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**SFPP Norwalk Pump Station
Norwalk, California**

Fourth Quarter 2020 Remediation Progress Report

Final

January 29, 2021

Kinder Morgan, Inc.



SFPP Norwalk Pump Station

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January 29, 2021

Date

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Acronyms and Abbreviations

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

1. Introduction

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

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

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

- Operation and maintenance (O&M) of remediation systems performed by Kinder Morgan, Inc. (Kinder Morgan) field personnel and outside subcontractors including laboratory results of remedial systems (Appendix A).
- Completion of remediation system improvements.
- Continued implementation of a natural source zone depletion (NSZD) performance monitoring pilot study.

This report also provides interpretation and recommendations regarding ongoing remediation optimization and progress toward achieving remediation technical endpoints, including:

- A summary of NSZD performance in the south-central area (Appendix B).
- Documentation of remedial progress in the southeastern area associated with horizontal biosparge well BS-02, predicted timeframe to reach a transition to NSZD in the southeastern area, and recommendation to suspend continued hydraulic recovery at GMW-O-15. As supporting evidence, this report also includes supplemental BS-02 monitoring data in Appendixes D and E.
- Sitewide summary of dissolved-phase groundwater stability statistics and request to justify suspending remaining offsite/south-central hydraulic control wells (total fluids extraction [TFE] and groundwater extraction [GWE] wells) in preparation for baseline data collection prior to startup of new horizontal biosparge well BS-03 and horizontal soil vapor extraction well HSVE-01 (Appendix C).

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

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

2. Description of Remediation Systems

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 historical 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.

Kinder Morgan operates remediation systems consisting of soil vapor extraction (SVE), horizontal biosparge, TFE (extraction of free product and/or groundwater using a top-loading pump), 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.

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 consist of the following remediation wells:

- South-central area (currently inactive)
 - 13 TFE wells
 - 24 onsite SVE wells (most collocated with TFE wells)
 - 1 horizontal biosparge well (BS-01)
- Offsite/south-central area (currently active)
 - 7 TFE wells
 - 6 offsite SVE wells (5 collocated with TFE wells)
 - 1 horizontal biosparge well (BS-03 not yet operative)
 - 1 horizontal SVE well (HSVE-01 not yet operative)
- Southeastern area (24-inch block valve area) (biosparging and SVE active)
 - 4 TFE wells (GM W-O-15, GMW-O-18, GMW-36, and GMW-SF-9)
 - 1 GWE well (GMW-SF-10)
 - 9 SVE wells (3 collocated with TFE wells)
 - 1 horizontal biosparge well (BS-02)

A summary of remediation wells in the south-central, southeastern, and offsite/south-central areas and their operational status at the end of the fourth quarter 2020 is presented in Table 1. The remediation system layout is shown on Figure 2. A brief description of each system is provided below in Sections 2.1 through 2.3.

In addition, as a transitional remedy, in May 2020, Kinder Morgan implemented an NSZD performance monitoring pilot study in the south-central and southeastern areas of the site, as described in the NSZD Work Plan (Jacobs, 2019b), and approved by the Water Board in a letter dated April 8, 2020 (Water Board, 2020). NSZD is a term used to describe the collective, naturally occurring processes of dissolution, volatilization, and biodegradation that result in mass losses of LNAPL petroleum hydrocarbon constituents from the subsurface. Under favorable conditions, NSZD processes are often capable of contaminant reduction rates on par with

active remedies. The purpose of the NSZD pilot study is to evaluate the rate of NSZD under the following conditions at the site:

- 1) South-central area prior to horizontal biosparging operations (based on historical soil vapor probe data)
- 2) South-central area following nearly 3 years of treatment with horizontal biosparging
- 3) Southeastern area prior to the startup of the recently installed horizontal biosparging system
- 4) Southeastern area following the operation of the recently installed horizontal biosparging system

To facilitate the pilot study, heretofore active remedies (i.e., SVE, TFE, and biosparge) in the south-central area have been temporarily suspended to allow for data collection in that area under ambient conditions, while active remedies in the southeastern and offsite/south-central areas continue to operate.

The pilot study consists of three separate sampling/monitoring events over the course of 18 months, whereby complementary field methodologies will be used to collect carbon dioxide (CO₂) efflux measurements and soil gas samples for laboratory analysis. The new data, coupled with historical soil vapor monitoring data, will be used to calculate current NSZD rates, which will be evaluated in conjunction with other remediation performance monitoring data such as SVE influent and effluent concentrations, groundwater hydrocarbon concentrations, and TFE influent and effluent data. Ultimately, the pilot study will inform the approach for potentially transitioning to an NSZD remedy at the site.

The first (baseline) NSZD sampling/monitoring event was conducted in May 2020, with the south-central remediation systems turned off and just prior to startup of the southeastern remediation systems. The second event is in progress (approximately 5 months after the first event), and the third event is scheduled to occur approximately 9 to 12 months after the first event. The initial NSZD pilot study results are included in Appendix B of this report; updates will be included in subsequent quarterly remediation progress reports. A discussion of current NSZD results is provided in Section 4.1.

2.1 Groundwater Treatment System

The main groundwater treatment system (GWTS) processes free product and groundwater recovered from the south-central, offsite/south-central, and southeastern parts of the site. Free product and groundwater recovered by pneumatically operated, top-loading total fluid pumps and bottom-loading groundwater pumps are piped to a dissolved air flotation unit (oil-water separator [OWS]). Free product, if any, from the OWS is collected in a storage tank and recycled at an offsite location. Water from the OWS is conveyed to a 300-gallon tank and then treated using liquid-phase granular activated carbon (LGAC) to remove hydrocarbons including benzene, toluene, ethylbenzene, and xylenes (BTEX). Treated water is routed through an onsite 3,000-gallon equalization tank. Two fluidized bed bioreactors installed downstream of the equalization tank treat fuel oxygenates such as tertiary butyl alcohol 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 Number [No.] CA0063509; Order No. R4-2016-0309).

Currently, groundwater is being extracted from three wells (GMW-O-15, GMW-O-18, and GMW-36) in the southeastern area and four wells in the offsite/south-central area (MW-O-2, GMW-O-20, GMW-O-21, and GWM-O-23).

The GWTS historically has been used to control the distribution of dissolved-phase constituents in groundwater; over time, however, extraction from wells has been discontinued in areas where groundwater concentrations have stabilized and significant source treatment has occurred.

2.2 Horizontal Biosparge System

The layout of the biosparging wells at the site is illustrated in Figure 2. Each well is constructed of 4-inch-diameter polyvinyl chloride (PVC) with varying screen lengths placed at approximately 45 feet below ground surface (bgs).

2.2.1 Biosparge Well BS-01 (Not Operating)

In December 2014, Kinder Morgan completed installation of a horizontal biosparge system in the south-central area of the site, which consists of a horizontal biosparge well (BS-01) and a 500-standard-cubic-foot-per-minute (scfm) compressor. To reduce the potential for off-gassing of volatile organic compounds (VOCs) while biosparging, the SVE system (described below) has an interlock that will not allow the biosparge to operate without the SVE system running. 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). BS-01 has been offline since December 2019 as part of the NSZD pilot study.

2.2.2 Biosparge Well BS-02 (Operating)

A second horizontal biosparge well (BS-02) 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. The lateral distance of the screen interval is 240 feet centered below the southeastern area hydrocarbon plume. A construction completion report documenting construction activities and specifications was submitted on July 12, 2018 (Jacobs, 2018). The 500-scfm sparge compressor was turned off temporarily and a new air sparge compressor (883 scfm) was installed in the fourth quarter 2018 to deliver ambient air to both the south-central and southeastern sparge wells. The 500-scfm and 883-scfm compressors are appropriately sized to deliver ambient air to both the south-central and southeastern sparge wells, and to allow for future system expansion. BS-02 was turned on in May 2020 and is currently operating at a flow of 180 scfm. As supporting evidence of system performance, this report includes supplemental BS-02 monitoring data in Appendixes D and E.

2.2.3 Biosparge Well BS-03 (Awaiting Startup)

A new horizontal biosparge well (BS-03) was installed in the offsite/south-central area in December 2019. The length of the BS-03 well screen is 500 feet and the total length of the well is 770 feet. BS-03 is centered below the offsite/south-central area hydrocarbon plume. A well installation completion report documenting construction activities and specifications was submitted to the Water Board in June 2020 (Jacobs, 2020a). Construction activities to connect the BS-03 wellhead to the treatment system were completed in October 2020. The shakedown testing and startup activities are scheduled for first quarter 2021.

2.3 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 GWTS described in Section 2.1. The soil vapors are then treated in a regenerative thermal oxidizer (RTO) where VOCs are converted to CO₂ and water prior to being discharged to the atmosphere. Operations of the GWTS and SVE system are conducted in accordance with Permits to Operate (Permit No. G46188 A/N 578779 and No. G46187 A/N 578777) issued by the South Coast Air Quality Management District.

The south-central SVE system remains offline as part of the NSZD pilot study. The expanded southeastern SVE system was restarted on May 15, 2020; the well network includes VEW-3, VEW-4, PZ-5, GMW-O-16, GMW-O-19, and MW-8, and TFE/SVE wells GMW-O-15, GMW-O-18, and GMW-36. These wells connect to the RTO via a

new dedicated 1,200-foot-long, 6-inch diameter high-density polyethylene (HDPE) header. The expanded southeastern SVE system is currently operating at a combined flow of 200 scfm, under a vacuum pressure of 50 inches of water. In addition, there are four SVE wells currently operating in the offsite/south-central area, including GMW-O-20, GMW-O-21, GMW-O-23, and GMW-36. Figure 2 illustrates the SVE mass removal over time and Figure 3 illustrates the composition of the mass removal over time.

A new horizontal SVE well (HSVE-01) was installed in the offsite/south-central area in December 2019 and is designed to extract vapors created from operating the new horizontal biosparge well BS-03. Horizontal SVE well HSVE-01 is constructed of 6-inch-diameter Schedule 10 stainless-steel casing and screen and was completed to a depth of approximately 20 feet bgs. The length of the HSVE-01 screen is 500 feet, and the total length of the well is 745 feet. A construction completion report documenting construction activities and specifications was submitted to the Water Board in June 2020 (Jacobs, 2020a). Construction activities to connect the HSVE-01 wellhead to the treatment system were completed in October 2020. The shakedown testing and startup activities are scheduled to commence in the first quarter 2021.

3. Remediation System Operation and Maintenance

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

- Performed ongoing weekly maintenance on the GWTS and RTO system.
- Removed, inspected, and repaired existing TFE/GWE pumps and associated discharge lines.
- Performed weekly bioreactor inspections and adjusted the MTBE dosing as needed.
- Conducted as needed supplemental monitoring of the BS-02 biosparging system and surrounding monitoring points (approximately biweekly).

During the fourth quarter 2020, the remediation systems operated continuously, with the following exceptions:

- From October 2 to 7, 2020, the GWTS was shut down for electrical safety concerns. The electrical items were repaired, and the GWTS was restarted on October 8, 2020.
- On October 6, 2020, the SVE and biosparge systems were shut down due to the HSVE-01 construction tie-in. The systems were reset and restarted on October 8, 2020.
- On October 30, 2020, the GWTS was shut down for the semiannual groundwater monitoring event. The GWTS was restarted on November 18, 2020. The system operated briefly on November 5, 11, and 14, 2020 for maintenance purposes.
- The SVE and biosparge systems were shut down on November 9, 2020 for the southeast main influent line (drip leg #2) repair, which took place on November 13, 2020. During November 13 restart, the chamber B actuator malfunctioned; therefore, the systems were again shut down again. The systems were restarted on November 20, 2020 after completion of actuator repair.
- On November 30, 2020, the SVE and biosparge systems were shut down due to annual soil vapor probe sampling event. The systems were reset and restarted on December 8, 2020.

During the fourth quarter 2020, the GWTS was operational approximately 80.4 percent of the time. The SVE system was operational 76.9 percent. The biosparge system was operational 87.6 percent of the time. Table 2 presents the SVE system operation summary.

Photoionization detector (PID) measurements and analytical results for extracted vapor during the fourth quarter 2020 are summarized in Tables 3 and 4, respectively. The groundwater remediation system historical operation activities are summarized in Table 5. The monthly extracted groundwater analytical results are summarized in Table 6. Table 7 presents the biosparge system operational summary. Table 8 presents the soil vapor probe analytical results for December 2020. Historical (post-2007) gauging results for select TFE and SVE wells are provided in Table 9.

4. Remediation Progress and Optimization

As summarized below, the GWTS continues to operate; however, it has not recovered LNAPL since 2017 and has recovered less than 125 pounds of hydrocarbons as dissolved phase on average since 2016. Sitewide decreases in dissolved-phase concentrations (discussed in detail in Section 5) have led to decreases in influent hydrocarbon groundwater concentrations. When compared with the mass removal rates while biosparging is operating (approximately 3,600 to 360,000 pounds per year [lb/year] for BS-01 and currently 18,000 lb/year for BS-02), it is apparent that the biosparging systems represent several orders of magnitude greater mass removal than active hydraulic recovery remedies.

The declines in liquid mass removal rate are an indication of the success of the biosparging and SVE activities at the site, previously at BS-01 and currently at BS-02. NSZD rates across the site are approximately 1,400 gallons per year (gal/year) (Approximately 10,000 lb/year), which is greater than the current mass removal rate achieved by the GWTS. The combination of these data indicates continued operation of the GWTS hydraulic control wells no longer provides a significant remedial benefit. A letter requesting a temporary suspension of hydraulic control in the Southeastern and Offsite/South-Central Areas Water Board will be submitted to the Water Board in January 2021. With the anticipated startup of the offsite horizontal SVE treatment well HSVE-01 and offsite horizontal biosparge well BS-03, it is important to suspend groundwater extraction in order to evaluate NSZD under as close to ambient conditions as possible.

4.1 Natural Source Zone Depletion Assessment

NSZD is being evaluated at the site to compare active remedies with ambient degradation rates of the remaining petroleum hydrocarbons at the site. To evaluate ambient NSZD at the site, the active remediation systems must be temporarily suspended, including hydraulic control and recovery (that is, groundwater pump and treat), SVE, and biosparging in the south-central area as recommended in the *Biosparging Effectiveness Evaluation and Recommendations – South-Central Area* (Jacobs, 2019a).

The preliminary results of the Phase I NSZD assessment are presented in Appendix B and summarized below. Exhibit 1 illustrates the measured NSZD rate (gallons per acre per year [gal/acre/year]) for each NSZD sample location, as well as the interpolated NSZD distribution over the areas of the site that were characterized as part of the Phase I sampling.

The preliminary results of the Phase I NSZD assessment are as follows:

- The highest NSZD rates (approximately 500 gal/acre/year) correspond to the areas adjacent to residual LNAPL that has not been treated with biosparging remediation (i.e., the southeastern area).
- The lowest NSZD rates (approximately 11 gal/acre/year) correspond to the area where horizontal biosparging equipment was historically operated (i.e., the south-central onsite area).
- Measurable NSZD rates are present in all areas of detected dissolved-phase concentrations.
- The total NSZD rate for the south-central onsite area illustrated in Exhibit 1 is 900 gal/year; the rate for the southeastern area illustrated in Exhibit 1 is 500 gal/year (for a sitewide total of 1,400 gal/year).

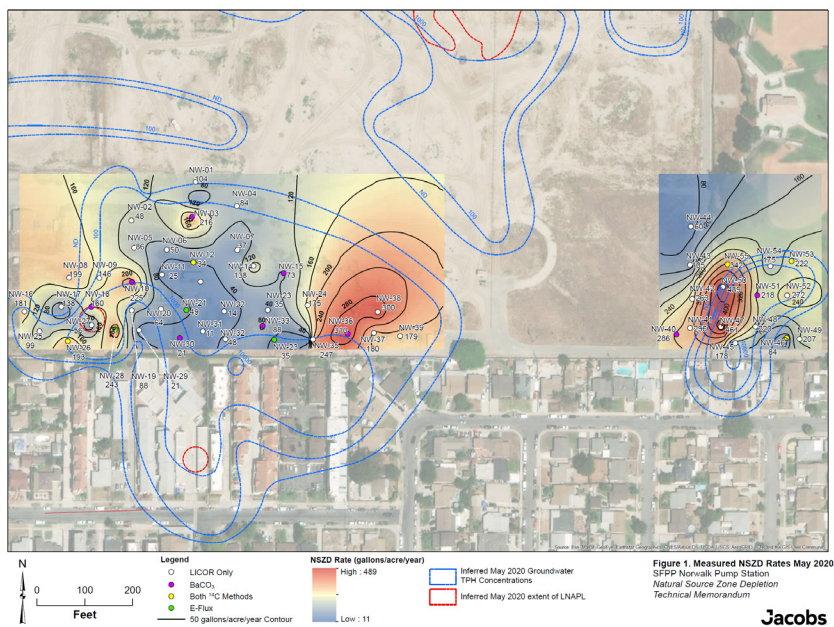


Exhibit 1. Measured NSZD Rates, May 2020

The comparative analysis of E-Flux trap and $^{14}\text{BaCO}_3$ sampling techniques for the analysis of the ^{14}C signature of CO_2 efflux showed that both methods produce comparable results. Going forward, $^{14}\text{BaCO}_3$ sampling techniques will be used at the site as they allow collection of NSZD data in the offsite/south-central areas where surface flux meters would not be effective, and $^{14}\text{BaCO}_3$ sampling techniques allow the collection of a higher density of samples across the site.

This NSZD evaluation sought to evaluate NSZD processes occurring in the subsurface with consideration of historical and future horizontal biosparging operations. NSZD rates observed confirm that NSZD can be measured at this site and that significant cumulative rates (up to approximately 1,400 gal/year or 10,000 lb/year) of biodegradation are occurring in the subsurface.

4.2 Summary of Hydrocarbon Mass Removal from the Groundwater Treatment System

A total of 597,600 gallons of groundwater was extracted during the fourth quarter 2020 (Table 5). Approximately 108.8 million gallons of groundwater has been extracted since GWTS operations first began in 1996.

Since 1995, a total of 14,426 gallons of product (104,250 pounds) has been removed by TFE, vacuum truck, or manual bailing operations. No product has been removed since 2017. The estimated mass removal (pounds) of hydrocarbons by the GWTS is shown in Table 5. Mass removal estimates between 1996 and 2005 are based on BTEX and MTBE concentrations in the groundwater influent (total petroleum hydrocarbon [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 quantified as gasoline (TPH-g) and TPH quantified as fuel product, and the total volume of extracted groundwater. Mass removal estimates between 2012 and the fourth quarter 2020 are based on groundwater influent TPH-total concentrations (TPH-total includes TPH quantified as gasoline, diesel, and oil) and the total volume of extracted groundwater.

Since GWE first began in 1996, hydrocarbon mass removed by the GWTS is estimated to be 18,459 pounds, of which approximately 18,000 pounds had been removed by 2016. Since 2016, less than 500 pounds of hydrocarbon mass has been removed (less than 125 lb/year). During the fourth quarter 2020, the mass removal of hydrocarbons was calculated to be 6.4 pounds (Table 5). Table 6 shows the extracted groundwater analytical results for the monthly samples collected on October 27, November 23, and December 8, 2020. Figure 5 includes a time series chart that shows this general decrease in dissolved-phase hydrocarbon concentrations in the extracted groundwater.

4.3 Summary of Hydrocarbon Mass Removal from the Biosparge and Soil Vapor Extraction Systems

The southeastern biosparge system (BS-02) operated for 1,914 hours during the fourth quarter 2020 (Table 7). An additional detailed narrative of the southeastern biosparge system is provided in Appendix D. The biosparge system flow (air injection) rate ranged from 76 to 187 scfm during the fourth quarter 2020. The relatively lower flow reflects the gradual, stepwise startup procedure. Soil vapor samples were collected from 24 locations around the south-central, southeastern, and offsite areas on December 2, 3, and 4, 2020. In accordance with standard procedures while conducting the soil vapor probe monitoring event, sampling occurred during static conditions with the SVE and biosparge wells offline.

Monthly vapor samples from the SVE system (influent, influent post-dilution, and effluent) were collected on October 1, November 1, and December 4, 2020. The vapor samples were delivered to Air Technology Laboratories in City of Industry, California, for the following analyses:

- Fixed gases (methane, CO₂, oxygen, and argon) using ASTM International (ASTM) D1946
- VOCs using U.S. Environmental Protection Agency (EPA) Method TO-15
- Total VOCs using EPA Method TO-3

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

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 4,109 pounds during the fourth quarter 2020. The decrease from third quarter 2020 is attributed to the bulk of the mass being removed during the first 3 months of operating the expanded SVE system and horizontal biosparge well BS-02 in the southeastern area. However, total mass recovered by the SVE system has consistently decreased since the first quarter of 2016 (74,148 pounds of VOCs recovered), when biosparging in the south-central area was implemented (see Figure 3). This finding is consistent with laboratory analytical data demonstrating that the influent VOC concentrations (BTEX and MTBE) have consistently decreased since initiating biosparging activities (Table 4, Figure 4). The cumulative mass of VOCs removed since SVE was implemented in September 1995 is 3,609,530 pounds (Table 2). The cumulative mass removed by SVE does not include the mass removed by naturally occurring in situ biodegradation.

In addition to the sitewide SVE system data collected, supplemental data have been collected from the SVE header that extracts air from the southeastern treatment area. These data are summarized in Appendix E. The calculations used to determine the mass removal based on the BS-02 supplemental data are the same as for the overall SVE system. A summary of the supplemental data collected at BS-02 compared with the system wide SVE data is provided in Exhibit 2. Seasonal variations are apparent over the course of SVE operations, which accounts for the divergence in mass recovery rate near the beginning of BS-02 startup; however, later operation data illustrate mass removal rates are similar for the overall system mass removal and the southeastern area mass removal. This observation confirms that most mass recovery at the site is from the southeastern area, likely due to the operation of biosparging well BS-02.

Exhibit 2 is an updated version (through fourth quarter 2020) of the vapor mass recovery rate over time graph originally provided in the *Biosparging Effectiveness Evaluation and Recommendations, South-Central Area* (Jacobs, 2019a). The annotated summary of the SVE system provided in Exhibit 2 illustrates the vapor mass recovery rate over time as well as the cumulative vapor mass recovered to date. Annotations illustrate the significant remedial changes that have occurred and are anticipated to occur at the site in relation to the SVE system operation. As previously noted in the operation of BS-01, there was an initial increase (up to 1000 lb/day, 360,000 lb/year) in vapor recovery rate followed by steady decrease in vapor recovery rate (down to 10 lb/day, 3600 lb/year) following the startup and continuous operation of the south-central biosparge system. The same decline curve pattern can be observed in the startup and operation of BS-02, where initial recovery was approximately 300 lb/day, 100,000 lb/year. The decline trend in vapor recovery at BS-02 through fourth quarter 2020 (mass removal rate is currently 50 lb/day, or 18,000 lb/year), suggests that a practical transition point to NSZD will likely occur in 2021.

When compared with the mass removal rates while biosparging is operating (approximately 3,600 to 360,000 lb/year for BS-01 and currently 18,000 lb/year for BS-02), it is apparent that the biosparging systems represent several orders of magnitude greater mass removal than active hydraulic recovery remedies.

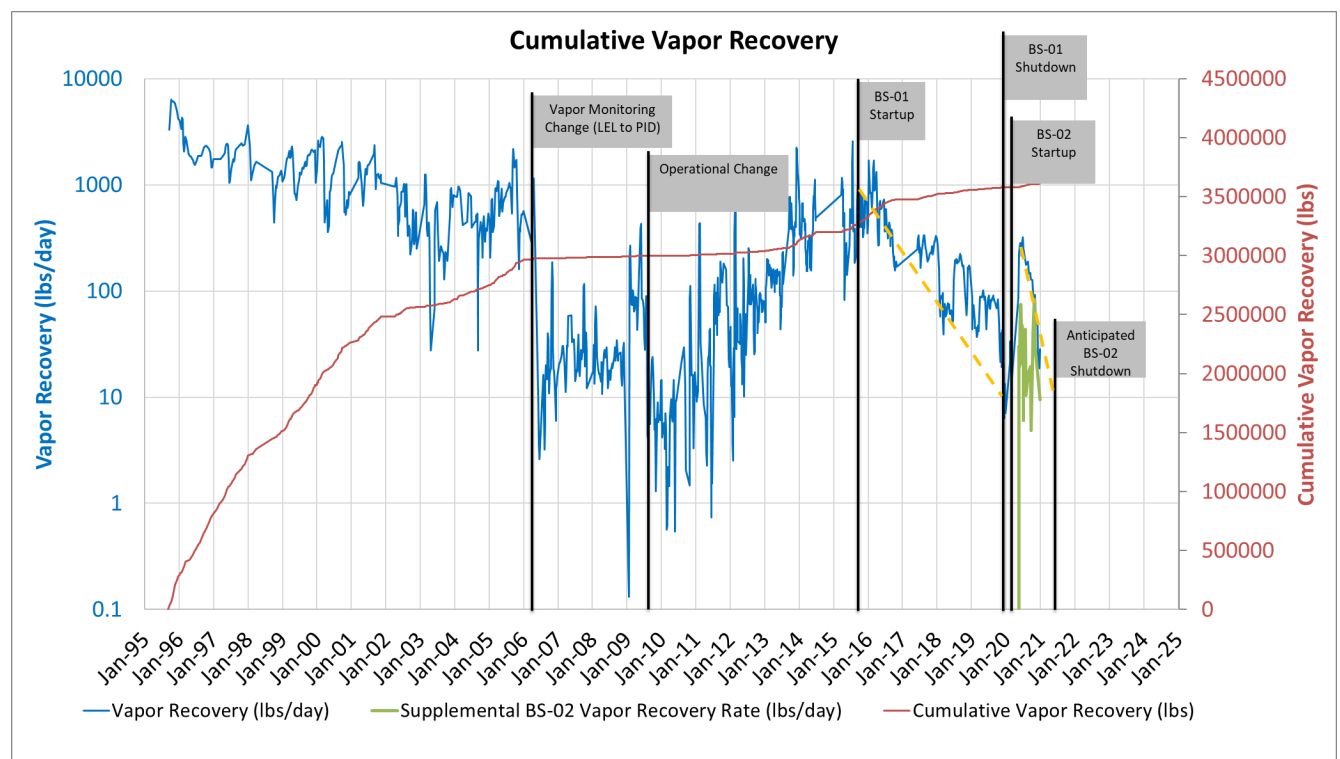


Exhibit 2. Vapor Mass Recovery Rate Over Time

5. Current Site Conditions, Trends, and Interpretation

Routine sampling and monitoring of groundwater and soil gas are performed to evaluate changes to the nature and extent of petroleum hydrocarbon impacts across the site as a result of ongoing remedial activities, including active treatment systems and natural biodegradation. Currently, groundwater sampling is performed semiannually, and the results are presented in semiannual groundwater monitoring reports, the most recent of which is the *First Semiannual 2020 Groundwater Monitoring and Sampling Report, Defense Fuel Support Point Norwalk, 15306 Norwalk Boulevard, Norwalk, California* (Jacobs, 2020d), submitted to the Water Board on August 7, 2020.

5.1 Groundwater Monitoring Results and Stability Trend Analysis

In general, groundwater monitoring data indicate that the dissolved-phase plumes are stable and/or decreasing across the site as a result of operating treatment systems and from natural biodegradation. A statistical analysis of all site groundwater data was conducted for the third quarter 2020 remediation report, which included data collected from August 2020 (Appendix C). The statistical analysis was conducted using TPH-g for each well (number of observations, percent non-detect, etc.), as well as quantitative trends (Mann-Kendall analysis). The analysis was broken down into four timeframes (whole dataset, pre-2010 dataset, post-2010 dataset, and post-2016 dataset) based on changes in remedial operation and general breaks observed in groundwater trends. Exhibit 3 provides an example of dataset timeframes. These timeframes allow for correlation to implemented remedies over the duration of the remedial strategy at the site. TPH-g was selected as a useful indicator constituent at the site, which, when compared to all other constituents (benzene, toluene, MTBE, etc.), provided the greatest correlation to detectable values. The TPH-g statistical analysis is presented in Appendix C. It should be noted that for this report only data from PZ-5 was updated in Appendix C based on recent (fourth quarter 2020) groundwater data. PZ-5 is one of three wells that requires further trend analysis updates, as discussed below. The rest of the groundwater data will be provided in the Second Half 2020 Semiannual Groundwater Monitoring Report (SGI, in press). Benzene is also a common indicator constituent, therefore, it was also analyzed and is presented in Appendix C.

The statistical groundwater analysis from the third quarter 2020 remediation report illustrated that the majority of wells at the site in the south-central, offsite/south-central, and southeastern areas were either nondetect, decreasing, or stable dissolved-phase trends. These observed trends are anticipated to continue declining as remedial progress continues in each respective area. The exceptions to the trends were at GMW-10 (south-central), GMW-29 (south-central), and PZ-5 (southeastern) as illustrated on Figure 2. GMW-10 and GMW-29 have not been sampled recently and need additional confirmatory sampling to understand the remedial operational effects. During the fourth quarter 2020 groundwater sampling event, these wells were not sampled due to field notation error. They will be sampled in the first quarter 2021.

