanone	ND	4.9	10	ug/L	1	2/11/2018 07:40 PM
2-Chlorotoluene	ND	0.28	1.0	ug/L	1	2/11/2018 07:40 PM
4-Chlorotoluene	ND	0.30	1.0	ug/L	1	2/11/2018 07:40 PM
4-Isopropyltoluene	ND	0.33	1.0	ug/L	1	2/11/2018 07:40 PM
4-Methyl-2-pentanone	ND	3.2	10	ug/L	1	2/11/2018 07:40 PM
Acetone	ND	9.7	10	ug/L	1	2/11/2018 07:40 PM
Acrolein	ND	3.3	20	ug/L	1	2/11/2018 07:40 PM
Acrylonitrile	ND	2.6	20	ug/L	1	2/11/2018 07:40 PM
Benzene	0.53	0.34	1.0	J ug/L	1	2/11/2018 07:40 PM
Bromobenzene	ND	0.25	1.0	ug/L	1	2/11/2018 07:40 PM
Bromochloromethane	ND	0.41	1.0	ug/L	1	2/11/2018 07:40 PM
Bromodichloromethane	ND	0.38	1.0	ug/L	1	2/11/2018 07:40 PM
Bromoform	ND	0.39	1.0	ug/L	1	2/11/2018 07:40 PM
Bromomethane	ND	0.79	1.0	ug/L	1	2/11/2018 07:40 PM
Carbon disulfide	ND	0.81	1.0	ug/L	1	2/11/2018 07:40 PM

Qualifiers: B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 Results are wet unless otherwise specified

E Value above quantitation range
 J Analyte detected below quantitation limits
 S Spike/Surrogate outside of limits due to matrix interference
 DO Surrogate Diluted Out



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ASSET Laboratories
ANALYTICAL RESULTS

Print Date: 12-Feb-18

CLIENT: CH2MHill
Lab Order: N028515
Project: SFPP Norwalk
Lab ID: N028515-001

Client Sample ID: INF-02-08
Collection Date: 2/8/2018 7:45:00 AM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS BY GC/MS
EPA 8260B

RunID: NV00922-MS5_180211A	QC Batch: P18VW020	PrepDate	Analyst: QBM			
Carbon tetrachloride	ND	0.40	0.50	ug/L	1	2/11/2018 07:40 PM
Chlorobenzene	ND	0.30	1.0	ug/L	1	2/11/2018 07:40 PM
Chloroethane	ND	0.97	1.0	ug/L	1	2/11/2018 07:40 PM
Chloroform	ND	0.27	1.0	ug/L	1	2/11/2018 07:40 PM
Chloromethane	ND	0.36	1.0	ug/L	1	2/11/2018 07:40 PM
cis-1,2-Dichloroethene	ND	0.32	1.0	ug/L	1	2/11/2018 07:40 PM
cis-1,3-Dichloropropene	ND	0.28	1.0	ug/L	1	2/11/2018 07:40 PM
Di-isopropyl ether	2.1	0.079	1.0	ug/L	1	2/11/2018 07:40 PM
Dibromochloromethane	ND	0.41	1.0	ug/L	1	2/11/2018 07:40 PM
Dibromomethane	ND	0.28	1.0	ug/L	1	2/11/2018 07:40 PM
Dichlorodifluoromethane	ND	0.29	1.0	ug/L	1	2/11/2018 07:40 PM
Ethyl tert-butyl ether	ND	0.30	1.0	ug/L	1	2/11/2018 07:40 PM
Ethylbenzene	ND	0.31	1.0	ug/L	1	2/11/2018 07:40 PM
Freon-113	ND	0.35	1.0	ug/L	1	2/11/2018 07:40 PM
Hexachlorobutadiene	ND	0.30	1.0	ug/L	1	2/11/2018 07:40 PM
Isopropylbenzene	ND	0.26	1.0	ug/L	1	2/11/2018 07:40 PM
m,p-Xylene	1.4	0.23	1.0	ug/L	1	2/11/2018 07:40 PM
Methylene chloride	ND	1.9	2.0	ug/L	1	2/11/2018 07:40 PM
MTBE	2.4	0.34	1.0	ug/L	1	2/11/2018 07:40 PM
n-Butylbenzene	ND	0.34	1.0	ug/L	1	2/11/2018 07:40 PM
n-Propylbenzene	ND	0.32	1.0	ug/L	1	2/11/2018 07:40 PM
Naphthalene	0.58	0.42	1.0	J ug/L	1	2/11/2018 07:40 PM
o-Xylene	1.1	0.31	1.0	ug/L	1	2/11/2018 07:40 PM
sec-Butylbenzene	ND	0.32	1.0	ug/L	1	2/11/2018 07:40 PM
Styrene	ND	0.21	1.0	ug/L	1	2/11/2018 07:40 PM
Tert-amyl methyl ether	ND	0.26	1.0	ug/L	1	2/11/2018 07:40 PM
Tert-Butanol	ND	2.4	5.0	ug/L	1	2/11/2018 07:40 PM
tert-Butylbenzene	ND	0.28	1.0	ug/L	1	2/11/2018 07:40 PM
Tetrachloroethene	ND	0.30	1.0	ug/L	1	2/11/2018 07:40 PM
Toluene	0.62	0.46	2.0	J ug/L	1	2/11/2018 07:40 PM
trans-1,2-Dichloroethene	ND	0.40	1.0	ug/L	1	2/11/2018 07:40 PM
trans-1,3-Dichloropropene	ND	0.25	1.0	ug/L	1	2/11/2018 07:40 PM
Trichloroethene	ND	0.37	1.0	ug/L	1	2/11/2018 07:40 PM
Trichlorofluoromethane	ND	0.37	1.0	ug/L	1	2/11/2018 07:40 PM
Vinyl chloride	ND	0.29	0.50	ug/L	1	2/11/2018 07:40 PM
Xylenes, Total	2.4	1.5	2.0	ug/L	1	2/11/2018 07:40 PM

Qualifiers: B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 Results are wet unless otherwise specified
 E Value above quantitation range
 J Analyte detected below quantitation limits
 S Spike/Surrogate outside of limits due to matrix interference
 DO Surrogate Diluted Out



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ASSET Laboratories
ANALYTICAL RESULTS

Print Date: 12-Feb-18

CLIENT: CH2MHill
Lab Order: N028515
Project: SFPP Norwalk
Lab ID: N028515-001

Client Sample ID: INF-02-08
Collection Date: 2/8/2018 7:45:00 AM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS BY GC/MS
EPA 8260B

RunID: NV00922-MS5_180211A	QC Batch: P18VW020	PrepDate	Analyst: QBM
Surr: 1,2-Dichloroethane-d4	112 0	72-119	%REC 1 2/11/2018 07:40 PM
Surr: 4-Bromofluorobenzene	101 0	76-119	%REC 1 2/11/2018 07:40 PM
Surr: Dibromofluoromethane	106 0	85-115	%REC 1 2/11/2018 07:40 PM
Surr: Toluene-d8	104 0	81-120	%REC 1 2/11/2018 07:40 PM

TPH EXTRACTABLE BY GC/FID
EPA 3510C
EPA 8015B

RunID: NV00922-GC1_180209A	QC Batch: 66750	PrepDate	2/9/2018	Analyst: SS
TPH-Diesel (C13-C22)	640 16	26	ug/L 1	2/9/2018 02:06 PM
TPH-Oil (C23-C36)	530 14	26	ug/L 1	2/9/2018 02:06 PM
Surr: Octacosane	95.8 0	26-152	%REC 1	2/9/2018 02:06 PM
Surr: p-Terphenyl	97.4 0	57-132	%REC 1	2/9/2018 02:06 PM

GASOLINE RANGE ORGANICS BY GC/FID
EPA 8015B

RunID: NV00922-GC4_180212B	QC Batch: E18VW015	PrepDate	Analyst: QBM
TPH-Gasoline (C4-C12)	36 16	50	J ug/L 1 2/12/2018 12:24 PM
Surr: Chlorobenzene - d5	114 0	74-138	%REC 1 2/12/2018 12:24 PM

TOTAL TPH
EPA 8015B

RunID: NV00922-GC1_180209A	QC Batch: R121962	PrepDate	Analyst: SS
Total TPH	1200 16	50	ug/L 1 2/9/2018

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Results are wet unless otherwise specified	E Value above quantitation range J Analyte detected below quantitation limits S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out
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CLIENT: CH2MHill
Work Order: N028515
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT**TestCode: 8015_W_FP_SFPP**

Sample ID	MB-66750	SampType:	MBLK	TestCode:	8015_W_FP_	Units:	ug/L	Prep Date:	2/9/2018	RunNo:	121962
Client ID:	PBW	Batch ID:	66750	TestNo:	EPA 8015B	EPA 3510C		Analysis Date:	2/9/2018	SeqNo:	2925763
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel (C13-C22)	ND	25									
TPH-Oil (C23-C36)	16.600	25									J
Surr: Octacosane	81.816		80.00		102	26	152				
Surr: p-Terphenyl	81.032		80.00		101	57	132				

Qualifiers:

- | | | | | | |
|---|--|----|-------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike/Surrogate outside of limits due to matrix interference | DO | Surrogate Diluted Out | | Calculations are based on raw values |

CLIENT: CH2MHill
Work Order: N028515
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_SFPPTOT

Sample ID	MB-R121962	SampType:	MBLK	TestCode:	8015_W_SFP	Units:	ug/L	Prep Date:		RunNo:	121962	
Client ID:	PBW	Batch ID:	R121962	TestNo:	EPA 8015B			Analysis Date:	2/9/2018	SeqNo:	2927258	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH		16.600	50									J

Qualifiers:

- | | | | | | |
|---|--|----|-------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike/Surrogate outside of limits due to matrix interference | DO | Surrogate Diluted Out | | Calculations are based on raw values |

CLIENT: CH2MHill
Work Order: N028515
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_WSFPP

Sample ID	E180212LCS	SampType:	LCS	TestCode:	8015GAS_W	Units:	ug/L	Prep Date:		RunNo:	121984
Client ID:	LCSW	Batch ID:	E18VW015	TestNo:	EPA 8015B			Analysis Date:	2/12/2018	SeqNo:	2927145
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	906.000	50	1000	0	90.6	67	136				
Surr: Chlorobenzene - d5	51400.000		50000		103	74	138				

Sample ID	E180212MB1	SampType:	MBLK	TestCode:	8015GAS_W	Units:	ug/L	Prep Date:		RunNo:	121984
Client ID:	PBW	Batch ID:	E18VW015	TestNo:	EPA 8015B			Analysis Date:	2/12/2018	SeqNo:	2927146
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	ND	50									
Surr: Chlorobenzene - d5	48811.000		50000		97.6	74	138				

Sample ID	N028515-001AMS	SampType:	MS	TestCode:	8015GAS_W	Units:	ug/L	Prep Date:		RunNo:	121984
Client ID:	ZZZZZ	Batch ID:	E18VW015	TestNo:	EPA 8015B			Analysis Date:	2/12/2018	SeqNo:	2927148
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	858.000	50	1000	36.00	82.2	67	136				
Surr: Chlorobenzene - d5	54190.000		50000		108	74	138				

Sample ID	N028515-001AMSD	SampType:	MSD	TestCode:	8015GAS_W	Units:	ug/L	Prep Date:		RunNo:	121984
Client ID:	ZZZZZ	Batch ID:	E18VW015	TestNo:	EPA 8015B			Analysis Date:	2/12/2018	SeqNo:	2927149
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	923.000	50	1000	36.00	88.7	67	136	858.0	7.30	30	
Surr: Chlorobenzene - d5	55823.000		50000		112	74	138		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N028515
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID	P180211LCS	SampType: LCS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:			RunNo: 121970			
Client ID:	LCSW	Batch ID: P18VW020	TestNo: EPA 8260B	Analysis Date: 2/11/2018			SeqNo: 2926264				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	22.420	1.0	20.00	0	112	81	129				
1,1,1-Trichloroethane	26.260	1.0	20.00	0	131	67	132				
1,1,2,2-Tetrachloroethane	22.000	1.0	20.00	0	110	63	128				
1,1,2-Trichloroethane	19.680	1.0	20.00	0	98.4	75	125				
1,1-Dichloroethane	21.150	0.50	20.00	0	106	69	133				
1,1-Dichloroethene	24.190	1.0	20.00	0	121	68	130				
1,1-Dichloropropene	23.190	1.0	20.00	0	116	73	132				
1,2,3-Trichlorobenzene	19.310	1.0	20.00	0	96.6	67	137				
1,2,3-Trichloropropane	19.810	1.0	20.00	0	99.0	73	124				
1,2,4-Trichlorobenzene	19.470	1.0	20.00	0	97.4	66	134				
1,2,4-Trimethylbenzene	20.680	1.0	20.00	0	103	74	132				
1,2-Dibromo-3-chloropropane	24.160	2.0	20.00	0	121	50	132				
1,2-Dibromoethane	19.750	1.0	20.00	0	98.8	80	121				
1,2-Dichlorobenzene	19.620	1.0	20.00	0	98.1	71	122				
1,2-Dichloroethane	19.700	0.50	20.00	0	98.5	69	132				
1,2-Dichloropropane	20.840	1.0	20.00	0	104	75	125				
1,3,5-Trimethylbenzene	21.400	1.0	20.00	0	107	74	131				
1,3-Dichlorobenzene	20.280	1.0	20.00	0	101	75	124				
1,3-Dichloropropane	20.160	1.0	20.00	0	101	73	126				
1,4-Dichlorobenzene	20.310	1.0	20.00	0	102	74	123				
2,2-Dichloropropane	44.460	1.0	20.00	0	222	69	137				S
2-Butanone	215.420	10	200.0	0	108	49	136				
2-Chlorotoluene	20.400	1.0	20.00	0	102	73	126				
4-Chlorotoluene	20.190	1.0	20.00	0	101	74	128				
4-Isopropyltoluene	22.710	1.0	20.00	0	114	73	130				
4-Methyl-2-pentanone	218.270	10	200.0	0	109	58	134				
Acetone	202.040	10	200.0	0	101	40	135				
Acrolein	199.020	20	200.0	0	99.5	75	125				
Acrylonitrile	211.850	20	200.0	0	106	75	125				
Benzene	21.710	1.0	20.00	0	109	81	122				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N028515
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID	P180211LCS	SampType: LCS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 121970					
Client ID:	LCSW	Batch ID: P18VW020	TestNo: EPA 8260B	Analysis Date: 2/11/2018	SeqNo: 2926264						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	19.200	1.0	20.00	0	96.0	76	124				
Bromochloromethane	19.470	1.0	20.00	0	97.4	65	129				
Bromodichloromethane	21.790	1.0	20.00	0	109	76	121				
Bromoform	23.160	1.0	20.00	0	116	69	128				
Bromomethane	24.380	1.0	20.00	0	122	53	141				
Carbon disulfide	25.900	1.0	20.00	0	130	75	125				S
Carbon tetrachloride	26.100	0.50	20.00	0	131	66	138				
Chlorobenzene	20.020	1.0	20.00	0	100	81	122				
Chloroethane	23.010	1.0	20.00	0	115	58	133				
Chloroform	19.390	1.0	20.00	0	97.0	69	128				
Chloromethane	24.020	1.0	20.00	0	120	56	131				
cis-1,2-Dichloroethene	20.500	1.0	20.00	0	103	72	126				
cis-1,3-Dichloropropene	20.990	1.0	20.00	0	105	69	131				
Di-isopropyl ether	20.350	1.0	20.00	0	102	70	130				
Dibromochloromethane	21.130	1.0	20.00	0	106	66	133				
Dibromomethane	19.980	1.0	20.00	0	99.9	76	125				
Dichlorodifluoromethane	26.540	1.0	20.00	0	133	53	153				
Ethyl tert-butyl ether	23.230	1.0	20.00	0	116	70	130				
Ethylbenzene	21.230	1.0	20.00	0	106	73	127				
Freon-113	28.690	1.0	20.00	0	143	75	125				S
Hexachlorobutadiene	19.990	1.0	20.00	0	100	67	131				
Isopropylbenzene	21.570	1.0	20.00	0	108	75	127				
m,p-Xylene	43.820	1.0	40.00	0	110	76	128				
Methylene chloride	18.790	2.0	20.00	0	94.0	63	137				
MTBE	20.870	1.0	20.00	0	104	65	123				
n-Butylbenzene	23.540	1.0	20.00	0	118	69	137				
n-Propylbenzene	22.680	1.0	20.00	0	113	72	129				
Naphthalene	18.850	1.0	20.00	0	94.3	54	138				
o-Xylene	20.160	1.0	20.00	0	101	80	121				
sec-Butylbenzene	22.990	1.0	20.00	0	115	72	127				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N028515
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID	P180211LCS	SampType: LCS	TestCode: 8260_WP_SF Units: ug/L			Prep Date:			RunNo: 121970		
Client ID:	LCSW	Batch ID: P18VW020	TestNo: EPA 8260B			Analysis Date: 2/11/2018			SeqNo: 2926264		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	18.820	1.0	20.00	0	94.1	65	134				
Tert-amyl methyl ether	21.010	1.0	20.00	0	105	70	130				
Tert-Butanol	173.100	5.0	100.0	0	173	70	130				S
tert-Butylbenzene	21.610	1.0	20.00	0	108	70	129				
Tetrachloroethene	23.290	1.0	20.00	0	116	66	128				
Toluene	19.970	2.0	20.00	0	99.8	77	122				
trans-1,2-Dichloroethene	21.670	1.0	20.00	0	108	63	137				
trans-1,3-Dichloropropene	22.890	1.0	20.00	0	114	59	135				
Trichloroethene	21.360	1.0	20.00	0	107	70	127				
Trichlorofluoromethane	29.000	1.0	20.00	0	145	57	129				S
Vinyl chloride	27.710	0.50	20.00	0	139	50	134				S
Xylenes, Total	63.980	2.0	60.00	0	107	75	125				
Surr: 1,2-Dichloroethane-d4	26.150		25.00		105	72	119				
Surr: 4-Bromofluorobenzene	24.540		25.00		98.2	76	119				
Surr: Dibromofluoromethane	25.710		25.00		103	85	115				
Surr: Toluene-d8	25.560		25.00		102	81	120				