Well PZ-5, sampled recently, resulted in a value of 700 micrograms per liter ($\mu\text{g/L}$) TPH-g in November 2020. Re-analyzing the statistics with this new data point demonstrates stability (post-2016 dataset) under the Mann-Kendall analysis (Appendix C). In addition, this recent value of TPH-g is the same as the resulting May 2020 TPH-g value of 700 $\mu\text{g/L}$, illustrating stability. PZ-5 has reduced 99.98 percent in TPH-g from its historical high in 2010. Moreover, PZ-5 is located in the southeastern area, which is currently undergoing biosparging that is anticipated to significantly decrease the groundwater concentration in and around PZ-5 over time. Groundwater sampling results for PZ-5 will be evaluated for continued stability and/or decreases going forward.

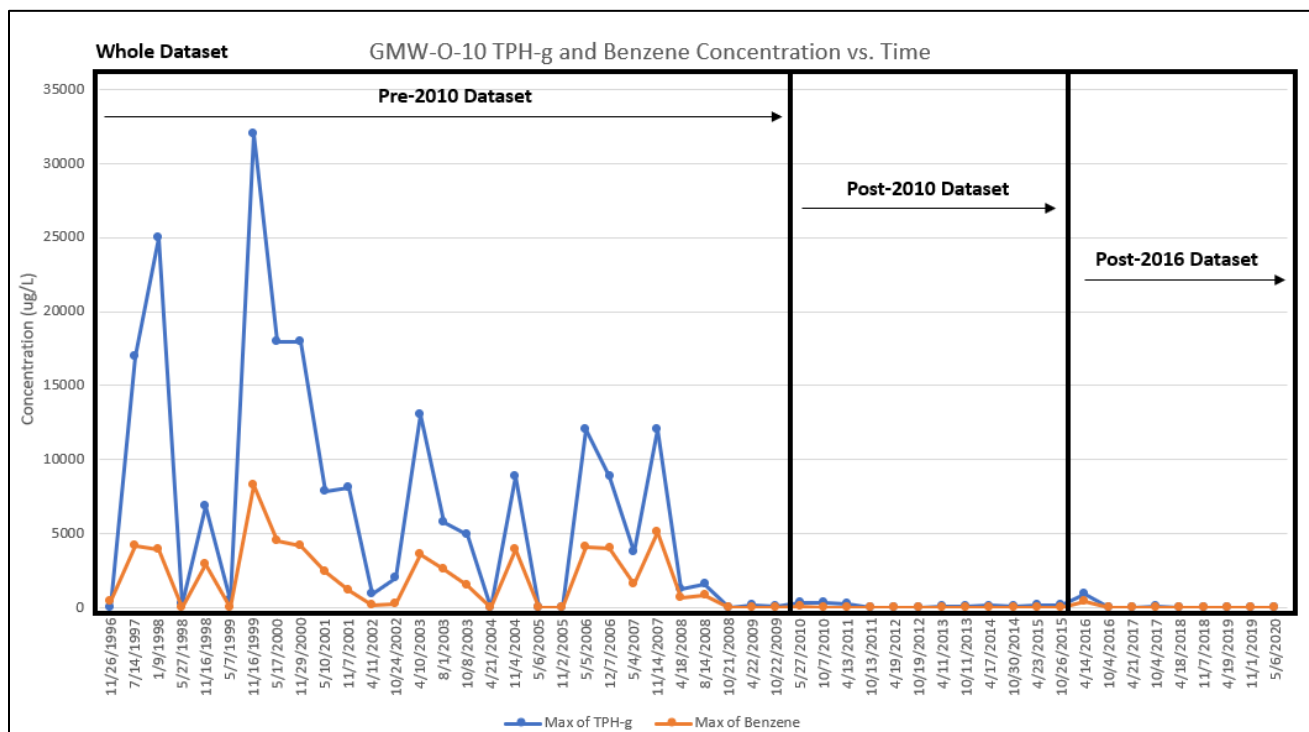


Exhibit 3. Example Well GMW-O-10 Graph, Illustrating Statistical Analysis Approach with Multiple Timeframes

With the implementation of NSZD monitoring and startup of the expanded SVE system and biosparge well BS-02 in the southeastern area, the focus of treatment activities and monitoring has transitioned to the offsite/south-central area leading up to the startup of the new horizontal treatment wells below the residential area. To that end, the Water Board recently requested that groundwater monitoring in the offsite/south-central area be performed on a quarterly basis to complement quarterly soil gas sampling (Water Board, 2020). In a letter response, Kinder Morgan presented a recommendation for collecting quarterly samples from a subset of available wells and agreed to initiate quarterly monitoring in the offsite/south-central area in the third quarter 2020 (Jacobs, 2020c). The first supplemental quarterly groundwater monitoring event was conducted in August 2020.

5.2 Soil Vapor Monitoring Program

During the fourth quarter 2020, soil vapor samples were collected from 24 probes using 1.4-liter Summa canisters, as indicated in Table 8. The samples were analyzed by the American Analytics laboratory for VOCs using EPA Method TO-15, TPH-g using EPA Method TO-3, and fixed gases (CO₂, methane, and oxygen) using EPA Method 3CM. Included in the TO-15 list of analytes were BTEX, MTBE, naphthalene, tertiary butyl alcohol, 1,2-dichloroethane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, n-butylbenzene, sec-butylbenzene, isopropylbenzene, n-propylbenzene, and 2-propanol (the leak test compound). These constituents were identified as contaminants of potential concern (COPCs) based on the results of the 2006 soil gas investigation and human health risk assessment (Geomatrix, 2006).

5.3 Soil Vapor Monitoring Results

Table 8 presents the analytical results for samples collected during the December 2020 sampling event. Laboratory analytical reports are included in Appendix A. A summary of results is provided below:

- During the fourth quarter 2020 sampling event, benzene and naphthalene were the only COPCs detected. Benzene was detected in the onsite probe SVM-14R (16-foot depth) at 0.0081 µg/L. Naphthalene was detected in the offsite probe SVM-15 (7-foot depth) at 0.0032 µg/L. Both detections were below June 2020 Department of Toxic Substances Control (DTSC) modified screening levels (DTSC, 2020), EPA's residential Regional Screening Level (RSL) in air (EPA, 2020), and the attenuation factor in HERO Note 3 for calculating DTSC-modified screening levels (DTSC, 2020).
- All other onsite and offsite soil vapor probes were nondetect for COPCs during this sampling event.
- The leak test compound (2-propanol) was not detected in any of the onsite or offsite soil vapor probes.
- Other detected compounds that were detected during this sampling event included 2,2,4-trimethylpentane, acetone, bromodichloromethane, chloroform, ethanol, propylene, tetrachloroethylene, trichloroethylene, and TPH-g. An elevated concentration of TPH-g (9,200 µg/L) was detected at SVM-16 (22-foot depth); however, TPH-g was not detected at the 7-foot or 15-foot depths. Excluding this TPH-g detection, the non-COPC concentrations were below DTSC modified screening levels (DTSC, 2020), or there are no established screening levels. SVM-16 will be monitored closely over the next few quarters and is expected to significantly decrease once BS-03 and HSVE-01 are operational.
- VOCs detected in the shallow soil vapor do not pose an unacceptable human health risk to residents (Jacobs, 2019c).

Soil gas sampling from up to 29 double- and/or triple-nested probes located across the site is performed quarterly. A recent review of the offsite/south-central soil vapor probe network (discussed in the *Review of the Offsite Soil Vapor Monitoring Probe Network* [Jacobs, 2020b]) found that probe locations are distributed evenly within the areas most likely to have the highest vapor concentrations (that is, the areas located directly above observed residual LNAPL and dissolved-phase impacts). In total, the probe locations have greater than 90 percent nondetect values for TPH-g (C₄ to C₁₂) and other COPCs since data collection efforts began in 2012 (Jacobs, 2020b).

6. Observations, Planned First Quarter Activities, and Path Forward

6.1 Primary Observations

The primary observations detailed in this report include:

- A sustained reduction in liquid mass recovery both in terms of product (no product has been recovered at the site since 2017) and dissolved-phase mass removal (averaging less than 125 lb/year since 2016)
- Observed ongoing NSZD under ambient conditions at rates of at least 1,400 gal/year (approximately 10,000 lb/year) in the south-central and southeastern areas
- The initial observation of BS-02 biosparging performance with initial mass removal rates of 300 lb/day steadily declining in a similar trend as BS-01, and anticipated to reach an NSZD transition point in mid-2021
- The stability of the groundwater dissolved-phase plume based on individual well analysis, with the exception of three wells that are isolated and require additional recommended sampling to confirm their long-term trends

6.2 Planned First Quarter 2020 Activities

The following maintenance activities and other tasks are planned:

- Conduct one quarterly soil vapor monitoring event in conjunction with a quarterly groundwater monitoring event.
- Continue to operate and optimize the southeastern horizontal biosparge well using the 883-scfm compressor.
- Continue to optimize the southeastern SVE system.
- Initiate south-central offsite biosparge BS-03 startup procedures and optimize the system.
- Measure weekly VOC concentrations as hexane at the influent and effluent of the RTO system.
- Collect monthly vapor samples at the influent and effluent of the RTO system, and analyze the samples using EPA Methods TO-15 (VOCs), TO-3 (total VOCs as hexane), and ASTM D1946 (fixed gases).
- Continue weekly maintenance and monitoring of the offsite/south-central and southeastern SVE and biosparge systems.
- Measure quarterly individual well vapor concentrations with a PID at the manifold.
- Maintain the 2007 and 2008 air compressor monthly, as backup operation for both the SVE and GWTS pumps.
- Conduct monthly, quarterly, and semiannual National Pollutant Discharge Elimination System sampling events (if necessary).
- Collect and analyze system influent vapor and groundwater samples (if necessary).
- Perform as-needed carbon changeouts of the LGAC vessels (if necessary).
- Remove, inspect, and repair existing TFE/GWE pumps and associated discharge lines (if necessary).
- Install pumps and associated equipment necessary for TFE at select wells with measurable free product (if necessary).

6.3 Recommendations and Path Forward

During the fourth quarter 2020, Kinder Morgan plans to continue to focus remedial efforts on the southeastern area of the site with the continued operation of BS-02. In addition, with the completion of the installation of the offsite/south-central horizontal biosparge well (BS-03) and SVE well (HSVE-01) and connection to the existing treatment systems, baseline data should be collected from the offsite/south-central area prior to system startup.

With the southeastern area biosparge system approaching its remedial endpoint, and in preparation for collecting baseline data in the offsite/south-central area, Jacobs has recommended temporarily suspending operation of the TFE and GWE treatment systems in those areas of the site. A formal request to suspend groundwater extraction activities will be submitted to the Water Board in January 2021. Suspension of TFE and GWE is not expected to result in plume mobility because it has been demonstrated that these systems no longer provide a significant remedial benefit in terms of mass removal and therefore hydraulic control. However, as a contingency measure, if future groundwater trends indicate unstable conditions, TFE and GWE wells can be selectively restarted, as needed.

Prior to startup of BS-03, the following plume stability and baseline monitoring activities are planned:

- Continue to complete supplemental sampling of three groundwater wells: GMW-10 (south-central onsite), GMW-29 (south-central onsite), and PZ-5 (southeastern). These were identified in the statistical trend analysis as wells that have not been monitored recently to confirm whether the historical stable or decreasing trends are still present.
- Continue to perform supplemental quarterly groundwater sampling from wells that typically contain LNAPL, which was discussed in the *Response to Regional Board Comments on the Biosparging Effectiveness Evaluation and Recommendations, South-Central Area (Report)* (Jacobs 2020c). During the most recent quarterly groundwater sampling event, seven of eight of these wells did not contain LNAPL and groundwater was sampled (SGI 2021). The only well that was not sampled due to the presence of LNAPL was GMW-O-12, which will be sampled during upcoming sampling events using a specialized method to ensure LNAPL does not enter the groundwater sample.
- Complete the second NSZD sampling event and prepare for the third NSZD sampling event in the south-central, offsite/south-central, and southeastern areas.

The remediation activities and progress for the first quarter 2021 will be described in the First Quarter 2021 Remediation Progress Report, to be submitted by April 30, 2021.

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Tables

Table 1. Remediation Well Construction and Status

SFPP Norwalk Pump Station, Norwalk, California

| Remediation Area | Remediation Well ID | Installation Date | Top of Well Casing Elevation | Well Screen Interval | Remediation Well Function | Well Operation Status During Fourth Quarter 2020 | |
|-----------------------|---------------------|-------------------|------------------------------|----------------------|---------------------------|--|---------|
| | | | (feet msl) | (feet bgs) | | SVE/BS | TFE/GWE |
| South-Central | MW-SF-1 | 6/18/1990 | 78.93 | 25 - 40 | SVE | OFF | OFF |
| | MW-SF-2 | 6/18/1990 | 78.53 | 25 - 40 | SVE; TFE | OFF | OFF |
| | MW-SF-3 | 6/18/1990 | 78.12 | 25 - 40 | SVE; TFE | OFF | OFF |
| | MW-SF-4 | 6/19/1990 | 79.38 | 25 - 40 | SVE | OFF | -- |
| | MW-SF-5 | 9/19/1990 | 79.74 | 23 - 38 | SVE | OFF | -- |
| | MW-SF-6 | 9/19/1990 | 76.80 | 25 - 40 | SVE; TFE | OFF | OFF |
| | MW-SF-9 | 6/15/1995 | 74.10 | -- | SVE | OFF | -- |
| | MW-SF-10 | 9/23/2003 | 76.53 | 10 - 30 | SVE | OFF | -- |
| | 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 | OFF | OFF |
| | MW-SF-13 | 6/19/2007 | 73.40 | 20 - 40 | SVE; TFE | OFF | OFF |
| | MW-SF-14 | 6/21/2007 | 78.16 | 20 - 40 | SVE; TFE | OFF | OFF |
| | MW-SF-15 | 6/21/2007 | 78.27 | 20 - 40 | SVE; TFE | OFF | OFF |
| | MW-SF-16 | 6/20/2007 | 78.21 | 20 - 40 | SVE; TFE | OFF | OFF |
| | MW-SF-17 | -- | -- | -- | SVE | OFF | -- |
| | MW-18 (MID) | 6/10/1991 | 75.67 | 50 - 60 | SVE | OFF | -- |
| | GMW-9 | 7/8/1991 | 77.16 | 20 - 50 | SVE; TFE | OFF | OFF |
| | GMW-10 | 7/8/1991 | N/A | 25 - 50 | SVE; TFE | OFF | OFF |
| | GMW-22 | 8/2/1991 | 77.24 | 25 - 60 | SVE; TFE | OFF | OFF |
| | GMW-24 | 8/5/1991 | 77.48 | 25 - 60 | SVE; TFE | OFF | OFF |
| GMW-25 | 1/10/1992 | 78.14 | 20 - 50 | SVE; TFE | OFF | OFF | |
| GWR-3 | 1/10/1992 | 77.60 | 20 - 50 | SVE; TFE | OFF | OFF | |
| VEW-1 | 09/19/90 | -- | 5 - 25 | SVE | OFF | -- | |
| VEW-2 | 09/19/90 | -- | 5 - 25 | SVE | OFF | -- | |
| BS-01 | 08/27/14 | 75.06 | -- | BIOSPARGE | OFF | -- | |
| South-Central Offsite | MW-O-1 | 1/22/1991 | 75.48 | 25 - 40 | SVE | OFF | -- |
| | MW-O-2 | 1/23/1991 | 71.90 | 25 - 40 | SVE; TFE | OFF | ON |
| | GMW-O-11 | 5/20/1992 | 74.17 | 20 - 50 | SVE; TFE | ON | OFF |
| | GMW-O-12 | 5/21/1992 | 73.49 | 20 - 50 | SVE | ON | -- |
| | GMW-O-20 | 6/15/1995 | 73.32 | -- | SVE; TFE | ON | ON |
| | GMW-O-21 | 10/1/1997 | 71.43 | 26 - 46 | TFE | -- | ON |
| | GMW-O-23 | 6/25/2007 | 73.63 | 20 - 40 | SVE; TFE | ON | ON |
| | HSVE-01 | 12/17/19 | -- | -- | SVE | OFF | -- |
| | BS-03 | Dec-19 | -- | -- | BIOSPARGE | OFF | -- |
| | HW-1 | 09/06/92 | -- | -- | SVE | Abandoned 2019 | |
| | HW-2 | 09/06/92 | -- | -- | SVE | Abandoned 2019 | |

Table 1. Remediation Well Construction and Status

SFPP Norwalk Pump Station, Norwalk, California

| Remediation Area | Remediation Well ID | Installation Date | Top of Well Casing Elevation | Well Screen Interval | Remediation Well Function | Well Operation Status During Fourth Quarter 2020 | |
|------------------|---------------------|-------------------|------------------------------|----------------------|---------------------------|--|---------|
| | | | (feet msl) | (feet bgs) | | SVE/BS | TFE/GWE |
| Southeastern | GMW-O-15 | 4/19/1994 | 74.23 | 20 - 50 | SVE; TFE | ON | ON |
| | GMW-O-16 | 4/19/1994 | 74.10 | 20 - 50 | SVE | ON | -- |
| | GMW-O-18 | 7/25/1994 | 74.36 | 21 - 40 | SVE; TFE | ON | ON |
| | GMW-O-19 | 7/29/1994 | 74.46 | 20 - 40 | SVE | 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 | -- | OFF |
| | GMW-SF-10 | 4/2/2003 | 75.77 | 37 - 46 | TFE | -- | OFF |
| | MW-8 | 8/24/1990 | 76.06 | 18 - 48 | SVE | ON | -- |
| | VEW-3 | 3/7/2019 | -- | 23 - 32.5 | SVE | ON | -- |
| | VEW-4 | 3/8/2019 | -- | 23 - 32.5 | SVE | ON | -- |
| | VEW-5 | 3/8/2019 | -- | 23 - 32.5 | SVE | ON | -- |
| | BS-02 | 11/21/17 | -- | -- | BIOSPARGE | ON | -- |
| | West Side Barrier | BW-2 | 5/20/1996 | 73.57 | 27 - 47 | GWE | -- |
| 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

bgs = below ground surface

BS = biosparge

GWE = groundwater extraction

HSVE = horizontal soil vapor extraction

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

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. H ₂ O) | Mass Removed (pounds) ^a |
|---------------------------------|---------------------------------------|--|---------------------------------------|--------------------|--------------------------------------|------------------------------------|
| 1995 Totals | 1,240 | | -- | -- | -- | 281,065 |
| 1996 Totals | 7,208 | 5,968 | -- | -- | -- | 516,717 |
| 1997 Totals | 12,865 | 5,657 | -- | -- | -- | 435,631 |
| 1998 Totals | 17,877 | 5,012 | -- | -- | -- | 276,950 |
| 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 | -- | -- | -- | 1,502 |
| 2011 Totals | 77,489 | 5,120 | -- | -- | -- | 14,664 |
| 2012 Totals | 84,173 | 6,684 | -- | -- | -- | 22,260 |
| 2013 Totals | 90,414 | 6,241 | -- | -- | -- | 90,880 |
| 2014 Totals | 94,083 | 3,688 | -- | -- | -- | 67,744 |
| 2015 Totals | 98,408 | 4,325 | -- | -- | -- | 122,706 |
| 2016 Totals | 104,405 | 7,694 | -- | -- | -- | 156,193 |
| 2017 Totals | 108,262 | 3,857 | -- | -- | -- | 42,194 |
| 2018 Totals | 115,346 | 7,084 | -- | -- | -- | 38,999 |
| 2019 Totals | 122,413 | 7,067 | -- | -- | -- | 19,583 |
| 1/7/2020 | 122,413 | 0 | -- | 0 | 0 | 0 |
| 1/14/2020 | 122,413 | 0 | -- | 0 | 0 | 0 |
| 1/21/2020 | 122,413 | 0 | -- | 0 | 0 | 0 |
| 2/4/2020 | 122,413 | 0 | -- | 0 | 0 | 0 |
| 2/11/2020 | 122,413 | 0 | -- | 0 | 0 | 0 |
| 2/13/2020 | 122,414 | 1 | 86 | 1,525 | 50 | 2 |
| 2/18/2020 | 122,479 | 65 | 62 | 1,216 | 50 | 64 |
| 2/25/2020 | 122,621 | 142 | 70 | 1,412 | 50 | 183 |
| 3/5/2020 | 122,755 | 134 | 70 | 1,412 | 50 | 173 |
| 3/10/2020 | 122,755 | 0 | -- | 0 | 0 | 0 |
| First Quarter 2020 Total | 122,755 | 342 | -- | -- | -- | 422 |

Table 2. Vapor Remediation System Operation Summary

SFPP Norwalk Pump Station, Norwalk, California

| System Inspection Date | Cumulative Hours of Operation (hours) | Incremental Hours of Operation (hours) | Influent PID Reading (ppmv as hexane) | System Flow (scfm) | Header Vacuum (in. H ₂ O) | Mass Removed (pounds) ^a |
|----------------------------------|---------------------------------------|--|---------------------------------------|--------------------|--------------------------------------|------------------------------------|
| 4/9/2020 | 122,755 | 0 | -- | 0 | 0 | 0 |
| 4/16/2020 | 122,755 | 0 | -- | 0 | 0 | 0 |
| 4/21/2020 | 122,755 | 0 | -- | 0 | 0 | 0 |
| 5/15/2020 | 122,756 | 1 | 352 | 1,583 | 50 | 6.5 |
| 5/19/2020 | 122,875 | 119 | 616 | 1,518 | 50 | 1,352 |
| 5/28/2020 | 123,090 | 215 | 540 | 1,480 | 50 | 2,141 |
| 6/2/2020 | 123,211 | 121 | 749 | 1,560 | 50 | 1,671 |
| 6/9/2020 | 123,379 | 168 | 462 | 1,510 | 50 | 1,431 |
| 6/16/2020 | 123,546 | 167 | 504 | 1,518 | 50 | 1,552 |
| 6/23/2020 | 123,713 | 167 | 802 | 1,470 | 50 | 2,470 |
| 6/30/2020 | 123,882 | 169 | 642 | 1,481 | 50 | 2,001 |
| Second Quarter 2020 Total | 123,882 | 1,127 | -- | -- | -- | 12,624 |
| 7/7/2020 | 124,049 | 167 | 486 | 1,513 | 50 | 1,497 |
| 7/28/2020 | 124,556 | 507 | 382 | 1,533 | 50 | 3,571 |
| 8/4/2020 | 124,706 | 150 | 414 | 1,466 | 50 | 1,145 |
| 8/11/2020 | 124,875 | 169 | 398 | 1,517 | 50 | 1,240 |
| 8/18/2020 | 125,043 | 168 | 432 | 1,466 | 50 | 1,338 |
| 8/27/2020 | 125,258 | 215 | 422 | 1,548 | 50 | 1,673 |
| 9/1/2020 | 125,381 | 123 | 306 | 1,459 | 50 | 694 |
| 9/8/2020 | 125,526 | 145 | 348 | 1,459 | 50 | 930 |
| 9/17/2020 | 125,737 | 211 | 324 | 1,439 | 50 | 1,261 |
| 9/22/2020 | 125,858 | 121 | 298 | 1,460 | 50 | 665 |
| 9/29/2020 | 126,028 | 170 | 287 | 1,548 | 50 | 900 |
| Third Quarter 2020 Total | 126,028 | 2,146 | -- | -- | -- | 14,914 |
| 10/8/2020 | 126,194 | 166 | 288 | 1,499 | 50 | 880 |
| 10/13/2020 | 126,312 | 118 | 288 | 1,435 | 50 | 627 |
| 10/20/2020 | 126,481 | 169 | 150 | 1,454 | 50 | 467 |
| 10/30/2020 | 126,651 | 170 | 162 | 1,456 | 50 | 508 |
| 11/3/2020 | 126,745 | 94 | 256 | 1,477 | 50 | 444 |
| 11/13/2020 | 126,865 | 120 | 181 | 0 | 50 | 0 |
| 11/24/2020 | 126,985 | 120 | 218 | 1,494 | 50 | 482 |
| 11/30/2020 | 127,129 | 144 | 84 | 1,540 | 50 | 59 |
| 12/8/2020 | 127,222 | 93 | 66 | 1,661 | 50 | 123 |
| 12/15/2020 | 127,367 | 145 | 42 | 1,675 | 50 | 123 |
| 12/22/2020 | 127,536 | 169 | 36 | 1,639 | 50 | 120 |
| 12/29/2020 | 127,703 | 167 | 88 | 1,555 | 50 | 276 |
| Fourth Quarter 2020 Total | 127,703 | 1,675 | -- | -- | -- | 4,109 |
| Cumulative Totals | 126,028 | -- | -- | -- | -- | 3,609,530 |

Notes:

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

-- = not applicable or not available

FID = flame ionization detector

in. H₂O = inches of water

PID = photoionization detector

ppmv = parts per million by volume

scfm = standard cubic feet per minute

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

Table 3. Remediation Well Vapor Concentrations

SFPP Norwalk Pump Station, Norwalk, California

| Remediation Area | Remediation Well ID | Remediation Well Function | August 21, 2020 (ppmv as Hexane) ^a | December 15, 2020 (ppmv as Hexane) ^a |
|-----------------------|---------------------|---------------------------|---|---|
| South-Central | MW-SF-1 | SVE | -- ^b | -- ^b |
| | MW-SF-2 | SVE; TFE | -- ^b | -- ^b |
| | MW-SF-3 | SVE; TFE | -- ^b | -- ^b |
| | MW-SF-4 | SVE | -- ^b | -- ^b |
| | MW-SF-5 | SVE | -- ^b | -- ^b |
| | MW-SF-6 | SVE; TFE | -- ^b | -- ^b |
| | MW-SF-9 | SVE | -- ^b | -- ^b |
| | MW-SF-10 | SVE | -- ^b | -- ^b |
| | MW-SF-11 | SVE; TFE | -- ^b | -- ^b |
| | MW-SF-12 | SVE; TFE | -- ^b | -- ^b |
| | MW-SF-13 | SVE; TFE | -- ^b | -- ^b |
| | MW-SF-14 | SVE; TFE | -- ^b | -- ^b |
| | MW-SF-15 | SVE; TFE | -- ^b | -- ^b |
| | MW-SF-16 | SVE; TFE | -- ^b | -- ^b |
| | MW-SF-17 | SVE; TFE | -- ^b | -- ^b |
| | MW-18 (MID) | SVE | -- ^b | -- ^b |
| | GMW-9 | SVE; TFE | -- ^b | -- ^b |
| | GMW-10 | SVE | -- ^b | -- ^b |
| | GMW-22 | SVE; TFE | -- ^b | -- ^b |
| | GMW-24 | SVE; TFE | -- ^b | -- ^b |
| | GMW-25 | SVE; GWE | -- ^b | -- ^b |
| | GWR-3 | SVE; GWE | -- ^b | -- ^b |
| VEW-1 | SVE | -- ^b | -- ^b | |
| VEW-2 | SVE | -- ^b | -- ^b | |
| South-Central Offsite | MW-O-1 | SVE | -- ^b | -- ^b |
| | MW-O-2 | SVE; TFE | -- ^b | 0 |
| | GMW-O-11 | SVE; TFE | 14.3 | 16 |
| | GMW-O-12 | SVE | 10.9 | 0 |
| | GMW-O-20 | SVE; TFE | 19.6 | 0 |
| | GMW-O-23 | SVE; TFE | 3.2 | 0 |
| | HW-1 | SVE | Abandoned 2019 | |
| | HW-2 | SVE | Abandoned 2019 | |
| | HSVE-01 | SVE | -- | -- |
| Southeastern | GMW-36 | SVE; TFE | 357 | 24 |
| | GMW-O-15 | SVE; TFE | 436 | |
| | GMW-O-16 | SVE | 407 | |
| | GMW-O-18 | SVE; TFE | 74.1 | |
| | GMW-O-19 | SVE | 312 | |
| | MW-8 | SVE | 185 | |
| | VEW-3 | SVE | 377 | |
| | VEW-4 | SVE | 72 | |
| VEW-5 | SVE | 419 | | |

Notes:

^a Vapor readings measured in the field with an Eagle 2 PID calibrated

^b Vapor lines remained closed for the natural source zone depletion study.