Sample ID	N028487-001AMS	SampType: MS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:				RunNo: 121970		
Client ID:	ZZZZZZ	Batch ID: P18VW020	TestNo: EPA 8260B		Analysis Date: 2/11/2018				SeqNo: 2926265		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	21.910	1.0	20.00	0	110	81	129				
1,1,1-Trichloroethane	23.930	1.0	20.00	0	120	67	132				
1,1,2,2-Tetrachloroethane	21.920	1.0	20.00	0	110	63	128				
1,1,2-Trichloroethane	20.460	1.0	20.00	0	102	75	125				
1,1-Dichloroethane	20.170	0.50	20.00	0	101	69	133				
1,1-Dichloroethene	22.200	1.0	20.00	0	111	68	130				
1,1-Dichloropropene	22.450	1.0	20.00	0	112	73	132				
1,2,3-Trichlorobenzene	19.670	1.0	20.00	0	98.4	67	137				
1,2,3-Trichloropropane	20.060	1.0	20.00	0	100	73	124				

Qualifiers:

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|---|--|----|-------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike/Surrogate outside of limits due to matrix interference | DO | Surrogate Diluted Out | | Calculations are based on raw values |

CLIENT: CH2MHill
Work Order: N028515
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID	N028487-001AMS	SampType: MS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:			RunNo: 121970			
Client ID:	ZZZZZZ	Batch ID: P18VW020	TestNo: EPA 8260B	Analysis Date: 2/11/2018			SeqNo: 2926265				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	19.350	1.0	20.00	0	96.8	66	134				
1,2,4-Trimethylbenzene	19.790	1.0	20.00	0	99.0	74	132				
1,2-Dibromo-3-chloropropane	24.760	2.0	20.00	0	124	50	132				
1,2-Dibromoethane	20.180	1.0	20.00	0	101	80	121				
1,2-Dichlorobenzene	19.940	1.0	20.00	0	99.7	71	122				
1,2-Dichloroethane	19.800	0.50	20.00	0	99.0	69	132				
1,2-Dichloropropane	21.010	1.0	20.00	0	105	75	125				
1,3,5-Trimethylbenzene	20.440	1.0	20.00	0	102	74	131				
1,3-Dichlorobenzene	19.450	1.0	20.00	0	97.3	75	124				
1,3-Dichloropropane	20.180	1.0	20.00	0	101	73	126				
1,4-Dichlorobenzene	19.730	1.0	20.00	0	98.6	74	123				
2,2-Dichloropropane	37.560	1.0	20.00	0	188	69	137				S
2-Butanone	351.620	10	200.0	0	176	49	136				S
2-Chlorotoluene	19.610	1.0	20.00	0	98.0	73	126				
4-Chlorotoluene	19.730	1.0	20.00	0	98.6	74	128				
4-Isopropyltoluene	20.900	1.0	20.00	0	104	73	130				
4-Methyl-2-pentanone	242.600	10	200.0	0	121	58	134				
Acetone	474.480	10	200.0	0	237	40	135				S
Acrolein	183.160	20	200.0	0	91.6	75	125				
Acrylonitrile	222.600	20	200.0	0	111	75	125				
Benzene	20.990	1.0	20.00	0	105	81	122				
Bromobenzene	18.550	1.0	20.00	0	92.8	76	124				
Bromochloromethane	18.800	1.0	20.00	0	94.0	65	129				
Bromodichloromethane	21.940	1.0	20.00	0	110	76	121				
Bromoform	23.170	1.0	20.00	0	116	69	128				
Bromomethane	22.080	1.0	20.00	0	110	53	141				
Carbon disulfide	23.040	1.0	20.00	0	115	75	125				
Carbon tetrachloride	25.040	0.50	20.00	0	125	66	138				
Chlorobenzene	19.930	1.0	20.00	0	99.7	81	122				
Chloroethane	19.610	1.0	20.00	0	98.0	58	133				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N028515
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID	N028487-001AMS	SampType: MS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:			RunNo: 121970			
Client ID:	ZZZZZZ	Batch ID: P18VW020	TestNo: EPA 8260B	Analysis Date: 2/11/2018			SeqNo: 2926265				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	18.750	1.0	20.00	0	93.8	69	128				
Chloromethane	22.040	1.0	20.00	0	110	56	131				
cis-1,2-Dichloroethene	18.720	1.0	20.00	0	93.6	72	126				
cis-1,3-Dichloropropene	21.160	1.0	20.00	0	106	69	131				
Di-isopropyl ether	19.710	1.0	20.00	0	98.6	70	130				
Dibromochloromethane	22.180	1.0	20.00	0	111	66	133				
Dibromomethane	20.800	1.0	20.00	0	104	76	125				
Dichlorodifluoromethane	23.740	1.0	20.00	0	119	53	153				
Ethyl tert-butyl ether	22.280	1.0	20.00	0	111	70	130				
Ethylbenzene	20.190	1.0	20.00	0	101	73	127				
Freon-113	24.970	1.0	20.00	0	125	75	125				
Hexachlorobutadiene	18.290	1.0	20.00	0	91.4	67	131				
Isopropylbenzene	20.410	1.0	20.00	0	102	75	127				
m,p-Xylene	40.680	1.0	40.00	0	102	76	128				
Methylene chloride	18.540	2.0	20.00	0	92.7	63	137				
MTBE	21.170	1.0	20.00	0	106	65	123				
n-Butylbenzene	21.650	1.0	20.00	0	108	69	137				
n-Propylbenzene	21.180	1.0	20.00	0	106	72	129				
Naphthalene	20.010	1.0	20.00	0	100	54	138				
o-Xylene	19.230	1.0	20.00	0	96.2	80	121				
sec-Butylbenzene	21.530	1.0	20.00	0	108	72	127				
Styrene	18.920	1.0	20.00	0	94.6	65	134				
Tert-amyl methyl ether	21.490	1.0	20.00	0	107	70	130				
Tert-Butanol	169.630	5.0	100.0	0	170	70	130				S
tert-Butylbenzene	20.330	1.0	20.00	0	102	70	129				
Tetrachloroethene	21.340	1.0	20.00	0	107	66	128				
Toluene	19.270	2.0	20.00	0	96.4	77	122				
trans-1,2-Dichloroethene	20.050	1.0	20.00	0	100	63	137				
trans-1,3-Dichloropropene	23.210	1.0	20.00	0	116	59	135				
Trichloroethene	20.860	1.0	20.00	0	104	70	127				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N028515
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID	N028487-001AMS	SampType: MS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 121970					
Client ID:	ZZZZZZ	Batch ID: P18VW020	TestNo: EPA 8260B	Analysis Date: 2/11/2018	SeqNo: 2926265						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane	25.720	1.0	20.00	0	129	57	129				
Vinyl chloride	25.080	0.50	20.00	0	125	50	134				
Xylenes, Total	59.910	2.0	60.00	0	99.8	75	125				
Surr: 1,2-Dichloroethane-d4	25.660		25.00		103	72	119				
Surr: 4-Bromofluorobenzene	24.370		25.00		97.5	76	119				
Surr: Dibromofluoromethane	25.020		25.00		100	85	115				
Surr: Toluene-d8	25.360		25.00		101	81	120				

Sample ID	N028487-001AMSD	SampType: MSD	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:				RunNo: 121970		
Client ID:	ZZZZZZ	Batch ID: P18VW020	TestNo: EPA 8260B	Analysis Date: 2/11/2018				SeqNo: 2926266			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	21.670	1.0	20.00	0	108	81	129	21.91	1.10	20	
1,1,1-Trichloroethane	22.560	1.0	20.00	0	113	67	132	23.93	5.89	20	
1,1,2,2-Tetrachloroethane	23.660	1.0	20.00	0	118	63	128	21.92	7.63	20	
1,1,2-Trichloroethane	20.370	1.0	20.00	0	102	75	125	20.46	0.441	20	
1,1-Dichloroethane	20.240	0.50	20.00	0	101	69	133	20.17	0.346	20	
1,1-Dichloroethene	21.160	1.0	20.00	0	106	68	130	22.20	4.80	20	
1,1-Dichloropropene	20.300	1.0	20.00	0	102	73	132	22.45	10.1	20	
1,2,3-Trichlorobenzene	19.500	1.0	20.00	0	97.5	67	137	19.67	0.868	20	
1,2,3-Trichloropropane	20.590	1.0	20.00	0	103	73	124	20.06	2.61	20	
1,2,4-Trichlorobenzene	18.920	1.0	20.00	0	94.6	66	134	19.35	2.25	20	
1,2,4-Trimethylbenzene	19.040	1.0	20.00	0	95.2	74	132	19.79	3.86	20	
1,2-Dibromo-3-chloropropane	25.680	2.0	20.00	0	128	50	132	24.76	3.65	20	
1,2-Dibromoethane	20.660	1.0	20.00	0	103	80	121	20.18	2.35	20	
1,2-Dichlorobenzene	19.060	1.0	20.00	0	95.3	71	122	19.94	4.51	20	
1,2-Dichloroethane	19.770	0.50	20.00	0	98.8	69	132	19.80	0.152	20	
1,2-Dichloropropane	20.930	1.0	20.00	0	105	75	125	21.01	0.381	20	
1,3,5-Trimethylbenzene	19.060	1.0	20.00	0	95.3	74	131	20.44	6.99	20	
1,3-Dichlorobenzene	19.150	1.0	20.00	0	95.8	75	124	19.45	1.55	20	

Qualifiers:

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|---|--|----|-------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike/Surrogate outside of limits due to matrix interference | DO | Surrogate Diluted Out | | Calculations are based on raw values |

CLIENT: CH2MHill
Work Order: N028515
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID	N028487-001AMSD	SampType: MSD	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 121970					
Client ID: ZZZZZZ	Batch ID: P18VW020	TestNo: EPA 8260B	Analysis Date: 2/11/2018	SeqNo: 2926266							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichloropropane	20.870	1.0	20.00	0	104	73	126	20.18	3.36	20	
1,4-Dichlorobenzene	18.940	1.0	20.00	0	94.7	74	123	19.73	4.09	20	
2,2-Dichloropropane	34.870	1.0	20.00	0	174	69	137	37.56	7.43	20	S
2-Butanone	372.560	10	200.0	0	186	49	136	351.6	5.78	20	S
2-Chlorotoluene	19.070	1.0	20.00	0	95.4	73	126	19.61	2.79	20	
4-Chlorotoluene	19.200	1.0	20.00	0	96.0	74	128	19.73	2.72	20	
4-Isopropyltoluene	19.410	1.0	20.00	0	97.0	73	130	20.90	7.39	20	
4-Methyl-2-pentanone	248.280	10	200.0	0	124	58	134	242.6	2.31	20	
Acetone	491.040	10	200.0	0	246	40	135	474.5	3.43	20	S
Acrolein	199.430	20	200.0	0	99.7	75	125	183.2	8.51	20	
Acrylonitrile	238.500	20	200.0	0	119	75	125	222.6	6.90	20	
Benzene	19.830	1.0	20.00	0	99.2	81	122	20.99	5.68	20	
Bromobenzene	18.780	1.0	20.00	0	93.9	76	124	18.55	1.23	20	
Bromochloromethane	18.950	1.0	20.00	0	94.8	65	129	18.80	0.795	20	
Bromodichloromethane	22.330	1.0	20.00	0	112	76	121	21.94	1.76	20	
Bromoform	24.000	1.0	20.00	0	120	69	128	23.17	3.52	20	
Bromomethane	21.590	1.0	20.00	0	108	53	141	22.08	2.24	20	
Carbon disulfide	21.720	1.0	20.00	0	109	75	125	23.04	5.90	20	
Carbon tetrachloride	22.440	0.50	20.00	0	112	66	138	25.04	11.0	20	
Chlorobenzene	19.470	1.0	20.00	0	97.4	81	122	19.93	2.34	20	
Chloroethane	18.950	1.0	20.00	0	94.8	58	133	19.61	3.42	20	
Chloroform	18.670	1.0	20.00	0	93.4	69	128	18.75	0.428	20	
Chloromethane	21.560	1.0	20.00	0	108	56	131	22.04	2.20	20	
cis-1,2-Dichloroethene	19.390	1.0	20.00	0	97.0	72	126	18.72	3.52	20	
cis-1,3-Dichloropropene	20.890	1.0	20.00	0	104	69	131	21.16	1.28	20	
Di-isopropyl ether	20.450	1.0	20.00	0	102	70	130	19.71	3.69	20	
Dibromochloromethane	22.010	1.0	20.00	0	110	66	133	22.18	0.769	20	
Dibromomethane	20.660	1.0	20.00	0	103	76	125	20.80	0.675	20	
Dichlorodifluoromethane	20.030	1.0	20.00	0	100	53	153	23.74	17.0	20	
Ethyl tert-butyl ether	23.370	1.0	20.00	0	117	70	130	22.28	4.78	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N028515
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID	N028487-001AMSD	SampType: MSD	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:				RunNo: 121970		
Client ID:	ZZZZZZ	Batch ID: P18VW020	TestNo: EPA 8260B	Analysis Date: 2/11/2018				SeqNo: 2926266			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	18.710	1.0	20.00	0	93.6	73	127	20.19	7.61	20	
Freon-113	22.320	1.0	20.00	0	112	75	125	24.97	11.2	20	
Hexachlorobutadiene	17.320	1.0	20.00	0	86.6	67	131	18.29	5.45	20	
Isopropylbenzene	19.280	1.0	20.00	0	96.4	75	127	20.41	5.69	20	
m,p-Xylene	38.670	1.0	40.00	0	96.7	76	128	40.68	5.07	20	
Methylene chloride	18.950	2.0	20.00	0	94.8	63	137	18.54	2.19	20	
MTBE	21.780	1.0	20.00	0	109	65	123	21.17	2.84	20	
n-Butylbenzene	19.560	1.0	20.00	0	97.8	69	137	21.65	10.1	20	
n-Propylbenzene	19.910	1.0	20.00	0	99.6	72	129	21.18	6.18	20	
Naphthalene	20.470	1.0	20.00	0	102	54	138	20.01	2.27	20	
o-Xylene	18.580	1.0	20.00	0	92.9	80	121	19.23	3.44	20	
sec-Butylbenzene	19.710	1.0	20.00	0	98.6	72	127	21.53	8.83	20	
Styrene	18.180	1.0	20.00	0	90.9	65	134	18.92	3.99	20	
Tert-amyl methyl ether	22.080	1.0	20.00	0	110	70	130	21.49	2.71	20	
Tert-Butanol	187.890	5.0	100.0	0	188	70	130	169.6	10.2	20	S
tert-Butylbenzene	18.920	1.0	20.00	0	94.6	70	129	20.33	7.18	20	
Tetrachloroethene	19.410	1.0	20.00	0	97.0	66	128	21.34	9.47	20	
Toluene	18.270	2.0	20.00	0	91.4	77	122	19.27	5.33	20	
trans-1,2-Dichloroethene	19.100	1.0	20.00	0	95.5	63	137	20.05	4.85	20	
trans-1,3-Dichloropropene	22.410	1.0	20.00	0	112	59	135	23.21	3.51	20	
Trichloroethene	19.080	1.0	20.00	0	95.4	70	127	20.86	8.91	20	
Trichlorofluoromethane	22.950	1.0	20.00	0	115	57	129	25.72	11.4	20	
Vinyl chloride	23.270	0.50	20.00	0	116	50	134	25.08	7.49	20	
Xylenes, Total	57.250	2.0	60.00	0	95.4	75	125	59.91	4.54	20	
Surr: 1,2-Dichloroethane-d4	27.910		25.00		112	72	119		0		
Surr: 4-Bromofluorobenzene	25.380		25.00		102	76	119		0		
Surr: Dibromofluoromethane	26.440		25.00		106	85	115		0		
Surr: Toluene-d8	25.440		25.00		102	81	120		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N028515
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID	P180211MB3	SampType:	MBLK	TestCode:	8260_WP_SF	Units:	ug/L	Prep Date:		RunNo:	121970
Client ID:	PBW	Batch ID:	P18VW020	TestNo:	EPA 8260B			Analysis Date:	2/11/2018	SeqNo:	2926269
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0									
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	0.50									
1,1-Dichloroethene	ND	1.0									
1,1-Dichloropropene	ND	1.0									
1,2,3-Trichlorobenzene	ND	1.0									
1,2,3-Trichloropropane	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromo-3-chloropropane	ND	2.0									
1,2-Dibromoethane	ND	1.0									
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	0.50									
1,2-Dichloropropane	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,3-Dichloropropane	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
2,2-Dichloropropane	ND	1.0									
2-Butanone	ND	10									
2-Chlorotoluene	ND	1.0									
4-Chlorotoluene	ND	1.0									
4-Isopropyltoluene	ND	1.0									
4-Methyl-2-pentanone	ND	10									
Acetone	ND	10									
Acrolein	ND	20									
Acrylonitrile	ND	20									
Benzene	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
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CLIENT: CH2MHill
Work Order: N028515
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID	P180211MB3	SampType:	MBLK	TestCode:	8260_WP_SF	Units:	ug/L	Prep Date:		RunNo:	121970
Client ID:	PBW	Batch ID:	P18VW020	TestNo:	EPA 8260B			Analysis Date:	2/11/2018	SeqNo:	2926269
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	ND	1.0									
Bromochloromethane	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	1.0									
Carbon disulfide	ND	1.0									
Carbon tetrachloride	ND	0.50									
Chlorobenzene	ND	1.0									
Chloroethane	ND	1.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,2-Dichloroethene	ND	1.0									
cis-1,3-Dichloropropene	ND	1.0									
Di-isopropyl ether	ND	1.0									
Dibromochloromethane	ND	1.0									
Dibromomethane	ND	1.0									
Dichlorodifluoromethane	ND	1.0									
Ethyl tert-butyl ether	ND	1.0									
Ethylbenzene	ND	1.0									
Freon-113	ND	1.0									
Hexachlorobutadiene	ND	1.0									
Isopropylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
Methylene chloride	ND	2.0									
MTBE	ND	1.0									
n-Butylbenzene	ND	1.0									
n-Propylbenzene	ND	1.0									
Naphthalene	ND	1.0									
o-Xylene	ND	1.0									
sec-Butylbenzene	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
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CLIENT: CH2MHill
Work Order: N028515
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID	P180211MB3	SampType:	MBLK	TestCode:	8260_WP_SF	Units:	ug/L	Prep Date:		RunNo:	121970
Client ID:	PBW	Batch ID:	P18VW020	TestNo:	EPA 8260B			Analysis Date:	2/11/2018	SeqNo:	2926269
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	ND	1.0									
Tert-amyl methyl ether	ND	1.0									
Tert-Butanol	ND	5.0									
tert-Butylbenzene	ND	1.0									
Tetrachloroethene	ND	1.0									
Toluene	ND	2.0									
trans-1,2-Dichloroethene	ND	1.0									
trans-1,3-Dichloropropene	ND	1.0									
Trichloroethene	ND	1.0									
Trichlorofluoromethane	ND	1.0									
Vinyl chloride	ND	0.50									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	27.460		25.00		110	72	119				
Surr: 4-Bromofluorobenzene	25.380		25.00		102	76	119				
Surr: Dibromofluoromethane	26.690		25.00		107	85	115				
Surr: Toluene-d8	25.650		25.00		103	81	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
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N028515