-- = not applicable or not available

GWE = groundwater extraction

PID = photoionization detector

ppmv = parts per million by volume

PVC = polyvinyl chloride

SVE = soil vapor extraction

TFE = total fluids extraction

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

| Date Sampled | ASTM D-1946 | | | EPA TO-3 | | SCAQMD 25.1 | EPA TO-15 (VOCs) ^b | | | | |
|--------------|---------------------|---------------------|-----------------------|--------------|-------------|---------------|-------------------------------|---------------------|----------------|----------------|-------------|
| | Methane (%v) | Carbon Dioxide (%v) | Oxygen and Argon (%v) | TPH-g (ppmv) | TVOC (ppmv) | TGNMOC (ppmv) | Benzene (ppbv) | 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 |
| 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 |

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

| Date Sampled | ASTM D-1946 | | | EPA TO-3 | | SCAQMD 25.1 | EPA TO-15 (VOCs) ^b | | | | |
|--|--------------|---------------------|-----------------------|--------------|-------------|---------------|-------------------------------|----------------------|----------------|----------------|-------------|
| | Methane (%v) | Carbon Dioxide (%v) | Oxygen and Argon (%v) | TPH-g (ppmv) | TVOC (ppmv) | TGNMOC (ppmv) | Benzene (ppbv) | Ethyl-benzene (ppbv) | Toluene (ppbv) | Xylenes (ppbv) | MTBE (ppbv) |
| 4/16/2013 | 0.0079 | 0.74 | 21.0 | 53 | --- | --- | 430 | 29 | 240 | 193 | <25 |
| 5/14/2013 | 0.017 | 1.6 | 19 | 280 | --- | --- | 1,700 | 190 | 1,800 | 840 | <12 |
| 6/28/2013 | 0.0068 | <0.010 | 21 | 22 | --- | --- | 190 | <25 | 130 | 131 | <25 |
| SVE system down for repair from July 16, 2013, to September 17, 2013. | | | | | | | | | | | |
| 9/20/2013 | 0.014 | 1 | 21 | 590 | --- | --- | 4,200 | 520 | 3,600 | 2,830 | <40 |
| 10/15/2013 | 0.011 | 0.68 | 21 | 410 | --- | --- | 3,500 | 360 | 2,800 | 1,970 | <20 |
| 11/12/2013 | 0.012 | 0.66 | 21 | 430 | --- | --- | 2,900 | 440 | 2,600 | 1,930 | <15 |
| 12/10/2013 | 0.013 | 0.92 | 21 | 910 | --- | --- | 8,400 | 920 | 7,200 | 5,500 | <50 |
| 1/17/2014 | 0.0077 | 0.57 | 21 | 350 | --- | --- | 6,600 | 6,800 | 8,200 | 23,300 | 3,000 |
| 2/11/2014 | 0.011 | 0.60 | 21 | 640 | --- | --- | 6,600 | 570 | 6,000 | 3,800 | <100 |
| 3/21/2014 | 0.0050 | 0.40 | 21 | 390 | --- | --- | 4,500 | 290 | 4,000 | 1,930 | <50 |
| 4/21/2014 | 0.011 | 0.65 | 21 | 700 | --- | --- | 6,900 | 370 | 6,900 | 3,400 | <40 |
| SVE system down for repair from April 29, 2014, to May 13, 2014. | | | | | | | | | | | |
| 5/27/2014 | 0.011 | 0.56 | 21 | 530 | --- | --- | 6,600 | 570 | 8,900 | 3,820 | <50 |
| 6/13/2014 | 0.0076 | 0.49 | 21 | 780 | --- | --- | 10,000 | 1,200 | 15,000 | 7,100 | <80 |
| SVE system down for repair and permit modification from July 1, 2014, to March 27, 2015. | | | | | | | | | | | |
| 3/31/2015 | 0.090 | 1.3 | 20 | 1,400 | --- | 1,300 | 12,000 | 1,000 | 11,000 | 7,400 | <200 |
| 4/7/2015 | 0.014 | 0.56 | 21 | --- | --- | 710 | 8,200 | 8,200 | 610 | 3,260 | <160 |
| 5/5/2015 | --- | --- | --- | --- | --- | 760 | 6,100 | 1,100 | 9,600 | 7,200 | <140 |
| 6/30/2015 | 0.0065 | 0.37 | 21 | --- | --- | 270 | 3,100 | 380 | 3,800 | 2,820 | <160 |
| 7/14/2015 | 0.0094 | 0.62 | 21 | --- | --- | 650 | 7,000 | 950 | 7,900 | 6,100 | <200 |
| 8/4/2015 | 0.0053 | 0.49 | 21 | --- | --- | 560 | 6,200 | 710 | 7,700 | 4,800 | <0.097 |
| 8/17/2015 ^c | --- | --- | --- | --- | --- | 470 | 4,800 | 500 | 5,400 | 3,600 | <0.099 |
| 8/17/2015 ^c | --- | --- | --- | --- | --- | 470 | 5,000 | 520 | 5,800 | 3,870 | <0.100 |
| 8/17/2015 ^c | --- | --- | --- | --- | --- | 480 | 5,100 | 580 | 6,100 | 4,000 | <0.097 |
| 8/17/2015 ^c | --- | --- | --- | --- | --- | 480 | 5,200 | 580 | 6,300 | 4,100 | <0.099 |
| 9/1/2015 ^c | --- | --- | --- | --- | --- | 670 | 7,000 | 850 | 8,700 | 6,900 | <0.097 |
| 9/1/2015 ^c | --- | --- | --- | --- | --- | 930 | 12,000 | 1,500 | 14,000 | 11,400 | <0.140 |
| 9/1/2015 ^c | --- | --- | --- | --- | --- | 890 | 12,000 | 2,300 | 20,000 | 14,300 | <0.140 |
| 10/6/2015 | 0.0067 | 0.43 | 21 | --- | --- | 960 | 14,000 | 3,100 | 25,000 | 15,900 | <200 |
| 11/10/2015 | 0.0028 | 0.30 | 21 | --- | 860 | --- | 9,100 | 1,800 | 15,000 | 9,400 | <97 |
| 12/10/2015 | 0.004 | 0.41 | 21 | --- | 580 | --- | 6,400 | 1,200 | 10,000 | 7,600 | <120 |
| 1/4/2016 ^c | 0.0059 | 0.27 | 22 | --- | 750 | --- | 9,600 | 2,400 | 20,000 | 13,500 | <220 |
| 2/4/2016 ^c | 0.0038 | 0.58 | 21 | --- | 2,000 | --- | 16,000 | 2,600 | 29,000 | 19,300 | <610 |
| 3/3/2016 ^c | 0.004 | 0.64 | 21 | --- | 1,200 | --- | 11,000 | 3,000 | 27,000 | 27,500 | <130 |
| 4/5/2016 | 0.033 | 0.49 | 21 | --- | 400 | --- | 3,900 | 5,500 | 7,300 | 4,600 | <63 |
| 5/13/2016 | 0.0034 | 0.50 | 21 | --- | 290 | --- | 2,200 | 300 | 4,300 | 810 | <23 |
| 6/7/2016 | 0.0065 | 0.32 | 21 | --- | 150 | --- | 1,000 | 25 J | 1,100 | 117 J | <36 |
| 7/7/2016 | 0.014 | 0.48 | 21 | --- | 170 | --- | 1,000 | 220 | 2,500 | 1,630 | <51 |
| 8/2/2016 | 0.0047 | 0.54 | 21 | --- | 260 | --- | 1,900 | 720 | 5,000 | 7,400 | <22 |
| 9/7/2016 | 0.0066 | 0.53 | 21 | --- | 250 | --- | 1,600 | 680 | 3,800 | 5,000 | <21 |
| 10/13/2016 | 0.0096 | 0.67 | 21 | --- | 250 | --- | 2,700 | 680 | 3,800 | 5,200 | <36 |
| 11/1/2016 | 0.0025 | 0.62 | 21 | --- | 260 | --- | 1,600 | 540 | 3,800 | 4,600 | <40 |
| SVE system was offline for installation of new RTO from November 1, 2016, to June 6, 2017. | | | | | | | | | | | |
| 6/7/2017 | 0.029 | 1.1 | 21 | -- | 190 | -- | 960 | 220 | 1,200 | 1,170 | <42 |
| 7/13/2017 | 0.055 | 1.3 | 20 | --- | 550 | --- | 6,800 | 1,100 | 6,600 | 9,900 | <44 |
| 8/3/2017 | 0.013 | 0.85 | 21 | --- | 340 | -- | 4,200 | 750 | 5,600 | 7,500 | <110 |
| 9/12/2017 | 0.0079 | 0.89 | 21 | -- | 290 | --- | 3,000 | 530 | 4,600 | 5,500 | 510 |
| 10/13/2017 | 0.0091 | 0.85 | 21 | --- | 280 | -- | 3,400 | 540 | 4,100 | 5,500 | 830 |
| 11/10/2017 | 0.0064 | 0.87 | 21 | --- | 230 | --- | 3,200 | 320 | 2,400 | 3,050 | <84 |
| 12/8/2017 | 0.0040 | 0.77 | 21 | --- | 250 | --- | 3,600 | 350 | 3,000 | 3,700 | <81 |
| 1/4/2018 | 0.0047 | 0.72 | 21 | -- | 230 | -- | 3,900 | 440 | 3,100 | 4,000 | 970 |
| 2/6/2018 | 0.0042 | 0.42 | 22 | -- | 27 | -- | 140 | 23 | 150 | 310 | <5.1 |
| 3/13/2018 | 0.0038 | 0.74 | 21 | -- | 79 | -- | 680 | 110 | 460 | 1,150 | <11 |
| 4/15/2018 | 0.0034 | 0.49 | 22 | -- | 33 | -- | 460 | 53 | 280 | 400 | <2.0 |
| 5/11/2018 | 0.0046 | 0.72 | 21 | -- | 64 | -- | 660 | 74 | 410 | 850 | <11 |
| 6/7/2018 | 0.0031 | 0.65 | 21 | -- | 58 | -- | 570 | 83 | 320 | 504 | <9.7 |
| 7/3/2018 | 0.0063 | 0.78 | 21 | -- | 210 | -- | 4,700 | 570 | 2,700 | 3,940 | 1,100 |

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) |
| 8/2/2018 | 0.0048 | 0.69 | 22 | -- | 160 | -- | 3,000 | 320 | 2,300 | 2,380 | <40 |
| 9/6/2018 | 0.0044 | 0.81 | 21 | -- | 190 | -- | 3,900 | 550 | 4,000 | 5,000 | <42 |
| 10/5/2018 | 0.0034 | 0.85 | 22 | -- | 180 | -- | 1,200 | 180 | 1,400 | 1,850 | <42 |
| 11/20/2018 | 0.0088 | 0.80 | 21 | -- | 150 | -- | 1,200 | 270 | 1,100 | 1,290 | <11 |
| 12/7/2018 | 0.0038 | 0.75 | 22 | -- | 190 | -- | 1,700 | 360 | 2,100 | 2,140 | <20 |
| 1/11/2019 | 0.0061 | 1.5 | 19 | -- | 46 | -- | 190 | 25 | 160 | 350 | <11 |
| 2/7/2019 | 0.0023 | 0.82 | 21 | -- | 74 | -- | 240 | 67 | 280 | 990 | <10 |
| 3/12/2019 | <0.0034 | 0.58 | 22 | -- | 31 | -- | 110 | 31 | 130 | 570 | <4.9 |
| 4/4/2019 | 0.0044 | 0.80 | 21 | -- | 160 | -- | 2,400 | 400 | 2,000 | 2,730 | 550 |
| 5/7/2019 | 0.023 | 0.78 | 21 | -- | 120 | -- | 1,900 | 330 | 1,500 | 2,520 | 410 |
| 6/4/2019 | 0.0037 | 0.64 | 21 | -- | 110 | -- | 1,000 | 260 | 880 | 1,550 | <19 |
| 7/9/2019 | 0.036 | 0.64 | 21 | -- | 99 | -- | 860 | 190 | 820 | 1,210 | 400 |
| 8/18/2019 | 0.0037 | 0.64 | 21 | -- | 97 | -- | 850 | 220 | 940 | 1,630 | 230 |
| 9/12/2019 | 0.0019 | 0.0084 | 22 | -- | 58 ^c | -- | 640 ^c | 78 ^c | 520 ^c | 880 ^c | 200 ^c |
| 10/4/2019 | 0.0037 | 0.64 | 21 | -- | 17 | -- | 61 | 21 | 67 | 470 | <3.6 |
| 11/7/2019 | 0.0067 | 0.67 | 21 | -- | 19 | -- | 66 | 26 | 56 | 480 | <2.0 |
| 12/12/2019 | 0.023 | 1.1 | 20 | -- | 30 | -- | 220 | 23 | 100 | 158 | 140 |
| January-20 | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d |
| 2/14/2020 | 0.0360 | 1.1 | 21 | -- | 17 | -- | 63 | 7.7 | 12 | 480 | <5.0 |
| 3/1/2020 | 0.0039 | 0.68 | 21 | -- | 23 | -- | 75 | 19 | 33 | 263 | <2.8 |
| April-20 | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d |
| 5/21/2020 | 0.017 | 0.020 | 21 | -- | 420 | -- | 2,800 | 190 | 4,800 | 1,720 | <40 |
| 6/2/2020 | 0.011 | 0.93 | 21 | -- | 260 | -- | 2,500 | 180 | 3,100 | 1,480 | <40 |
| 7/2/2020 | 0.0088 | 1.4 | 21 | -- | 180 | -- | 1,200 | 130 | 1,200 | 1,470 | 930 |
| 8/1/2020 | 0.0058 | 0.90 | 21 | -- | 250 | -- | 1,300 | 1,000 | 4,500 | 9,100 | 770 |
| 9/1/2020 | 0.011 | 0.87 | 21 | -- | 150 | -- | 490 | 270 | 2,300 | 3,310 | 650 |
| 10/1/2020 | 0.015 | 0.82 | 21 | -- | 93 | -- | 320 | 200 | 1,700 | 2,790 | 470 |
| 11/1/2020 | 0.0084 | 1.1 | 21 | -- | 130 | -- | 560 | 340 | 2,300 | 3,440 | 540 |
| 12/4/2020 | <0.0024 | 0.20 | 22 | -- | 1.6 | -- | 22 | 2.9 | 26 | 35 | 5.9 |

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 entering the SVE combustion chamber.

^d System was off for entire month.

%v = percent by volume

-- = not applicable

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

ASTM = ASTM International

EPA = U.S. Environmental Protection Agency

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

MTBE = methyl tertiary butyl ether

ppbv = parts per billion by volume

ppmv = parts per million by volume

RTO = regenerative thermal oxidizer

SCAQMD = South Coast Air Quality Management District

SVE = soil vapor extraction

TGNMOC = total gaseous nonmethane organic carbon

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

TVOC = total volatile organic compound

VOC = volatile organic compound

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

| System Inspection Date | Groundwater Removed from South-Central and Southeastern Areas (gallons) | Groundwater Removed from West Side Barrier Area (gallons) | Total Groundwater Removed (gallons) | Influent TPH-Total Concentration (µg/L) | Estimated Hydrocarbon Mass Removed from South-Central, Southeastern, and West Side Barrier Areas (pounds) ^a | Product Recovery (pounds) | Product Recovery (gallons) |
|--------------------------|---|---|-------------------------------------|---|--|---------------------------|----------------------------|
| 1996 Totals | 1,802,103 | 0 | 1,802,103 | -- | 273 | 36,098 | 4,995 |
| 1997 Totals | 7,031,533 | 0 | 7,031,533 | -- | | 15,928 | 2,204 |
| 1998 Totals | 4,064,700 | 0 | 4,064,700 | -- | | 6,186 | 856 |
| 1999 Totals | 3,891,600 | 2,338,129 | 6,229,729 | -- | 385 | 3,252 | 450 |
| 2000 Totals | 2,290,580 | 2,454,971 | 4,745,551 | -- | 295 | 1,662 | 230 |
| 2001 Totals | 1,401,473 | 1,131,700 | 2,533,173 | -- | 229 | 0 | 0 |
| 2002 Totals | 1,452,229 | 2,931,167 | 4,383,396 | -- | 110 | 0 | 0 |
| 2003 Totals | 1,607,095 | 2,281,956 | 3,889,051 | -- | 65 | 72 | 10 |
| 2004 Totals | 1,695,361 | 3,854,470 | 5,549,831 | -- | 229 | 0 | 0 |
| 2005 Totals | 1,537,925 | 4,244,674 | 5,782,599 | -- | 273 | 0 | 0 |
| 2006 Totals | 1,699,567 | 5,089,615 | 6,789,182 | -- | 684 | 600 | 83 |
| 2007 Totals | 3,368,481 | 2,167,724 | 5,536,205 | -- | | 643 | 89 |
| 2008 Totals ^b | 4,283,026 | 405,954 | 4,688,980 | -- | 520 | 0 | 0 |
| 2009 Totals | 2,309,627 | 0 | 2,309,627 | -- | 105 | 0 | 0 |
| 2010 Totals ^c | 3,342,227 | 2,292 | 3,344,519 | -- | 363 | 0 | 0 |
| 2011 Totals | 5,530,317 | 0 | 5,530,317 | -- | 585 | 0 | 0 |
| 2012 Totals | 7,368,318 | 0 | 7,368,318 | -- | 699 | 0 | 0 |
| 2013 Totals | 6,439,733 | 0 | 6,439,733 | -- | 568 | 14 | 2 |
| 2014 Totals | 3,410,427 | 0 | 3,410,427 | -- | 2,236 | 16,875 | 2,335 |
| 2015 Totals | 4,817,906 | 0 | 4,817,906 | -- | 5,959 | 21,162 | 2,928 |
| 2016 Totals | 2,428,279 | 0 | 2,428,279 | -- | 4,506 | 1,749 | 242 |
| 2017 Totals | 3,858,644 | 0 | 3,858,644 | -- | 325 | 14 | 2 |
| 2018 Totals | 2,854,384 | 0 | 2,854,384 | -- | 37 | 0 | 0 |
| 2019 Totals | 2,326,626 | 0 | 2,326,626 | -- | 9.27 | 0 | 0 |

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

| System Inspection Date | Groundwater Removed from South-Central and Southeastern Areas (gallons) | Groundwater Removed from West Side Barrier Area (gallons) | Total Groundwater Removed (gallons) | Influent TPH-Total Concentration (µg/L) | Estimated Hydrocarbon Mass Removed from South-Central, Southeastern, and West Side Barrier Areas (pounds) ^a | Product Recovery (pounds) | Product Recovery (gallons) |
|---------------------------------|---|---|-------------------------------------|---|--|---------------------------|----------------------------|
| First Quarter 2020 Total | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/1/2020 ^d | 2,512 | 0 | 2,512 | 280 ^d | 0.006 | 0 | 0 |
| 4/2/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/3/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/4/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/5/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/6/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/7/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/8/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/9/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/10/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/11/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/12/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/13/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/14/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/15/2020 ^d | 260 | 0 | 260 | 280 ^d | 0.001 | 0 | 0 |
| 4/16/2020 ^d | 816 | 0 | 816 | 280 ^d | 0.002 | 0 | 0 |
| 4/17/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/18/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/19/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/20/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/21/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/22/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/23/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/24/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/25/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/26/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/27/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/28/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/29/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 4/30/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 5/1/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 5/2/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 5/3/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 5/4/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 5/5/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 5/6/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 5/7/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 5/8/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 5/9/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |

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

| System Inspection Date | Groundwater Removed from South-Central and Southeastern Areas (gallons) | Groundwater Removed from West Side Barrier Area (gallons) | Total Groundwater Removed (gallons) | Influent TPH-Total Concentration (µg/L) | Estimated Hydrocarbon Mass Removed from South-Central, Southeastern, and West Side Barrier Areas (pounds) ^a | Product Recovery (pounds) | Product Recovery (gallons) |
|------------------------|---|---|-------------------------------------|---|--|---------------------------|----------------------------|
| 5/10/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 5/11/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 5/12/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 5/13/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 5/14/2020 | 0 | 0 | 0 | -- | 0.000 | 0 | 0 |
| 5/15/2020 | 1,584 | 0 | 1,584 | 280 | 0.004 | 0 | 0 |
| 5/16/2020 | 8,564 | 0 | 8,564 | | 0.020 | 0 | 0 |
| 5/17/2020 | 8,596 | 0 | 8,596 | | 0.020 | 0 | 0 |
| 5/18/2020 | 8,864 | 0 | 8,864 | | 0.021 | 0 | 0 |
| 5/19/2020 | 8,604 | 0 | 8,604 | | 0.020 | 0 | 0 |
| 5/20/2020 | 8,708 | 0 | 8,708 | | 0.020 | 0 | 0 |
| 5/21/2020 | 8,300 | 0 | 8,300 | | 0.019 | 0 | 0 |
| 5/22/2020 | 8,952 | 0 | 8,952 | | 0.021 | 0 | 0 |
| 5/23/2020 | 8,404 | 0 | 8,404 | | 0.020 | 0 | 0 |
| 5/24/2020 | 8,608 | 0 | 8,608 | | 0.020 | 0 | 0 |
| 5/25/2020 | 8,584 | 0 | 8,584 | | 0.020 | 0 | 0 |
| 5/26/2020 | 8,592 | 0 | 8,592 | | 0.020 | 0 | 0 |
| 5/27/2020 | 8,348 | 0 | 8,348 | | 0.019 | 0 | 0 |
| 5/28/2020 | 7,268 | 0 | 7,268 | | 0.017 | 0 | 0 |
| 5/29/2020 | 8,148 | 0 | 8,148 | | 0.019 | 0 | 0 |
| 5/30/2020 | 8,032 | 0 | 8,032 | | 0.019 | 0 | 0 |
| 5/31/2020 | 7,396 | 0 | 7,396 | | 0.017 | 0 | 0 |
| 6/1/2020 | 7,336 | 0 | 7,336 | | 0.017 | 0 | 0 |
| 6/2/2020 | 6,688 | 0 | 6,688 | | 0.016 | 0 | 0 |
| 6/3/2020 | 6,256 | 0 | 6,256 | | 0.015 | 0 | 0 |
| 6/4/2020 | 6,200 | 0 | 6,200 | | 0.014 | 0 | 0 |
| 6/5/2020 | 5,612 | 0 | 5,612 | | 0.013 | 0 | 0 |
| 6/6/2020 | 5,728 | 0 | 5,728 | | 0.013 | 0 | 0 |
| 6/7/2020 | 5,372 | 0 | 5,372 | | 0.013 | 0 | 0 |
| 6/8/2020 | 5,756 | 0 | 5,756 | 0.013 | 0 | 0 | |
| 6/9/2020 | 5,056 | 0 | 5,056 | 0.012 | 0 | 0 | |
| 6/10/2020 | 5,384 | 0 | 5,384 | 0.013 | 0 | 0 | |
| 6/11/2020 | 5,328 | 0 | 5,328 | 0.012 | 0 | 0 | |

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

| System Inspection Date | Groundwater Removed from South-Central and Southeastern Areas (gallons) | Groundwater Removed from West Side Barrier Area (gallons) | Total Groundwater Removed (gallons) | Influent TPH-Total Concentration (µg/L) | Estimated Hydrocarbon Mass Removed from South-Central, Southeastern, and West Side Barrier Areas (pounds) ^a | Product Recovery (pounds) | Product Recovery (gallons) |
|----------------------------------|---|---|-------------------------------------|---|--|---------------------------|----------------------------|
| 6/12/2020 | 5,672 | 0 | 5,672 | 350 | 0.017 | 0 | 0 |
| 6/13/2020 | 5,944 | 0 | 5,944 | | 0.017 | 0 | 0 |
| 6/14/2020 | 5,788 | 0 | 5,788 | | 0.017 | 0 | 0 |
| 6/15/2020 | 5,744 | 0 | 5,744 | | 0.017 | 0 | 0 |
| 6/16/2020 | 5,372 | 0 | 5,372 | | 0.016 | 0 | 0 |
| 6/17/2020 | 5,756 | 0 | 5,756 | | 0.017 | 0 | 0 |
| 6/18/2020 | 5,056 | 0 | 5,056 | | 0.015 | 0 | 0 |
| 6/19/2020 | 5,384 | 0 | 5,384 | | 0.016 | 0 | 0 |
| 6/20/2020 | 5,328 | 0 | 5,328 | | 0.016 | 0 | 0 |
| 6/21/2020 | 5,672 | 0 | 5,672 | | 0.017 | 0 | 0 |
| 6/22/2020 | 5,944 | 0 | 5,944 | | 0.017 | 0 | 0 |
| 6/23/2020 | 5,788 | 0 | 5,788 | | 0.017 | 0 | 0 |
| 6/24/2020 | 5,744 | 0 | 5,744 | | 0.017 | 0 | 0 |
| 6/25/2020 | 5,802 | 0 | 5,802 | | 0.017 | 0 | 0 |
| 6/26/2020 | 5,808 | 0 | 5,808 | | 0.017 | 0 | 0 |
| 6/27/2020 | 5,814 | 0 | 5,814 | | 0.017 | 0 | 0 |
| 6/28/2020 | 5,820 | 0 | 5,820 | | 0.017 | 0 | 0 |
| 6/29/2020 | 5,826 | 0 | 5,826 | | 0.017 | 0 | 0 |
| 6/30/2020 | 5,832 | 0 | 5,832 | | 0.017 | 0 | 0 |
| Second Quarter 2020 Total | 311,950 | 0 | 311,950 | | -- | 0.791 | 0 |
| 7/1/2020 | 5,232 | 0 | 5,232 | 350 | 0.015 | 0 | 0 |
| 7/2/2020 | 5,360 | 0 | 5,360 | | 0.016 | 0 | 0 |
| 7/3/2020 | 4,876 | 0 | 4,876 | | 0.014 | 0 | 0 |
| 7/4/2020 | 4,272 | 0 | 4,272 | | 0.012 | 0 | 0 |
| 7/5/2020 | 3,748 | 0 | 3,748 | | 0.011 | 0 | 0 |
| 7/6/2020 | 3,852 | 0 | 3,852 | | 0.011 | 0 | 0 |
| 7/7/2020 | 3,976 | 0 | 3,976 | | 0.012 | 0 | 0 |
| 7/8/2020 | 3,440 | 0 | 3,440 | | 0.010 | 0 | 0 |
| 7/9/2020 | 3,592 | 0 | 3,592 | | 0.010 | 0 | 0 |
| 7/10/2020 | 3,408 | 0 | 3,408 | | 0.010 | 0 | 0 |
| 7/11/2020 | 3,484 | 0 | 3,484 | | 0.010 | 0 | 0 |
| 7/12/2020 | 3,428 | 0 | 3,428 | | 0.010 | 0 | 0 |
| 7/13/2020 | 3,420 | 0 | 3,420 | | 0.010 | 0 | 0 |
| 7/14/2020 | 3,316 | 0 | 3,316 | | 0.010 | 0 | 0 |
| 7/15/2020 | 3,588 | 0 | 3,588 | | 0.010 | 0 | 0 |
| 7/16/2020 | 3,972 | 0 | 3,972 | | 0.012 | 0 | 0 |
| 7/17/2020 | 4,588 | 0 | 4,588 | | 0.013 | 0 | 0 |
| 7/18/2020 | 4,944 | 0 | 4,944 | | 0.014 | 0 | 0 |
| 7/19/2020 | 5,596 | 0 | 5,596 | | 0.016 | 0 | 0 |
| 7/20/2020 | 4,224 | 0 | 4,224 | | 0.012 | 0 | 0 |
| 7/21/2020 | 2,740 | 0 | 2,740 | | 0.008 | 0 | 0 |
| 7/22/2020 | 476 | 0 | 476 | | 0.001 | 0 | 0 |

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

| System Inspection Date | Groundwater Removed from South-Central and Southeastern Areas (gallons) | Groundwater Removed from West Side Barrier Area (gallons) | Total Groundwater Removed (gallons) | Influent TPH-Total Concentration (µg/L) | Estimated Hydrocarbon Mass Removed from South-Central, Southeastern, and West Side Barrier Areas (pounds) ^a | Product Recovery (pounds) | Product Recovery (gallons) |
|------------------------|---|---|-------------------------------------|---|--|---------------------------|----------------------------|
| 7/23/2020 | 4,476 | 0 | 4,476 | 860 | 0.032 | 0 | 0 |
| 7/24/2020 | 3,568 | 0 | 3,568 | | 0.026 | 0 | 0 |
| 7/25/2020 | 3,988 | 0 | 3,988 | | 0.029 | 0 | 0 |
| 7/26/2020 | 3,896 | 0 | 3,896 | | 0.028 | 0 | 0 |
| 7/27/2020 | 3,860 | 0 | 3,860 | | 0.028 | 0 | 0 |
| 7/28/2020 | 3,528 | 0 | 3,528 | | 0.025 | 0 | 0 |
| 7/29/2020 | 3,936 | 0 | 3,936 | | 0.028 | 0 | 0 |
| 7/30/2020 | 3,804 | 0 | 3,804 | | 0.027 | 0 | 0 |
| 7/31/2020 | 3,584 | 0 | 3,584 | | 0.026 | 0 | 0 |
| 8/1/2020 | 3,584 | 0 | 3,584 | | 0.026 | 0 | 0 |
| 8/2/2020 | 3,744 | 0 | 3,744 | | 0.027 | 0 | 0 |
| 8/3/2020 | 3,548 | 0 | 3,548 | | 0.025 | 0 | 0 |
| 8/4/2020 | 3,520 | 0 | 3,520 | | 0.025 | 0 | 0 |
| 8/5/2020 | 372 | 0 | 372 | | 0.003 | 0 | 0 |
| 8/6/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 |
| 8/7/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 |
| 8/8/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 |
| 8/9/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 |
| 8/10/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 |
| 8/11/2020 | 112 | 0 | 112 | | 0.001 | 0 | 0 |
| 8/12/2020 | 4,472 | 0 | 4,472 | 1300 | 0.048 | 0 | 0 |
| 8/13/2020 | 1,648 | 0 | 1,648 | | 0.018 | 0 | 0 |
| 8/14/2020 | 1,636 | 0 | 1,636 | | 0.018 | 0 | 0 |
| 8/15/2020 | 1,896 | 0 | 1,896 | | 0.021 | 0 | 0 |
| 8/16/2020 | 1,688 | 0 | 1,688 | | 0.018 | 0 | 0 |
| 8/17/2020 | 1,564 | 0 | 1,564 | | 0.017 | 0 | 0 |
| 8/18/2020 | 1,680 | 0 | 1,680 | | 0.018 | 0 | 0 |
| 8/19/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 |
| 8/20/2020 | 248 | 0 | 248 | | 0.003 | 0 | 0 |
| 8/21/2020 | 56 | 0 | 56 | | 0.001 | 0 | 0 |
| 8/22/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 |
| 8/23/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 |
| 8/24/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 |
| 8/25/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 |
| 8/26/2020 | 52 | 0 | 52 | | 0.001 | 0 | 0 |
| 8/27/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 |
| 8/28/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 |
| 8/29/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 |
| 8/30/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 |
| 8/31/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 |
| 9/1/2020 | 108 | 0 | 108 | 0.001 | 0 | 0 | |
| 9/2/2020 | 48 | 0 | 48 | 0.001 | 0 | 0 | |
| 9/3/2020 | 0 | 0 | 0 | 0.000 | 0 | 0 | |

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

| System Inspection Date | Groundwater Removed from South-Central and Southeastern Areas (gallons) | Groundwater Removed from West Side Barrier Area (gallons) | Total Groundwater Removed (gallons) | Influent TPH-Total Concentration (µg/L) | Estimated Hydrocarbon Mass Removed from South-Central, Southeastern, and West Side Barrier Areas (pounds) ^a | Product Recovery (pounds) | Product Recovery (gallons) | |
|------------------------|---|---|-------------------------------------|---|--|---------------------------|----------------------------|---|
| 9/4/2020 | 0 | 0 | 0 | 1300 | 0.000 | 0 | 0 | |
| 9/5/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 9/6/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 9/7/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 9/8/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 9/9/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 9/10/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 9/11/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 9/12/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 9/13/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 9/14/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 9/15/2020 | 328 | 0 | 328 | | 0.004 | 0 | 0 | |
| 9/16/2020 | 3,880 | 0 | 3,880 | | 0.042 | 0 | 0 | |
| 9/17/2020 | 1,288 | 0 | 1,288 | | 0.014 | 0 | 0 | |
| 9/18/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 9/19/2020 | 328 | 0 | 328 | | 0.004 | 0 | 0 | |
| 9/20/2020 | 28 | 0 | 28 | | 0.000 | 0 | 0 | |
| 9/21/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 9/22/2020 | 2,456 | 0 | 2,456 | | 0.027 | 0 | 0 | |
| 9/23/2020 | 40 | 0 | 40 | | 0.000 | 0 | 0 | |
| 9/24/2020 | 5,532 | 0 | 5,532 | | 0.060 | 0 | 0 | |
| 9/25/2020 | 1,004 | 0 | 1,004 | | 0.011 | 0 | 0 | |
| 9/26/2020 | 4,448 | 0 | 4,448 | | 0.048 | 0 | 0 | |
| 9/27/2020 | 3,876 | 0 | 3,876 | | 0.042 | 0 | 0 | |
| 9/28/2020 | 3,788 | 0 | 3,788 | | 0.041 | 0 | 0 | |
| 9/29/2020 | 3,904 | 0 | 3,904 | | 160 | 0.005 | 0 | 0 |
| 9/30/2020 | 680 | 0 | 680 | | | 0.001 | 0 | 0 |

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

| System Inspection Date | Groundwater Removed from South-Central and Southeastern Areas (gallons) | Groundwater Removed from West Side Barrier Area (gallons) | Total Groundwater Removed (gallons) | Influent TPH-Total Concentration (µg/L) | Estimated Hydrocarbon Mass Removed from South-Central, Southeastern, and West Side Barrier Areas (pounds) ^a | Product Recovery (pounds) | Product Recovery (gallons) |
|---------------------------------|---|---|-------------------------------------|---|--|---------------------------|----------------------------|
| Third Quarter 2020 Total | 181,728 | 0 | 181,728 | -- | 1.066 | 0 | 0 |
| 10/1/2020 | 5,456 | 0 | 5,456 | 160 | 0.007 | 0 | 0 |
| 10/2/2020 | 840 | 0 | 840 | | 0.001 | 0 | 0 |
| 10/3/2020 | 12 | 0 | 12 | | 0.000 | 0 | 0 |
| 10/4/2020 | 8 | 0 | 8 | | 0.000 | 0 | 0 |
| 10/5/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 |
| 10/6/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 |
| 10/7/2020 | 988 | 0 | 988 | | 0.001 | 0 | 0 |
| 10/8/2020 | 404 | 0 | 404 | | 0.001 | 0 | 0 |
| 10/9/2020 | 4,976 | 0 | 4,976 | | 0.007 | 0 | 0 |
| 10/10/2020 | 5,320 | 0 | 5,320 | | 0.007 | 0 | 0 |
| 10/11/2020 | 5,284 | 0 | 5,284 | | 0.007 | 0 | 0 |
| 10/12/2020 | 5,312 | 0 | 5,312 | | 0.007 | 0 | 0 |
| 10/13/2020 | 4,828 | 0 | 4,828 | | 0.006 | 0 | 0 |
| 10/14/2020 | 5,592 | 0 | 5,592 | | 0.007 | 0 | 0 |
| 10/15/2020 | 4,828 | 0 | 4,828 | | 0.006 | 0 | 0 |
| 10/16/2020 | 2,968 | 0 | 2,968 | | 0.004 | 0 | 0 |
| 10/17/2020 | 1,616 | 0 | 1,616 | | 0.002 | 0 | 0 |
| 10/18/2020 | 4,020 | 0 | 4,020 | | 0.005 | 0 | 0 |
| 10/19/2020 | 2,576 | 0 | 2,576 | | 0.003 | 0 | 0 |
| 10/20/2020 | 4,224 | 0 | 4,224 | | 0.006 | 0 | 0 |
| 10/21/2020 | 2,400 | 0 | 2,400 | | 0.003 | 0 | 0 |
| 10/22/2020 | 2,572 | 0 | 2,572 | | 0.003 | 0 | 0 |
| 10/23/2020 | 2,948 | 0 | 2,948 | | 0.004 | 0 | 0 |
| 10/24/2020 | 4,764 | 0 | 4,764 | | 0.006 | 0 | 0 |
| 10/25/2020 | 5,568 | 0 | 5,568 | | 0.007 | 0 | 0 |
| 10/26/2020 | 4,724 | 0 | 4,724 | | 0.006 | 0 | 0 |
| 10/27/2020 | 4,736 | 0 | 4,736 | | 0.006 | 0 | 0 |
| 10/28/2020 | 3,704 | 0 | 3,704 | | 0.005 | 0 | 0 |

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

| System Inspection Date | Groundwater Removed from South-Central and Southeastern Areas (gallons) | Groundwater Removed from West Side Barrier Area (gallons) | Total Groundwater Removed (gallons) | Influent TPH-Total Concentration (µg/L) | Estimated Hydrocarbon Mass Removed from South-Central, Southeastern, and West Side Barrier Areas (pounds) ^a | Product Recovery (pounds) | Product Recovery (gallons) | |
|------------------------|---|---|-------------------------------------|---|--|---------------------------|----------------------------|---|
| 10/29/2020 | 3,916 | 0 | 3,916 | 1,000 | 0.033 | 0 | 0 | |
| 10/30/2020 | 2,620 | 0 | 2,620 | | 0.022 | 0 | 0 | |
| 10/31/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 11/1/2020 | 16 | 0 | 16 | | 0.000 | 0 | 0 | |
| 11/2/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 11/3/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 11/4/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 11/5/2020 | 272 | 0 | 272 | | 0.002 | 0 | 0 | |
| 11/6/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 11/7/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 11/8/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 11/9/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 11/10/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 11/11/2020 | 172 | 0 | 172 | | 0.001 | 0 | 0 | |
| 11/12/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 11/13/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 11/14/2020 | 256 | 0 | 256 | | 0.002 | 0 | 0 | |
| 11/15/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 11/16/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 11/17/2020 | 0 | 0 | 0 | | 0.000 | 0 | 0 | |
| 11/18/2020 | 1,012 | 0 | 1,012 | | 0.008 | 0 | 0 | |
| 11/19/2020 | 1,032 | 0 | 1,032 | | 0.009 | 0 | 0 | |
| 11/20/2020 | 8,752 | 0 | 8,752 | | 0.073 | 0 | 0 | |
| 11/21/2020 | 11,304 | 0 | 11,304 | | 0.094 | 0 | 0 | |
| 11/22/2020 | 10,768 | 0 | 10,768 | | 0.090 | 0 | 0 | |
| 11/23/2020 | 10,580 | 0 | 10,580 | | 1,600 | 0.141 | 0 | 0 |
| 11/24/2020 | 10,848 | 0 | 10,848 | | | 0.145 | 0 | 0 |
| 11/25/2020 | 11,468 | 0 | 11,468 | | | 0.153 | 0 | 0 |
| 11/26/2020 | 10,968 | 0 | 10,968 | 0.146 | | 0 | 0 | |
| 11/27/2020 | 10,568 | 0 | 10,568 | 0.141 | | 0 | 0 | |
| 11/28/2020 | 10,368 | 0 | 10,368 | 0.138 | | 0 | 0 | |
| 11/29/2020 | 10,216 | 0 | 10,216 | 0.136 | | 0 | 0 | |
| 11/30/2020 | 10,588 | 0 | 10,588 | 0.141 | | 0 | 0 | |
| 12/1/2020 | 7,688 | 0 | 7,688 | 0.102 | | 0 | 0 | |
| 12/2/2020 | 4,620 | 0 | 4,620 | 0.062 | | 0 | 0 | |
| 12/3/2020 | 14,520 | 0 | 14,520 | 0.194 | | 0 | 0 | |
| 12/4/2020 | 5,196 | 0 | 5,196 | 0.069 | | 0 | 0 | |
| 12/5/2020 | 12,956 | 0 | 12,956 | 0.173 | | 0 | 0 | |
| 12/6/2020 | 12,452 | 0 | 12,452 | 0.166 | | 0 | 0 | |
| 12/7/2020 | 13,588 | 0 | 13,588 | 0.181 | | 0 | 0 | |

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

| System Inspection Date | Groundwater Removed from South-Central and Southeastern Areas (gallons) | Groundwater Removed from West Side Barrier Area (gallons) | Total Groundwater Removed (gallons) | Influent TPH-Total Concentration (µg/L) | Estimated Hydrocarbon Mass Removed from South-Central, Southeastern, and West Side Barrier Areas (pounds) ^a | Product Recovery (pounds) | Product Recovery (gallons) |
|----------------------------------|---|---|-------------------------------------|---|--|---------------------------|----------------------------|
| 12/8/2020 | 17,360 | 0 | 17,360 | 1,500 | 0.217 | 0 | 0 |
| 12/9/2020 | 13,752 | 0 | 13,752 | | 0.172 | 0 | 0 |
| 12/10/2020 | 2,452 | 0 | 2,452 | | 0.031 | 0 | 0 |
| 12/11/2020 | 13,916 | 0 | 13,916 | | 0.174 | 0 | 0 |
| 12/12/2020 | 3,136 | 0 | 3,136 | | 0.039 | 0 | 0 |
| 12/13/2020 | 13,356 | 0 | 13,356 | | 0.167 | 0 | 0 |
| 12/14/2020 | 13,408 | 0 | 13,408 | | 0.168 | 0 | 0 |
| 12/15/2020 | 13,284 | 0 | 13,284 | | 0.166 | 0 | 0 |
| 12/16/2020 | 13,588 | 0 | 13,588 | | 0.170 | 0 | 0 |
| 12/17/2020 | 13,288 | 0 | 13,288 | | 0.166 | 0 | 0 |
| 12/18/2020 | 13,616 | 0 | 13,616 | | 0.170 | 0 | 0 |
| 12/19/2020 | 13,580 | 0 | 13,580 | | 0.170 | 0 | 0 |
| 12/20/2020 | 13,412 | 0 | 13,412 | | 0.168 | 0 | 0 |
| 12/21/2020 | 13,436 | 0 | 13,436 | | 0.168 | 0 | 0 |
| 12/22/2020 | 13,420 | 0 | 13,420 | | 0.168 | 0 | 0 |
| 12/23/2020 | 12,784 | 0 | 12,784 | | 0.160 | 0 | 0 |
| 12/24/2020 | 12,780 | 0 | 12,780 | | 0.160 | 0 | 0 |
| 12/25/2020 | 12,856 | 0 | 12,856 | | 0.161 | 0 | 0 |
| 12/26/2020 | 12,784 | 0 | 12,784 | | 0.160 | 0 | 0 |
| 12/27/2020 | 24,536 | 0 | 24,536 | | 0.307 | 0 | 0 |
| 12/28/2020 | 12,920 | 0 | 12,920 | 0.161 | 0 | 0 | |
| 12/29/2020 | 12,244 | 0 | 12,244 | 0.153 | 0 | 0 | |
| 12/30/2020 | 11,988 | 0 | 11,988 | 0.150 | 0 | 0 | |
| 12/31/2020 | 12,292 | 0 | 12,292 | 0.154 | 0 | 0 | |
| Fourth Quarter 2020 Total | 597,600 | 0 | 597,600 | -- | 6.419 | 0 | 0 |
| Cumulative Totals | 81,903,439 | 26,902,652 | 108,806,091 | -- | 18,465 | 104,256 | 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.

^d Groundwater treatment system was operated briefly on April 1, 14, and 15, 2020, for necessary maintenance purposes.

-- = 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)

Product Density: 0.866 g/cm³ - Jacobs 2019aa - Biosparging Effectiveness Evaluation and Recommendations, South-Central Area (Report)

1 g/cm³ = 8.345 lb/gal

Table 6. Extracted Groundwater Analytical Results^a
 SFPP Norwalk Pump Station, Norwalk, California

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

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) | |
| 5/17/2002 | -- | -- | -- | -- | -- | 1,400 | 50 | 180 | 970 | 1,000 | -- | -- | -- | -- | |
| 6/4/2002 | -- | -- | -- | -- | -- | 2,700 | 57 | 280 | 530 | 1,300 | -- | -- | -- | -- | |
| 7/18/2002 | -- | -- | -- | -- | -- | 3,800 | 66 | 530 | 1,160 | 330 | -- | -- | -- | -- | |
| 8/8/2002 | -- | -- | -- | -- | -- | 4,800 | 49 | 610 | 1,290 | 460 | -- | -- | -- | -- | |
| 9/3/2002 | -- | -- | -- | -- | -- | 260 | <5 | 5 | 71 | 600 | -- | -- | -- | -- | |
| 10/18/2002 | -- | -- | -- | -- | -- | 1,200 | 70 | 490 | 820 | 570 | -- | -- | -- | -- | |
| 11/26/2002 | -- | -- | -- | -- | -- | 1,300 | 68 | 130 | 590 | 860 | -- | -- | -- | -- | |
| 12/27/2002 | -- | -- | -- | -- | -- | 1 | <1 | <1 | <2 | 58 | -- | -- | -- | -- | |
| 1/30/2003 | -- | -- | -- | -- | -- | <0.5 | <1 | <1 | <2 | 37 | -- | -- | -- | -- | |
| 2/26/2003 | -- | -- | -- | -- | -- | 4 | <1 | <1 | 4 | 140 | -- | -- | -- | -- | |
| 3/17/2003 | -- | -- | -- | -- | -- | 2,800 | 23 | 170 | 480 | 570 | -- | -- | -- | -- | |
| 4/30/2003 | -- | -- | -- | -- | -- | 3,700 | 350 | 2,200 | 4,600 | 490 | -- | -- | -- | -- | |
| 6/13/2003 | -- | -- | -- | -- | -- | 1,200 | 17 | 120 | 510 | 740 | -- | -- | -- | -- | |
| 6/19/2003 | -- | -- | -- | -- | -- | 680 | <10 | 35 | 239 | 680 | -- | -- | -- | -- | |
| 7/3/2003 | -- | -- | -- | -- | -- | 2,600 | 160 | 610 | 2,290 | 450 | -- | -- | -- | -- | |
| 7/25/2003 | -- | -- | -- | -- | -- | 300 | 6 | 3 | 39 | 230 | -- | -- | -- | -- | |
| 8/20/2003 | -- | -- | -- | -- | -- | 830 | 19 | 130 | 350 | 290 | -- | -- | -- | -- | |
| 9/11/2003 | -- | -- | -- | -- | -- | 270 | <10 | <10 | 46 | 420 | -- | -- | -- | -- | |
| 10/16/2003 | -- | -- | -- | -- | -- | 380 | <10 | <10 | 121 | 490 | -- | -- | -- | -- | |
| 11/17/2003 | -- | -- | -- | -- | -- | 93 | 6 | 22 | 106 | 200 | -- | -- | -- | -- | |
| 12/19/2003 | -- | -- | -- | -- | -- | 300 | 27 | 110 | 1,010 | 62 | -- | -- | -- | -- | |
| 1/30/2004 | -- | -- | -- | -- | -- | 700 | 140 | 740 | 1,740 | 22 | -- | -- | -- | -- | |
| 2/17/2004 | -- | -- | -- | -- | -- | 300 | 47 | 440 | 1,150 | 19 | -- | -- | -- | -- | |
| 3/8/2004 | -- | -- | -- | -- | -- | 52 | <5.0 | 10 | 149 | 23 | -- | -- | -- | -- | |
| 3/21/2004 | -- | -- | -- | -- | -- | 420 | 11 | 29 | 318 | 120 | -- | -- | -- | -- | |
| 6/28/2004 | -- | -- | -- | -- | -- | 740 | 26 | 46 | 337 | 81 | -- | -- | -- | -- | |
| 7/30/2004 | -- | -- | -- | -- | -- | 660 | 18 | 68 | 280 | 87 | -- | -- | -- | -- | |
| 8/27/2004 | -- | -- | -- | -- | -- | 1,500 | 47 | 140 | 530 | 77 | -- | -- | -- | -- | |
| 9/28/2004 | -- | -- | -- | -- | -- | 400 | 10 | 32 | 252 | 64 | -- | -- | -- | -- | |
| 10/15/2004 | -- | -- | -- | -- | -- | 950 | 31 | 130 | 316 | 64 | -- | -- | -- | -- | |
| 11/12/2004 | -- | -- | -- | -- | -- | 2,100 | 1,500 | 390 | 15,800 | 3,000 | -- | -- | -- | -- | |
| 12/10/2004 | -- | -- | -- | -- | -- | 700 | 320 | 1,100 | 3,900 | 110 | -- | -- | -- | -- | |
| 1/28/2005 | -- | -- | -- | -- | -- | 460 | 140 | 520 | 2,260 | 610 | -- | -- | -- | -- | |
| 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 | -- | -- | -- | -- | |

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) | |
| 8/31/2005 | -- | -- | -- | -- | -- | 660 | 34 | 320 | 670 | 220 | -- | -- | -- | -- | |
| 9/28/2005 | -- | -- | -- | -- | -- | 1,800 | 310 | 2,800 | 4,700 | 360 | -- | -- | -- | -- | |
| 10/26/2005 | -- | -- | -- | -- | -- | 940 | 330 | 1,800 | 3,600 | 530 | -- | -- | -- | -- | |
| 11/30/2005 | -- | -- | -- | -- | -- | 900 | 170 | 900 | 2,790 | 760 | -- | -- | -- | -- | |
| 12/20/2005 | -- | -- | -- | -- | -- | 2,500 | 350 | 2,600 | 4,100 | 2,300 | -- | -- | -- | -- | |
| 7/11/2007 | -- | -- | -- | -- | -- | 4,800 | 130 | 890 | 1,040 | 690 | -- | -- | -- | -- | |
| 8/7/2007 | 14,000 | -- | -- | -- | 11,000 | 5,400 | 140 | 1,100 | 770 | 540 | -- | -- | -- | -- | |
| 9/25/2007 | 12,000 | -- | -- | -- | 30,000 | 3,400 | 310 | 1,600 | 2,390 | 540 | -- | -- | -- | -- | |
| 10/16/2007 | 8,900 | -- | -- | -- | 8,400 | 3,400 | 94 | 520 | 660 | 390 | -- | -- | -- | -- | |
| 11/2/2007 | 44,000 | -- | -- | -- | 6,500 | 3,200 | 130 | 860 | 1,160 | 570 | -- | -- | -- | -- | |
| 11/30/2007 | 6,000 | -- | -- | -- | 5,200 | 1,800 | 48 | 170 | 490 | 450 | -- | -- | -- | -- | |
| 12/21/2007 | 7,200 | -- | -- | -- | 4,200 | 2,100 | 41 | 170 | 430 | 750 | -- | -- | -- | -- | |
| 1/4/2008 | 4,300 | -- | -- | -- | 7,200 | 3,300 | 49 | 300 | 540 | 620 | -- | -- | -- | -- | |
| 1/18/2008 | 11,000 | -- | -- | -- | 2,200 | 3,600 | 140 | 650 | 850 | 620 | -- | -- | -- | -- | |
| 2/1/2008 | 8,700 | -- | -- | -- | 5,700 | 3,600 | 100 | 440 | 930 | 560 | -- | -- | -- | -- | |
| 3/4/2008 | 7,200 | -- | -- | -- | 4,900 | 3,900 | 120 | 510 | 770 | 620 | -- | -- | -- | -- | |
| 4/8/2008 | 8,100 | -- | -- | -- | 10,000 | 2,800 | 96 | 280 | 580 | 640 | -- | -- | -- | -- | |
| 5/6/2008 | 5,300 | -- | -- | -- | 2,800 | 2,900 | 76 | 190 | 328 | 430 | -- | -- | -- | -- | |
| 6/3/2008 | 8,400 | -- | -- | -- | 6,800 | 3,700 | 110 | 450 | 480 | 320 | -- | -- | -- | -- | |
| 7/2/2008 | 9,200 | -- | -- | -- | 4,300 ^c | 4,500 | 75 | 620 | 650 | 400 | -- | -- | -- | -- | |
| 8/19/2008 | 4,000 | -- | -- | -- | 6,600 | 2,600 | 57 | 76 | 215 | 450 | -- | -- | -- | -- | |
| 9/5/2008 | 160 | -- | -- | -- | <500 | <12 | <25 | <25 | <25 | <25 | -- | -- | -- | -- | |
| 10/7/2008 | <100 | -- | -- | -- | <500 | 0.36 J | <1.0 | <1.0 | 1.59 | 1.7 | -- | -- | -- | -- | |
| 11/4/2008 | 12,000 | -- | -- | -- | 660,000 | 2,500 | 140 | 220 | 760 | 160 | -- | -- | -- | -- | |
| 12/4/2008 | 1,300 | -- | -- | -- | 1,500 | 600 | 8.2 | 28 | 73 | 130 | -- | -- | -- | -- | |
| 1/6/2009 | 1,500 | -- | -- | -- | 980 | 560 | 23 | 41 | 110 | 320 | -- | -- | -- | -- | |
| 3/6/2009 | 2,500 | -- | -- | -- | 1,500 | 1,100 | 33 | 51 | 114 | 65 | -- | -- | -- | -- | |
| 4/7/2009 | 3,100 | -- | -- | -- | 6,900 | 1,100 | 36 | 230 | 207 | 210 | -- | -- | -- | -- | |
| 5/13/2009 | 690 | -- | -- | -- | 1,500 | 120 | 3.2 | 14 | 60 | 24 | -- | -- | -- | -- | |
| 6/12/2009 | 150 | -- | -- | -- | <500 | <0.50 | <1.0 | <1.0 | 0.71 J | 44 | -- | -- | -- | -- | |
| 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 | -- | -- | -- | -- | |

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) | |
| 4/20/2010 | 10,000 | -- | -- | -- | 11,000 | 6,000 | 44 | 230 | 174 | 130 | -- | -- | -- | -- | |
| 5/14/2010 | 8,500 | -- | -- | -- | 2,100 | 3,600 | 67 | 380 | 400 | 210 | -- | -- | -- | -- | |
| 6/25/2010 | 4,600 | -- | -- | -- | 2,600 | 2,200 | 61 | 540 | 380 | 170 | -- | -- | -- | -- | |
| 7/20/2010 | 21,000 | -- | -- | -- | 21,000 | 3,400 | 370 | 3,000 | 2,550 | 2,300 | -- | -- | -- | -- | |
| 8/3/2010 | 3,400 | -- | -- | -- | 1,500 | 1,400 | 17 | 140 | 161 | 390 | -- | -- | -- | -- | |
| 8/10/2010 | 5,800 | -- | -- | -- | 3,400 | 2,600 | 40 | 190 | 169 | 140 | -- | -- | -- | -- | |
| 9/14/2010 | 9,400 | -- | -- | -- | 10,000 | 4,900 | 170 | 1,100 | 1,340 | 380 | -- | -- | -- | -- | |
| 10/12/2010 | 5,700 | -- | -- | -- | 1,000 | 2,200 | 43 | 140 | 138 | 120 | -- | -- | -- | -- | |
| 11/16/2010 | 1,100 | -- | -- | -- | 1,600 | 290 | 4 | 15 | 78 | 84 | -- | -- | -- | -- | |
| 12/14/2010 | 7,100 | -- | -- | -- | 3,200 | 2,600 | 76 | 200 | 315 | 340 | -- | -- | -- | -- | |
| 1/14/2011 | 7,400 | -- | -- | -- | 3,500 | 3,700 | 56 | 110 | 220 | 280 | -- | -- | -- | -- | |
| 2/8/2011 | 5,600 | -- | -- | -- | 3,500 | 2,400 | 43 | 110 | 190 | 420 | -- | -- | -- | -- | |
| 3/25/2011 | 3,100 | -- | -- | -- | 1,200 | 1,300 | 51 | 92 | 200 | 300 | -- | -- | -- | -- | |
| 4/26/2011 | 1,400 | -- | -- | -- | 1,200 | 610 | 5.8 | 5.7 | 20 | 130 | -- | -- | -- | -- | |
| 5/17/2011 | 3,300 | -- | -- | -- | 1,700 | 3,600 | 82 | 180 | 300 | 240 | -- | -- | -- | -- | |
| 6/21/2011 | 1,200 | -- | -- | -- | 720 | 860 | 9.6 | 31 | 82 | 190 | 2,200 | 6.6 | <0.07 | <0.1 | |
| 7/27/2011 | 14,000 | 10,000 | 44J | -- | -- ^d | 2,800 | 150 | 490 | 2,100 | 350 | 2,800 | 27 | <0.07 | <0.1 | |
| 8/26/2011 | 7,400 | -- | -- | -- | 57,000 | 1,400 | 120 | 480 | 1,300 | 270 | 1,600 | 16 | <0.07 | <0.1 | |
| 9/23/2011 | 6,400 | -- | -- | -- | 2,800 | 2,800 | 83.0 | 160 | 340 | 300 | 1,300 | 22 | <0.07 | <0.1 | |
| 10/25/2011 | 6,000 | -- | -- | -- | 2,300 | 3,000 | 52 | 93 | 200 | 200 | 970 | 20 | <0.70 | <1.0 | |
| 11/22/2011 | 5,900 | -- | -- | -- | 2,000 | 3,600 | 62 | 140 | 240 | 300 | 2,900 | 26 | <0.07 | <0.1 | |
| 12/20/2011 | 780 | -- | -- | -- | 2,000 | 330 | 8 | 14 | 43 | 160 | 1,000 | 18 | <0.07 | <0.1 | |
| 1/10/2012 | 5,300 | -- | -- | -- | 1,900 | 3,400 | 36 | 70 | 170 | 200 | 960 | 26 | <0.07 | <0.1 | |
| 2/21/2012 | 4,900 | -- | -- | -- | <13 | 3,400 | 19 | 16 | 48 | 120 | 2,200 | 21 | <0.07 | <0.1 | |
| 3/13/2012 | 6,100 | -- | -- | -- | 2,100 | 2,900 | 43 | 79 | 180 | 120 | 1,600 | 23 | <0.07 | <0.1 | |
| 4/27/2012 | 5,100 | -- | -- | -- | 2,200 | 3,800 | 49 | 61 | 150 | 150 | 500 | 38 | <0.13 | <0.12 | |
| 5/22/2012 | 6,800 | -- | -- | -- | 31,000 | 2,800 | 49 | 140 | 262 | 150 | 690 | 30 | <0.13 | <0.12 | |
| 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 | |