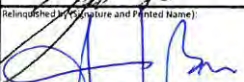
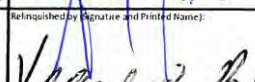
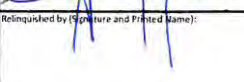
Asset Laboratories
3151 W. Post Road
Las Vegas, NV 89118
Tel: 702-307-2659 Fax: 702-307-2691
Marlon Cartin (marlon@assetlaboratories.com)

CHAIN OF CUSTODY RECORD

DATE: 2/8/18
PAGE: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Section D Sampler Information:	
Company: Kinder Morgan Energy Partners Attention: Steve Defibaugh		Report To: Eric Davis		Attention: Steve Defibaugh - Ref. AFE# 81195		Sampler Name: James Dye	
Address: 1100 Town & Country Road Orange, CA 92868		Copy To: Steve Defibaugh		Company: Kinder Morgan Energy Partners		Sampler Signature:	
Email To: steve_defibaugh@kindermorgan.com eric.davis@ch2m.com		Purchase Order No.:		Address: 1100 Town & Country Road Orange, CA 92868		Sample Date: 2/8/18	
Phone: 714-560-4802 Fax: 714-560-4801		Project Name: SFPP Norwalk		ATL Project Manager:			

Section E Required Sample Information			MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	CONTAINER TYPE		TOTAL # OF CONTAINERS	SAMPLE TEMPERATURE (°F)	Analysis Test																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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Relinquished by (Signature and Printed Name):  Date / Time: 2/8/18 0800		Relinquished by (Signature and Printed Name):  Date / Time: 2/8/18 1143		Turn Around Time (TAT): ☐ A = Same Day ☒ B = 24 Hours ☐ C = 48 Hours ☐ D = 72 Hours ☐ E = 5 Workdays ☐ F = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.		Special Instruction: 2.8% n#2	
Relinquished by (Signature and Printed Name):  Date / Time: 2/8/18 1205		Relinquished by (Signature and Printed Name):  Date / Time: 2/9/18 8:23					
Relinquished by (Signature and Printed Name):  Date / Time:		Relinquished by (Signature and Printed Name):  Date / Time:					

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

050#: 7653

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 2/8/2018 Workorder: N028515
 Rep sample Temp (Deg C): 2.8 IR Gun ID: 2
 Temp Blank: ☒ Yes ☐ No
 Carrier name: Golden State Overnight
 Last 4 digits of Tracking No.: 7653 Packing Material Used: Bubble Wrap
 Cooling process: ☒ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
4. Chain of custody present?	Yes ☒	No ☐	
5. Sampler's name present in COC?	Yes ☒	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☒	No ☐	
8. Samples in proper container/bottle?	Yes ☒	No ☐	
9. Sample containers intact?	Yes ☒	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☒	No ☐	
11. All samples received within holding time?	Yes ☒	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☒	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☒	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☐	NA ☒
15. Did the bottle labels indicate correct preservatives used?	Yes ☒	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☒
Was Client notified?	Yes ☐	No ☐	NA ☒

Comments:

Checklist Completed By: YR  2/9/2018

Reviewed By:  02/09/2018

ASSET Laboratories

WORK ORDER Summary

09-Feb-18

WorkOrder: N028515

Client ID: CH2HI03

Project: SFPP Norwalk

QC Level: RTNE

Date Received: 2/8/2018

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N028515-001A	INF-02-08	2/8/2018 7:45:00 AM	2/9/2018	Wastewater	EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	☐	☐	☐	VW
			2/9/2018		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW
N028515-001B			2/9/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	☐	☐	☐	WW
			2/9/2018		EPA 8015B	TPH EXTRACTABLE BY GC/FID	☐	☐	☐	WW
			2/9/2018		EPA 8015B	Total TPH	☐	☐	☐	WW
N028515-002A	FOLDER	2/9/2018	2/9/2018		Folder	Folder	☐	☐	☐	LAB
			2/9/2018		Folder	Folder	☐	☐	☐	LAB



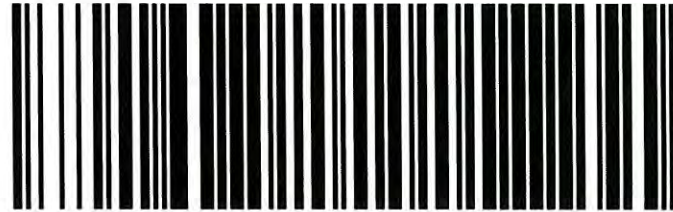
800-322-5555
www.gso.com

Ship From

ASSET LABORATORIES
MOLKY BRAR
11110 ARTESIA BLVD. SUITE B
CERRITOS, CA 90703

Tracking #: 539407653**CPS****Ship To**

ASSET LABORATORIES
MARLON CARTIN
3151 W. POST RD.,
LAS VEGAS, NV 89118

LVS
LAS VEGAS**A****COD:** \$0.00**Weight:** 0 lb(s)**Reference:****C89102A****Delivery Instructions:****HOLD FOR PICK-UP****Signature Type:** STANDARD

79219977

Print Date: 2/8/2018 5:45 PM

Package 1 of 2

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.

Step 2: Fold this page in half.

Step 3: Securely attach this label to your package and do not cover the barcode.

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at www.gso.com.

28°C
IN # 2

March 01, 2018

Eric Davis
CH2MHill
1000 Wilshire Blvd.
Los Angeles, CA 90017

TEL:

FAX:

Workorder No.: N028823

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on February 27, 2018 by ASSET Laboratories .
The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in
accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Quennie Manimtim
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.



ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

"Serving Clients with Passion and Professionalism"

CALIFORNIA | P:562.219.7435 F:562.219.7436
11110 Artesia Blvd., Ste B, Cerritos, CA 90703
ELAP Cert 2921
EPA ID CA01638

NEVADA | P:702.307.2659 F:702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

CLIENT: CH2MHill
Project: SFPP Norwalk
Lab Order: N028823

CASE NARRATIVE**SAMPLE RECEIVING/GENERAL COMMENTS:**

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Sample was analyzed within method holding time.

Results were J-Flag. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" Flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Analytical Comment for EPA 8260B:

Laboratory Control Sample (LCS) recovery biased high for Bromomethane. Sample results were non-detect (ND) for this analyte therefore reanalysis of the samples was not necessary.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.



ASSET LABORATORIES
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ORELAP/NELAP Cert 4046

ASSET Laboratories

Date: 01-Mar-18

CLIENT: CH2MHill
Project: SFPP Norwalk
Lab Order: N028823
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N028823-001A	INF-02-27	Wastewater	2/27/2018 11:30:00 AM	2/27/2018	3/1/2018
N028823-001B	INF-02-27	Wastewater	2/27/2018 11:30:00 AM	2/27/2018	3/1/2018



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ASSET Laboratories
ANALYTICAL RESULTS

Print Date: 01-Mar-18

CLIENT: CH2MHill
Lab Order: N028823
Project: SFPP Norwalk
Lab ID: N028823-001

Client Sample ID: INF-02-27
Collection Date: 2/27/2018 11:30:00 AM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
EPA 8260B							
RunID: MS8_180228A	QC Batch: R18VW011		PrepDate:		Analyst: QBM		
1,1,1,2-Tetrachloroethane	ND	0.38	1.0		ug/L	1	2/28/2018 05:39 PM
1,1,1-Trichloroethane	ND	0.38	1.0		ug/L	1	2/28/2018 05:39 PM
1,1,2,2-Tetrachloroethane	ND	0.34	1.0		ug/L	1	2/28/2018 05:39 PM
1,1,2-Trichloroethane	ND	0.29	1.0		ug/L	1	2/28/2018 05:39 PM
1,1-Dichloroethane	ND	0.45	0.50		ug/L	1	2/28/2018 05:39 PM
1,1-Dichloroethene	ND	0.34	1.0		ug/L	1	2/28/2018 05:39 PM
1,1-Dichloropropene	ND	0.32	1.0		ug/L	1	2/28/2018 05:39 PM
1,2,3-Trichlorobenzene	ND	0.28	1.0		ug/L	1	2/28/2018 05:39 PM
1,2,3-Trichloropropane	ND	0.26	1.0		ug/L	1	2/28/2018 05:39 PM
1,2,4-Trichlorobenzene	ND	0.21	1.0		ug/L	1	2/28/2018 05:39 PM
1,2,4-Trimethylbenzene	1.8	0.33	1.0		ug/L	1	2/28/2018 05:39 PM
1,2-Dibromo-3-chloropropane	ND	0.67	2.0		ug/L	1	2/28/2018 05:39 PM
1,2-Dibromoethane	ND	0.31	1.0		ug/L	1	2/28/2018 05:39 PM
1,2-Dichlorobenzene	ND	0.29	1.0		ug/L	1	2/28/2018 05:39 PM
1,2-Dichloroethane	ND	0.29	0.50		ug/L	1	2/28/2018 05:39 PM
1,2-Dichloropropane	ND	0.24	1.0		ug/L	1	2/28/2018 05:39 PM
1,3,5-Trimethylbenzene	2.6	0.27	1.0		ug/L	1	2/28/2018 05:39 PM
1,3-Dichlorobenzene	ND	0.28	1.0		ug/L	1	2/28/2018 05:39 PM
1,3-Dichloropropane	ND	0.32	1.0		ug/L	1	2/28/2018 05:39 PM
1,4-Dichlorobenzene	ND	0.32	1.0		ug/L	1	2/28/2018 05:39 PM
2,2-Dichloropropane	ND	0.32	1.0		ug/L	1	2/28/2018 05:39 PM
2-Butanone	ND	4.9	10		ug/L	1	2/28/2018 05:39 PM
2-Chlorotoluene	ND	0.28	1.0		ug/L	1	2/28/2018 05:39 PM
4-Chlorotoluene	ND	0.30	1.0		ug/L	1	2/28/2018 05:39 PM
4-Isopropyltoluene	ND	0.33	1.0		ug/L	1	2/28/2018 05:39 PM
4-Methyl-2-pentanone	ND	3.2	10		ug/L	1	2/28/2018 05:39 PM
Acetone	ND	9.7	10		ug/L	1	2/28/2018 05:39 PM
Benzene	3.9	0.34	1.0		ug/L	1	2/28/2018 05:39 PM
Bromobenzene	ND	0.25	1.0		ug/L	1	2/28/2018 05:39 PM
Bromochloromethane	ND	0.41	1.0		ug/L	1	2/28/2018 05:39 PM
Bromodichloromethane	ND	0.38	1.0		ug/L	1	2/28/2018 05:39 PM
Bromoform	ND	0.39	1.0		ug/L	1	2/28/2018 05:39 PM
Bromomethane	ND	0.79	1.0		ug/L	1	2/28/2018 05:39 PM
Carbon disulfide	ND	0.81	1.0		ug/L	1	2/28/2018 05:39 PM
Carbon tetrachloride	ND	0.40	0.50		ug/L	1	2/28/2018 05:39 PM
Chlorobenzene	ND	0.30	1.0		ug/L	1	2/28/2018 05:39 PM

Qualifiers: B Analyte detected in the associated Method Blank E Value above quantitation range
 H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits
 ND Not Detected at the Reporting Limit S Spike/Surrogate outside of limits due to matrix interference
 Results are wet unless otherwise specified DO Surrogate Diluted Out



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ASSET Laboratories
ANALYTICAL RESULTS

Print Date: 01-Mar-18

CLIENT: CH2MHill
Lab Order: N028823
Project: SFPP Norwalk
Lab ID: N028823-001

Client Sample ID: INF-02-27
Collection Date: 2/27/2018 11:30:00 AM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
EPA 8260B							
RunID: MS8_180228A	QC Batch: R18VW011		PrepDate:		Analyst: QBM		
Chloroethane	ND	0.97	1.0		ug/L	1	2/28/2018 05:39 PM
Chloroform	ND	0.27	1.0		ug/L	1	2/28/2018 05:39 PM
Chloromethane	ND	0.36	1.0		ug/L	1	2/28/2018 05:39 PM
cis-1,2-Dichloroethene	ND	0.32	1.0		ug/L	1	2/28/2018 05:39 PM
cis-1,3-Dichloropropene	ND	0.28	1.0		ug/L	1	2/28/2018 05:39 PM
Di-isopropyl ether	5.5	0.079	1.0		ug/L	1	2/28/2018 05:39 PM
Dibromochloromethane	ND	0.41	1.0		ug/L	1	2/28/2018 05:39 PM
Dibromomethane	ND	0.28	1.0		ug/L	1	2/28/2018 05:39 PM
Dichlorodifluoromethane	ND	0.29	1.0		ug/L	1	2/28/2018 05:39 PM
Ethyl tert-butyl ether	ND	0.30	1.0		ug/L	1	2/28/2018 05:39 PM
Ethylbenzene	0.55	0.31	1.0	J	ug/L	1	2/28/2018 05:39 PM
Freon-113	ND	0.35	1.0		ug/L	1	2/28/2018 05:39 PM
Hexachlorobutadiene	ND	0.30	1.0		ug/L	1	2/28/2018 05:39 PM
Isopropylbenzene	0.43	0.26	1.0	J	ug/L	1	2/28/2018 05:39 PM
m,p-Xylene	4.7	0.23	1.0		ug/L	1	2/28/2018 05:39 PM
Methylene chloride	ND	1.9	2.0		ug/L	1	2/28/2018 05:39 PM
MTBE	2.3	0.34	1.0		ug/L	1	2/28/2018 05:39 PM
n-Butylbenzene	ND	0.34	1.0		ug/L	1	2/28/2018 05:39 PM
n-Propylbenzene	0.34	0.32	1.0	J	ug/L	1	2/28/2018 05:39 PM
Naphthalene	2.4	0.42	1.0		ug/L	1	2/28/2018 05:39 PM
o-Xylene	4.6	0.31	1.0		ug/L	1	2/28/2018 05:39 PM
sec-Butylbenzene	ND	0.32	1.0		ug/L	1	2/28/2018 05:39 PM
Styrene	ND	0.21	1.0		ug/L	1	2/28/2018 05:39 PM
Tert-amyl methyl ether	ND	0.26	1.0		ug/L	1	2/28/2018 05:39 PM
Tert-Butanol	26	2.4	5.0		ug/L	1	2/28/2018 05:39 PM
tert-Butylbenzene	ND	0.28	1.0		ug/L	1	2/28/2018 05:39 PM
Tetrachloroethene	ND	0.30	1.0		ug/L	1	2/28/2018 05:39 PM
Toluene	1.6	0.46	2.0	J	ug/L	1	2/28/2018 05:39 PM
trans-1,2-Dichloroethene	ND	0.40	1.0		ug/L	1	2/28/2018 05:39 PM
trans-1,3-Dichloropropene	ND	0.25	1.0		ug/L	1	2/28/2018 05:39 PM
Trichloroethene	ND	0.37	1.0		ug/L	1	2/28/2018 05:39 PM
Trichlorofluoromethane	ND	0.37	1.0		ug/L	1	2/28/2018 05:39 PM
Vinyl chloride	ND	0.29	0.50		ug/L	1	2/28/2018 05:39 PM
Xylenes, Total	9.3	1.5	2.0		ug/L	1	2/28/2018 05:39 PM
Surr: 1,2-Dichloroethane-d4	112	0	72-119		%REC	1	2/28/2018 05:39 PM
Surr: 4-Bromofluorobenzene	102	0	76-119		%REC	1	2/28/2018 05:39 PM