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) | |
| 5/14/2013 | 4,300 | 830 | 99 | 5,229 | -- | 2,000 | 52 | 98 | 181 | 61 | 270 | 22 | <0.061 | <0.054 | |
| 6/28/2013 | 2,900 | 870 | 150 | 3,920 | -- | 1,100 | 18 | 58 | 76 | 92 | 500 | 11 | <0.061 | <0.054 | |
| 7/16/2013 | 3,600 | 1,000 | 130 | 4,730 | -- | 870 | 19 | 47 | 140 | 100 | 600 | 14 | <0.061 | <0.054 | |
| 8/16/2013 | 3,800 | 5,900 | 530 | 10,230 | -- | 1,400 | 13 | 32 | 85 | 77 | 550 | 27 | <0.061 | <0.054 | |
| 9/24/2013 | 5,800 | 12,000 | 550 | 18,350 | -- | 990 | 53 | 400 | 630 | 78 | 440 | 20 | <0.061 | <0.054 | |
| 10/15/2013 | 3,300 | 650 | 120 | 4,070 | -- | 1,400 | 11 | 37 | 150 | 43 | 250 | 15 | <0.061 | <0.054 | |
| 11/12/2013 | 5,600 | 3,500 | 190 | 9,290 | -- | 570 | 99 | 230 | 660 | 89 | 550 | 20 | <0.061 | <0.054 | |
| 12/13/2013 | 12,500 | 14,000 | 400 | 26,900 | -- | 560 | 170 | 690 | 1,500 | 52 | 220 | 17 | <0.061 | <0.054 | |
| 1/17/2014 | 5,900 | 980 | 130 | 7,010 | -- | 4,200 | 13 | 18 | 61 | 89 | 810 | 40 | <0.061 | <0.054 | |
| 2/11/2014 | 12,000 | 63,000 | 2,500 | 77,500 | -- | 640 | 130 | 560 | 1,990 | 45 | 290 | 12 | <0.061 | <0.054 | |
| 3/21/2014 | 42,000 | 77,000 | 2,000 | 121,000 | -- | 3,700 | 440 | 3,300 | 3,900 | 100 | 360 | 17 | <0.061 | <0.054 | |
| 4/21/2014 | 100,000 | 30,000 | 880 | 130,000 | -- | 6,000 | 1,300 | 9,800 | 9,000 | <0.098 | <1.0 | 12 | <0.061 | <0.054 | |
| 5/20/2014 | 33,000 | 15,000 | 470 | 48,000 | -- | 1,400 | 570 | 2,700 | 5,400 | 30 | <0.40 | 16 | <0.061 | <0.054 | |
| 6/13/2014 | 77,000 | 33,000 | 1,100 | 110,000 | -- | 7,700 | 1,900 | 10,000 | 13,000 | 38 | <0.40 | 12 | <0.061 | <0.054 | |
| 7/12/2014 | 28,000 | 82 | <52 | 28,082 | -- | 2,800 | 820 | 3,700 | 6,800 | 34 | <0.40 | 18J | <25 | <25 | |
| The GWTS was down between July 29, 2014, and December 1, 2014, to facilitate processing of the modifications to SCAQMD Permit No. F14166 for the GWTS. | | | | | | | | | | | | | | | |
| 1/15/2015 | 8,000 | 5,600 | 270 | 13,870 | -- | 2,200 | 22 | 140 | 430 | 21 | 390 | 11 | <0.12 | <0.11 | |
| 2/20/2015 | 120,000 | 47,000 | 1,500 | 170,000 | -- | 3,000 | 350 | 1,600 | 3,000 | 43 | <0.80 | 17 | <0.12 | <0.11 | |
| 3/3/2015 | 65,000 | 480,000 | 15,000 | 560,000 | -- | 6,600 | 1,700 | 9,300 | 12,000 | 670 | <0.80 | 11 | <0.12 | <0.11 | |
| 4/7/2015 | 105,000 | 92,000 | 2,900 | 200,000 | -- | 9,000 | 2,100 | 18,000 | 13,000 | 1,200 | <0.80 | 8.7 | <0.12 | 17 | |
| 5/19/2015 | 73,000 | 90,000 | 2,400 | 165,400 | -- | 8,200 | 1,600 | 17,000 | 12,000 | 380 | <0.60 | 25 | <0.078 | <0.078 | |
| 6/2/2015 | 78,000 | 89,000 | 3,100 | 170,100 | -- | 3,200 | 530 | 3,700 | 7,100 | 1,100 | <0.60 | 13 | <0.078 | 8.3 | |
| 7/30/2015 | 31,000 | 16,000 | 570 | 47,570 | -- | 3,100 | 720 | 5,100 | 6,200 | 820 | <0.60 | 27 | <0.078 | 6.2 | |
| 8/6/2015 | 30,000 | 17,000 | 570 | 37,570 | -- | 2,600 | 500 | 3,100 | 6,200 | 700 | <0.60 | 16 | <0.078 | 6.4 | |
| 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 | |

Table 6. Extracted Groundwater Analytical Results^a
 SFPP Norwalk Pump Station, Norwalk, California

| Date Sampled | EPA 8015M | | | | | EPA 8260B Volatile Organic Compounds (VOCs) ^b | | | | | | | | | |
|--------------|----------------------|-----------------|-----------------|---------------------|------------------|--|------------------------|-------------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|--|
| | TPH-g (µg/L) | TPH-d (µg/L) | TPH-o (µg/L) | TPH-total (µg/L) | TPH-fp (µg/L) | Benzene (µg/L) | Ethylbenzene (µg/L) | Toluene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | |
| 2/3/2017 | 390 | 490 | 170 | 1,000 | -- | 4.2 | 0.89 J | 3.5 | 30 | 3.5 | 1700 | 5.1 | <0.15 | <0.12 | |
| 3/3/2017 | 790 | 320 | 78 | 1,200 | -- | 180 | 5 | 1.7 J | 24 | 4.2 | 620 | 3.0 | <0.15 | <0.12 | |
| 4/7/2017 | 1,200 | 780 | 140 | 2,100 | -- | 740 | 21 | 23 | 87 | 7.5 | 120 | 4.8 | <0.15 | <0.12 | |
| 5/4/2017 | 20 | 300 | 100 | 430 | -- | 0.18 J | <0.036 | 0.12 J | <1.5 | 1.4 | 320 | <0.017 | <0.039 | <0.039 | |
| 6/20/2017 | 11,000 | 54,000 | 3,000 | 68,000 | -- | 1,400 | 100 | 400 | 2,300 | 15 | <18 | 8.1 J | <1.5 | <1.2 | |
| 7/20/2017 | 17 J | 400 | 180 | 600 | -- | <1.0 | <1.0 | <2.0 | <2.0 | 1.2 | 38 | 4.2 | <1.0 | <1.0 | |
| 8/3/2017 | 39 J | 410 | 310 | 760 | -- | <1.0 | <1.0 | <2.0 | <2.0 | 1.3 | 25 | 4.2 | <1.0 | <1.0 | |
| 9/20/2017 | 940 | 2,400 | 1,300 | 4,600 | -- | <1.0 | 0.15 J | 0.17 J | 4.4 | 0.59 | 5.4 | 0.70 J | <1.0 | <1.0 | |
| 10/10/2017 | 860 | 1,200 | 240 | 2,300 | -- | <1.0 | 5.2 | 13 | 120 | 3.7 | 26 | 6.5 | <1.0 | <1.0 | |
| 11/8/2017 | 4,000 | 27,000 | 2,000 | 33,000 | -- | 24 | 6.7 | 8.7 | 690 | 70 | <5.0 | 8.8 | <1.0 | <1.0 | |
| 12/15/2017 | 1,400 | 2,300 | 500 | 4,200 | -- | 6.0 | 1.6 | 5.9 | 52 | 120 | 200 | <1.0 | <1.0 | <1.0 | |
| 1/4/2018 | 1,800 | 1,500 | 560 | 3,900 | -- | 190 | 4.9 | 30 | 410 | 160 | 240 | 5.4 | <1.0 | <1.0 | |
| 2/8/2018 | 36 | 640 | 530 | 1,200 | -- | 0.53 J | <1.0 | 0.62 J | 2.4 | 2.4 | <5.0 | 2.1 | <1.0 | <1.0 | |
| 2/27/2018 | 220 | 560 | 240 | 100 | -- | 3.9 | 0.55 J | 1.6 J | 9.3 | 2.3 | 26 | 5.5 | <1.0 | <1.0 | |
| 3/27/2018 | 430 | 380 | 330 | 1,100 | -- | 5.3 | 0.83 J | <2.0 | 11 | 43 | 410 | 2.1 | <1.0 | <1.0 | |
| 4/24/2018 | 49 J | 370 | 410 | 830 J | -- | <1.0 | <1.0 | <2.0 | <2.0 | 1.7 | 230 | 1.6 | <1.0 | <1.0 | |
| 5/22/2018 | 45 J | 120 | 180 | 340 | -- | <1.0 | <1.0 | <2.0 | <2.0 | 0.94 J | 330 | 0.45 J | <1.0 | <1.0 | |
| 7/3/2018 | 4,700 | 1,300 | 2,300 | 8,300 | -- | 220 | 140 | 35 | 1,300 | 92 | 1,500 | 0.91 J | <1.0 | <1.0 | |
| 7/31/2018 | 200 | 260 | 220 | 680 | -- | 14 | 1.0 | <2.0 | 3.0 | 27 | 320 | 2.6 | <1.0 | <1.0 | |
| 8/31/2018 | 130 | 200 | 460 | 790 | -- | 5.1 | 0.35 J | 1.0 J | 4.8 | 39 | 610 | <1.0 | <1.0 | <1.0 | |
| 9/25/2018 | <50 | 280 | 350 | 630 | -- | <1.0 | <1.0 | <2.0 | <2.0 | 23 | 52 | 2.3 | <1.0 | <1.0 | |
| 10/23/2018 | 74 | <32 | <80 | 74 J | -- | 1.2 | <1.0 | <2.0 | <2.0 | 2.2 | 38 | 3.8 | <1.0 | <1.0 | |
| 11/12/2018 | <50 | 120 | <100 | 120 | -- | <1.0 | <1.0 | <2.0 | <2.0 | 1.4 | 120 | 4.1 | <1.0 | <1.0 | |
| 12/14/2018 | 170 | 210 | 77 | 460 | -- | 1.8 | 0.49 J | 0.94 J | 5.3 | 14 | 180 | 1.4 | <1.0 | <1.0 | |
| 1/29/2019 | 100 | 250 | 64 | 410 | -- | <1.0 | <1.0 | <2.0 | <2.0 | 2.6 | <5.0 | 1.7 | <1.0 | <1.0 | |
| 2/7/2019 | 36 J | 210 | 93 | 340 | -- | <1.0 | <1.0 | <2.0 | 2.0 J | 1.1 | 22 | 0.82 J | <1.0 | <1.0 | |
| 3/8/2019 | 38 J | 270 | 110 | 420 | -- | <1.0 | <1.0 | <2.0 | <2.0 | 1.7 | 22 | 3.8 | <1.0 | <1.0 | |
| 4/29/2019 | 33 J | 220 | 97 | 350 | -- | <1.0 | <1.0 | <2.0 | <2.0 | 1.2 | 1,100 | 2.7 | <1.0 | <1.0 | |
| 5/28/2019 | 31 J | 270 | 120 | 420 | -- | <1.0 | <1.0 | <2.0 | <2.0 | 1.8 | 16 | 2.6 | <1.0 | <1.0 | |
| 6/20/2019 | 170 | 210 | 82 | 460 | -- | 86 | 1.1 | 1.9 J | 11 | 2.8 | 220 | 4.5 | <1.0 | <1.0 | |
| 7/31/2019 | 200 | 130 | 60 | 390 | -- | 130 | 1.9 | 0.75 | 11 | 1.6 | 320 | 6.9 | <1.0 | <1.0 | |
| 8/22/2019 | 840 | 350 | 420 | 1,600 | -- | 670 | 11 | 2.6 | 44 | 2.3 | 190 | 11 | <1.0 | <1.0 | |
| 9/12/2019 | 440 | 180 | 87 | 650 | -- | 140 | 1.8 | 0.61 J | 8 | 1.2 | 110 | 3.4 | <1.0 | <1.0 | |
| 10/8/2019 | 28 J | 250 | 140 | 420 | -- | <1.0 | <1.0 | <2.0 | <2.0 | <1.0 | <5.0 | 0.94 J | <1.0 | <1.0 | |
| 11/19/2019 | 19 ^e B, J | 170 | 150 | 330 | -- | <1.0 | <1.0 | <2.0 | <2.0 | <1.0 | <5.0 | <1.0 | <1.0 | <1.0 | |
| December-19 | -- ^f | -- ^f | -- ^f | -- ^f | -- | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | |
| January-20 | -- ^f | -- ^f | -- ^f | -- ^f | -- | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | |
| February-20 | -- ^f | -- ^f | -- ^f | -- ^f | -- | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | |
| March-20 | -- ^f | -- ^f | -- ^f | -- ^f | -- | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | |

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) |
| April-20 | -- ^f | -- ^f | -- ^f | -- ^f | -- | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f | -- ^f |
| 5/21/2020 | 92 | 140 | 46 | 280 | -- | 8.9 | 0.73 J | 0.27 J | 1.6 J | 5.2 | 23 | 2.7 | <1.0 | <1.0 |
| 6/12/2020 | 39 J | 240 | 69 | 350 | -- | 0.65 J | <1.0 | <2.0 | <2.0 | 2.1 | <5.0 | 3.0 | <1.0 | <1.0 |
| 7/23/2020 | 320 | 450 | 89 | 860 | -- | 530 | 1.8 | 2.1 | 18 | 5.3 | 41 | 15 | <1.0 | <1.0 |
| 8/11/2020 | 800 | 430 | 110 | 1,300 | -- | 610 | 7.0 | 3.6 | 21 | 10 | <10 | 13 | <2.0 | <2.0 |
| 9/29/2020 | 39 J | 46 | 71 | 160 | -- | <1.0 | <1.0 | <2.0 | <2.0 | <1.0 | <5.0 | <1.0 | <1.0 | <1.0 |
| 10/27/2020 | 660 | 260 | 120 | 1,000 | -- | 270 | 1.9 | 1.0 J | 6.8 | 1.0 | 8.7 | 4.0 | <1.0 | <1.0 |
| 11/23/2020 | 620 | 810 | 160 | 1,600 | -- | 250 | 2.2 | 1.1 J | 5.5 | 7.0 | 70 | 24 | <1.0 | <1.0 |
| 12/8/2020 | 890 | 480 | 150 | 1,500 | -- | 490 | 4.2 | 1.4 J | 8.0 | 6.3 | 55 | 9.9 | <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.

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

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

-- = not analyzed

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

J = analyte detected above the laboratory method detection limit and below the laboratory reporting limit; reported value is an estimate.

B = analyte detected in the associated method blank

µg/L = micrograms per liter

ppm = parts per million

DAF = dissolved air flotation

DIPE = di-isopropyl ether

ETBE = ethyl tertiary butyl ether

GWTS = groundwater treatment system

MTBE = methyl tertiary butyl ether

OWS = oil-water separator

SCAQMD = South Coast Air Quality Management District

TAME = tertiary amyl methyl ether

TBA = tertiary butyl alcohol

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

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

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

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

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

Table 7. Biosparge System Operation Summary

SFPP Norwalk Pump Station, Norwalk, California

| System Inspection Date | Cumulative Hours of Operation (hours) | Incremental Hours of Operation (hours) | Incremental Uptime (%) | System Flow ^a (scfm) | BS-01 Sparge Leg Pressure (psi) |
|-----------------------------------|---------------------------------------|--|------------------------|---------------------------------|---------------------------------|
| 2016 Totals | 5,302 | 5,302 | -- | -- | -- |
| 2017 Totals | 8,580 | 3,278 | -- | -- | -- |
| 2018 Totals | 14,216 | 5,636 | 64.7 | -- | -- |
| 2019 Totals | 20,332 | 6,116 | 69.8 | -- | -- |
| 1/7/2020 | 20,332 | 0 | 0 | 0 | 0 |
| 1/14/2020 | 20,332 | 0 | 0 | 0 | 0 |
| 1/21/2020 | 20,332 | 0 | 0 | 0 | 0 |
| 1/28/2020 | 20,332 | 0 | 0 | 0 | 0 |
| 2/4/2020 | 20,332 | 0 | 0 | 0 | 0 |
| 2/11/2020 | 20,332 | 0 | 0 | 0 | 0 |
| 2/18/2020 | 20,332 | 0 | 0 | 0 | 0 |
| 2/25/2020 | 20,332 | 0 | 0 | 0 | 0 |
| 3/5/2020 | 20,332 | 0 | 0 | 0 | 0 |
| 3/10/2020 | 20,322 | 0 | 0 | 0 | 0 |
| 3/17/2020 | 20,332 | 0 | 0 | 0 | 0 |
| 3/31/2020 | 20,332 | 0 | 0 | 0 | 0 |
| First Quarter 2020 Total | 20,322 | 0 | 0.0 | -- | -- |
| 4/9/2020 | 20,332 | 0 | 0 | 0 | 0 |
| 4/16/2020 | 20,332 | 0 | 0 | 0 | 0 |
| 4/21/2020 | 20,332 | 0 | 0 | 0 | 0 |
| 4/28/2020 | 20,332 | 0 | 0 | 0 | 0 |
| 5/12/2020 | 20,332 | 0 | 0 | 0 | 0 |
| 5/15/2020 | 20,334 | 2 | 3 | 24 | 6 |
| 5/19/2020 | 20,428 | 94 | 98 | 75 | 6 |
| 5/28/2020 | 20,644 | 216 | 100 | 125 | 2 |
| 6/2/2020 | 20,763 | 119 | 99 | 167 | 2 |
| 6/9/2020 | 20,933 | 170 | 100 | 108 | 2 |
| 6/16/2020 | 21,015 | 82 | 49 | 12 | 1 |
| 6/23/2020 | 21,017 | 2 | 1 | 3 | 5 |
| 6/30/2020 | 21,107 | 90 | 54 | 0 | 0 |
| Second Quarter 2020 Totals | 21,107 | 775 | 35.5 | -- | -- |

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) |
|-----------------------------------|--|---|-------------------------------|---------------------------------------|--|
| 7/7/2020 | 21,228 | 121 | 72 | 130 | 4 |
| 7/14/2020 | 21,398 | 170 | 100 | 204 | 4 |
| 7/28/2020 | 21,735 | 337 | 100 | 174 | 2 |
| 8/4/2020 | 21,884 | 149 | 89 | 90 | 2 |
| 8/11/2020 | 22,053 | 169 | 100 | 174 | 2 |
| 8/18/2020 | 22,220 | 167 | 99 | 180 | 2 |
| 8/27/2020 | 22,436 | 216 | 100 | 163 | 2 |
| 9/1/2020 | 22,559 | 123 | 100 | 167 | 2 |
| 9/8/2020 | 22,701 | 142 | 85 | 170 | 2 |
| 9/17/2020 | 22,915 | 214 | 99 | 180 | 2 |
| 9/22/2020 | 23,035 | 120 | 100 | 182 | 2 |
| 9/29/2020 | 23,206 | 171 | 100 | 189 | 2 |
| Third Quarter 2020 Totals | 23,206 | 2,099 | 89.2 | -- | -- |
| 10/8/2020 | 23,370 | 164 | 76 | 90 | 2 |
| 10/13/2020 | 23,491 | 121 | 100 | 181 | 2 |
| 10/30/2020 | 23,827 | 336 | 82 | 76 | 2 |
| 11/3/2020 | 23,921 | 94 | 98 | 180 | 4 |
| 11/19/2020 | 24,286 | 365 | 95 | 90 | 2 |
| 11/24/2020 | 24,403 | 117 | 98 | 182 | 2 |
| 11/30/2020 | 24,546 | 143 | 99 | 182 | 2 |
| 12/8/2020 | 24,641 | 95 | 49 | 180 | 2 |
| 12/15/2020 | 24,785 | 144 | 86 | 187 | 2 |
| 12/22/2020 | 24,954 | 169 | 100 | 180 | 2 |
| 12/29/2020 | 25,120 | 166 | 99 | 162 | 2 |
| Fourth Quarter 2020 Totals | 25,120 | 1,914 | 87.6 | -- | -- |
| Cumulative Totals | 25,120 | -- | 57.6 | -- | -- |

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. Field Measurements and Laboratory Soil Vapor Analytical Results – December 2020
 SFPP Norwalk Pump Station, Norwalk, California

| Analyte Type | Analyte | Unit | Current Residential Soil Gas Screening Level ^{a, b} | Current Commercial Soil Gas Screening Level ^{a, b} | SVM-1-5 12/3/2020 SVM-1 5-5.5 | SVM-1-15 12/3/2020 SVM-1 15-15.5 | SVM-2-5 12/3/2020 SVM-2 5-5.5 | SVM-3-5 12/4/2020 SVM-3 5-5.5 | SVM-3-15 12/4/2020 SVM-3 15-15.5 | SVM-5-5 12/4/2020 SVM-5 5-5.5 | SVM-5-15 12/4/2020 SVM-5 15-15.5 | SVM-6-7 12/3/2020 SVM-6 7-7.5 | SVM-6-13 12/3/2020 SVM-6 13-13.5 | SVM-7-7 12/3/2020 SVM-7 7-7.5 | SVM-7-7 DUP 12/3/2020 SVM-7 7-7.5 | SVM-7-13 12/3/2020 SVM-7 13-13.5 | |
|---|--|-------------------------|--|---|--|---|--|--|---|--|---|--|---|--|--|---|--------|
| Field Measurements | Pressure | inches H ₂ O | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| | PID | ppmv | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| | Oxygen | percent | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| COPCs ^c | 1,2,4-Trimethylbenzene ¹ | µg/L | 63 | 260 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | |
| | 1,2-Dichloroethane ¹ | µg/L | 0.11 | 0.47 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | |
| | 1,3,5-Trimethylbenzene ¹ | µg/L | 63 | 260 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | |
| | 2-Propanol (leak test compound aka isopropanol) ¹ | µg/L | 210 | 880 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | |
| | Benzene ¹ | µg/L | 0.36 | 1.6 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | |
| | Ethylbenzene ¹ | µg/L | 1.1 | 4.9 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Isopropylbenzene (aka Cumene) ¹ | µg/L | 420 | 1,800 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | m,p-Xylenes ¹ | µg/L | 100 | 440 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Methyl tert-butyl ether (MTBE) ¹ | µg/L | 11 | 47 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Naphthalene | µg/L | NA | NA | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 |
| | n-Butylbenzene ² | µg/L | 210 | 880 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | n-Propylbenzene (propylbenzene) ¹ | µg/L | 1,000 | 4,400 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | o-Xylene ¹ | µg/L | 100 | 440 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | sec-Butylbenzene ² | µg/L | 410 | 1800 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | tert-Butanol (TBA) ¹ | µg/L | NA | NA | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 |
| Toluene ² | µg/L | 310 | 13,000 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | |
| Other Detected Compounds | 2,2,4-Trimethylpentane | µg/L | NA | NA | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | |
| | Acetone ¹ | µg/L | 32,000 | 140,000 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | |
| | Bromodichloromethane ² | µg/L | 0.076 | 0.33 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | |
| | Chloroform ¹ | µg/L | 0.12 | 0.53 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | |
| | Ethanol | µg/L | NA | NA | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | |
| | Propylene ¹ | µg/L | 3,100 | 13,000 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | |
| | Tetrachloroethylene (PCE) ² | µg/L | 0.46 | 2.0 | 0.022 | 0.067 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| | Trichloroethylene (TCE) ¹ | µg/L | 0.48 | 3.0 | <0.02 | 0.031 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | |
| TPH-G (C4-C12) [Aliphatic Low] ¹ | µg/L | 630 | 2,600 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | | |
| Fixed Gases | Methane | % v/v | --- | --- | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | |
| | Oxygen | % v/v | --- | --- | 20 | 19 | 19 | 19 | 15 | 17 | 13 | 21 | 20 | 19 | 19 | 17 | |
| | Carbon Dioxide | % v/v | --- | --- | <0.1 | 1.1 | 1.1 | 0.8 | 1.3 | <0.1 | <0.1 | <0.1 | <0.1 | 0.9 | 0.94 | 1.1 | |

Notes:

^a Source for the Indoor Air Screening Levels: DTSC, 2020. *Human Health Risk Assessment (HHRA) Note: Human and Ecological Risk Office (HERO) HHRA Note Number: 3, DTSC-modified Screening Levels (DTSC-SLs)*. November. DTSC has developed modified screening levels based on U.S. Environmental Protection Agency (EPA) Regional Screening Levels (RSLs) for use in the human health risk assessment process at hazardous waste sites and permitted facilities.

¹ <https://semspub.epa.gov/work/HQ/400443.pdf>

² <https://dtsc.ca.gov/wp-content/uploads/sites/31/2019/04/HHRA-Note-3-June-2020-A.pdf>

^b Attenuation factor for current land use = 0.001. Source for the attenuation factors: DTSC, 2011. *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)*. October. http://www.dtsc.ca.gov/AssessingRisk/upload/Final_VIG_Oct_2011.pdf.

^c Chemicals of potential concern identified from the 2006 soil gas investigation and HHRA (Geomatrix, 2006. *Vapor Intrusion Sampling and Human Health Risk Assessment, DFSP Norwalk Facility, Norwalk, California*. December.

Light blue highlighting indicates offsite soil vapor probe locations.

Yellow highlighting indicates concentration exceeds human health screening level under residential scenario.

12/2/2020 - 12/4/2020 = sample dates

SVM-1 = sample location

SVM-1-5 = sample ID

5-5.5 = sample depth in feet below ground surface

--- = not available

% v/v = percent volume by volume

<0.02 = not detected at the laboratory minimum reporting limit

µg/L = micrograms per liter

COPC = chemical of potential concern

TPH-g = total petroleum hydrocarbons quantified as gasoline

Table 8. Field Measurements and Laboratory Soil Vapor Analytical Results – December 2020
 SFPP Norwalk Pump Station, Norwalk, California

| Analyte Type | Analyte | Unit | Current Residential Soil Gas Screening Level ^{a, b} | Current Commercial Soil Gas Screening Level ^{a, b} | SVM-8-5 12/4/2020 SVM-8 5-5.5 | SVM-8-15 12/4/2020 SVM-8 15-15.5 | SVM-10-5 12/3/2020 SVM-10 5-5.5 | SVM-11-7 12/3/2020 SVM-11 7-7.5 | SVM-11-15 12/3/2020 SVM-11 15-15.5 | SVM-11-22 12/3/2020 SVM-11 22-22.5 | SVM-12-7 12/3/2020 SVM-12 7-7.5 | SVM-12-15 12/3/2020 SVM-12 15-15.5 | SVM-12-22 12/3/2020 SVM-12 22-22.5 | SVM-13-7 12/3/2020 SVM-13 7-7.5 | SVM-13-15 12/3/2020 SVM-13 15-15.5 | SVM-13-22 12/3/2020 SVM-13 22-22.5 |
|---|--|-------------------------|--|---|--|---|--|--|---|---|--|---|---|--|---|---|
| Field Measurements | Pressure | inches H ₂ O | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | PID | ppmv | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Oxygen | percent | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| COPCs ^c | 1,2,4-Trimethylbenzene ¹ | µg/L | 63 | 260 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | 1,2-Dichloroethane ¹ | µg/L | 0.11 | 0.47 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 |
| | 1,3,5-Trimethylbenzene ¹ | µg/L | 63 | 260 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | 2-Propanol (leak test compound aka isopropanol) ¹ | µg/L | 210 | 880 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| | Benzene ¹ | µg/L | 0.36 | 1.6 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 |
| | Ethylbenzene ¹ | µg/L | 1.1 | 4.9 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Isopropylbenzene (aka Cumene) ¹ | µg/L | 420 | 1,800 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | m,p-Xylenes ¹ | µg/L | 100 | 440 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Methyl tert-butyl ether (MTBE) ¹ | µg/L | 11 | 47 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Naphthalene | µg/L | NA | NA | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 |
| | n-Butylbenzene ² | µg/L | 210 | 880 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | n-Propylbenzene (propylbenzene) ¹ | µg/L | 1,000 | 4,400 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | o-Xylene ¹ | µg/L | 100 | 440 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | sec-Butylbenzene ² | µg/L | 410 | 1800 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | tert-Butanol (TBA) ¹ | µg/L | NA | NA | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 |
| Toluene ² | µg/L | 310 | 13,000 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | |
| Other Detected Compounds | 2,2,4-Trimethylpentane | µg/L | NA | NA | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Acetone ¹ | µg/L | 32,000 | 140,000 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Bromodichloromethane ² | µg/L | 0.076 | 0.33 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Chloroform ¹ | µg/L | 0.12 | 0.53 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Ethanol | µg/L | NA | NA | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 0.029 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Propylene ¹ | µg/L | 3,100 | 13,000 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Tetrachloroethylene (PCE) ² | µg/L | 0.46 | 2.0 | <0.01 | 0.011 | <0.01 | <0.01 | 0.014 | 0.025 | <0.01 | <0.01 | 0.012 | <0.01 | <0.01 | <0.01 |
| | Trichloroethylene (TCE) ¹ | µg/L | 0.48 | 3.0 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| TPH-G (C4-C12) [Aliphatic Low] ¹ | µg/L | 630 | 2,600 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | |
| Fixed Gases | Methane | % v/v | --- | --- | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| | Oxygen | % v/v | --- | --- | 18 | 13 | 9 | 20 | 18 | 12 | 20 | 18 | 11 | 20 | 20 | 16 |
| | Carbon Dioxide | % v/v | --- | --- | <0.1 | 1.1 | 5.6 | 0.87 | 0.94 | 4.5 | 0.54 | 2.2 | 6.2 | <0.1 | <0.1 | 1.4 |

Notes:

^a Source for the Indoor Air Screening Levels: DTSC, 2020. *Human Health Risk Assessment (HHRA) Note: Human and Ecological Risk Office (HERO) HHRA Note Number: 3, DTSC-modified Screening Levels (DTSC-SLs).* November.

DTSC has developed modified screening levels based on U.S. Environmental Protection Agency (EPA) Regional Screening Levels (RSLs) for use in the human health risk assessment process at hazardous waste sites and permitted facilities.

¹ -<https://semspub.epa.gov/work/HQ/400443.pdf>

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^b Attenuation factor for current land use = 0.001. Source for the attenuation factors: DTSC, 2011. *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance).* October. http://www.dtsc.ca.gov/AssessingRisk/upload/Final_VIG_Oct_2011.pdf.

^c Chemicals of potential concern identified from the 2006 soil gas investigation and HHRA (Geomatrix, 2006. *Vapor Intrusion Sampling and Human Health Risk Assessment, DFSP Norwalk Facility, Norwalk, California.* December.

Light blue highlighting indicates offsite soil vapor probe locations.

Yellow highlighting indicates concentration exceeds human health screening level under residential scenario.

12/2/2020 - 12/4/2020 = sample dates

SVM-1 = sample location

SVM-1-5 = sample ID

5-5.5 = sample depth in feet below ground surface

--- = not available

% v/v = percent volume by volume

<0.02 = not detected at the laboratory minimum reporting limit

µg/L = micrograms per liter

COPC = chemical of potential concern

TPH-g = total petroleum hydrocarbons quantified as gasoline

Table 8. Field Measurements and Laboratory Soil Vapor Analytical Results – December 2020
 SFPP Norwalk Pump Station, Norwalk, California

| Analyte Type | Analyte | Unit | Current Residential Soil Gas Screening Level ^{a, b} | Current Commercial Soil Gas Screening Level ^{a, b} | SVM-14R-5 12/2/2020 SVM-14R 5-5.5 | SVM-14R-16 12/2/2020 SVM-14R 16-16.5 | SVM-14R-16 DUP 12/2/2020 SVM-14R 16-16.5 | SVM-14R-22 12/2/2020 SVM-14R 22-22.5 | SVM-15-7 12/3/2020 SVM-15 7-7.5 | SVM-15-15 12/3/2020 SVM-15 15-15.5 | SVM-15-22 12/3/2020 SVM-15 22-22.5 | SVM-16-7 12/4/2020 SVM-16 7-7.5 | SVM-16-16 12/4/2020 SVM-16 16-16.5 | SVM-16-22 12/4/2020 SVM-16 22-22.5 | SVM-17-5 12/2/2020 SVM-17 5-5.5 | SVM-17-14.5 12/2/2020 SVM-17 14.5-15 |
|---|--|-------------------------|--|---|-----------------------------------|--------------------------------------|--|--------------------------------------|---------------------------------|------------------------------------|------------------------------------|---------------------------------|------------------------------------|------------------------------------|---------------------------------|--------------------------------------|
| Field Measurements | Pressure | inches H ₂ O | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | PID | ppmv | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Oxygen | percent | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| COPCs ^c | 1,2,4-Trimethylbenzene ¹ | µg/L | 63 | 260 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | 1,2-Dichloroethane ¹ | µg/L | 0.11 | 0.47 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 |
| | 1,3,5-Trimethylbenzene ¹ | µg/L | 63 | 260 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | 2-Propanol (leak test compound aka isopropanol) ¹ | µg/L | 210 | 880 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| | Benzene ¹ | µg/L | 0.36 | 1.6 | <0.003 | <0.003 | <0.003 | 0.0081 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 |
| | Ethylbenzene ¹ | µg/L | 1.1 | 4.9 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Isopropylbenzene (aka Cumene) ¹ | µg/L | 420 | 1,800 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | m,p-Xylenes ¹ | µg/L | 100 | 440 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Methyl tert-butyl ether (MTBE) ¹ | µg/L | 11 | 47 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Naphthalene | µg/L | NA | NA | <0.003 | <0.003 | <0.003 | <0.003 | 0.0032 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 |
| | n-Butylbenzene ² | µg/L | 210 | 880 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | n-Propylbenzene (propylbenzene) ¹ | µg/L | 1,000 | 4,400 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | o-Xylene ¹ | µg/L | 100 | 440 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | sec-Butylbenzene ² | µg/L | 410 | 1800 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | tert-Butanol (TBA) ¹ | µg/L | NA | NA | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 |
| Toluene ² | µg/L | 310 | 13,000 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | |
| Other Detected Compounds | 2,2,4-Trimethylpentane | µg/L | NA | NA | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 0.029 | 0.032 | 900 | <0.02 | <0.02 |
| | Acetone ¹ | µg/L | 32,000 | 140,000 | <0.02 | <0.02 | <0.02 | 0.029 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Bromodichloromethane ² | µg/L | 0.076 | 0.33 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Chloroform ¹ | µg/L | 0.12 | 0.53 | <0.02 | 0.026 | 0.025 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Ethanol | µg/L | NA | NA | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 0.088 | 0.027 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Propylene ¹ | µg/L | 3,100 | 13,000 | <0.02 | <0.02 | <0.02 | 0.067 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Tetrachloroethylene (PCE) ² | µg/L | 0.46 | 2.0 | 0.069 | <0.01 | <0.01 | 0.024 | <0.01 | 0.033 | 0.082 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Trichloroethylene (TCE) ¹ | µg/L | 0.48 | 3.0 | 0.06 | <0.02 | <0.02 | 0.054 | <0.02 | 0.023 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| TPH-G (C4-C12) [Aliphatic Low] ¹ | µg/L | 630 | 2,600 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | 9200 | <20 | <20 | |
| Fixed Gases | Methane | % v/v | --- | --- | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 3 | <0.1 | <0.1 |
| | Oxygen | % v/v | --- | --- | 15 | 13 | 10 | 3.8 | 20 | 21 | 20 | 7.7 | 17 | 2.9 | 22 | 21 |
| | Carbon Dioxide | % v/v | --- | --- | 3.3 | 2.9 | 4.3 | 6 | 0.34 | 0.42 | 0.64 | 5.8 | 0.9 | 14 | <0.1 | <0.1 |

Notes:

^a Source for the Indoor Air Screening Levels: DTSC, 2020. *Human Health Risk Assessment (HHRA) Note: Human and Ecological Risk Office (HERO) HHRA Note Number: 3, DTSC-modified Screening Levels (DTSC-SLs)*. November. DTSC has developed modified screening levels based on U.S. Environmental Protection Agency (EPA) Regional Screening Levels (RSLs) for use in the human health risk assessment process at hazardous waste sites and permitted facilities.

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^c Chemicals of potential concern identified from the 2006 soil gas investigation and HHRA (Geomatrix, 2006. *Vapor Intrusion Sampling and Human Health Risk Assessment, DFSP Norwalk Facility, Norwalk, California*. December.

Light blue highlighting indicates offsite soil vapor probe locations.
 Yellow highlighting indicates concentration exceeds human health screening level under residential scenario.

12/2/2020 - 12/4/2020 = sample dates
 SVM-1 = sample location

SVM-1-5 = sample ID
 5-5.5 = sample depth in feet below ground surface
 --- = not available

% v/v = percent volume by volume
 <0.02 = not detected at the laboratory minimum reporting limit
 µg/L = micrograms per liter
 COPC = chemical of potential concern
 TPH-g = total petroleum hydrocarbons quantified as gasoline

Table 8. Field Measurements and Laboratory Soil Vapor Analytical Results – December 2020
 SFPP Norwalk Pump Station, Norwalk, California

| Analyte Type | Analyte | Unit | Current Residential Soil Gas Screening Level ^{a, b} | Current Commercial Soil Gas Screening Level ^{a, b} | SVM-18-5 | SVM-18-14.5 | SVM-19-5 | SVM-20-5 | SVM-20-14.5 | SVM-21-5 | SVM-21-14.5 | SVM-22-5 | SVM-22-14.5 | SVM-23-5 | SVM-23-14.5 | SVM-24-5 |
|---|--|-------------------------|--|---|------------------------|--------------------------|------------------------|------------------------|--------------------------|------------------------|--------------------------|------------------------|--------------------------|------------------------|--------------------------|------------------------|
| | | | | | 12/2/2020 SVM-18 5-5.5 | 12/2/2020 SVM-18 14.5-15 | 12/2/2020 SVM-19 5-5.5 | 12/2/2020 SVM-20 5-5.5 | 12/2/2020 SVM-20 14.5-15 | 12/2/2020 SVM-21 5-5.5 | 12/2/2020 SVM-21 14.5-15 | 12/2/2020 SVM-22 5-5.5 | 12/2/2020 SVM-22 14.5-15 | 12/2/2020 SVM-23 5-5.5 | 12/2/2020 SVM-23 14.5-15 | 12/4/2020 SVM-24 5-5.5 |
| Field Measurements | Pressure | inches H ₂ O | --- | --- | --- | --- | --- | --- | --- | --- | --- | | | | | |
| | PID | ppmv | --- | --- | --- | --- | --- | --- | --- | --- | --- | | | | | |
| | Oxygen | percent | --- | --- | --- | --- | --- | --- | --- | --- | --- | | | | | |
| COPCs ^c | 1,2,4-Trimethylbenzene ¹ | µg/L | 63 | 260 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | 1,2-Dichloroethane ¹ | µg/L | 0.11 | 0.47 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 |
| | 1,3,5-Trimethylbenzene ¹ | µg/L | 63 | 260 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | 2-Propanol (leak test compound aka isopropanol) ¹ | µg/L | 210 | 880 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| | Benzene ¹ | µg/L | 0.36 | 1.6 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 |
| | Ethylbenzene ¹ | µg/L | 1.1 | 4.9 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Isopropylbenzene (aka Cumene) ¹ | µg/L | 420 | 1,800 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | m,p-Xylenes ¹ | µg/L | 100 | 440 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Methyl tert-butyl ether (MTBE) ¹ | µg/L | 11 | 47 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Naphthalene | µg/L | NA | NA | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 |
| | n-Butylbenzene ² | µg/L | 210 | 880 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | n-Propylbenzene (propylbenzene) ¹ | µg/L | 1,000 | 4,400 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | o-Xylene ¹ | µg/L | 100 | 440 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | sec-Butylbenzene ² | µg/L | 410 | 1800 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | tert-Butanol (TBA) ¹ | µg/L | NA | NA | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 |
| Toluene ² | µg/L | 310 | 13,000 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | |
| Other Detected Compounds | 2,2,4-Trimethylpentane | µg/L | NA | NA | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 0.035 | <0.02 | <0.02 |
| | Acetone ¹ | µg/L | 32,000 | 140,000 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Bromodichloromethane ² | µg/L | 0.076 | 0.33 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Chloroform ¹ | µg/L | 0.12 | 0.53 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Ethanol | µg/L | NA | NA | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Propylene ¹ | µg/L | 3,100 | 13,000 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Tetrachloroethylene (PCE) ² | µg/L | 0.46 | 2.0 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.1 | <0.01 | <0.01 | <0.01 | 0.038 | <0.01 | 0.014 |
| | Trichloroethylene (TCE) ¹ | µg/L | 0.48 | 3.0 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 0.074 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| TPH-G (C4-C12) [Aliphatic Low] ¹ | µg/L | 630 | 2,600 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | |
| Fixed Gases | Methane | % v/v | --- | --- | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| | Oxygen | % v/v | --- | --- | 18 | 21 | 21 | 19 | 15 | 22 | 21 | 21 | 21 | 20 | 21 | 21 |
| | Carbon Dioxide | % v/v | --- | --- | 1.9 | <0.1 | <0.1 | 1.1 | 2.8 | 0.58 | 0.53 | <0.1 | <0.1 | <0.1 | <0.1 | 0.86 |

Notes:

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SVM-1 = sample location

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| Analyte Type | Analyte | Unit | Current Residential Soil Gas Screening Level ^{a, b} | Current Commercial Soil Gas Screening Level ^{a, b} | SVM-24-10 12/4/2020 SVM-24 10-10.5 | SVM-25-5 12/4/2020 SVM-25 5-5.5 | SVM-25-5 DUP 12/4/2020 SVM-25 5-5.5 | SVM-25-10 12/4/2020 SVM-25 10-10.5 | SVM-109-5 12/2/2020 SVM-109 5-5.5 | SVM-109-10 12/2/2020 SVM-109 10-10.5 | Ambient Air 12/2/2020 | Ambient Air 12/3/2020 |
|---|--|-------------------------|--|---|------------------------------------|---------------------------------|-------------------------------------|------------------------------------|-----------------------------------|--------------------------------------|-----------------------|-----------------------|
| Field Measurements | Pressure | inches H ₂ O | --- | --- | | | | | | | | |
| | PID | ppmv | --- | --- | | | | | | | | |
| | Oxygen | percent | --- | --- | | | | | | | | |
| COPCs ^c | 1,2,4-Trimethylbenzene ¹ | µg/L | 63 | 260 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | 1,2-Dichloroethane ¹ | µg/L | 0.11 | 0.47 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 |
| | 1,3,5-Trimethylbenzene ¹ | µg/L | 63 | 260 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | 2-Propanol (leak test compound aka isopropanol) ¹ | µg/L | 210 | 880 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| | Benzene ¹ | µg/L | 0.36 | 1.6 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 |
| | Ethylbenzene ¹ | µg/L | 1.1 | 4.9 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Isopropylbenzene (aka Cumene) ¹ | µg/L | 420 | 1,800 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | m,p-Xylenes ¹ | µg/L | 100 | 440 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Methyl tert-butyl ether (MTBE) ¹ | µg/L | 11 | 47 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Naphthalene | µg/L | NA | NA | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 |
| | n-Butylbenzene ² | µg/L | 210 | 880 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | n-Propylbenzene (propylbenzene) ¹ | µg/L | 1,000 | 4,400 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | o-Xylene ¹ | µg/L | 100 | 440 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | sec-Butylbenzene ² | µg/L | 410 | 1800 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | tert-Butanol (TBA) ¹ | µg/L | NA | NA | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 |
| Toluene ² | µg/L | 310 | 13,000 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | |
| Other Detected Compounds | 2,2,4-Trimethylpentane | µg/L | NA | NA | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Acetone ¹ | µg/L | 32,000 | 140,000 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Bromodichloromethane ² | µg/L | 0.076 | 0.33 | <0.02 | <0.02 | <0.02 | 0.063 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Chloroform ¹ | µg/L | 0.12 | 0.53 | <0.02 | 0.027 | <0.02 | 0.091 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Ethanol | µg/L | NA | NA | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Propylene ¹ | µg/L | 3,100 | 13,000 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Tetrachloroethylene (PCE) ² | µg/L | 0.46 | 2.0 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Trichloroethylene (TCE) ¹ | µg/L | 0.48 | 3.0 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| TPH-G (C4-C12) [Aliphatic Low] ¹ | µg/L | 630 | 2,600 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | |
| Fixed Gases | Methane | % v/v | --- | --- | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | --- | --- |
| | Oxygen | % v/v | --- | --- | 19 | 17 | 17 | 15 | 21 | 21 | --- | --- |
| | Carbon Dioxide | % v/v | --- | --- | 2.7 | 3.1 | 3.2 | 3.7 | <0.1 | <0.1 | --- | --- |

Notes:

^a Source for the Indoor Air Screening Levels: DTSC, 2020. *Human Health Risk Assessment (HHRA) Note: Human and Ecological Risk Office (HERO) HHRA Note Number: 3, DTSC-modified Screening Levels (DTSC-SLs).* November.

DTSC has developed modified screening levels based on U.S. Environmental Protection Agency (EPA) Regional Screening Levels (RSLs) for use in the human health risk assessment process at hazardous waste sites and permitted facilities.

¹ <https://semspub.epa.gov/work/HQ/400443.pdf>

² <https://dtsc.ca.gov/wp-content/uploads/sites/31/2019/04/HHRA-Note-3-June-2020-A.pdf>

^b Attenuation factor for current land use = 0.001. Source for the attenuation factors: DTSC, 2011. *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance).* October. http://www.dtsc.ca.gov/AssessingRisk/upload/Final_VIG_Oct_2011.pdf.

^c Chemicals of potential concern identified from the 2006 soil gas investigation and HHRA (Geomatrix, 2006. *Vapor Intrusion Sampling and Human Health Risk Assessment, DFSP Norwalk Facility, Norwalk, California.* December.

Light blue highlighting indicates offsite soil vapor probe locations.

Yellow highlighting indicates concentration exceeds human health screening level under residential scenario.