Qualifiers: B Analyte detected in the associated Method Blank E Value above quantitation range
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ASSET Laboratories
ANALYTICAL RESULTS

Print Date: 01-Mar-18

CLIENT: CH2MHill
Lab Order: N028823
Project: SFPP Norwalk
Lab ID: N028823-001

Client Sample ID: INF-02-27
Collection Date: 2/27/2018 11:30:00 AM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
EPA 8260B							
RunID: MS8_180228A	QC Batch: R18VW011			PrepDate:			Analyst: QBM
Surr: Dibromofluoromethane	109	0	85-115	%REC	1	2/28/2018 05:39 PM	
Surr: Toluene-d8	105	0	81-120	%REC	1	2/28/2018 05:39 PM	
TPH EXTRACTABLE BY GC/FID							
EPA 3510C				EPA 8015B			
RunID: NV00922-GC3_180228A	QC Batch: 66971			PrepDate: 2/28/2018			Analyst: SS
TPH-Diesel (C13-C22)	560	16	26	ug/L	1	2/28/2018 02:32 PM	
TPH-Oil (C23-C36)	240	14	26	ug/L	1	2/28/2018 02:32 PM	
Surr: Octacosane	82.1	0	26-152	%REC	1	2/28/2018 02:32 PM	
Surr: p-Terphenyl	83.1	0	57-132	%REC	1	2/28/2018 02:32 PM	
GASOLINE RANGE ORGANICS BY GC/FID							
EPA 8015B							
RunID: NV00922-GC4_180228A	QC Batch: E18VW018			PrepDate:			Analyst: QBM
TPH-Gasoline (C4-C12)	220	16	50	ug/L	1	2/28/2018 05:24 PM	
Surr: Chlorobenzene - d5	108	0	74-138	%REC	1	2/28/2018 05:24 PM	
TOTAL TPH							
EPA 8015B							
RunID: NV00922-GC3_180228A	QC Batch: R122357			PrepDate:			Analyst: SS
Total TPH	1000	16	50	ug/L	1	2/28/2018	

Qualifiers: B Analyte detected in the associated Method Blank E Value above quantitation range
 H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits
 ND Not Detected at the Reporting Limit S Spike/Surrogate outside of limits due to matrix interference
 Results are wet unless otherwise specified DO Surrogate Diluted Out



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CLIENT: CH2MHill
Work Order: N028823
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT**TestCode: 8015_W_FP_SFPP**

Sample ID: MB-66971	SampType: MBLK	TestCode: 8015_W_FP_	Units: ug/L	Prep Date: 2/28/2018	RunNo: 122357						
Client ID: PBW	Batch ID: 66971	TestNo: EPA 8015B	EPA 3510C	Analysis Date: 2/28/2018	SeqNo: 2944277						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel (C13-C22)	ND	25									
TPH-Oil (C23-C36)	ND	25									
Surr: Octacosane	54.614		80.00		68.3	26	152				
Surr: p-Terphenyl	59.857		80.00		74.8	57	132				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values



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CLIENT: CH2MHill
Work Order: N028823
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_SFPTOT

Sample ID: MB-R122357	SampType: MBLK	TestCode: 8015_W_SFP	Units: ug/L	Prep Date:				RunNo: 122357			
Client ID: PBW	Batch ID: R122357	TestNo: EPA 8015B		Analysis Date: 2/28/2018				SeqNo: 2944832			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH	ND	50									

Qualifiers:

- | | | | | | |
|---|--|----|-------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike/Surrogate outside of limits due to matrix interference | DO | Surrogate Diluted Out | | Calculations are based on raw values |



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CLIENT: CH2MHill
Work Order: N028823
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_WSFPP

Sample ID: E180228LCS	SampType: LCS	TestCode: 8015GAS_WS	Units: ug/L	Prep Date:	RunNo: 122360						
Client ID: LCSW	Batch ID: E18VW018	TestNo: EPA 8015B		Analysis Date: 2/28/2018	SeqNo: 2944287						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	768.000	50	1000	0	76.8	67	136				
Surr: Chlorobenzene - d5	44759.000		50000		89.5	74	138				

Sample ID: E180228MB1	SampType: MBLK	TestCode: 8015GAS_WS	Units: ug/L	Prep Date:	RunNo: 122360						
Client ID: PBW	Batch ID: E18VW018	TestNo: EPA 8015B		Analysis Date: 2/28/2018	SeqNo: 2944288						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	ND	50									
Surr: Chlorobenzene - d5	55934.000		50000		112	74	138				

Sample ID: N028824-004AMS	SampType: MS	TestCode: 8015GAS_WS	Units: ug/L	Prep Date:	RunNo: 122360						
Client ID: ZZZZZZ	Batch ID: E18VW018	TestNo: EPA 8015B		Analysis Date: 2/28/2018	SeqNo: 2944295						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	926.000	50	1000	0	92.6	67	136				
Surr: Chlorobenzene - d5	56601.000		50000		113	74	138				

Sample ID: N028824-004AMSD	SampType: MSD	TestCode: 8015GAS_WS	Units: ug/L	Prep Date:	RunNo: 122360						
Client ID: ZZZZZZ	Batch ID: E18VW018	TestNo: EPA 8015B		Analysis Date: 2/28/2018	SeqNo: 2944296						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	890.000	50	1000	0	89.0	67	136	926.0	3.96	30	
Surr: Chlorobenzene - d5	53096.000		50000		106	74	138		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values



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CLIENT: CH2MHill
Work Order: N028823
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: R180228LCS	SampType: LCS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 122368						
Client ID: LCSW	Batch ID: R18VW011	TestNo: EPA 8260B	Analysis Date: 2/28/2018	SeqNo: 2944510							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	20.970	1.0	20.00	0	105	81	129				
1,1,1-Trichloroethane	20.780	1.0	20.00	0	104	67	132				
1,1,2,2-Tetrachloroethane	19.950	1.0	20.00	0	99.8	63	128				
1,1,2-Trichloroethane	21.260	1.0	20.00	0	106	75	125				
1,1-Dichloroethane	21.460	0.50	20.00	0	107	69	133				
1,1-Dichloroethene	22.350	1.0	20.00	0	112	68	130				
1,1-Dichloropropene	21.080	1.0	20.00	0	105	73	132				
1,2,3-Trichlorobenzene	20.010	1.0	20.00	0	100	67	137				
1,2,3-Trichloropropane	20.210	1.0	20.00	0	101	73	124				
1,2,4-Trichlorobenzene	19.550	1.0	20.00	0	97.8	66	134				
1,2,4-Trimethylbenzene	22.140	1.0	20.00	0	111	74	132				
1,2-Dibromo-3-chloropropane	18.450	2.0	20.00	0	92.2	50	132				
1,2-Dibromoethane	20.600	1.0	20.00	0	103	80	121				
1,2-Dichlorobenzene	20.140	1.0	20.00	0	101	71	122				
1,2-Dichloroethane	21.230	0.50	20.00	0	106	69	132				
1,2-Dichloropropane	21.590	1.0	20.00	0	108	75	125				
1,3,5-Trimethylbenzene	22.400	1.0	20.00	0	112	74	131				
1,3-Dichlorobenzene	20.880	1.0	20.00	0	104	75	124				
1,3-Dichloropropane	20.180	1.0	20.00	0	101	73	126				
1,4-Dichlorobenzene	20.710	1.0	20.00	0	104	74	123				
2,2-Dichloropropane	22.970	1.0	20.00	0	115	69	137				
2-Butanone	207.170	10	200.0	0	104	49	136				
2-Chlorotoluene	21.310	1.0	20.00	0	107	73	126				
4-Chlorotoluene	21.090	1.0	20.00	0	105	74	128				
4-Isopropyltoluene	22.010	1.0	20.00	0	110	73	130				
4-Methyl-2-pentanone	227.390	10	200.0	0	114	58	134				
Acetone	221.650	10	200.0	0	111	40	135				
Benzene	21.490	1.0	20.00	0	107	81	122				
Bromobenzene	19.830	1.0	20.00	0	99.2	76	124				
Bromochloromethane	20.420	1.0	20.00	0	102	65	129				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values



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ORELAP/NELAP Cert 4046

CLIENT: CH2MHill
Work Order: N028823
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: R180228LCS	SampType: LCS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 122368						
Client ID: LCSW	Batch ID: R18VW011	TestNo: EPA 8260B	Analysis Date: 2/28/2018	SeqNo: 2944510							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromodichloromethane	20.740	1.0	20.00	0	104	76	121				S
Bromoform	20.620	1.0	20.00	0	103	69	128				
Bromomethane	28.900	1.0	20.00	0	145	53	141				
Carbon disulfide	22.510	1.0	20.00	0	113	75	125				
Carbon tetrachloride	21.260	0.50	20.00	0	106	66	138				
Chlorobenzene	20.920	1.0	20.00	0	105	81	122				
Chloroethane	23.850	1.0	20.00	0	119	58	133				
Chloroform	20.040	1.0	20.00	0	100	69	128				
Chloromethane	21.380	1.0	20.00	0	107	56	131				
cis-1,2-Dichloroethene	19.660	1.0	20.00	0	98.3	72	126				
cis-1,3-Dichloropropene	20.360	1.0	20.00	0	102	69	131				
Di-isopropyl ether	22.990	1.0	20.00	0	115	70	130				
Dibromochloromethane	20.670	1.0	20.00	0	103	66	133				
Dibromomethane	19.990	1.0	20.00	0	100	76	125				
Dichlorodifluoromethane	21.730	1.0	20.00	0	109	53	153				
Ethyl tert-butyl ether	19.900	1.0	20.00	0	99.5	70	130				
Ethylbenzene	20.590	1.0	20.00	0	103	73	127				
Freon-113	21.030	1.0	20.00	0	105	75	125				
Hexachlorobutadiene	19.140	1.0	20.00	0	95.7	67	131				
Isopropylbenzene	20.470	1.0	20.00	0	102	75	127				
m,p-Xylene	43.920	1.0	40.00	0	110	76	128				
Methylene chloride	23.610	2.0	20.00	0	118	63	137				
MTBE	21.210	1.0	20.00	0	106	65	123				
n-Butylbenzene	21.310	1.0	20.00	0	107	69	137				
n-Propylbenzene	21.430	1.0	20.00	0	107	72	129				
Naphthalene	16.650	1.0	20.00	0	83.3	54	138				
o-Xylene	20.860	1.0	20.00	0	104	80	121				
sec-Butylbenzene	22.150	1.0	20.00	0	111	72	127				
Styrene	22.090	1.0	20.00	0	110	65	134				
Tert-amyl methyl ether	20.570	1.0	20.00	0	103	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values



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ORELAP/NELAP Cert 4046

CLIENT: CH2MHill
Work Order: N028823
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: R180228LCS	SampType: LCS	TestCode: 8260_WP_SF Units: ug/L				Prep Date:			RunNo: 122368		
Client ID: LCSW	Batch ID: R18VW011	TestNo: EPA 8260B				Analysis Date: 2/28/2018			SeqNo: 2944510		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tert-Butanol	103.980	5.0	100.0	0	104	70	130				
tert-Butylbenzene	21.000	1.0	20.00	0	105	70	129				
Tetrachloroethene	20.440	1.0	20.00	0	102	66	128				
Toluene	20.810	2.0	20.00	0	104	77	122				
trans-1,2-Dichloroethene	21.440	1.0	20.00	0	107	63	137				
trans-1,3-Dichloropropene	22.950	1.0	20.00	0	115	59	135				
Trichloroethene	20.400	1.0	20.00	0	102	70	127				
Trichlorofluoromethane	23.840	1.0	20.00	0	119	57	129				
Vinyl chloride	21.550	0.50	20.00	0	108	50	134				
Xylenes, Total	64.780	2.0	60.00	0	108	75	125				
Surr: 1,2-Dichloroethane-d4	26.860		25.00		107	72	119				
Surr: 4-Bromofluorobenzene	25.770		25.00		103	76	119				
Surr: Dibromofluoromethane	26.450		25.00		106	85	115				
Surr: Toluene-d8	26.320		25.00		105	81	120				

Sample ID: N028824-005AMS	SampType: MS	TestCode: 8260_WP_SF Units: ug/L				Prep Date:			RunNo: 122368		
Client ID: ZZZZZZ	Batch ID: R18VW011	TestNo: EPA 8260B				Analysis Date: 2/28/2018			SeqNo: 2944511		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	22.280	1.0	20.00	0	111	81	129				
1,1,1-Trichloroethane	25.080	1.0	20.00	0	125	67	132				
1,1,2,2-Tetrachloroethane	19.810	1.0	20.00	0	99.0	63	128				
1,1,2-Trichloroethane	21.230	1.0	20.00	0	106	75	125				
1,1-Dichloroethane	25.150	0.50	20.00	0	126	69	133				
1,1-Dichloroethene	27.040	1.0	20.00	0	135	68	130				S
1,1-Dichloropropene	26.160	1.0	20.00	0	131	73	132				
1,2,3-Trichlorobenzene	20.860	1.0	20.00	0	104	67	137				
1,2,3-Trichloropropane	19.740	1.0	20.00	0	98.7	73	124				
1,2,4-Trichlorobenzene	20.940	1.0	20.00	0	105	66	134				
1,2,4-Trimethylbenzene	25.380	1.0	20.00	0	127	74	132				

Qualifiers:

- | | | | | | |
|---|--|----|-------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike/Surrogate outside of limits due to matrix interference | DO | Surrogate Diluted Out | | Calculations are based on raw values |

CLIENT: CH2MHill
Work Order: N028823
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: N028824-005AMS	SampType: MS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 122368						
Client ID: ZZZZZZ	Batch ID: R18VW011	TestNo: EPA 8260B	Analysis Date: 2/28/2018	SeqNo: 2944511							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	17.520	2.0	20.00	0	87.6	50	132				
1,2-Dibromoethane	20.360	1.0	20.00	0	102	80	121				
1,2-Dichlorobenzene	21.380	1.0	20.00	0	107	71	122				
1,2-Dichloroethane	21.430	0.50	20.00	0	107	69	132				
1,2-Dichloropropane	22.510	1.0	20.00	0	113	75	125				
1,3,5-Trimethylbenzene	26.440	1.0	20.00	0	132	74	131				S
1,3-Dichlorobenzene	22.440	1.0	20.00	0	112	75	124				
1,3-Dichloropropane	20.810	1.0	20.00	0	104	73	126				
1,4-Dichlorobenzene	22.600	1.0	20.00	0	113	74	123				
2,2-Dichloropropane	30.810	1.0	20.00	0	154	69	137				S
2-Butanone	195.050	10	200.0	0	97.5	49	136				
2-Chlorotoluene	24.190	1.0	20.00	0	121	73	126				
4-Chlorotoluene	23.590	1.0	20.00	0	118	74	128				
4-Isopropyltoluene	26.960	1.0	20.00	0	135	73	130				S
4-Methyl-2-pentanone	218.930	10	200.0	0	109	58	134				
Acetone	211.280	10	200.0	0	106	40	135				
Benzene	24.080	1.0	20.00	0	120	81	122				
Bromobenzene	21.070	1.0	20.00	0	105	76	124				
Bromochloromethane	20.140	1.0	20.00	0	101	65	129				
Bromodichloromethane	21.800	1.0	20.00	0	109	76	121				
Bromoform	20.520	1.0	20.00	0	103	69	128				
Bromomethane	29.870	1.0	20.00	0	149	53	141				S
Carbon disulfide	28.330	1.0	20.00	0	142	75	125				S
Carbon tetrachloride	26.700	0.50	20.00	0	134	66	138				
Chlorobenzene	22.980	1.0	20.00	0	115	81	122				
Chloroethane	27.550	1.0	20.00	0	138	58	133				S
Chloroform	21.360	1.0	20.00	0	107	69	128				
Chloromethane	24.220	1.0	20.00	0	121	56	131				
cis-1,2-Dichloroethene	20.830	1.0	20.00	0	104	72	126				
cis-1,3-Dichloropropene	21.750	1.0	20.00	0	109	69	131				