12/2/2020 - 12/4/2020 = sample dates

SVM-1 = sample location

SVM-1-5 = sample ID

5-5.5 = sample depth in feet below ground surface

--- = not available

% v/v = percent volume by volume

<0.02 = not detected at the laboratory minimum reporting limit

µg/L = micrograms per liter

COPC = chemical of potential concern

TPH-g = total petroleum hydrocarbons quantified as gasoline

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

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

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|--------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| GMW-9 Continued | 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 |
| | 4/16/2018 | 77.16 | 37.98 | --- | --- | 39.18 | Blaine Tech |
| | 11/5/2018 | 77.16 | 33.95 | --- | --- | 43.21 | Blaine Tech |
| | 4/23/2019 | 77.16 | 29.72 | --- | --- | 47.44 | Blaine Tech |
| | 10/28/2019 | 77.16 | 37.90 | --- | --- | 39.26 | Blaine Tech |
| | 5/4/2020 | 77.16 | 35.37 | --- | --- | 41.79 | Blaine Tech |
| 11/2/2020 | 77.16 | 35.90 | --- | --- | 41.26 | Blaine Tech | |
| GMW-10 | 4/30/2007 | 74.67 | 25.90 | --- | --- | 48.77 | Secor |
| | 11/12/2007 | 74.67 | 25.02 | 25.82 | 0.83 | 50.33 | Secor |
| | 4/14/2008 | 74.67 | 25.38 | 25.44 | 0.06 | 49.34 | Secor |
| | 10/13/2008 | 74.67 | 24.16 | --- | --- | 50.51 | Stantec |
| | 4/20/2009 | 74.67 | 24.46 | --- | --- | 50.21 | Blaine Tech |
| | 10/19/2009 | 74.67 | 27.20 | --- | --- | 47.47 | Blaine Tech |
| | 5/24/2010 | 74.67 | 26.72 | --- | --- | 47.95 | Blaine Tech |
| | 5/28/2010 | 74.67 | 26.70 | --- | --- | 47.97 | Blaine Tech |
| | 10/4/2010 | 74.67 | 27.15 | --- | --- | 47.52 | Blaine Tech |
| | 4/11/2011 | 74.67 | 25.21 | --- | --- | 49.46 | Blaine Tech |
| | 10/10/2011 | 74.67 | 27.75 | --- | --- | 46.92 | Blaine Tech |
| | 4/27/2012 | 74.67 | 28.47 | --- | --- | 46.20 | Blaine Tech |
| | 7/9/2012 | 74.67 | NM | --- | --- | NC | Blaine Tech |
| | 10/15/2012 | 74.67 | 29.15 | 29.02 | 0.13 | 45.63 | Blaine Tech |
| | 4/8/2013 | 74.67 | 33.64 | 28.12 | 5.52 | 45.53 | Blaine Tech |
| | 9/26/2013 | 73.35 | 36.15 | 29.25 | 6.90 | 42.82 | Blaine Tech |
| | 10/7/2013 | 73.35 | 31.85 | 29.32 | 2.53 | 43.56 | Blaine Tech |
| | 4/14/2014 | 73.35 | 29.43 | 29.01 | 0.42 | 44.26 | Blaine Tech |
| | 8/19/2014 | 73.35 | 29.80 | 29.53 | 0.27 | 43.77 | Blaine Tech |
| | 8/29/2014 | 73.35 | 29.68 | 29.25 | 0.43 | 44.02 | Blaine Tech |
| | 9/26/2014 | 73.35 | 29.98 | 29.23 | 0.75 | 43.98 | Blaine Tech |
| | 10/1/2014 | 73.35 | 29.98 | 29.19 | 0.79 | 44.01 | Blaine Tech |
| | 10/6/2014 | 73.35 | 30.01 | 29.16 | 0.85 | 44.03 | Blaine Tech |
| | 10/14/2014 | 73.35 | 30.01 | 29.18 | 0.83 | 44.02 | Blaine Tech |
| | 10/23/2014 | 73.35 | 30.17 | 29.15 | 1.02 | 44.01 | Blaine Tech |
| | 10/27/2014 | 73.35 | 30.19 | 29.12 | 1.07 | 44.03 | Blaine Tech |
| | 11/3/2014 | 73.35 | 30.25 | 29.13 | 1.12 | 44.01 | Blaine Tech |
| | 11/10/2014 | 73.35 | 29.85 | 29.28 | 0.57 | 43.96 | Blaine Tech |
| | 11/18/2014 | 73.35 | 29.95 | 29.28 | 0.67 | 43.95 | Blaine Tech |
| | 11/25/2014 | 73.35 | 30.00 | 29.27 | 0.73 | 43.94 | Blaine Tech |
| | 12/3/2014 | 73.35 | 30.18 | 29.27 | 0.91 | 43.91 | Blaine Tech |
| | 12/12/2014 | 73.35 | 30.81 | 29.45 | 1.36 | 43.65 | Blaine Tech |
| | 12/19/2014 | 73.35 | 30.51 | 30.35 | 0.16 | 42.97 | Blaine Tech |
| | 4/20/2015 | 73.35 | 34.99 | 28.42 | 6.57 | 43.71 | Blaine Tech |
| 7/17/2015 | 73.35 | 36.10 | 29.41 | 6.69 | 42.70 | Blaine Tech | |
| 10/20/2015 | 73.35 | 32.96 | 31.02 | 1.94 | 41.97 | Kinder Morgan | |
| 3/16/2016 | 73.35 | 34.47 | 33.42 | 1.05 | 39.74 | Kinder Morgan | |
| 4/11/2016 | 73.35 | 33.70 | 32.10 | 1.60 | 40.95 | Blaine Tech | |
| 6/29/2016 | 73.35 | 33.02 | --- | --- | 40.33 | Blaine Tech | |
| 8/22/2016 | 73.35 | 33.82 | 32.93 | 0.89 | 40.26 | Blaine Tech | |
| 10/3/2016 | 73.35 | 35.10 | 33.65 | 1.45 | 39.43 | Blaine Tech | |
| 3/8/2017 | 73.35 | 32.75 | --- | --- | 40.60 | CH2M | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|---------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| GMW-10 Continued | 04/17/17 | 73.35 | 31.15 | --- | --- | 42.20 | Blaine Tech |
| | 10/2/2017 | 73.35 | 33.48 | --- | --- | 39.87 | Blaine Tech |
| | 4/16/2018 | 73.35 | 33.87 | 33.74 | 0.13 | 39.58 | Blaine Tech |
| | 11/5/2018 | 73.35 | 34.16 | 34.14 | 0.02 | 39.21 | Blaine Tech |
| | 4/16/2019 | 73.35 | 30.55 | --- | --- | 42.80 | Blaine Tech |
| | 10/28/2019 | 73.35 | 34.12 | 33.84 | 0.28 | 39.45 | Blaine Tech |
| | 5/4/2020 | 73.35 | 31.44 | --- | --- | 41.91 | Blaine Tech |
| | 11/2/2020 | 73.35 | 32.00 | -- | -- | 41.35 | 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 |
| | 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|---------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| GMW-22 Continued | 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 |
| | 6/30/2016 | 77.24 | 36.55 | --- | --- | 40.69 | Blaine Tech |
| | 10/3/2016 | 77.24 | 37.70 | --- | --- | 39.54 | Blaine Tech |
| | 4/17/2017 | 77.24 | 34.47 | --- | --- | 42.77 | Blaine Tech |
| | 10/2/2017 | 77.24 | 38.45 | --- | --- | 38.79 | Blaine Tech |
| | 4/16/2018 | 77.24 | 38.23 | --- | --- | 39.01 | Blaine Tech |
| | 11/5/2018 | 77.24 | 38.02 | --- | --- | 39.22 | Blaine Tech |
| | 4/16/2019 | 77.24 | 36.19 | --- | --- | 41.05 | Blaine Tech |
| | 10/28/2019 | 77.24 | 38.65 | --- | --- | 38.59 | Blaine Tech |
| 5/4/2020 | 77.24 | 35.64 | --- | --- | 41.60 | Blaine Tech | |
| 11/2/2020 | 77.24 | 36.08 | --- | --- | 41.16 | 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|---------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| GMW-24 Continued | 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 |
| | 11/18/2014 | 77.48 | 36.96 | 33.01 | 3.95 | 43.68 | Blaine Tech |
| | 11/25/2014 | 77.48 | 36.91 | 33.55 | 3.36 | 43.26 | Blaine Tech |
| | 12/3/2014 | 77.48 | 36.87 | 32.99 | 3.88 | 43.71 | Blaine Tech |
| | 12/12/2014 | 77.48 | 37.36 | 33.25 | 4.11 | 43.41 | Blaine Tech |
| | 12/19/2014 | 77.48 | 37.75 | 33.31 | 4.44 | 43.28 | Blaine Tech |
| | 3/10/2015 | 77.48 | 36.25 | --- | --- | 41.23 | Kinder Morgan |
| | 4/20/2015 | 77.48 | 36.29 | 33.82 | 2.47 | 43.17 | Blaine Tech |
| | 7/24/2015 | 77.48 | 39.80 | 33.70 | 6.10 | 42.56 | Blaine Tech |
| | 10/20/2015 | 77.48 | 35.44 | --- | --- | 42.04 | Kinder Morgan |
| | 3/16/2016 | 77.48 | 38.83 | --- | --- | 38.65 | Kinder Morgan |
| | 4/11/2016 | 77.48 | 37.10 | --- | --- | 40.38 | Blaine Tech |
| | 6/29/2016 | 77.48 | 38.20 | --- | --- | 39.28 | Blaine Tech |
| | 8/22/2016 | 77.48 | 38.40 | --- | --- | 39.08 | Blaine Tech |
| | 10/3/2016 | 77.48 | 38.70 | --- | --- | 39.44 | Blaine Tech |
| | 4/17/2017 | 77.48 | 35.64 | 35.09 | 0.55 | 42.28 | Blaine Tech |
| | 10/2/2017 | 77.48 | 39.33 | --- | --- | 38.15 | Blaine Tech |
| | 4/16/2018 | 77.48 | 38.98 | --- | --- | 38.50 | Blaine Tech |
| | 11/5/2018 | 77.48 | 38.63 | 38.19 | 0.44 | 39.20 | Blaine Tech |
| 4/16/2019 | 77.48 | 38.43 | --- | --- | 39.05 | Blaine Tech | |
| 10/28/2019 | 77.48 | 38.65 | --- | --- | 38.83 | Blaine Tech | |
| 5/4/2020 | 77.48 | 36.24 | --- | --- | 41.24 | Blaine Tech | |
| 11/2/2020 | 77.48 | 36.58 | --- | --- | 40.90 | 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|---------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| GMW-25 Continued | 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 |
| | 11/3/2014 | 78.14 | 34.92 | 33.98 | 0.94 | 43.94 | Blaine Tech |
| | 11/10/2014 | 78.14 | 35.12 | 34.02 | 1.10 | 43.87 | Blaine Tech |
| | 11/18/2014 | 78.14 | 34.90 | 34.11 | 0.79 | 43.85 | Blaine Tech |
| | 11/25/2014 | 78.14 | 35.07 | 34.07 | 1.00 | 43.84 | Blaine Tech |
| | 12/3/2014 | 78.14 | 35.10 | 33.98 | 1.12 | 43.90 | Blaine Tech |
| | 12/12/2014 | 78.14 | 35.22 | 34.30 | 0.92 | 43.63 | Blaine Tech |
| | 12/19/2014 | 78.14 | 35.05 | 34.50 | 0.55 | 43.51 | Blaine Tech |
| | 4/20/2015 | 78.14 | 35.19 | 34.47 | 0.72 | 43.50 | Blaine Tech |
| | 6/25/2015 | 78.14 | 36.35 | 35.40 | 0.95 | 42.52 | Blaine Tech |
| | 10/20/2015 | 78.14 | 35.40 | 35.38 | 0.02 | 42.76 | Kinder Morgan |
| | 3/16/2016 | 78.14 | 38.99 | --- | --- | 39.15 | Kinder Morgan |
| 4/12/2016 | 78.14 | 37.15 | --- | --- | 40.99 | Kinder Morgan | |
| 6/29/2016 | 78.14 | 38.40 | --- | --- | 39.74 | Blaine Tech | |
| 8/22/2016 | 78.14 | 38.44 | --- | --- | 39.70 | Blaine Tech | |
| 10/3/2016 | 78.14 | 38.70 | --- | --- | 39.44 | Blaine Tech | |
| 4/17/2017 | 78.14 | 35.23 | --- | --- | 42.91 | Blaine Tech | |
| 10/2/2017 | 78.14 | 39.22 | --- | --- | 38.92 | Blaine Tech | |
| 4/16/2018 | 78.14 | 38.85 | --- | --- | 39.29 | Blaine Tech | |
| 11/5/2018 | 78.14 | 38.70 | --- | --- | 39.44 | Blaine Tech | |
| 4/16/2019 | 78.14 | 36.89 | --- | --- | 41.25 | Blaine Tech | |
| 10/28/2019 | 78.14 | 37.10 | --- | --- | 41.04 | Blaine Tech | |
| 5/4/2020 | 78.14 | 36.49 | --- | --- | 41.65 | Blaine Tech | |
| 11/2/2020 | 78.14 | 36.98 | --- | --- | 41.16 | 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|---------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| GMW-36 Continued | 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 | |
| | 8/19/2011 | 74.53 | NM | --- | --- | NC | |
| | 9/22/2011 | 74.53 | NM | --- | --- | NC | |
| | 10/10/2011 | 74.53 | 25.96 | --- | --- | 48.57 | Blaine Tech |
| | 11/28/2011 | 74.53 | NM | --- | --- | NC | |
| | 12/2/2011 | 74.53 | 26.71 | --- | --- | 47.82 | Kinder Morgan |
| | 12/21/2011 | 74.53 | 28.17 | --- | --- | 46.36 | Blaine Tech |
| | 1/9/2012 | 74.53 | 27.26 | --- | --- | 47.27 | Blaine Tech |
| | 2/23/2012 | 74.53 | 27.85 | --- | --- | 46.68 | Blaine Tech |
| | 3/28/2012 | 74.53 | NM | --- | --- | NC | Blaine Tech |
| | 4/16/2012 | 74.53 | 27.34 | --- | --- | 47.19 | Blaine Tech |
| | 5/25/2012 | 74.53 | NM | --- | --- | NC | Blaine Tech |
| | 6/15/2012 | --- | 33.27 | --- | --- | NC | Blaine Tech |
| | 7/9/2012 | --- | 33.71 | --- | --- | NC | Blaine Tech |
| | 8/29/2012 | --- | NM | --- | --- | NC | Blaine Tech |
| | 9/26/2012 | --- | NM | --- | --- | NC | Blaine Tech |
| | 10/15/2012 | 76.66 | 32.11 | --- | --- | 44.55 | Blaine Tech |
| 11/29/2012 | 76.66 | 33.93 | 31.68 | 2.25 | 44.53 | Blaine Tech | |
| 12/26/2012 | 76.66 | 34.86 | 30.36 | 4.50 | 45.40 | Blaine Tech | |
| 1/14/2013 | 76.66 | 34.12 | 30.42 | 3.70 | 45.50 | Blaine Tech | |
| 2/20/2013 | 76.66 | NM | --- | --- | NC | Blaine Tech | |
| 4/10/2013 | 76.66 | 32.42 | 29.75 | 2.67 | 46.38 | Blaine Tech | |
| 10/7/2013 | 76.66 | 34.65 | 30.72 | 3.93 | 45.15 | Blaine Tech | |
| 4/25/2014 | 76.66 | 34.71 | 31.12 | 3.59 | 44.82 | Blaine Tech | |
| 5/20/2014 | 76.66 | 34.95 | 31.50 | 3.45 | 44.47 | Nieto & Sons | |
| 5/27/2014 | 76.66 | 34.53 | 31.29 | 3.24 | 44.72 | Nieto & Sons | |
| 6/4/2014 | 76.66 | 34.93 | 31.50 | 3.43 | 44.47 | Nieto & Sons | |
| 8/13/2014 | 76.66 | 34.86 | 31.27 | 3.59 | 44.67 | Blaine Tech | |
| 8/19/2014 | 76.66 | 34.20 | 31.39 | 2.81 | 44.71 | Blaine Tech | |
| 8/29/2014 | 76.66 | 34.31 | 31.32 | 2.99 | 44.74 | Blaine Tech | |
| 9/5/2014 | 76.66 | 34.35 | 31.37 | 2.98 | 44.69 | Blaine Tech | |
| 9/11/2014 | 76.66 | 35.00 | 31.23 | 3.77 | 44.68 | Blaine Tech | |
| 9/18/2014 | 76.66 | 34.42 | 31.50 | 2.92 | 44.58 | Blaine Tech | |
| 9/26/2014 | 76.66 | 34.15 | 31.48 | 2.67 | 44.65 | Blaine Tech | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|---------------------|-------------|---------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| GMW-36 Continued | 10/1/2014 | 76.66 | 33.51 | 31.61 | 1.90 | 44.67 | Blaine Tech |
| | 10/6/2014 | 76.66 | 33.29 | 31.63 | 1.66 | 44.70 | Blaine Tech |
| | 10/14/2014 | 76.66 | 33.48 | 31.55 | 1.93 | 44.72 | Blaine Tech |
| | 10/23/2014 | 76.66 | 33.64 | 31.57 | 2.07 | 44.68 | Blaine Tech |
| | 10/27/2014 | 76.66 | 33.02 | 31.79 | 1.23 | 44.62 | Blaine Tech |
| | 11/3/2014 | 76.66 | 33.75 | 31.57 | 2.18 | 44.65 | Blaine Tech |
| | 11/18/2014 | 76.66 | 33.17 | 31.75 | 1.42 | 44.63 | Blaine Tech |
| | 11/25/2014 | 76.66 | 33.13 | 31.86 | 1.27 | 44.55 | Blaine Tech |
| | 12/3/2014 | 76.66 | 32.93 | 31.75 | 1.18 | 44.67 | Blaine Tech |
| | 4/20/2015 | 76.66 | 33.64 | 32.20 | 1.44 | 44.17 | Blaine Tech |
| | 10/21/2015 | 76.66 | 33.55 | 33.16 | 0.39 | 43.42 | Blaine Tech |
| | 4/12/2016 | 76.66 | 34.30 | 34.03 | 0.27 | 42.58 | Kinder Morgan |
| | 10/3/2016 | 76.66 | 35.05 | 34.65 | 0.40 | 41.93 | Blaine Tech |
| | 3/9/2017 | 76.66 | 33.45 | --- | --- | 43.21 | CH2M |
| | 4/17/2017 | 76.66 | 32.96 | --- | --- | 43.70 | Blaine Tech |
| | 10/2/2017 | 76.66 | 34.10 | --- | --- | 42.56 | Blaine Tech |
| | 4/16/2018 | 76.66 | 35.18 | --- | --- | 41.48 | Blaine Tech |
| | 11/5/2018 | 76.66 | 35.91 | --- | --- | 40.75 | Blaine Tech |
| | 4/23/2019 | 76.66 | 33.56 | --- | --- | 43.10 | Blaine Tech |
| | 10/28/2019 | 76.66 | 34.86 | 34.84 | 0.02 | 41.82 | Blaine Tech |
| 5/4/2020 | 76.66 | 31.03 | --- | --- | 45.63 | Blaine Tech | |
| 11/2/2020 | 76.66 | Sludge in well, unable to gauge | | | | | 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 |
| | 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|-----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| GMW-O-11 Continued | 12/3/2014 | 74.17 | 33.34 | 29.95 | 3.39 | 43.54 | Blaine Tech |
| | 12/12/2014 | 74.17 | 33.25 | 29.08 | 4.17 | 44.26 | Blaine Tech |
| | 12/19/2014 | 74.17 | 32.52 | 28.09 | 4.43 | 45.19 | Blaine Tech |
| | 4/22/2015 | 74.17 | 31.54 | 28.10 | 3.44 | 45.38 | Blaine Tech |
| | 10/22/2015 | 74.17 | 33.08 | 29.23 | 3.85 | 44.17 | Kinder Morgan |
| | 3/16/2016 | 74.17 | 33.39 | 33.16 | 0.23 | 40.96 | Kinder Morgan |
| | 4/12/2016 | 74.17 | 33.33 | 33.12 | 0.21 | 41.01 | Kinder Morgan |
| | 6/30/2016 | 74.17 | 31.50 | --- | --- | 42.67 | Kinder Morgan |
| | 8/22/2016 | 74.17 | 32.75 | 32.74 | 0.01 | 41.43 | Kinder Morgan |
| | 10/3/2016 | 74.17 | 32.72 | 32.71 | 0.01 | 41.46 | Kinder Morgan |
| | 3/24/2017 | 74.17 | 31.50 | 30.45 | 1.05 | 43.51 | CH2M |
| | 4/17/2017 | 74.17 | 30.12 | 29.96 | 0.16 | 44.18 | Blaine Tech |
| | 10/2/2017 | 74.17 | 33.54 | --- | --- | 40.63 | Blaine Tech |
| | 4/16/2018 | 74.17 | NM | --- | --- | NC | Blaine Tech |
| | 11/5/2018 | 74.17 | 33.22 | 33.11 | 0.11 | 41.04 | Blaine Tech |
| | 4/16/2019 | 74.17 | NM | --- | --- | NC | Blaine Tech |
| | 10/28/2019 | 74.17 | NM | --- | --- | NC | Blaine Tech |
| | 5/4/2020 | 74.17 | 30.94 | --- | --- | 43.23 | Blaine Tech |
| | 8/20/2020 | 74.17 | 30.89 | --- | --- | 43.28 | Blaine Tech |
| | 11/2/2020 | 74.17 | 30.30 | --- | --- | 43.87 | 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 |
| | 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|-----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| GMW-O-12 Continued | 9/5/2014 | 73.49 | 31.19 | 26.88 | 4.31 | 45.73 | Blaine Tech |
| | 9/18/2014 | 73.49 | 31.30 | 26.82 | 4.48 | 45.75 | Blaine Tech |
| | 9/26/2014 | 73.49 | 31.33 | 26.89 | 4.44 | 45.69 | Blaine Tech |
| | 10/1/2014 | 73.49 | 31.21 | 26.85 | 4.36 | 45.75 | Blaine Tech |
| | 10/6/2014 | 73.49 | 31.20 | 29.84 | 1.36 | 43.37 | Blaine Tech |
| | 10/14/2014 | 73.49 | 31.14 | 26.86 | 4.28 | 45.75 | Blaine Tech |
| | 10/23/2014 | 73.49 | 31.30 | 26.85 | 4.45 | 45.73 | Blaine Tech |
| | 10/27/2014 | 73.49 | 31.28 | 26.90 | 4.38 | 45.69 | Blaine Tech |
| | 11/3/2014 | 73.49 | 32.30 | 26.84 | 5.46 | 45.53 | Blaine Tech |
| | 11/10/2014 | 73.49 | 31.45 | 26.91 | 4.54 | 45.65 | Blaine Tech |
| | 11/18/2014 | 73.49 | 32.34 | 26.90 | 5.44 | 45.47 | Blaine Tech |
| | 11/25/2014 | 73.49 | 31.57 | 27.87 | 3.70 | 44.86 | Blaine Tech |
| | 12/3/2014 | 73.49 | 33.87 | 28.81 | 5.06 | 43.64 | Blaine Tech |
| | 12/19/2014 | 73.49 | 32.78 | 26.97 | 5.81 | 45.33 | Blaine Tech |
| | 4/20/2015 | 73.49 | 33.35 | 26.91 | 6.44 | 45.26 | Blaine Tech |
| | 4/22/2015 | 73.49 | 33.35 | 26.91 | 6.44 | 45.26 | Blaine Tech |
| | 5/21/2015 | 73.49 | 34.31 | 27.35 | 6.96 | 44.71 | Northstar |
| | 5/29/2015 | 73.49 | 34.15 | 27.24 | 6.91 | 44.83 | Northstar |
| | 6/2/2015 | 73.49 | 34.00 | 27.27 | 6.73 | 44.84 | Northstar |
| | 6/5/2015 | 73.49 | 34.00 | 27.50 | 6.50 | 44.66 | Northstar |
| | 6/12/2015 | 73.49 | 33.96 | 27.35 | 6.61 | 44.78 | Northstar |
| | 6/19/2015 | 73.49 | 33.98 | 27.58 | 6.40 | 44.60 | Northstar |
| | 6/26/2015 | 73.49 | 33.97 | 28.15 | 5.82 | 44.15 | Northstar |
| | 7/2/2015 | 73.49 | 33.83 | 28.20 | 5.63 | 44.14 | Northstar |
| | 7/7/2015 | 73.49 | 33.60 | 27.93 | 5.67 | 44.40 | Northstar |
| | 7/17/2015 | 73.49 | 33.57 | 27.85 | 5.72 | 44.47 | Northstar |
| | 7/24/2015 | 73.49 | 33.15 | 28.25 | 4.90 | 44.24 | Northstar |
| | 7/29/2015 | 73.49 | 33.02 | 28.10 | 4.92 | 44.38 | Northstar |
| | 8/11/2015 | 73.49 | 33.00 | 28.90 | 4.10 | 43.75 | Northstar |
| | 8/18/2015 | 73.49 | 32.65 | 28.23 | 4.42 | 44.35 | Northstar |
| | 8/28/2015 | 73.49 | 32.41 | 28.17 | 4.24 | 44.45 | Kinder Morgan |
| | 9/1/2015 | 73.49 | 33.18 | 28.65 | 4.53 | 43.91 | Kinder Morgan |
| | 9/25/2015 | 73.49 | 34.69 | 28.03 | 6.66 | 44.09 | Kinder Morgan |
| | 10/16/2015 | 73.49 | 34.63 | 27.83 | 6.80 | 44.27 | Kinder Morgan |
| | 10/19/2015 | 73.49 | 34.65 | 27.82 | 6.83 | 44.27 | Blaine Tech |
| | 10/30/2015 | 73.49 | 39.38 | 28.11 | 11.27 | 43.07 | Kinder Morgan |
| | 3/14/2016 | 73.49 | 32.40 | 31.60 | 0.80 | 41.73 | Blaine Tech |
| | 4/11/2016 | 73.49 | 33.35 | 26.86 | 6.49 | 45.30 | Blaine Tech |
| | 6/29/2016 | 73.49 | 33.90 | 33.10 | 0.80 | 40.23 | Blaine Tech |
| | 8/22/2016 | 73.49 | 33.56 | 31.07 | 2.49 | 41.91 | Blaine Tech |
| 10/3/2016 | 73.49 | 34.20 | 31.90 | 2.30 | 41.12 | Blaine Tech | |
| 4/17/2017 | 73.49 | 32.90 | 28.70 | 4.20 | 43.95 | Blaine Tech | |
| 10/2/2017 | 73.49 | 33.20 | 32.00 | 1.20 | 41.25 | Blaine Tech | |
| 4/16/2018 | 73.49 | 33.04 | 31.89 | 1.15 | 41.37 | Blaine Tech | |
| 11/5/2018 | 73.49 | 32.65 | 32.31 | 0.34 | 41.11 | Blaine Tech | |
| 4/16/2019 | 73.49 | 31.62 | 31.21 | 0.41 | 42.20 | Blaine Tech | |
| 10/28/2019 | 73.49 | 32.45 | 31.85 | 0.60 | 41.52 | Blaine Tech | |
| 5/4/2020 | 73.49 | 30.35 | 30.04 | 0.31 | 43.39 | Blaine Tech | |
| 8/20/2020 | 73.49 | 31.98 | 31.75 | 0.23 | 41.69 | Blaine Tech | |
| 11/2/2020 | 73.49 | 31.65 | 30.27 | 1.38 | 42.94 | 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 |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|-----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| GMW-O-15 Continued | 1/2/2009 | 74.23 | 24.82 | --- | --- | 49.41 | Envent |
| | 1/15/2009 | 74.23 | 26.01 | --- | --- | 48.22 | Envent |
| | 2/20/2009 | 74.23 | 24.80 | --- | --- | 49.43 | Envent |
| | 2/23/2009 | 74.23 | 24.76 | 24.74 | 0.02 | 49.49 | Blaine Tech |
| | 3/24/2009 | 74.23 | 25.55 | --- | --- | 48.68 | Envent |
| | 4/20/2009 | 74.23 | 24.66 | 24.61 | 0.05 | 49.61 | Blaine Tech |
| | 7/17/2009 | 74.23 | 25.01 | --- | --- | 49.22 | Envent |
| | 7/20/2009 | 74.23 | 24.99 | 24.94 | 0.05 | 49.28 | Blaine Tech |
| | 7/22/2009 | 74.23 | 24.99 | 24.94 | 0.05 | 49.28 | Blaine Tech |
| | 10/19/2009 | 74.23 | 25.55 | 25.43 | 0.12 | 48.78 | Blaine Tech |
| | 2/4/2010 | 74.23 | 25.50 | 25.48 | 0.02 | 48.75 | Kinder Morgan |
| | 3/15/2010 | 74.23 | NM | --- | --- | NC | |
| | 4/16/2010 | 74.23 | 23.10 | --- | --- | 51.13 | Blaine Tech |
| | 5/24/2010 | 74.23 | 25.67 | --- | --- | 48.56 | Blaine Tech |
| | 5/28/2010 | 74.23 | 25.35 | --- | --- | 48.88 | Blaine Tech |
| | 6/22/2010 | 74.23 | 25.81 | --- | --- | 48.42 | Blaine Tech |
| | 7/12/2010 | 74.23 | NM | --- | --- | NC | |
| | 8/12/2010 | 74.23 | NM | --- | --- | NC | |
| | 9/20/2010 | 74.23 | NM | --- | --- | NC | |
| | 10/4/2010 | 74.23 | 25.85 | 25.80 | 0.05 | 48.42 | Blaine Tech |
| | 11/23/2010 | 74.23 | NM | --- | --- | NC | Blaine Tech |
| | 12/22/2010 | 74.23 | 26.31 | --- | --- | 47.92 | Blaine Tech |
| | 1/10/2011 | 74.23 | 25.97 | --- | --- | 48.26 | Blaine Tech |
| | 2/24/2011 | 74.23 | NM | --- | --- | NC | Blaine Tech |
| | 3/23/2011 | 74.23 | NM | --- | --- | NC | Blaine Tech |
| | 4/12/2011 | 74.23 | 22.55 | 22.53 | 0.02 | 51.70 | Blaine Tech |
| | 5/13/2011 | 74.23 | NM | --- | --- | NC | Blaine Tech |
| | 6/22/2011 | 74.23 | NM | --- | --- | NC | |
| | 7/11/2011 | 74.23 | NM | --- | --- | NC | |
| | 8/19/2011 | 74.23 | NM | --- | --- | NC | |
| | 9/22/2011 | 74.23 | NM | --- | --- | NC | |
| | 10/10/2011 | 74.23 | 23.79 | 23.22 | 0.57 | 50.90 | Blaine Tech |
| | 11/28/2011 | 74.23 | NM | --- | --- | NC | |
| | 12/2/2011 | 74.23 | 23.92 | 23.86 | 0.06 | 50.36 | Kinder Morgan |
| | 12/21/2011 | 74.23 | 31.13 | --- | --- | 43.10 | Blaine Tech |
| | 1/9/2012 | 74.23 | 27.67 | --- | --- | 46.56 | Blaine Tech |
| | 2/23/2012 | 74.23 | 31.82 | --- | --- | 42.41 | Blaine Tech |
| | 3/28/2012 | 74.23 | 30.30 | --- | --- | 43.93 | Blaine Tech |
| | 4/16/2012 | 74.23 | 26.56 | 26.51 | 0.05 | 47.71 | Blaine Tech |
| | 5/25/2012 | 74.23 | 26.64 | --- | --- | 47.59 | Blaine Tech |
| 6/15/2012 | 74.23 | 26.93 | --- | --- | 47.30 | Blaine Tech | |
| 7/9/2012 | 74.23 | 25.47 | --- | --- | 48.76 | Blaine Tech | |
| 8/29/2012 | 74.23 | NM | --- | --- | NC | Blaine Tech | |
| 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|-----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| GMW-O-15 Continued | 9/11/2014 | 74.23 | 32.16 | 28.79 | 3.37 | 44.77 | Blaine Tech |
| | 9/18/2014 | 74.23 | 32.50 | 28.23 | 4.27 | 45.15 | Blaine Tech |
| | 9/26/2014 | 74.23 | 32.20 | 28.27 | 3.93 | 45.17 | Blaine Tech |
| | 10/1/2014 | 74.23 | 31.93 | 28.28 | 3.65 | 45.22 | Blaine Tech |
| | 10/6/2014 | 74.23 | 31.91 | 28.27 | 3.64 | 45.23 | Blaine Tech |
| | 10/14/2014 | 74.23 | 31.85 | 28.29 | 3.56 | 45.23 | Blaine Tech |
| | 10/23/2014 | 74.23 | 32.10 | 28.30 | 3.80 | 45.17 | Blaine Tech |
| | 10/27/2014 | 74.23 | 31.89 | 28.30 | 3.59 | 45.21 | Blaine Tech |
| | 11/18/2014 | 74.23 | 31.86 | 28.39 | 3.47 | 45.15 | Blaine Tech |
| | 11/25/2014 | 74.23 | 32.36 | 28.35 | 4.01 | 45.08 | Blaine Tech |
| | 12/3/2014 | 74.23 | 31.73 | 28.36 | 3.37 | 45.20 | Blaine Tech |
| | 12/12/2014 | 74.23 | 32.61 | 28.54 | 4.07 | 44.88 | Blaine Tech |
| | 12/19/2014 | 74.23 | 32.62 | 28.37 | 4.25 | 45.01 | Blaine Tech |
| | 4/20/2015 | 74.23 | 31.93 | 28.82 | 3.11 | 44.79 | Blaine Tech |
| | 10/19/2015 | 74.23 | 31.91 | 28.89 | 3.02 | 44.74 | Blaine Tech |
| | 4/12/2016 | 74.23 | 29.78 | --- | --- | 44.45 | Kinder Morgan |
| | 10/3/2016 | 74.86 | 31.00 | 30.92 | 0.08 | 43.92 | Kinder Morgan |
| | 3/9/2017 | 74.86 | 29.94 | --- | --- | 44.92 | CH2M |
| | 4/17/2017 | 74.86 | 29.65 | 29.52 | 0.13 | 45.31 | Blaine Tech |
| | 10/2/2017 | 74.86 | 31.92 | 30.33 | 1.59 | 44.21 | Blaine Tech |
| 4/16/2018 | 74.86 | 31.79 | 31.67 | 0.12 | 43.17 | Blaine Tech | |