Qualifiers:

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CLIENT: CH2MHill
Work Order: N028823
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: N028824-005AMS	SampType: MS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 122368						
Client ID: ZZZZZZ	Batch ID: R18VW011	TestNo: EPA 8260B	Analysis Date: 2/28/2018	SeqNo: 2944511							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Di-isopropyl ether	24.300	1.0	20.00	0	122	70	130				
Dibromochloromethane	21.050	1.0	20.00	0	105	66	133				
Dibromomethane	20.060	1.0	20.00	0	100	76	125				
Dichlorodifluoromethane	27.770	1.0	20.00	0	139	53	153				
Ethyl tert-butyl ether	20.550	1.0	20.00	0	103	70	130				
Ethylbenzene	24.430	1.0	20.00	0	122	73	127				
Freon-113	28.710	1.0	20.00	0	144	75	125				S
Hexachlorobutadiene	22.440	1.0	20.00	0	112	67	131				
Isopropylbenzene	25.060	1.0	20.00	0	125	75	127				
m,p-Xylene	51.580	1.0	40.00	0	129	76	128				S
Methylene chloride	24.360	2.0	20.00	0	122	63	137				
MTBE	21.190	1.0	20.00	0	106	65	123				
n-Butylbenzene	26.920	1.0	20.00	0	135	69	137				
n-Propylbenzene	26.000	1.0	20.00	0	130	72	129				S
Naphthalene	16.780	1.0	20.00	0	83.9	54	138				
o-Xylene	23.510	1.0	20.00	0	118	80	121				
sec-Butylbenzene	27.460	1.0	20.00	0	137	72	127				S
Styrene	23.320	1.0	20.00	0	117	65	134				
Tert-amyl methyl ether	20.810	1.0	20.00	0	104	70	130				
Tert-Butanol	96.450	5.0	100.0	0	96.4	70	130				
tert-Butylbenzene	25.750	1.0	20.00	0	129	70	129				
Tetrachloroethene	25.430	1.0	20.00	0	127	66	128				
Toluene	23.550	2.0	20.00	0	118	77	122				
trans-1,2-Dichloroethene	24.180	1.0	20.00	0	121	63	137				
trans-1,3-Dichloropropene	23.750	1.0	20.00	0	119	59	135				
Trichloroethene	24.110	1.0	20.00	0	121	70	127				
Trichlorofluoromethane	31.740	1.0	20.00	0	159	57	129				S
Vinyl chloride	25.530	0.50	20.00	0	128	50	134				
Xylenes, Total	75.090	2.0	60.00	0	125	75	125				S
Surr: 1,2-Dichloroethane-d4	26.240		25.00		105	72	119				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
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S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values



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CLIENT: CH2MHill
Work Order: N028823
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: N028824-005AMS	SampType: MS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 122368						
Client ID: ZZZZZZ	Batch ID: R18VW011	TestNo: EPA 8260B		Analysis Date: 2/28/2018	SeqNo: 2944511						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	25.810		25.00		103	76	119				
Surr: Dibromofluoromethane	25.600		25.00		102	85	115				
Surr: Toluene-d8	26.210		25.00		105	81	120				

Sample ID: N028824-005AMSD	SampType: MSD	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 122368						
Client ID: ZZZZZZ	Batch ID: R18VW011	TestNo: EPA 8260B	Analysis Date: 2/28/2018	SeqNo: 2944512							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	22.830	1.0	20.00	0	114	81	129	22.28	2.44	20	
1,1,1-Trichloroethane	25.010	1.0	20.00	0	125	67	132	25.08	0.279	20	
1,1,2,2-Tetrachloroethane	20.910	1.0	20.00	0	105	63	128	19.81	5.40	20	
1,1,2-Trichloroethane	21.970	1.0	20.00	0	110	75	125	21.23	3.43	20	
1,1-Dichloroethane	24.990	0.50	20.00	0	125	69	133	25.15	0.638	20	
1,1-Dichloroethene	26.170	1.0	20.00	0	131	68	130	27.04	3.27	20	S
1,1-Dichloropropene	26.420	1.0	20.00	0	132	73	132	26.16	0.989	20	S
1,2,3-Trichlorobenzene	21.370	1.0	20.00	0	107	67	137	20.86	2.42	20	
1,2,3-Trichloropropane	21.230	1.0	20.00	0	106	73	124	19.74	7.27	20	
1,2,4-Trichlorobenzene	21.680	1.0	20.00	0	108	66	134	20.94	3.47	20	
1,2,4-Trimethylbenzene	25.760	1.0	20.00	0	129	74	132	25.38	1.49	20	
1,2-Dibromo-3-chloropropane	19.520	2.0	20.00	0	97.6	50	132	17.52	10.8	20	
1,2-Dibromoethane	21.410	1.0	20.00	0	107	80	121	20.36	5.03	20	
1,2-Dichlorobenzene	22.020	1.0	20.00	0	110	71	122	21.38	2.95	20	
1,2-Dichloroethane	22.210	0.50	20.00	0	111	69	132	21.43	3.57	20	
1,2-Dichloropropane	22.900	1.0	20.00	0	114	75	125	22.51	1.72	20	
1,3,5-Trimethylbenzene	26.720	1.0	20.00	0	134	74	131	26.44	1.05	20	S
1,3-Dichlorobenzene	23.190	1.0	20.00	0	116	75	124	22.44	3.29	20	
1,3-Dichloropropane	21.590	1.0	20.00	0	108	73	126	20.81	3.68	20	
1,4-Dichlorobenzene	23.070	1.0	20.00	0	115	74	123	22.60	2.06	20	
2,2-Dichloropropane	29.470	1.0	20.00	0	147	69	137	30.81	4.45	20	S
2-Butanone	207.080	10	200.0	0	104	49	136	195.0	5.98	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
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CLIENT: CH2MHill
Work Order: N028823
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: N028824-005AMSD	SampType: MSD	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 122368						
Client ID: ZZZZZZ	Batch ID: R18VW011	TestNo: EPA 8260B	Analysis Date: 2/28/2018	SeqNo: 2944512							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chlorotoluene	24.560	1.0	20.00	0	123	73	126	24.19	1.52	20	
4-Chlorotoluene	24.250	1.0	20.00	0	121	74	128	23.59	2.76	20	
4-Isopropyltoluene	27.640	1.0	20.00	0	138	73	130	26.96	2.49	20	S
4-Methyl-2-pentanone	238.900	10	200.0	0	119	58	134	218.9	8.72	20	
Acetone	225.510	10	200.0	0	113	40	135	211.3	6.52	20	
Benzene	24.290	1.0	20.00	0	121	81	122	24.08	0.868	20	
Bromobenzene	21.440	1.0	20.00	0	107	76	124	21.07	1.74	20	
Bromochloromethane	20.730	1.0	20.00	0	104	65	129	20.14	2.89	20	
Bromodichloromethane	22.680	1.0	20.00	0	113	76	121	21.80	3.96	20	
Bromoform	21.860	1.0	20.00	0	109	69	128	20.52	6.32	20	
Bromomethane	29.930	1.0	20.00	0	150	53	141	29.87	0.201	20	S
Carbon disulfide	27.590	1.0	20.00	0	138	75	125	28.33	2.65	20	S
Carbon tetrachloride	26.720	0.50	20.00	0	134	66	138	26.70	0.0749	20	
Chlorobenzene	23.260	1.0	20.00	0	116	81	122	22.98	1.21	20	
Chloroethane	28.380	1.0	20.00	0	142	58	133	27.55	2.97	20	S
Chloroform	21.520	1.0	20.00	0	108	69	128	21.36	0.746	20	
Chloromethane	24.710	1.0	20.00	0	124	56	131	24.22	2.00	20	
cis-1,2-Dichloroethene	21.130	1.0	20.00	0	106	72	126	20.83	1.43	20	
cis-1,3-Dichloropropene	22.370	1.0	20.00	0	112	69	131	21.75	2.81	20	
Di-isopropyl ether	24.430	1.0	20.00	0	122	70	130	24.30	0.534	20	
Dibromochloromethane	21.400	1.0	20.00	0	107	66	133	21.05	1.65	20	
Dibromomethane	21.380	1.0	20.00	0	107	76	125	20.06	6.37	20	
Dichlorodifluoromethane	27.280	1.0	20.00	0	136	53	153	27.77	1.78	20	
Ethyl tert-butyl ether	21.070	1.0	20.00	0	105	70	130	20.55	2.50	20	
Ethylbenzene	24.680	1.0	20.00	0	123	73	127	24.43	1.02	20	
Freon-113	27.640	1.0	20.00	0	138	75	125	28.71	3.80	20	S
Hexachlorobutadiene	23.300	1.0	20.00	0	116	67	131	22.44	3.76	20	
Isopropylbenzene	25.350	1.0	20.00	0	127	75	127	25.06	1.15	20	
m,p-Xylene	52.650	1.0	40.00	0	132	76	128	51.58	2.05	20	S
Methylene chloride	24.680	2.0	20.00	0	123	63	137	24.36	1.31	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
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S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values



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"Serving Clients with Passion and Professionalism"

CLIENT: CH2MHill
Work Order: N028823
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: N028824-005AMSD	SampType: MSD	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:					RunNo: 122368		
Client ID: ZZZZZZ	Batch ID: R18VW011	TestNo: EPA 8260B	Analysis Date: 2/28/2018					SeqNo: 2944512			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
MTBE	21.710	1.0	20.00	0	109	65	123	21.19	2.42	20	
n-Butylbenzene	27.000	1.0	20.00	0	135	69	137	26.92	0.297	20	
n-Propylbenzene	26.400	1.0	20.00	0	132	72	129	26.00	1.53	20	S
Naphthalene	17.840	1.0	20.00	0	89.2	54	138	16.78	6.12	20	
o-Xylene	24.040	1.0	20.00	0	120	80	121	23.51	2.23	20	
sec-Butylbenzene	27.700	1.0	20.00	0	138	72	127	27.46	0.870	20	S
Styrene	22.870	1.0	20.00	0	114	65	134	23.32	1.95	20	
Tert-amyl methyl ether	21.560	1.0	20.00	0	108	70	130	20.81	3.54	20	
Tert-Butanol	108.500	5.0	100.0	0	108	70	130	96.45	11.8	20	
tert-Butylbenzene	25.920	1.0	20.00	0	130	70	129	25.75	0.658	20	S
Tetrachloroethene	25.720	1.0	20.00	0	129	66	128	25.43	1.13	20	S
Toluene	24.200	2.0	20.00	0	121	77	122	23.55	2.72	20	
trans-1,2-Dichloroethene	24.370	1.0	20.00	0	122	63	137	24.18	0.783	20	
trans-1,3-Dichloropropene	24.880	1.0	20.00	0	124	59	135	23.75	4.65	20	
Trichloroethene	24.670	1.0	20.00	0	123	70	127	24.11	2.30	20	
Trichlorofluoromethane	30.260	1.0	20.00	0	151	57	129	31.74	4.77	20	S
Vinyl chloride	25.910	0.50	20.00	0	130	50	134	25.53	1.48	20	
Xylenes, Total	76.690	2.0	60.00	0	128	75	125	75.09	2.11	20	S
Surr: 1,2-Dichloroethane-d4	26.040		25.00		104	72	119		0		
Surr: 4-Bromofluorobenzene	26.440		25.00		106	76	119		0		
Surr: Dibromofluoromethane	25.730		25.00		103	85	115		0		
Surr: Toluene-d8	26.780		25.00		107	81	120		0		

Sample ID: R180228MB3	SampType: MBLK	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:					RunNo: 122368		
Client ID: PBW	Batch ID: R18VW011	TestNo: EPA 8260B		Analysis Date: 2/28/2018					SeqNo: 2944515		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0									
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values



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EPA ID CA01638

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CLIENT: CH2MHill
Work Order: N028823
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: R180228MB3	SampType: MBLK	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:				RunNo: 122368			
Client ID: PBW	Batch ID: R18VW011	TestNo: EPA 8260B		Analysis Date: 2/28/2018				SeqNo: 2944515			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	0.50									
1,1-Dichloroethene	ND	1.0									
1,1-Dichloropropene	ND	1.0									
1,2,3-Trichlorobenzene	ND	1.0									
1,2,3-Trichloropropane	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromo-3-chloropropane	ND	2.0									
1,2-Dibromoethane	ND	1.0									
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	0.50									
1,2-Dichloropropane	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,3-Dichloropropane	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
2,2-Dichloropropane	ND	1.0									
2-Butanone	ND	10									
2-Chlorotoluene	ND	1.0									
4-Chlorotoluene	ND	1.0									
4-Isopropyltoluene	ND	1.0									
4-Methyl-2-pentanone	ND	10									
Acetone	ND	10									
Benzene	ND	1.0									
Bromobenzene	ND	1.0									
Bromochloromethane	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values



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CLIENT: CH2MHill
Work Order: N028823
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: R180228MB3	SampType: MBLK	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:				RunNo: 122368			
Client ID: PBW	Batch ID: R18VW011	TestNo: EPA 8260B		Analysis Date: 2/28/2018				SeqNo: 2944515			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	ND	1.0									
Carbon tetrachloride	ND	0.50									
Chlorobenzene	ND	1.0									
Chloroethane	ND	1.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,2-Dichloroethene	ND	1.0									
cis-1,3-Dichloropropene	ND	1.0									
Di-isopropyl ether	ND	1.0									
Dibromochloromethane	ND	1.0									
Dibromomethane	ND	1.0									
Dichlorodifluoromethane	ND	1.0									
Ethyl tert-butyl ether	ND	1.0									
Ethylbenzene	ND	1.0									
Freon-113	ND	1.0									
Hexachlorobutadiene	ND	1.0									
Isopropylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
Methylene chloride	ND	2.0									
MTBE	ND	1.0									
n-Butylbenzene	ND	1.0									
n-Propylbenzene	ND	1.0									
Naphthalene	ND	1.0									
o-Xylene	ND	1.0									
sec-Butylbenzene	ND	1.0									
Styrene	ND	1.0									
Tert-amyl methyl ether	ND	1.0									
Tert-Butanol	ND	5.0									
tert-Butylbenzene	ND	1.0									
Tetrachloroethene	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
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CLIENT: CH2MHill
Work Order: N028823
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: R180228MB3	SampType: MBLK	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:					RunNo: 122368			
Client ID: PBW	Batch ID: R18VW011	TestNo: EPA 8260B			Analysis Date: 2/28/2018					SeqNo: 2944515		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Toluene	ND	2.0										
trans-1,2-Dichloroethene	ND	1.0										
trans-1,3-Dichloropropene	ND	1.0										
Trichloroethene	ND	1.0										
Trichlorofluoromethane	ND	1.0										
Vinyl chloride	ND	0.50										
Xylenes, Total	ND	2.0										
Surr: 1,2-Dichloroethane-d4	28.880		25.00		116	72	119					
Surr: 4-Bromofluorobenzene	22.800		25.00		91.2	76	119					
Surr: Dibromofluoromethane	28.480		25.00		114	85	115					
Surr: Toluene-d8	25.690		25.00		103	81	120					

Qualifiers:

- | | | | | | |
|---|--|----|-------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike/Surrogate outside of limits due to matrix interference | DO | Surrogate Diluted Out | | Calculations are based on raw values |



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NO28823

DATE: 2/27/18
PAGE: 1 of 1

[illegible]

Relinquished by (Signature and Printed Name): <i>[Signature]</i> JAMES DYE 1300	Relinquished by (Signature and Printed Name): <i>[Signature]</i> 2/27/18 1500	Turn Around Time (TAT): ☐ A = Same Day ☒ B = 24 Hours ☐ C = 48 Hours ☐ D = 72 Hours ☐ E = 5 Workdays ☐ F = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.	Special Instruction: 28°C IR # 2
Relinquished by (Signature and Printed Name): <i>[Signature]</i> 2/27/18 1530	Relinquished by (Signature and Printed Name): <i>[Signature]</i> 2/27/18 2040		
Relinquished by (Signature and Printed Name): <i>[Signature]</i> 2/27/18 2800	Relinquished by (Signature and Printed Name): <i>[Signature]</i> 2/27/18 2800		

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

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 2/27/2018

Workorder: N028823

Rep sample Temp (Deg C): 2.8

IR Gun ID: 2

Temp Blank: ☒ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA

Packing Material Used: Bubble Wrap

Cooling process: ☒ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

- | | | | |
|---|---|-----------------------------|---|
| 1. Shipping container/cooler in good condition? | Yes ☒ | No ☐ | Not Present ☐ |
| 2. Custody seals intact, signed, dated on shipping container/cooler? | Yes ☐ | No ☐ | Not Present ☒ |
| 3. Custody seals intact on sample bottles? | Yes ☐ | No ☐ | Not Present ☒ |
| 4. Chain of custody present? | Yes ☒ | No ☐ | |
| 5. Sampler's name present in COC? | Yes ☒ | No ☐ | |
| 6. Chain of custody signed when relinquished and received? | Yes ☒ | No ☐ | |
| 7. Chain of custody agrees with sample labels? | Yes ☒ | No ☐ | |
| 8. Samples in proper container/bottle? | Yes ☒ | No ☐ | |
| 9. Sample containers intact? | Yes ☒ | No ☐ | |
| 10. Sufficient sample volume for indicated test? | Yes ☒ | No ☐ | |
| 11. All samples received within holding time? | Yes ☒ | No ☐ | |
| 12. Temperature of rep sample or Temp Blank within acceptable limit? | Yes ☒ | No ☐ | NA ☐ |
| 13. Water - VOA vials have zero headspace? | Yes ☒ | No ☐ | NA ☐ |
| 14. Water - pH acceptable upon receipt?
Example: pH > 12 for (CN,S); pH<2 for Metals | Yes ☐ | No ☐ | NA ☒ |
| 15. Did the bottle labels indicate correct preservatives used? | Yes ☒ | No ☐ | NA ☐ |
| 16. Were there Non-Conformance issues at login? | Yes ☐ | No ☐ | NA ☒ |
| Was Client notified? | Yes ☐ | No ☐ | NA ☒ |

Comments:

Checklist Completed By: YR



2/28/2018

Reviewed By:



2/28/2018

ASSET Laboratories

WORK ORDER Summary

28-Feb-18

WorkOrder: N028823

Client ID: CH2HI03

Project: SFPP - Norwalk

QC Level: RTNE

Date Received: 2/27/2018

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N028823-001A	INF-02-27	2/27/2018 11:30:00 AM	2/28/2018	Wastewater	EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	☐	☐	☐	VW
			2/28/2018		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW
N028823-001B			2/28/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	☐	☐	☐	WW
			2/28/2018		EPA 8015B	TPH EXTRACTABLE BY GC/FID	☐	☐	☐	WW
			2/28/2018		EPA 8015B	Total TPH	☐	☐	☐	WW
N028823-002A	FOLDER	2/28/2018	2/28/2018		Folder	Folder	☐	☐	☐	LAB
			2/28/2018		Folder	Folder	☐	☐	☐	LAB

April 02, 2018

Eric Davis
CH2MHill
1000 Wilshire Blvd.
Los Angeles, CA 90017

TEL:

FAX:

Workorder No.: N029409

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on March 27, 2018 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Quennie Manimtim
Laboratory Director

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CLIENT: CH2MHill
Project: SFPP Norwalk
Lab Order: N029409

CASE NARRATIVE**SAMPLE RECEIVING/GENERAL COMMENTS:**

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable. .

Sample was analyzed within method holding time.

Results were J-Flag. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" Flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Analytical Comment for EPA 8015B_Total TPH:

Method Blank (MB) has hit above the reporting limit for Total TPH but less than 1/10 of the amount measured in sample.



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ASSET Laboratories

Date: 02-Apr-18

CLIENT: CH2MHill
Project: SFPP Norwalk
Lab Order: N029409
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N029409-001A	INF-03-27	Wastewater	3/27/2018 12:05:00 PM	3/27/2018	4/2/2018
N029409-001B	INF-03-27	Wastewater	3/27/2018 12:05:00 PM	3/27/2018	4/2/2018



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ASSET Laboratories
ANALYTICAL RESULTS

Print Date: 02-Apr-18

CLIENT: CH2MHill
Lab Order: N029409
Project: SFPP Norwalk
Lab ID: N029409-001

Client Sample ID: INF-03-27
Collection Date: 3/27/2018 12:05:00 PM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
EPA 8260B							
RunID: NV00922-MS5_180328A	QC Batch: P18VW058		PrepDate:		Analyst: QBM		
1,1,1,2-Tetrachloroethane	ND	0.38	1.0		ug/L	1	3/28/2018 04:16 PM
1,1,1-Trichloroethane	ND	0.38	1.0		ug/L	1	3/28/2018 04:16 PM
1,1,2,2-Tetrachloroethane	ND	0.34	1.0		ug/L	1	3/28/2018 04:16 PM
1,1,2-Trichloroethane	ND	0.29	1.0		ug/L	1	3/28/2018 04:16 PM
1,1-Dichloroethane	ND	0.45	0.50		ug/L	1	3/28/2018 04:16 PM
1,1-Dichloroethene	ND	0.34	1.0		ug/L	1	3/28/2018 04:16 PM
1,1-Dichloropropene	ND	0.32	1.0		ug/L	1	3/28/2018 04:16 PM
1,2,3-Trichlorobenzene	ND	0.28	1.0		ug/L	1	3/28/2018 04:16 PM
1,2,3-Trichloropropane	ND	0.26	1.0		ug/L	1	3/28/2018 04:16 PM
1,2,4-Trichlorobenzene	ND	0.21	1.0		ug/L	1	3/28/2018 04:16 PM
1,2,4-Trimethylbenzene	1.2	0.33	1.0		ug/L	1	3/28/2018 04:16 PM
1,2-Dibromo-3-chloropropane	ND	0.67	2.0		ug/L	1	3/28/2018 04:16 PM
1,2-Dibromoethane	ND	0.31	1.0		ug/L	1	3/28/2018 04:16 PM
1,2-Dichlorobenzene	ND	0.29	1.0		ug/L	1	3/28/2018 04:16 PM
1,2-Dichloroethane	ND	0.29	0.50		ug/L	1	3/28/2018 04:16 PM
1,2-Dichloropropane	ND	0.24	1.0		ug/L	1	3/28/2018 04:16 PM
1,3,5-Trimethylbenzene	2.2	0.27	1.0		ug/L	1	3/28/2018 04:16 PM
1,3-Dichlorobenzene	ND	0.28	1.0		ug/L	1	3/28/2018 04:16 PM
1,3-Dichloropropane	ND	0.32	1.0		ug/L	1	3/28/2018 04:16 PM
1,4-Dichlorobenzene	ND	0.32	1.0		ug/L	1	3/28/2018 04:16 PM
2,2-Dichloropropane	ND	0.32	1.0		ug/L	1	3/28/2018 04:16 PM
2-Butanone	ND	4.9	10		ug/L	1	3/28/2018 04:16 PM
2-Chlorotoluene	ND	0.28	1.0		ug/L	1	3/28/2018 04:16 PM
4-Chlorotoluene	ND	0.30	1.0		ug/L	1	3/28/2018 04:16 PM
4-Isopropyltoluene	ND	0.33	1.0		ug/L	1	3/28/2018 04:16 PM
4-Methyl-2-pentanone	ND	3.2	10		ug/L	1	3/28/2018 04:16 PM
Benzene	5.3	0.34	1.0		ug/L	1	3/28/2018 04:16 PM
Bromobenzene	ND	0.25	1.0		ug/L	1	3/28/2018 04:16 PM
Bromochloromethane	ND	0.41	1.0		ug/L	1	3/28/2018 04:16 PM
Bromodichloromethane	ND	0.38	1.0		ug/L	1	3/28/2018 04:16 PM
Bromoform	ND	0.39	1.0		ug/L	1	3/28/2018 04:16 PM
Bromomethane	ND	0.79	1.0		ug/L	1	3/28/2018 04:16 PM
Carbon disulfide	ND	0.81	1.0		ug/L	1	3/28/2018 04:16 PM
Carbon tetrachloride	ND	0.40	0.50		ug/L	1	3/28/2018 04:16 PM
Chlorobenzene	ND	0.30	1.0		ug/L	1	3/28/2018 04:16 PM
Chloroethane	ND	0.97	1.0		ug/L	1	3/28/2018 04:16 PM

Qualifiers: B Analyte detected in the associated Method Blank E Value above quantitation range
 H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits
 ND Not Detected at the Reporting Limit S Spike/Surrogate outside of limits due to matrix interference
 Results are wet unless otherwise specified DO Surrogate Diluted Out



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ASSET Laboratories
ANALYTICAL RESULTS

Print Date: 02-Apr-18

CLIENT: CH2MHill
Lab Order: N029409
Project: SFPP Norwalk
Lab ID: N029409-001

Client Sample ID: INF-03-27
Collection Date: 3/27/2018 12:05:00 PM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
EPA 8260B							
RunID: NV00922-MS5_180328A	QC Batch: P18VW058		PrepDate:		Analyst: QBM		
Chloroform	ND	0.27	1.0		ug/L	1	3/28/2018 04:16 PM
Chloromethane	ND	0.36	1.0		ug/L	1	3/28/2018 04:16 PM
cis-1,2-Dichloroethene	ND	0.32	1.0		ug/L	1	3/28/2018 04:16 PM
cis-1,3-Dichloropropene	ND	0.28	1.0		ug/L	1	3/28/2018 04:16 PM
Di-isopropyl ether	2.1	0.079	1.0		ug/L	1	3/28/2018 04:16 PM
Dibromochloromethane	ND	0.41	1.0		ug/L	1	3/28/2018 04:16 PM
Dibromomethane	ND	0.28	1.0		ug/L	1	3/28/2018 04:16 PM
Dichlorodifluoromethane	ND	0.29	1.0		ug/L	1	3/28/2018 04:16 PM
Ethyl tert-butyl ether	ND	0.30	1.0		ug/L	1	3/28/2018 04:16 PM
Ethylbenzene	0.83	0.31	1.0	J	ug/L	1	3/28/2018 04:16 PM
Freon-113	ND	0.35	1.0		ug/L	1	3/28/2018 04:16 PM
Hexachlorobutadiene	ND	0.30	1.0		ug/L	1	3/28/2018 04:16 PM
Isopropylbenzene	ND	0.26	1.0		ug/L	1	3/28/2018 04:16 PM
m,p-Xylene	7.4	0.23	1.0		ug/L	1	3/28/2018 04:16 PM
Methylene chloride	ND	1.9	2.0		ug/L	1	3/28/2018 04:16 PM
MTBE	43	0.34	1.0		ug/L	1	3/28/2018 04:16 PM
n-Butylbenzene	0.57	0.34	1.0	J	ug/L	1	3/28/2018 04:16 PM
n-Propylbenzene	ND	0.32	1.0		ug/L	1	3/28/2018 04:16 PM
Naphthalene	1.8	0.42	1.0		ug/L	1	3/28/2018 04:16 PM
o-Xylene	3.7	0.31	1.0		ug/L	1	3/28/2018 04:16 PM
sec-Butylbenzene	ND	0.32	1.0		ug/L	1	3/28/2018 04:16 PM
Styrene	ND	0.21	1.0		ug/L	1	3/28/2018 04:16 PM
Tert-amyl methyl ether	ND	0.26	1.0		ug/L	1	3/28/2018 04:16 PM
Tert-Butanol	410	2.4	5.0		ug/L	1	3/28/2018 04:16 PM
tert-Butylbenzene	ND	0.28	1.0		ug/L	1	3/28/2018 04:16 PM
Tetrachloroethene	ND	0.30	1.0		ug/L	1	3/28/2018 04:16 PM
Toluene	ND	0.46	2.0		ug/L	1	3/28/2018 04:16 PM
trans-1,2-Dichloroethene	ND	0.40	1.0		ug/L	1	3/28/2018 04:16 PM
trans-1,3-Dichloropropene	ND	0.25	1.0		ug/L	1	3/28/2018 04:16 PM
Trichloroethene	ND	0.37	1.0		ug/L	1	3/28/2018 04:16 PM
Trichlorofluoromethane	ND	0.37	1.0		ug/L	1	3/28/2018 04:16 PM
Vinyl chloride	ND	0.29	0.50		ug/L	1	3/28/2018 04:16 PM
Xylenes, Total	11	1.5	2.0		ug/L	1	3/28/2018 04:16 PM
Surr: 1,2-Dichloroethane-d4	104	0	72-119		%REC	1	3/28/2018 04:16 PM
Surr: 4-Bromofluorobenzene	98.1	0	76-119		%REC	1	3/28/2018 04:16 PM
Surr: Dibromofluoromethane	103	0	85-115		%REC	1	3/28/2018 04:16 PM

Qualifiers: B Analyte detected in the associated Method Blank E Value above quantitation range
 H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits
 ND Not Detected at the Reporting Limit S Spike/Surrogate outside of limits due to matrix interference
 Results are wet unless otherwise specified DO Surrogate Diluted Out



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ASSET Laboratories
ANALYTICAL RESULTS

Print Date: 02-Apr-18

CLIENT: CH2MHill
Lab Order: N029409
Project: SFPP Norwalk
Lab ID: N029409-001

Client Sample ID: INF-03-27
Collection Date: 3/27/2018 12:05:00 PM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS BY GC/MS
EPA 8260B

RunID: NV00922-MS5_180328A	QC Batch: P18VW058				PrepDate:		Analyst: QBM
Surr: Toluene-d8	102	0	81-120	%REC	1	3/28/2018 04:16 PM	

TPH EXTRACTABLE BY GC/FID
EPA 3510C
EPA 8015B

RunID: NV00922-GC3_180327D	QC Batch: 67376				PrepDate: 3/28/2018		Analyst: SS
TPH-Diesel (C13-C22)	380	15	25	ug/L	1	3/28/2018 06:43 PM	
TPH-Oil (C23-C36)	330	14	25	ug/L	1	3/28/2018 06:43 PM	
Surr: Octacosane	82.1	0	26-152	%REC	1	3/28/2018 06:43 PM	
Surr: p-Terphenyl	78.9	0	57-132	%REC	1	3/28/2018 06:43 PM	

GASOLINE RANGE ORGANICS BY GC/FID
EPA 8015B

RunID: NV00922-GC4_180328A	QC Batch: E18VW025				PrepDate:		Analyst: QBM
TPH-Gasoline (C4-C12)	430	16	50	ug/L	1	3/28/2018 08:40 PM	
Surr: Chlorobenzene - d5	105	0	74-138	%REC	1	3/28/2018 08:40 PM	

TOTAL TPH
EPA 8015B

RunID: NV00922-GC3_180327D	QC Batch: R122952				PrepDate:		Analyst: SS
Total TPH	1100	16	50	B ug/L	1	3/27/2018	

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike/Surrogate outside of limits due to matrix interference
		Results are wet unless otherwise specified	DO	Surrogate Diluted Out



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CLIENT: CH2MHill
Work Order: N029409
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT**TestCode: 8015_W_FP_SFPP**

Sample ID: MB-67376	SampType: MBLK	TestCode: 8015_W_FP_	Units: ug/L	Prep Date: 3/28/2018	RunNo: 122952						
Client ID: PBW	Batch ID: 67376	TestNo: EPA 8015B	EPA 3510C	Analysis Date: 3/28/2018	SeqNo: 2970603						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel (C13-C22)	ND	25									
TPH-Oil (C23-C36)	21.149	25									J
Surr: Octacosane	75.911		80.00		94.9	26	152				
Surr: p-Terphenyl	73.272		80.00		91.6	57	132				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values



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CLIENT: CH2MHill
Work Order: N029409
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_SFPTOT

Sample ID: MB-R122952	SampType: MBLK	TestCode: 8015_W_SFP	Units: ug/L	Prep Date:				RunNo: 122952			
Client ID: PBW	Batch ID: R122952	TestNo: EPA 8015B		Analysis Date: 3/27/2018				SeqNo: 2971392			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH	68.000	50									

Qualifiers:

- | | | | | | |
|---|--|----|-------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
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CLIENT: CH2MHill
Work Order: N029409
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_WSFPP

Sample ID: E180328LCS	SampType: LCS	TestCode: 8015GAS_WS Units: ug/L				Prep Date:			RunNo: 122948		
Client ID: LCSW	Batch ID: E18VW025	TestNo: EPA 8015B				Analysis Date: 3/28/2018			SeqNo: 2970294		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	865.000	50	1000	0	86.5	67	136				
Surr: Chlorobenzene - d5	45491.000		50000		91.0	74	138				

Sample ID: E180328MB1	SampType: MBLK	TestCode: 8015GAS_WS Units: ug/L				Prep Date:			RunNo: 122948		
Client ID: PBW	Batch ID: E18VW025	TestNo: EPA 8015B				Analysis Date: 3/28/2018			SeqNo: 2970295		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	47.000	50									J
Surr: Chlorobenzene - d5	49689.000		50000		99.4	74	138				

Sample ID: N029407-004AMS	SampType: MS	TestCode: 8015GAS_WS Units: ug/L				Prep Date:			RunNo: 122948		
Client ID: ZZZZZZ	Batch ID: E18VW025	TestNo: EPA 8015B				Analysis Date: 3/28/2018			SeqNo: 2970302		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	964.000	50	1000	44.00	92.0	67	136				
Surr: Chlorobenzene - d5	48329.000		50000		96.7	74	138				

Sample ID: N029407-004AMSD	SampType: MSD	TestCode: 8015GAS_WS Units: ug/L				Prep Date:			RunNo: 122948		
Client ID: ZZZZZZ	Batch ID: E18VW025	TestNo: EPA 8015B				Analysis Date: 3/28/2018			SeqNo: 2970305		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	957.000	50	1000	44.00	91.3	67	136	964.0	0.729	30	
Surr: Chlorobenzene - d5	49020.000		50000		98.0	74	138		0	0	

Qualifiers:

- | | | | | | |
|---|--|----|-------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
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CLIENT: CH2MHill
Work Order: N029409
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P180328LCS	SampType: LCS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 122947						
Client ID: LCSW	Batch ID: P18VW058	TestNo: EPA 8260B	Analysis Date: 3/28/2018	SeqNo: 2970282							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	20.040	1.0	20.00	0	100	81	129				
1,1,1-Trichloroethane	20.780	1.0	20.00	0	104	67	132				
1,1,2,2-Tetrachloroethane	20.680	1.0	20.00	0	103	63	128				
1,1,2-Trichloroethane	21.070	1.0	20.00	0	105	75	125				
1,1-Dichloroethane	21.370	0.50	20.00	0	107	69	133				
1,1-Dichloroethene	20.220	1.0	20.00	0	101	68	130				
1,1-Dichloropropene	20.670	1.0	20.00	0	103	73	132				
1,2,3-Trichlorobenzene	20.110	1.0	20.00	0	101	67	137				
1,2,3-Trichloropropane	21.760	1.0	20.00	0	109	73	124				
1,2,4-Trichlorobenzene	19.740	1.0	20.00	0	98.7	66	134				
1,2,4-Trimethylbenzene	21.550	1.0	20.00	0	108	74	132				
1,2-Dibromo-3-chloropropane	19.220	2.0	20.00	0	96.1	50	132				
1,2-Dibromoethane	21.040	1.0	20.00	0	105	80	121				
1,2-Dichlorobenzene	19.600	1.0	20.00	0	98.0	71	122				
1,2-Dichloroethane	21.700	0.50	20.00	0	108	69	132				
1,2-Dichloropropane	20.460	1.0	20.00	0	102	75	125				
1,3,5-Trimethylbenzene	21.220	1.0	20.00	0	106	74	131				
1,3-Dichlorobenzene	19.880	1.0	20.00	0	99.4	75	124				
1,3-Dichloropropane	20.380	1.0	20.00	0	102	73	126				
1,4-Dichlorobenzene	19.910	1.0	20.00	0	99.6	74	123				
2,2-Dichloropropane	19.530	1.0	20.00	0	97.6	69	137				
2-Butanone	236.850	10	200.0	0	118	49	136				
2-Chlorotoluene	20.420	1.0	20.00	0	102	73	126				
4-Chlorotoluene	20.850	1.0	20.00	0	104	74	128				
4-Isopropyltoluene	21.660	1.0	20.00	0	108	73	130				
4-Methyl-2-pentanone	242.590	10	200.0	0	121	58	134				
Benzene	20.980	1.0	20.00	0	105	81	122				
Bromobenzene	20.420	1.0	20.00	0	102	76	124				
Bromochloromethane	21.330	1.0	20.00	0	107	65	129				
Bromodichloromethane	20.650	1.0	20.00	0	103	76	121				

Qualifiers:

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CLIENT: CH2MHill
Work Order: N029409
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P180328LCS	SampType: LCS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 122947						
Client ID: LCSW	Batch ID: P18VW058	TestNo: EPA 8260B	Analysis Date: 3/28/2018	SeqNo: 2970282							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromoform	19.220	1.0	20.00	0	96.1	69	128				
Bromomethane	19.130	1.0	20.00	0	95.7	53	141				
Carbon disulfide	21.300	1.0	20.00	0	106	75	125				
Carbon tetrachloride	20.810	0.50	20.00	0	104	66	138				
Chlorobenzene	19.750	1.0	20.00	0	98.8	81	122				
Chloroethane	19.280	1.0	20.00	0	96.4	58	133				
Chloroform	20.920	1.0	20.00	0	105	69	128				
Chloromethane	19.590	1.0	20.00	0	98.0	56	131				
cis-1,2-Dichloroethene	20.920	1.0	20.00	0	105	72	126				
cis-1,3-Dichloropropene	21.210	1.0	20.00	0	106	69	131				
Di-isopropyl ether	22.310	1.0	20.00	0	112	70	130				
Dibromochloromethane	20.820	1.0	20.00	0	104	66	133				
Dibromomethane	20.620	1.0	20.00	0	103	76	125				
Dichlorodifluoromethane	23.710	1.0	20.00	0	119	53	153				
Ethyl tert-butyl ether	23.640	1.0	20.00	0	118	70	130				
Ethylbenzene	20.070	1.0	20.00	0	100	73	127				
Freon-113	23.460	1.0	20.00	0	117	75	125				
Hexachlorobutadiene	21.170	1.0	20.00	0	106	67	131				
Isopropylbenzene	20.400	1.0	20.00	0	102	75	127				
m,p-Xylene	42.240	1.0	40.00	0	106	76	128				
Methylene chloride	21.670	2.0	20.00	0	108	63	137				
MTBE	21.870	1.0	20.00	0	109	65	123				
n-Butylbenzene	21.580	1.0	20.00	0	108	69	137				
n-Propylbenzene	20.550	1.0	20.00	0	103	72	129				
Naphthalene	15.650	1.0	20.00	0	78.2	54	138				
o-Xylene	20.140	1.0	20.00	0	101	80	121				
sec-Butylbenzene	21.600	1.0	20.00	0	108	72	127				
Styrene	21.060	1.0	20.00	0	105	65	134				
Tert-amyl methyl ether	21.930	1.0	20.00	0	110	70	130				
Tert-Butanol	105.320	5.0	100.0	0	105	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values



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CLIENT: CH2MHill
Work Order: N029409
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P180328LCS	SampType: LCS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 122947						
Client ID: LCSW	Batch ID: P18VW058	TestNo: EPA 8260B		Analysis Date: 3/28/2018	SeqNo: 2970282						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
tert-Butylbenzene	20.470	1.0	20.00	0	102	70	129				
Tetrachloroethene	19.180	1.0	20.00	0	95.9	66	128				
Toluene	19.790	2.0	20.00	0	99.0	77	122				
trans-1,2-Dichloroethene	20.600	1.0	20.00	0	103	63	137				
trans-1,3-Dichloropropene	21.430	1.0	20.00	0	107	59	135				
Trichloroethene	20.260	1.0	20.00	0	101	70	127				
Trichlorofluoromethane	23.690	1.0	20.00	0	118	57	129				
Vinyl chloride	21.060	0.50	20.00	0	105	50	134				
Xylenes, Total	62.380	2.0	60.00	0	104	75	125				
Surr: 1,2-Dichloroethane-d4	29.600		25.00		118	72	119				
Surr: 4-Bromofluorobenzene	26.010		25.00		104	76	119				
Surr: Dibromofluoromethane	28.570		25.00		114	85	115				
Surr: Toluene-d8	26.510		25.00		106	81	120				

Sample ID: N029407-005AMS	SampType: MS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:				RunNo: 122947			
Client ID: ZZZZZZ	Batch ID: P18VW058	TestNo: EPA 8260B		Analysis Date: 3/28/2018				SeqNo: 2970283			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	20.240	1.0	20.00	0	101	81	129				
1,1,1-Trichloroethane	20.700	1.0	20.00	0	104	67	132				
1,1,2,2-Tetrachloroethane	19.740	1.0	20.00	0	98.7	63	128				
1,1,2-Trichloroethane	19.640	1.0	20.00	0	98.2	75	125				
1,1-Dichloroethane	20.740	0.50	20.00	0	104	69	133				
1,1-Dichloroethene	20.170	1.0	20.00	0	101	68	130				
1,1-Dichloropropene	21.000	1.0	20.00	0	105	73	132				
1,2,3-Trichlorobenzene	19.890	1.0	20.00	0	99.4	67	137				
1,2,3-Trichloropropane	20.780	1.0	20.00	0	104	73	124				
1,2,4-Trichlorobenzene	20.630	1.0	20.00	0	103	66	134				
1,2,4-Trimethylbenzene	21.800	1.0	20.00	0	109	74	132				
1,2-Dibromo-3-chloropropane	18.910	2.0	20.00	0	94.6	50	132				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values



ASSET LABORATORIES

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11110 Artesia Blvd., Ste B, Cerritos, CA 90703
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EPA ID CA01638

NEVADA | P: 702.307.2659 F: 702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
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CLIENT: CH2MHill
Work Order: N029409
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: N029407-005AMS	SampType: MS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:				RunNo: 122947			
Client ID: ZZZZZZ	Batch ID: P18VW058	TestNo: EPA 8260B		Analysis Date: 3/28/2018				SeqNo: 2970283			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	19.300	1.0	20.00	0	96.5	80	121				
1,2-Dichlorobenzene	19.290	1.0	20.00	0	96.5	71	122				
1,2-Dichloroethane	20.200	0.50	20.00	0	101	69	132				
1,2-Dichloropropane	20.320	1.0	20.00	0	102	75	125				
1,3,5-Trimethylbenzene	21.970	1.0	20.00	0	110	74	131				
1,3-Dichlorobenzene	19.890	1.0	20.00	0	99.4	75	124				
1,3-Dichloropropane	20.070	1.0	20.00	0	100	73	126				
1,4-Dichlorobenzene	20.170	1.0	20.00	0	101	74	123				
2,2-Dichloropropane	19.590	1.0	20.00	0	98.0	69	137				
2-Butanone	201.200	10	200.0	0	101	49	136				
2-Chlorotoluene	20.590	1.0	20.00	0	103	73	126				
4-Chlorotoluene	21.590	1.0	20.00	0	108	74	128				
4-Isopropyltoluene	22.940	1.0	20.00	0	115	73	130				
4-Methyl-2-pentanone	216.240	10	200.0	0	108	58	134				
Benzene	20.350	1.0	20.00	0	102	81	122				
Bromobenzene	20.080	1.0	20.00	0	100	76	124				
Bromochloromethane	20.150	1.0	20.00	0	101	65	129				
Bromodichloromethane	20.580	1.0	20.00	0	103	76	121				
Bromoform	19.040	1.0	20.00	0	95.2	69	128				
Bromomethane	19.350	1.0	20.00	0	96.8	53	141				
Carbon disulfide	21.370	1.0	20.00	0	107	75	125				
Carbon tetrachloride	20.490	0.50	20.00	0	102	66	138				
Chlorobenzene	20.250	1.0	20.00	0	101	81	122				
Chloroethane	18.890	1.0	20.00	0	94.4	58	133				
Chloroform	19.690	1.0	20.00	0	98.4	69	128				
Chloromethane	19.950	1.0	20.00	0	99.8	56	131				
cis-1,2-Dichloroethene	19.890	1.0	20.00	0	99.4	72	126				
cis-1,3-Dichloropropene	19.820	1.0	20.00	0	99.1	69	131				
Di-isopropyl ether	21.070	1.0	20.00	0	105	70	130				
Dibromochloromethane	19.530	1.0	20.00	0	97.6	66	133				

Qualifiers:

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3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
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CLIENT: CH2MHill
Work Order: N029409
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: N029407-005AMS	SampType: MS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 122947						
Client ID: ZZZZZZ	Batch ID: P18VW058	TestNo: EPA 8260B	Analysis Date: 3/28/2018	SeqNo: 2970283							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromomethane	20.110	1.0	20.00	0	101	76	125				
Dichlorodifluoromethane	23.410	1.0	20.00	0	117	53	153				
Ethyl tert-butyl ether	21.850	1.0	20.00	0	109	70	130				
Ethylbenzene	20.770	1.0	20.00	0	104	73	127				
Freon-113	23.990	1.0	20.00	0	120	75	125				
Hexachlorobutadiene	21.840	1.0	20.00	0	109	67	131				
Isopropylbenzene	21.020	1.0	20.00	0	105	75	127				
m,p-Xylene	44.210	1.0	40.00	0	111	76	128				
Methylene chloride	20.450	2.0	20.00	0	102	63	137				
MTBE	19.830	1.0	20.00	0	99.2	65	123				
n-Butylbenzene	22.990	1.0	20.00	0	115	69	137				
n-Propylbenzene	21.220	1.0	20.00	0	106	72	129				
Naphthalene	15.800	1.0	20.00	0	79.0	54	138				
o-Xylene	20.690	1.0	20.00	0	103	80	121				
sec-Butylbenzene	22.920	1.0	20.00	0	115	72	127				
Styrene	20.710	1.0	20.00	0	104	65	134				
Tert-amyl methyl ether	20.200	1.0	20.00	0	101	70	130				
Tert-Butanol	94.300	5.0	100.0	0	94.3	70	130				
tert-Butylbenzene	21.560	1.0	20.00	0	108	70	129				
Tetrachloroethene	20.010	1.0	20.00	0	100	66	128				
Toluene	19.030	2.0	20.00	0	95.2	77	122				
trans-1,2-Dichloroethene	19.890	1.0	20.00	0	99.4	63	137				
trans-1,3-Dichloropropene	20.210	1.0	20.00	0	101	59	135				
Trichloroethene	20.050	1.0	20.00	0	100	70	127				
Trichlorofluoromethane	23.410	1.0	20.00	0	117	57	129				
Vinyl chloride	20.750	0.50	20.00	0	104	50	134				
Xylenes, Total	64.900	2.0	60.00	0	108	75	125				
Surr: 1,2-Dichloroethane-d4	26.650		25.00		107	72	119				
Surr: 4-Bromofluorobenzene	26.910		25.00		108	76	119				
Surr: Dibromofluoromethane	26.730		25.00		107	85	115				

Qualifiers:

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CLIENT: CH2MHill
Work Order: N029409
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: N029407-005AMS	SampType: MS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 122947						
Client ID: ZZZZZZ	Batch ID: P18VW058	TestNo: EPA 8260B		Analysis Date: 3/28/2018	SeqNo: 2970283						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Surr: Toluene-d8 26.220 25.00 105 81 120

Sample ID: N029407-005AMSD	SampType: MSD	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 122947						
Client ID: ZZZZZ	Batch ID: P18VW058	TestNo: EPA 8260B		Analysis Date: 3/28/2018	SeqNo: 2970284						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	19.340	1.0	20.00	0	96.7	81	129	20.24	4.55	20
1,1,1-Trichloroethane	20.340	1.0	20.00	0	102	67	132	20.70	1.75	20
1,1,2,2-Tetrachloroethane	19.040	1.0	20.00	0	95.2	63	128	19.74	3.61	20
1,1,2-Trichloroethane	18.980	1.0	20.00	0	94.9	75	125	19.64	3.42	20
1,1-Dichloroethane	21.130	0.50	20.00	0	106	69	133	20.74	1.86	20
1,1-Dichloroethene	19.750	1.0	20.00	0	98.8	68	130	20.17	2.10	20
1,1-Dichloropropene	20.970	1.0	20.00	0	105	73	132	21.00	0.143	20
1,2,3-Trichlorobenzene	19.740	1.0	20.00	0	98.7	67	137	19.89	0.757	20
1,2,3-Trichloropropane	20.470	1.0	20.00	0	102	73	124	20.78	1.50	20
1,2,4-Trichlorobenzene	20.520	1.0	20.00	0	103	66	134	20.63	0.535	20
1,2,4-Trimethylbenzene	21.280	1.0	20.00	0	106	74	132	21.80	2.41	20
1,2-Dibromo-3-chloropropane	17.990	2.0	20.00	0	90.0	50	132	18.91	4.99	20
1,2-Dibromoethane	19.840	1.0	20.00	0	99.2	80	121	19.30	2.76	20
1,2-Dichlorobenzene	19.700	1.0	20.00	0	98.5	71	122	19.29	2.10	20
1,2-Dichloroethane	20.020	0.50	20.00	0	100	69	132	20.20	0.895	20
1,2-Dichloropropane	19.700	1.0	20.00	0	98.5	75	125	20.32	3.10	20
1,3,5-Trimethylbenzene	21.760	1.0	20.00	0	109	74	131	21.97	0.960	20
1,3-Dichlorobenzene	19.880	1.0	20.00	0	99.4	75	124	19.89	0.0503	20
1,3-Dichloropropane	18.980	1.0	20.00	0	94.9	73	126	20.07	5.58	20
1,4-Dichlorobenzene	19.700	1.0	20.00	0	98.5	74	123	20.17	2.36	20
2,2-Dichloropropane	19.550	1.0	20.00	0	97.8	69	137	19.59	0.204	20
2-Butanone	195.170	10	200.0	0	97.6	49	136	201.2	3.04	20
2-Chlorotoluene	21.070	1.0	20.00	0	105	73	126	20.59	2.30	20
4-Chlorotoluene	21.720	1.0	20.00	0	109	74	128	21.59	0.600	20

Qualifiers:

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CLIENT: CH2MHill
Work Order: N029409
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: N029407-005AMSD	SampType: MSD	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 122947						
Client ID: ZZZZZZ	Batch ID: P18VW058	TestNo: EPA 8260B	Analysis Date: 3/28/2018	SeqNo: 2970284							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Isopropyltoluene	22.470	1.0	20.00	0	112	73	130	22.94	2.07	20	
4-Methyl-2-pentanone	208.690	10	200.0	0	104	58	134	216.2	3.55	20	
Benzene	20.230	1.0	20.00	0	101	81	122	20.35	0.591	20	
Bromobenzene	20.040	1.0	20.00	0	100	76	124	20.08	0.199	20	
Bromochloromethane	20.900	1.0	20.00	0	104	65	129	20.15	3.65	20	
Bromodichloromethane	20.020	1.0	20.00	0	100	76	121	20.58	2.76	20	
Bromoform	18.010	1.0	20.00	0	90.1	69	128	19.04	5.56	20	
Bromomethane	21.380	1.0	20.00	0	107	53	141	19.35	9.97	20	
Carbon disulfide	21.720	1.0	20.00	0	109	75	125	21.37	1.62	20	
Carbon tetrachloride	21.040	0.50	20.00	0	105	66	138	20.49	2.65	20	
Chlorobenzene	19.900	1.0	20.00	0	99.5	81	122	20.25	1.74	20	
Chloroethane	19.230	1.0	20.00	0	96.2	58	133	18.89	1.78	20	
Chloroform	20.810	1.0	20.00	0	104	69	128	19.69	5.53	20	
Chloromethane	20.340	1.0	20.00	0	102	56	131	19.95	1.94	20	
cis-1,2-Dichloroethene	20.830	1.0	20.00	0	104	72	126	19.89	4.62	20	
cis-1,3-Dichloropropene	19.900	1.0	20.00	0	99.5	69	131	19.82	0.403	20	
Di-isopropyl ether	21.390	1.0	20.00	0	107	70	130	21.07	1.51	20	
Dibromochloromethane	18.870	1.0	20.00	0	94.4	66	133	19.53	3.44	20	
Dibromomethane	19.740	1.0	20.00	0	98.7	76	125	20.11	1.86	20	
Dichlorodifluoromethane	23.930	1.0	20.00	0	120	53	153	23.41	2.20	20	
Ethyl tert-butyl ether	22.090	1.0	20.00	0	110	70	130	21.85	1.09	20	
Ethylbenzene	19.770	1.0	20.00	0	98.8	73	127	20.77	4.93	20	
Freon-113	24.030	1.0	20.00	0	120	75	125	23.99	0.167	20	
Hexachlorobutadiene	22.310	1.0	20.00	0	112	67	131	21.84	2.13	20	
Isopropylbenzene	21.260	1.0	20.00	0	106	75	127	21.02	1.14	20	
m,p-Xylene	42.590	1.0	40.00	0	106	76	128	44.21	3.73	20	
Methylene chloride	21.280	2.0	20.00	0	106	63	137	20.45	3.98	20	
MTBE	19.690	1.0	20.00	0	98.4	65	123	19.83	0.709	20	
n-Butylbenzene	22.370	1.0	20.00	0	112	69	137	22.99	2.73	20	
n-Propylbenzene	21.340	1.0	20.00	0	107	72	129	21.22	0.564	20	

Qualifiers:

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11110 Artesia Blvd., Ste B, Cerritos, CA 90703
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NEVADA | P: 702.307.2659 F: 702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
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CLIENT: CH2MHill
Work Order: N029409
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: N029407-005AMSD	SampType: MSD	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:					RunNo: 122947			
Client ID: ZZZZZZ	Batch ID: P18VW058	TestNo: EPA 8260B			Analysis Date: 3/28/2018					SeqNo: 2970284		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Naphthalene	15.150	1.0	20.00	0	75.8	54	138	15.80	4.20	20		
o-Xylene	20.360	1.0	20.00	0	102	80	121	20.69	1.61	20		
sec-Butylbenzene	22.360	1.0	20.00	0	112	72	127	22.92	2.47	20		
Styrene	19.540	1.0	20.00	0	97.7	65	134	20.71	5.81	20		
Tert-amyl methyl ether	19.940	1.0	20.00	0	99.7	70	130	20.20	1.30	20		
Tert-Butanol	87.100	5.0	100.0	0	87.1	70	130	94.30	7.94	20		
tert-Butylbenzene	21.060	1.0	20.00	0	105	70	129	21.56	2.35	20		
Tetrachloroethene	18.740	1.0	20.00	0	93.7	66	128	20.01	6.55	20		
Toluene	19.480	2.0	20.00	0	97.4	77	122	19.03	2.34	20		
trans-1,2-Dichloroethene	19.200	1.0	20.00	0	96.0	63	137	19.89	3.53	20		
trans-1,3-Dichloropropene	20.380	1.0	20.00	0	102	59	135	20.21	0.838	20		
Trichloroethene	19.780	1.0	20.00	0	98.9	70	127	20.05	1.36	20		
Trichlorofluoromethane	23.400	1.0	20.00	0	117	57	129	23.41	0.0427	20		
Vinyl chloride	20.970	0.50	20.00	0	105	50	134	20.75	1.05	20		
Xylenes, Total	62.950	2.0	60.00	0	105	75	125	64.90	3.05	20		
Surr: 1,2-Dichloroethane-d4	26.810		25.00		107	72	119		0			
Surr: 4-Bromofluorobenzene	26.080		25.00		104	76	119		0			
Surr: Dibromofluoromethane	26.550		25.00		106	85	115		0			
Surr: Toluene-d8	26.070		25.00		104	81	120		0			

Sample ID: P180328MB2	SampType: MBLK	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:					RunNo: 122947		
Client ID: PBW	Batch ID: P18VW058	TestNo: EPA 8260B		Analysis Date: 3/28/2018					SeqNo: 2970286		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0									
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	0.50									
1,1-Dichloroethene	ND	1.0									

Qualifiers:

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CLIENT: CH2MHill
Work Order: N029409
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P180328MB2	SampType: MBLK	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 122947						
Client ID: PBW	Batch ID: P18VW058	TestNo: EPA 8260B	Analysis Date: 3/28/2018	SeqNo: 2970286							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0									
1,2,3-Trichlorobenzene	ND	1.0									
1,2,3-Trichloropropane	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromo-3-chloropropane	ND	2.0									
1,2-Dibromoethane	ND	1.0									
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	0.50									
1,2-Dichloropropane	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,3-Dichloropropane	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
2,2-Dichloropropane	ND	1.0									
2-Butanone	ND	10									
2-Chlorotoluene	ND	1.0									
4-Chlorotoluene	ND	1.0									
4-Isopropyltoluene	ND	1.0									
4-Methyl-2-pentanone	ND	10									
Benzene	ND	1.0									
Bromobenzene	ND	1.0									
Bromochloromethane	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	1.0									
Carbon disulfide	ND	1.0									
Carbon tetrachloride	ND	0.50									
Chlorobenzene	ND	1.0									
Chloroethane	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values



CALIFORNIA | P: 562.219.7435 F: 562.219.7436
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ELAP Cert 2921
EPA ID CA01638

NEVADA | P: 702.307.2659 F: 702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

"Serving Clients with Passion and Professionalism"

CLIENT: CH2MHill
Work Order: N029409
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P180328MB2	SampType: MBLK	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:				RunNo: 122947			
Client ID: PBW	Batch ID: P18VW058	TestNo: EPA 8260B		Analysis Date: 3/28/2018				SeqNo: 2970286			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,2-Dichloroethene	ND	1.0									
cis-1,3-Dichloropropene	ND	1.0									
Di-isopropyl ether	ND	1.0									
Dibromochloromethane	ND	1.0									
Dibromomethane	ND	1.0									
Dichlorodifluoromethane	ND	1.0									
Ethyl tert-butyl ether	ND	1.0									
Ethylbenzene	ND	1.0									
Freon-113	ND	1.0									
Hexachlorobutadiene	ND	1.0									
Isopropylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
Methylene chloride	ND	2.0									
MTBE	ND	1.0									
n-Butylbenzene	ND	1.0									
n-Propylbenzene	ND	1.0									
Naphthalene	ND	1.0									
o-Xylene	ND	1.0									
sec-Butylbenzene	ND	1.0									
Styrene	ND	1.0									
Tert-amyl methyl ether	ND	1.0									
Tert-Butanol	ND	5.0									
tert-Butylbenzene	ND	1.0									
Tetrachloroethene	ND	1.0									
Toluene	ND	2.0									
trans-1,2-Dichloroethene	ND	1.0									
trans-1,3-Dichloropropene	ND	1.0									
Trichloroethene	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
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"Serving Clients with Passion and Professionalism"

CLIENT: CH2MHill
Work Order: N029409
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P180328MB2	SampType: MBLK	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:				RunNo: 122947			
Client ID: PBW	Batch ID: P18VW058	TestNo: EPA 8260B		Analysis Date: 3/28/2018				SeqNo: 2970286			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane	ND	1.0									
Vinyl chloride	ND	0.50									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	26.660		25.00		107	72	119				
Surr: 4-Bromofluorobenzene	24.980		25.00		99.9	76	119				
Surr: Dibromofluoromethane	27.590		25.00		110	85	115				
Surr: Toluene-d8	25.930		25.00		104	81	120				

Qualifiers:

- | | | | | | |
|---|--|----|-------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
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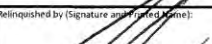
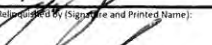
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Asset Laboratories
3151 W. Post Road
Las Vegas, NV 89118
Tel: 702-307-2659 Fax: 702-307-2691
Marlon Cartin (marlon@assetlaboratories.com)

DATE: 3/21/18
PAGE: 1 of 1

Section A Required Client Information:	Section B Required Client Information:	Section C Invoice Information:	Section D Sampler Information:
Company: Kinder Morgan Energy Partners Attention: Steve Defibaugh	Report To: Eric Davis	Attention: Steve Defibaugh - Ref. AFE# 81195	Sampler: James Dye
Address: 1100 Town & Country Road Orange, CA 92868	Copy To: Steve Defibaugh	Company Name: Kinder Morgan Energy Partners	Name: 
Email To: steve_defibaugh@kindermorgan.com eric_davis@ch2m.com	Purchase Order No.:	Address: 1100 Town & Country Road Orange, CA 92868	Sampler Signature: 
Phone: 714-560-4802 Fax: 714-560-4801	Project Name: SFPF Norwalk	ATL Project Manager: Marlon Cartin	Sample Date: 3/27/18

[illegible]

Relinquished by (Signature and Printed Name):  Date / Time: 3/27/18 1300		Relinquished by (Signature and Printed Name):  Date / Time: 3/27/18 4:10		Turn Around Time (TAT): ☐ A = Same Day ☐ B = 24 Hours ☐ C = 48 Hours ☐ D = 72 Hours ☒ E = 5 Workdays ☐ F = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.		Special Instruction: 3.8% in #2	
Relinquished by (Signature and Printed Name):  Date / Time: 3/27/18 4:30		Relinquished by (Signature and Printed Name): Yvonne Reguez Date / Time: 3/28/18 8:05					

650# : 6141

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 3/27/2018 Workorder: N029409
 Rep sample Temp (Deg C): 3.8 IR Gun ID: 2
 Temp Blank: ☒ Yes ☐ No
 Carrier name: Golden State Overnight
 Last 4 digits of Tracking No.: 6141 Packing Material Used: Bubble Wrap
 Cooling process: ☒ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

- | | | | |
|---|---|--|---|
| 1. Shipping container/cooler in good condition? | Yes ☒ | No ☐ | Not Present ☐ |
| 2. Custody seals intact, signed, dated on shipping container/cooler? | Yes ☐ | No ☐ | Not Present ☒ |
| 3. Custody seals intact on sample bottles? | Yes ☐ | No ☐ | Not Present ☒ |
| 4. Chain of custody present? | Yes ☒ | No ☐ | |
| 5. Sampler's name present in COC? | Yes ☒ | No ☐ | |
| 6. Chain of custody signed when relinquished and received? | Yes ☒ | No ☐ | |
| 7. Chain of custody agrees with sample labels? | Yes ☒ | No ☐ | |
| 8. Samples in proper container/bottle? | Yes ☒ | No ☐ | |
| 9. Sample containers intact? | Yes ☒ | No ☐ | |
| 10. Sufficient sample volume for indicated test? | Yes ☒ | No ☐ | |
| 11. All samples received within holding time? | Yes ☒ | No ☐ | |
| 12. Temperature of rep sample or Temp Blank within acceptable limit? | Yes ☒ | No ☐ | NA ☐ |
| 13. Water - VOA vials have zero headspace? | Yes ☐ | No ☒ | NA ☐ |
| 14. Water - pH acceptable upon receipt?
Example: pH > 12 for (CN,S); pH<2 for Metals | Yes ☐ | No ☐ | NA ☒ |
| 15. Did the bottle labels indicate correct preservatives used? | Yes ☒ | No ☐ | NA ☐ |
| 16. Were there Non-Conformance issues at login? | Yes ☒ | No ☐ | NA ☐ |
| Was Client notified? | Yes ☐ | No ☐ | NA ☒ |

Comments: 2 out of 6 VOAs with headspace > 6 mm.

Checklist Completed By: YR  3/28/2018

Reviewed By:  04/02/2018

ASSET Laboratories

WORK ORDER Summary

02-Apr-18

WorkOrder: N029409

Client ID: CH2HI03

Project: SFPP Norwalk

QC Level: RTNE

Date Received: 3/27/2018

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N029409-001A	INF-03-27	3/27/2018 12:05:00 PM	4/2/2018	Wastewater	EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	☐	☐	☐	VW
			4/2/2018		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW
N029409-001B			4/2/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	☐	☐	☐	WW
			4/2/2018		EPA 8015B	TPH EXTRACTABLE BY GC/FID	☐	☐	☐	WW
			4/2/2018		EPA 8015B	Total TPH	☐	☐	☐	WW
N029409-002A	FOLDER	4/3/2018	4/2/2018		Folder	Folder	☐	☐	☐	LAB
			4/2/2018		Folder	Folder	☐	☐	☐	LAB



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Ship From

ASSET LABORATORIES
MOLKY BRAR
11110 ARTESIA BLVD. SUITE B
CERRITOS, CA 90703

Tracking #: 539976141

CPS



Ship To

ASSET LABORATORIES
MARLON CARTIN
3151 W. POST RD.,
LAS VEGAS, NV 89118

LVS
LAS VEGAS

A

COD: \$0.00

Weight: 0 lb(s)

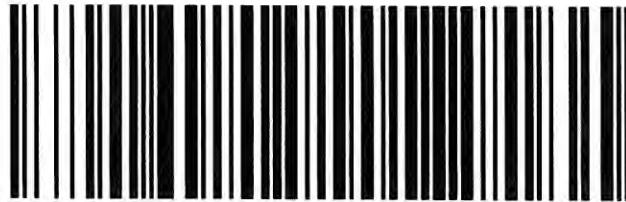
Reference:

C89102A

Delivery Instructions:

HOLD FOR PICKUP

Signature Type: NOT REQUIRED



81569751

Print Date: 3/27/2018 5:29 PM

Package 1 of 3

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.

Step 2: Fold this page in half.

Step 3: Securely attach this label to your package and do not cover the barcode.

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at www.gso.com.

3.8°C
JN#2

Subject: RE: SFPP Norwalk (Asset Labs No. N029407) [EXTERNAL]
From: "Marlon B. Cartin" <marlon@assetlaboratories.com>
Date: 3/29/2018 4:39 PM
To: "'Carino, Vladimir/SCO'" <Vladimir.Carino@CH2M.com>, "'Reports LV'" <reports.lv@assetlaboratories.com>
CC: "'Orliczky, Nils/SCO'" <Nils.Orliczky@ch2m.com>

I'll change it to Monday.

Thanks,

Marlon B. Cartin

Project Manager

Nevada: 3151 W. Post Road, Las Vegas, NV 89118

P: 702.307.2659 Ext. 410 | **F:** 702.307.2691 | **M:** 702.439.0421

From: Carino, Vladimir/SCO [mailto:Vladimir.Carino@CH2M.com]
Sent: Thursday, March 29, 2018 3:56 PM
To: Reports LV; Marlon B. Cartin
Cc: Orliczky, Nils/SCO
Subject: RE: SFPP Norwalk (Asset Labs No. N029407) [EXTERNAL]

Hi Marlon,

When can we expect data from N029409? Do you think we can get it Monday instead of Thursday?

Thanks.

Vladimir

From: Reports LV [mailto:reports.lv@assetlaboratories.com]
Sent: Thursday, March 29, 2018 11:39 AM
To: Davis, Eric/LAC <Eric.Davis@CH2M.com>
Cc: Johnson, Jeffrey/CIN <Jeffrey.Johnson1@ch2m.com>; Carino, Vladimir/SCO <Vladimir.Carino@CH2M.com>; Pataray, Benny/SLC <Benny.Pataray@CH2M.com>; James_Dye@kindermorgan.com; Orliczky, Nils/SCO <Nils.Orliczky@ch2m.com>; 'Marlon Cartin' <marlon@assetlaboratories.com>
Subject: SFPP Norwalk (Asset Labs No. N029407) [EXTERNAL]

**** WARNING **** This email contains a compressed file (e.g., ZIP), which is a file type often used to package & deliver viruses. Be VERY suspicious of ALL file attachments--ESPECIALLY if you do not know the sender. If you're in doubt about the legitimacy of this email, then DO NOT open the file attachment(s) before verifying with the sender.

Report suspicious emails to TAC.

File Name(s): ganfnobcdlbnkppk.png, N029407.pdf, N029407EDF.zip
File Type(s): image/jpeg, document/pdf, compressed/zip

The original message text is below.

+++++

Enclosed is the final report for the above project.

Thanks,

Marycel Mariano

Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | P: 702.307.2659 | F: 702.307.2691 |
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | P: 562.219.7435 | F: 562.219.7436
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