| 11/5/2018 | 74.86 | 32.38 | --- | --- | 42.48 | Blaine Tech | |
| 4/23/2019 | 74.86 | 29.84 | 29.84 | 0.00 | 45.02 | Blaine Tech | |
| 10/31/2019 | 74.86 | 29.28 | --- | --- | 45.58 | Blaine Tech | |
| 5/4/2020 | 74.86 | 31.13 | --- | --- | 43.73 | Blaine Tech | |
| 11/2/2020 | 74.86 | 26.89 | --- | --- | 47.97 | Blaine Tech | |
| GMW-O-18 | 4/30/2007 | 74.36 | 24.21 | --- | --- | 50.15 | Secor |
| | 11/12/2007 | 74.36 | 22.46 | --- | --- | 51.90 | Secor |
| | 4/14/2008 | 74.36 | 24.50 | --- | --- | 49.86 | Secor |
| | 10/13/2008 | 74.36 | 25.46 | --- | --- | 48.90 | Stantec |
| | 4/20/2009 | 74.36 | 25.59 | --- | --- | 48.77 | Blaine Tech |
| | 10/19/2009 | 74.36 | 26.31 | --- | --- | 48.05 | Blaine Tech |
| | 3/15/2010 | 74.36 | 26.54 | --- | --- | 47.82 | Blaine Tech |
| | 4/16/2010 | 74.36 | 24.25 | --- | --- | 50.11 | Blaine Tech |
| | 5/24/2010 | 74.36 | 26.26 | --- | --- | 48.10 | Blaine Tech |
| | 5/28/2010 | 74.36 | 26.03 | --- | --- | 48.33 | Blaine Tech |
| | 6/22/2010 | 74.36 | 26.41 | --- | --- | 47.95 | |
| | 7/12/2010 | 74.36 | NM | --- | --- | NC | |
| | 8/12/2010 | 74.36 | NM | --- | --- | NC | |
| | 9/20/2010 | 74.36 | NM | --- | --- | NC | |
| | 10/4/2010 | 74.36 | 29.95 | --- | --- | 44.41 | Blaine Tech |
| | 11/16/2010 | 74.36 | NM | --- | --- | NC | |
| | 12/22/2010 | 74.36 | NM | --- | --- | NC | |
| | 1/10/2011 | 74.36 | NM | --- | --- | NC | |
| | 2/24/2011 | 74.36 | NM | --- | --- | NC | Blaine Tech |
| | 3/23/2011 | 74.36 | NM | --- | --- | NC | Blaine Tech |
| | 4/12/2011 | 74.36 | NM | --- | --- | NC | Blaine Tech |
| | 5/13/2011 | 74.36 | NM | --- | --- | NC | Blaine Tech |
| | 6/22/2011 | 74.36 | NM | --- | --- | NC | |
| | 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|-----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| GMW-O-18 Continued | 3/28/2012 | 74.36 | NM | --- | --- | NC | Blaine Tech |
| | 4/16/2012 | 74.36 | 27.10 | --- | --- | 47.26 | Blaine Tech |
| | 5/25/2012 | 74.36 | 27.31 | --- | --- | 47.05 | Blaine Tech |
| | 6/15/2012 | 74.36 | 35.13 | --- | --- | 39.23 | Blaine Tech |
| | 7/9/2012 | 74.36 | 29.51 | --- | --- | 44.85 | Blaine Tech |
| | 8/29/2012 | 74.36 | NM | --- | --- | NC | Blaine Tech |
| | 9/26/2012 | 74.36 | 30.83 | --- | --- | 43.53 | Blaine Tech |
| | 10/15/2012 | 74.36 | 29.73 | --- | --- | 44.63 | Blaine Tech |
| | 11/29/2012 | 74.36 | NM | --- | --- | NC | Blaine Tech |
| | 12/26/2012 | 74.36 | 28.87 | --- | --- | 45.49 | Blaine Tech |
| | 1/14/2013 | 74.36 | 28.92 | --- | --- | 45.44 | Blaine Tech |
| | 2/20/2013 | 74.36 | NM | --- | --- | NC | Blaine Tech |
| | 4/10/2013 | 74.36 | 28.10 | --- | --- | 46.26 | Blaine Tech |
| | 10/7/2013 | 74.36 | 26.67 | --- | --- | 47.69 | Blaine Tech |
| | 4/18/2014 | 74.36 | 29.43 | 29.37 | 0.06 | 44.98 | Blaine Tech |
| | 8/14/2014 | 74.36 | 29.87 | 29.45 | 0.42 | 44.83 | Blaine Tech |
| | 8/19/2014 | 74.36 | 29.97 | 29.58 | 0.39 | 44.70 | Blaine Tech |
| | 8/29/2014 | 74.36 | 29.77 | 29.34 | 0.43 | 44.93 | Blaine Tech |
| | 9/11/2014 | 74.36 | 29.96 | 29.61 | 0.35 | 44.68 | Blaine Tech |
| | 9/18/2014 | 74.36 | 29.95 | 29.56 | 0.39 | 44.72 | Blaine Tech |
| | 9/26/2014 | 74.36 | 29.97 | 29.55 | 0.42 | 44.73 | Blaine Tech |
| | 10/1/2014 | 74.36 | 29.90 | 29.52 | 0.38 | 44.76 | Blaine Tech |
| | 10/6/2014 | 74.36 | 29.94 | 29.56 | 0.38 | 44.72 | Blaine Tech |
| | 10/14/2014 | 74.36 | 29.94 | 29.58 | 0.36 | 44.71 | Blaine Tech |
| | 10/23/2014 | 74.36 | 30.00 | 29.62 | 0.38 | 44.66 | Blaine Tech |
| | 10/27/2014 | 74.36 | 29.95 | 29.52 | 0.43 | 44.75 | Blaine Tech |
| | 4/20/2015 | 74.36 | 28.53 | --- | --- | 45.83 | Blaine Tech |
| | 10/19/2015 | 74.36 | 30.90 | --- | --- | 43.46 | Blaine Tech |
| | 4/12/2016 | 74.36 | 31.63 | --- | --- | 42.73 | Blaine Tech |
| | 12/13/2016 | 74.32 | 35.95 | 31.01 | 4.94 | 42.32 | Blaine Tech |
| | 12/14/2016 | 74.32 | 32.60 | --- | --- | 41.72 | Blaine Tech |
| | 3/6/2017 | 74.32 | 33.40 | 32.60 | 0.80 | 41.56 | CH2M |
| 4/17/2017 | 74.32 | 31.83 | 31.80 | 0.03 | 42.51 | Blaine Tech | |
| 10/2/2017 | 74.32 | 31.32 | 31.30 | 0.02 | 43.02 | Blaine Tech | |
| 4/16/2018 | 74.32 | NM | --- | --- | NC | Blaine Tech | |
| 11/5/2018 | 74.32 | 33.03 | 32.90 | 0.13 | 41.39 | Blaine Tech | |
| 4/16/2019 | 74.32 | 30.89 | --- | --- | 43.43 | Blaine Tech | |
| 10/28/2019 | 74.32 | 32.05 | --- | --- | 42.27 | Blaine Tech | |
| 5/4/2020 | 74.32 | 31.68 | --- | --- | 42.64 | Blaine Tech | |
| 11/2/2020 | 74.32 | 27.25 | --- | --- | 47.07 | Blaine Tech | |
| GMW-O-20 | 8/15/2008 | 73.32 | 25.90 | --- | --- | 47.42 | Envent |
| | 10/17/2008 | 73.32 | 25.82 | --- | --- | 47.50 | Envent |
| | 12/19/2008 | 73.32 | 27.15 | --- | --- | 46.17 | Envent |
| | 1/15/2009 | 73.32 | 26.53 | 26.09 | 0.44 | 47.15 | Envent |
| | 2/24/2009 | 73.32 | 27.85 | --- | --- | 45.47 | Envent |
| | 3/20/2009 | 73.32 | 28.81 | --- | --- | 44.51 | Envent |
| | 3/27/2009 | 73.32 | 27.84 | --- | --- | 45.48 | Envent |
| | 4/21/2009 | 73.32 | 28.70 | --- | --- | 44.62 | Envent |
| | 7/21/2009 | 73.32 | 24.10 | --- | --- | 49.22 | Envent |
| | 10/19/2009 | 73.32 | NM | --- | --- | NC | Blaine Tech |
| | 11/9/2009 | 73.32 | 25.60 | 25.40 | 0.20 | 47.88 | Kinder Morgan |
| | 6/22/2010 | 73.32 | 24.76 | 24.66 | 0.10 | 48.64 | Blaine Tech |
| | 10/4/2010 | 73.32 | 31.20 | 31.10 | 0.10 | 42.20 | Blaine Tech |
| | 1/10/2011 | 73.32 | 26.62 | 26.48 | 0.14 | 46.81 | Blaine Tech |
| | 4/11/2011 | 73.32 | 23.82 | --- | --- | 49.50 | Blaine Tech |
| | 7/11/2011 | 73.32 | NM | --- | --- | NC | Blaine Tech |
| 10/10/2011 | 73.32 | 24.05 | --- | --- | 49.27 | Blaine Tech | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|-----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| GMW-O-20 Continued | 1/9/2012 | 73.32 | 24.68 | --- | --- | 48.64 | Blaine Tech |
| | 4/16/2012 | 73.32 | 26.18 | --- | --- | 47.14 | Blaine Tech |
| | 7/9/2012 | 73.32 | 32.92 | --- | --- | 40.40 | Blaine Tech |
| | 10/15/2012 | 73.32 | 32.97 | 32.95 | 0.02 | 40.37 | Blaine Tech |
| | 1/14/2013 | 73.32 | 32.98 | 32.93 | 0.05 | 40.38 | Blaine Tech |
| | 4/8/2013 | 73.32 | 29.63 | 26.46 | 3.17 | 46.27 | Blaine Tech |
| | 9/24/2013 | 73.32 | 31.10 | 27.20 | 3.90 | 45.40 | Blaine Tech |
| | 10/7/2013 | 73.32 | 32.09 | 27.06 | 5.03 | 45.33 | Blaine Tech |
| | 4/25/2014 | 73.32 | 28.48 | 28.40 | 0.08 | 44.91 | Blaine Tech |
| | 9/18/2014 | 73.32 | 30.71 | 27.72 | 2.99 | 45.05 | Blaine Tech |
| | 9/26/2014 | 73.32 | 30.87 | 27.75 | 3.12 | 44.99 | Blaine Tech |
| | 10/1/2014 | 73.32 | 30.52 | 27.65 | 2.87 | 45.14 | Blaine Tech |
| | 10/6/2014 | 73.32 | 30.50 | 27.66 | 2.84 | 45.13 | Blaine Tech |
| | 10/14/2014 | 73.32 | 30.63 | 27.62 | 3.01 | 45.14 | Blaine Tech |
| | 10/23/2014 | 73.32 | 30.80 | 27.70 | 3.10 | 45.05 | Blaine Tech |
| | 10/27/2014 | 73.32 | 30.70 | 27.76 | 2.94 | 45.02 | Blaine Tech |
| | 11/3/2014 | 73.32 | 30.81 | 27.62 | 3.19 | 45.11 | Blaine Tech |
| | 11/10/2014 | 73.32 | 30.94 | 27.75 | 3.19 | 44.98 | Blaine Tech |
| | 11/18/2014 | 73.32 | 30.91 | 27.65 | 3.26 | 45.07 | Blaine Tech |
| | 11/25/2014 | 73.32 | 30.95 | 27.65 | 3.30 | 45.06 | Blaine Tech |
| | 12/3/2014 | 73.32 | 32.56 | 27.83 | 4.73 | 44.61 | Blaine Tech |
| | 12/19/2014 | 73.32 | 31.72 | 27.93 | 3.79 | 44.69 | Blaine Tech |
| | 4/22/2015 | 73.32 | 32.25 | 27.98 | 4.27 | 44.55 | Blaine Tech |
| | 10/22/2015 | 73.32 | 31.36 | 29.38 | 1.98 | 43.57 | Kinder Morgan |
| | 3/16/2016 | 73.32 | 32.54 | --- | --- | 40.78 | Kinder Morgan |
| | 4/12/2016 | 73.32 | 32.48 | --- | --- | 40.84 | Kinder Morgan |
| | 6/29/2016 | 73.32 | 32.50 | --- | --- | 40.82 | Blaine Tech |
| | 8/22/2016 | 73.32 | 32.18 | --- | --- | 41.14 | Blaine Tech |
| | 10/3/2016 | 73.32 | 33.12 | --- | --- | 40.20 | Blaine Tech |
| | 3/23/2017 | 73.32 | 30.35 | --- | --- | 42.97 | CH2M |
| | 4/17/2017 | 73.32 | 29.70 | --- | --- | 43.62 | Blaine Tech |
| | 10/2/2017 | 73.32 | 33.03 | --- | --- | 40.29 | Blaine Tech |
| 4/16/2018 | 73.32 | 32.67 | --- | --- | 40.65 | Blaine Tech | |
| 11/5/2018 | 73.32 | 32.92 | --- | --- | 40.40 | Blaine Tech | |
| 4/23/2019 | 73.32 | 30.55 | --- | --- | 42.77 | Blaine Tech | |
| 11/1/2019 | 73.32 | 32.53 | 32.50 | 0.03 | 40.81 | Blaine Tech | |
| 5/4/2020 | 73.32 | 30.70 | --- | --- | 42.62 | Blaine Tech | |
| 8/20/2020 | 73.32 | 31.58 | --- | --- | 41.74 | Blaine Tech | |
| 11/2/2020 | 73.32 | 30.97 | --- | --- | 42.35 | Blaine Tech | |
| GMW-O-21 | 12/28/2007 | 71.43 | 27.67 | --- | --- | 43.76 | Geomatrix |
| | 8/15/2008 | 73.94 | NM | --- | --- | NC | Envent |
| | 10/17/2008 | 71.43 | 26.00 | --- | --- | 45.43 | Envent |
| | 12/19/2008 | 71.43 | 24.82 | --- | --- | 46.61 | Envent |
| | 3/27/2009 | 71.43 | 26.41 | --- | --- | 45.02 | Envent |
| | 7/21/2009 | 71.43 | 24.88 | --- | --- | 46.55 | Envent |
| | 10/19/2009 | 71.43 | NM | --- | --- | NC | Blaine Tech |
| | 11/9/2009 | 71.43 | 25.02 | --- | --- | 46.41 | Kinder Morgan |
| | 10/4/2010 | 71.43 | 25.40 | --- | --- | 46.03 | Blaine Tech |
| | 4/13/2011 | 71.43 | 23.72 | --- | --- | 47.71 | Blaine Tech |
| | 10/10/2011 | 71.43 | 24.65 | --- | --- | 46.78 | Blaine Tech |
| | 4/16/2012 | 71.43 | NM | --- | --- | NC | Blaine Tech |
| | 7/9/2012 | 71.43 | NM | --- | --- | NC | Blaine Tech |
| | 10/15/2012 | 71.43 | 32.50 | --- | --- | 38.93 | Blaine Tech |
| | 4/8/2013 | 71.43 | NM | --- | --- | NC | Blaine Tech |
| | 9/25/2013 | 71.43 | 29.25 | --- | --- | 42.18 | Blaine Tech |
| | 10/7/2013 | 71.43 | NM | --- | --- | NC | Blaine Tech |
| 4/14/2014 | 71.43 | 28.65 | 28.61 | 0.04 | 42.81 | Blaine Tech | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|-----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| GMW-O-21 Continued | 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 |
| | 4/16/2018 | 71.43 | 33.13 | --- | --- | 38.30 | Blaine Tech |
| | 11/5/2018 | 71.43 | 33.68 | --- | --- | 37.75 | Blaine Tech |
| | 4/16/2019 | 71.43 | 32.34 | --- | --- | 39.09 | Blaine Tech |
| | 11/1/2019 | 71.43 | 33.00 | --- | --- | 38.43 | Blaine Tech |
| | 5/4/2020 | 71.43 | 31.24 | --- | --- | 40.19 | Blaine Tech |
| 8/20/2020 | 71.43 | 31.93 | --- | --- | 39.50 | Blaine Tech | |
| 11/2/2020 | 71.43 | 30.30 | --- | --- | 41.13 | 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 | Blaine Tech |
| | 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|-----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| GMW-O-23 Continued | 7/9/2012 | 73.63 | 27.41 | --- | --- | 46.22 | Blaine Tech |
| | 10/15/2012 | 73.63 | 26.48 | --- | --- | 47.15 | Blaine Tech |
| | 1/14/2013 | 73.63 | 29.35 | --- | --- | 44.28 | Blaine Tech |
| | 4/8/2013 | 73.63 | 29.81 | 27.74 | 2.07 | 45.48 | Blaine Tech |
| | 9/23/2013 | 73.63 | 29.90 | --- | --- | 43.73 | Blaine Tech |
| | 10/7/2013 | 73.63 | 32.86 | 28.30 | 4.56 | 44.42 | Blaine Tech |
| | 4/25/2014 | 73.63 | 29.81 | 29.66 | 0.15 | 43.94 | Blaine Tech |
| | 9/5/2014 | 73.63 | 32.57 | 28.76 | 3.81 | 44.11 | Blaine Tech |
| | 9/11/2014 | 73.63 | 32.94 | 28.63 | 4.31 | 44.14 | Blaine Tech |
| | 9/18/2014 | 73.63 | 32.80 | 28.65 | 4.15 | 44.15 | Blaine Tech |
| | 9/26/2014 | 73.63 | 32.87 | 28.70 | 4.17 | 44.10 | Blaine Tech |
| | 10/1/2014 | 73.63 | 32.56 | 28.75 | 3.81 | 44.12 | Blaine Tech |
| | 10/6/2014 | 73.63 | 32.50 | 28.73 | 3.77 | 44.15 | Blaine Tech |
| | 10/14/2014 | 73.63 | 32.75 | 28.20 | 4.55 | 44.52 | Blaine Tech |
| | 10/23/2014 | 73.63 | 32.80 | 28.69 | 4.11 | 44.12 | Blaine Tech |
| | 10/27/2014 | 73.63 | 32.51 | 28.80 | 3.71 | 44.09 | Blaine Tech |
| | 11/3/2014 | 73.63 | 32.82 | 29.68 | 3.14 | 43.32 | Blaine Tech |
| | 11/10/2014 | 73.63 | 32.80 | 28.78 | 4.02 | 44.05 | Blaine Tech |
| | 11/18/2014 | 73.63 | 32.78 | 29.78 | 3.00 | 43.25 | Blaine Tech |
| | 11/25/2014 | 73.63 | 32.64 | 28.78 | 3.86 | 44.08 | Blaine Tech |
| | 12/3/2014 | 73.63 | 33.25 | 28.94 | 4.31 | 43.83 | Blaine Tech |
| | 12/12/2014 | 73.63 | 32.58 | 29.33 | 3.25 | 43.65 | Blaine Tech |
| | 12/19/2014 | 73.63 | 32.71 | 29.37 | 3.34 | 43.59 | Blaine Tech |
| | 3/17/2015 | 73.63 | 30.40 | 30.00 | 0.40 | 43.55 | Kinder Morgan |
| | 4/22/2015 | 73.63 | 33.08 | 30.36 | 2.72 | 42.73 | Blaine Tech |
| | 10/22/2015 | 73.63 | 32.82 | 30.46 | 2.36 | 42.70 | Kinder Morgan |
| | 3/16/2016 | 73.63 | 34.43 | --- | --- | 39.20 | Kinder Morgan |
| | 4/12/2016 | 73.63 | 32.59 | --- | --- | 41.04 | Kinder Morgan |
| | 6/29/2016 | 73.63 | 33.90 | --- | --- | 39.73 | Blaine Tech |
| | 8/22/2016 | 73.63 | 33.89 | --- | --- | 39.74 | Blaine Tech |
| | 10/3/2016 | 73.63 | 34.90 | --- | --- | 38.73 | Blaine Tech |
| | 3/23/2017 | 73.63 | 31.65 | --- | --- | 41.98 | CH2M |
| | 4/17/2017 | 73.63 | 30.88 | --- | --- | 42.75 | Blaine Tech |
| 10/2/2017 | 73.63 | 34.70 | --- | --- | 38.93 | Blaine Tech | |
| 4/16/2018 | 73.63 | 34.05 | --- | --- | 39.58 | Blaine Tech | |
| 11/5/2018 | 73.63 | 34.31 | --- | --- | 39.32 | Blaine Tech | |
| 4/16/2019 | 73.63 | 32.99 | --- | --- | 40.64 | Blaine Tech | |
| 10/28/2019 | 73.63 | 34.40 | 34.39 | 0.01 | 39.24 | Blaine Tech | |
| 5/4/2020 | 73.63 | 31.92 | --- | --- | 41.71 | Blaine Tech | |
| 8/20/2020 | 73.63 | 32.05 | --- | --- | 41.58 | Blaine Tech | |
| 11/2/2020 | 73.63 | 32.24 | --- | --- | 41.39 | 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|-----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|--------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| GMW-SF-9 Continued | 9/18/2014 | 73.05 | 28.95 | 28.91 | 0.04 | 44.13 | Blaine Tech |
| | 9/26/2014 | 73.05 | 28.93 | 28.59 | 0.34 | 44.39 | Blaine Tech |
| | 4/20/2015 | 73.05 | 29.01 | --- | --- | 44.04 | Blaine Tech |
| | 10/21/2015 | 73.05 | 29.69 | --- | --- | 43.36 | Blaine Tech |
| | 3/6/2017 | 73.05 | 28.88 | --- | --- | 44.17 | CH2M |
| GMW-SF-10 | 4/21/2009 | 75.77 | 27.10 | --- | --- | 48.67 | Envent |
| | 10/4/2010 | 75.77 | 28.03 | --- | --- | 47.74 | Blaine Tech |
| | 4/11/2011 | 75.77 | 26.80 | --- | --- | 48.97 | Blaine Tech |
| | 10/10/2011 | 75.77 | 27.60 | --- | --- | 48.17 | Blaine Tech |
| | 4/16/2012 | 75.77 | 28.81 | --- | --- | 46.96 | Blaine Tech |
| | 7/9/2012 | 75.77 | NM | --- | --- | NC | Blaine Tech |
| | 10/15/2012 | 75.77 | 29.88 | --- | --- | 45.89 | Blaine Tech |
| | 4/8/2013 | 75.77 | DRY | --- | --- | NC | Blaine Tech |
| GWR-3 | 4/30/2007 | 74.93 | 27.97 | --- | --- | 46.96 | Secor |
| | 11/12/2007 | 74.93 | 27.90 | --- | --- | 47.03 | Stantec |
| | 10/17/2008 | 74.93 | 29.88 | --- | --- | 45.05 | Envent |
| | 12/17/2008 | 74.93 | 19.71 | --- | --- | 55.22 | Envent |
| | 1/15/2009 | 74.93 | 29.27 | 29.26 | 0.26 | 45.88 | Envent |
| | 3/27/2009 | 74.93 | 27.18 | --- | --- | 47.75 | Envent |
| | 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|--------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| GWR-3 Continued | 8/12/2015 | 77.60 | 37.03 | 34.42 | 2.61 | 42.74 | Northstar |
| | 10/20/2015 | 77.60 | 35.98 | 34.65 | 1.33 | 42.72 | Blaine Tech |
| | 3/16/2016 | 77.60 | 38.60 | --- | --- | 39.00 | Kinder Morgan |
| | 4/11/2016 | 77.60 | 36.90 | --- | --- | 40.70 | Blaine Tech |
| | 6/29/2016 | 77.60 | 37.77 | --- | --- | 39.83 | Blaine Tech |
| | 8/22/2016 | 77.60 | 38.24 | --- | --- | 39.36 | Blaine Tech |
| | 10/3/2016 | 77.60 | 39.20 | 39.15 | 0.05 | 38.44 | Blaine Tech |
| | 3/7/2017 | 77.60 | 35.62 | --- | --- | 41.98 | CH2M |
| | 4/17/2017 | 77.60 | 34.88 | --- | --- | 42.72 | Blaine Tech |
| | 10/2/2017 | 77.60 | 38.92 | --- | --- | 38.68 | Blaine Tech |
| | 4/16/2018 | 77.60 | 38.73 | --- | --- | 38.87 | Blaine Tech |
| | 11/5/2018 | 77.60 | 38.42 | --- | --- | 39.18 | Blaine Tech |
| | 4/16/2019 | 77.60 | 37.16 | --- | --- | 40.44 | Blaine Tech |
| | 10/28/2019 | 77.60 | 38.58 | --- | --- | 39.02 | Blaine Tech |
| | 5/4/2020 | 77.60 | 36.02 | --- | --- | 41.58 | Blaine Tech |
| 11/2/2020 | 77.60 | 35.51 | --- | --- | 42.09 | Blaine Tech | |
| MW-18 (MID) | 4/30/2007 | 75.67 | 29.77 | --- | --- | 45.90 | Secor |
| | 11/12/2007 | 75.67 | 30.23 | --- | --- | 45.44 | Secor |
| | 4/14/2008 | 75.67 | 30.45 | --- | --- | 45.22 | Secor |
| | 10/13/2008 | 75.67 | 31.15 | --- | --- | 44.52 | Stantec |
| | 4/20/2009 | 75.67 | 31.49 | --- | --- | 44.18 | Blaine Tech |
| | 10/19/2009 | 75.67 | 32.62 | --- | --- | 43.05 | Blaine Tech |
| | 5/24/2010 | 75.67 | 32.26 | --- | --- | 43.41 | Blaine Tech |
| | 5/28/2010 | 75.67 | 32.17 | --- | --- | 43.50 | Blaine Tech |
| | 10/4/2010 | 75.67 | 32.30 | --- | --- | 43.37 | Blaine Tech |
| | 4/11/2011 | 75.67 | 31.28 | --- | --- | 44.39 | Blaine Tech |
| | 10/10/2011 | 75.67 | 31.51 | --- | --- | 44.16 | Blaine Tech |
| | 4/16/2012 | 75.67 | 31.75 | --- | --- | 43.92 | Blaine Tech |
| | 7/9/2012 | 75.67 | NM | --- | --- | NC | Blaine Tech |
| | 10/15/2012 | 75.67 | 33.41 | --- | --- | 42.26 | Blaine Tech |
| | 4/8/2013 | 75.67 | 30.68 | --- | --- | 44.99 | Blaine Tech |
| | 10/7/2013 | 75.67 | 35.33 | --- | --- | 40.34 | Blaine Tech |
| | 4/14/2014 | 75.67 | 35.40 | --- | --- | 40.27 | Blaine Tech |
| | 10/27/2014 | 75.67 | 35.81 | --- | --- | 39.86 | Blaine Tech |
| | 4/20/2015 | 75.67 | 36.29 | --- | --- | 39.38 | Blaine Tech |
| | 10/19/2015 | 75.67 | 36.99 | --- | --- | 38.68 | Blaine Tech |
| | 3/14/2016 | 75.67 | 40.70 | --- | --- | 34.97 | Blaine Tech |
| | 4/11/2016 | 75.67 | 38.89 | --- | --- | 36.78 | Blaine Tech |
| | 6/29/2016 | 75.67 | 39.94 | --- | --- | 35.73 | Blaine Tech |
| | 8/22/2016 | 75.67 | 40.14 | --- | --- | 35.53 | Blaine Tech |
| | 10/3/2016 | 75.67 | 40.93 | --- | --- | 34.74 | Blaine Tech |
| 4/17/2017 | 75.67 | 37.50 | --- | --- | 38.17 | Blaine Tech | |
| 10/2/2017 | 75.67 | 40.26 | --- | --- | 35.41 | Blaine Tech | |
| 4/16/2018 | 75.67 | 40.46 | --- | --- | 35.21 | Blaine Tech | |
| 11/5/2018 | 75.67 | 40.50 | --- | --- | 35.17 | Blaine Tech | |
| 4/16/2019 | 75.67 | 38.39 | --- | --- | 37.28 | Blaine Tech | |
| 10/28/2019 | 75.67 | 40.42 | --- | --- | 35.25 | Blaine Tech | |
| 5/4/2020 | 75.67 | 37.96 | --- | --- | 37.71 | Blaine Tech | |
| 11/2/2020 | 75.67 | 34.83 | --- | --- | 40.84 | 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|---------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| MW-O-1 Continued | 12/28/2007 | 75.48 | 25.54 | 25.51 | 0.03 | 49.96 | Geomatrix |
| | 8/15/2008 | 75.48 | NM | --- | --- | NC | Envent |
| | 8/19/2008 | 75.48 | 25.18 | 25.13 | 0.05 | 50.34 | Envent |
| | 10/17/2008 | 75.48 | 25.30 | --- | --- | 50.18 | Envent |
| | 12/19/2008 | 75.48 | 26.31 | --- | --- | 49.17 | Envent |
| | 1/15/2009 | 75.48 | 25.84 | --- | --- | 49.64 | Envent |
| | 4/21/2009 | 75.48 | 25.41 | --- | --- | 50.07 | Envent |
| | 10/19/2009 | 75.48 | 26.30 | --- | --- | 49.18 | Blaine Tech |
| | 10/4/2010 | 75.48 | 26.90 | --- | --- | 48.58 | Blaine Tech |
| | 4/11/2011 | 75.48 | 25.59 | --- | --- | 49.89 | Blaine Tech |
| | 10/10/2011 | 75.48 | 26.52 | --- | --- | 48.96 | Blaine Tech |
| | 4/16/2012 | 75.48 | 27.25 | --- | --- | 48.23 | Blaine Tech |
| | 7/9/2012 | 75.48 | NM | --- | --- | NC | Blaine Tech |
| | 10/15/2012 | 75.48 | 28.94 | --- | --- | 46.54 | Blaine Tech |
| | 4/8/2013 | 75.48 | 28.81 | --- | --- | 46.67 | Blaine Tech |
| | 10/7/2013 | 75.48 | 29.21 | --- | --- | 46.27 | Blaine Tech |
| | 4/14/2014 | 75.48 | 29.82 | --- | --- | 45.66 | Blaine Tech |
| | 10/27/2014 | 75.48 | 29.92 | --- | --- | 45.56 | Blaine Tech |
| | 4/20/2015 | 75.48 | 30.39 | --- | --- | 45.09 | Blaine Tech |
| | 10/27/2015 | 75.48 | 27.67 | --- | --- | 47.81 | Blaine Tech |
| | 3/14/2016 | 75.48 | DRY | --- | --- | NC | Blaine Tech |
| | 4/11/2016 | 75.48 | DRY | --- | --- | NC | Blaine Tech |
| | 6/29/2016 | 75.48 | DRY | --- | --- | NC | Blaine Tech |
| | 8/22/2016 | 75.48 | DRY | --- | --- | NC | Blaine Tech |
| | 10/3/2016 | 75.48 | DRY | --- | --- | NC | Blaine Tech |
| | 4/17/2017 | 75.48 | DRY | --- | --- | NC | Blaine Tech |
| | 10/2/2017 | 75.48 | DRY | --- | --- | NC | Blaine Tech |
| | 4/16/2018 | 75.48 | DRY | --- | --- | NC | Blaine Tech |
| | 11/5/2018 | 75.48 | DRY | --- | --- | NC | Blaine Tech |
| | 4/16/2019 | 75.48 | 32.09 | --- | --- | 43.39 | Blaine Tech |
| 10/28/2019 | 75.48 | DRY | --- | --- | NC | Blaine Tech | |
| 5/4/2020 | 75.48 | 31.98 | --- | --- | 43.50 | Blaine Tech | |
| 8/20/2020 | 75.48 | 32.86 | --- | --- | 42.62 | Blaine Tech | |
| 11/2/2020 | 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 | 71.90 | 23.31 | --- | --- | 48.59 | Blaine Tech |
| | 10/10/2011 | 71.90 | 27.53 | --- | --- | 44.37 | Blaine Tech |
| | 1/9/2012 | 71.90 | 28.13 | --- | --- | 43.77 | Blaine Tech |
| | 4/16/2012 | 71.90 | NM | --- | --- | NC | Blaine Tech |
| | 7/9/2012 | 71.90 | 26.53 | --- | --- | 45.37 | Blaine Tech |
| | 10/15/2012 | 71.90 | 26.89 | --- | --- | 45.01 | Blaine Tech |
| | 1/14/2013 | 71.90 | 26.93 | --- | --- | 44.97 | Blaine Tech |
| | 4/8/2013 | 71.90 | NM | --- | --- | NC | Blaine Tech |
| | 6/6/2013 | 71.90 | 28.99 | --- | --- | 42.91 | Blaine Tech |
| 10/7/2013 | 71.90 | 29.06 | --- | --- | 42.84 | Blaine Tech | |
| 4/14/2014 | 71.90 | 29.36 | --- | --- | 42.54 | Blaine Tech | |
| 10/27/2014 | 71.90 | 29.81 | 29.65 | 0.16 | 42.22 | Blaine Tech | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|---------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| MW-O-2 Continued | 4/20/2015 | 71.90 | 30.94 | 29.34 | 1.60 | 42.24 | Blaine Tech |
| | 5/21/2015 | 71.90 | 32.50 | 27.31 | 5.19 | 43.55 | Northstar |
| | 5/29/2015 | 71.90 | 31.52 | 30.20 | 1.32 | 41.44 | Northstar |
| | 6/5/2015 | 71.90 | 31.45 | 30.57 | 0.88 | 41.15 | Northstar |
| | 6/12/2015 | 71.90 | 31.05 | 30.60 | 0.45 | 41.21 | Northstar |
| | 6/19/2015 | 71.90 | 31.10 | 30.90 | 0.20 | 40.96 | Northstar |
| | 6/26/2015 | 71.90 | 31.66 | 31.37 | 0.29 | 40.47 | Northstar |
| | 10/19/2015 | 71.90 | 32.39 | 30.53 | 1.86 | 41.00 | Blaine Tech |
| | 3/14/2016 | 71.90 | 35.49 | 34.86 | 0.63 | 36.91 | Blaine Tech |
| | 4/11/2016 | 71.90 | 33.03 | 32.54 | 0.49 | 39.26 | Blaine Tech |
| | 6/30/2016 | 71.90 | 34.20 | --- | --- | 37.70 | Kinder Morgan |
| | 8/22/2016 | 71.90 | 33.93 | --- | --- | 37.97 | Kinder Morgan |
| | 10/3/2016 | 71.90 | 34.30 | 34.22 | 0.08 | 37.66 | Blaine Tech |
| | 4/17/2017 | 71.90 | 30.91 | 30.85 | 0.06 | 41.04 | Blaine Tech |
| | 10/2/2017 | 71.90 | 34.67 | --- | --- | 37.23 | Blaine Tech |
| | 4/16/2018 | 71.90 | 34.18 | 34.16 | 0.02 | 37.74 | Blaine Tech |
| | 11/5/2018 | 71.90 | 34.30 | --- | --- | 37.60 | Blaine Tech |
| | 4/16/2019 | 71.90 | 31.44 | --- | --- | 40.46 | Blaine Tech |
| | 10/28/2019 | 71.90 | NM | --- | --- | NC | Blaine Tech |
| | 5/4/2020 | 71.90 | 31.87 | --- | --- | 40.03 | Blaine Tech |
| 8/20/2020 | 71.90 | 32.08 | --- | --- | 39.82 | Blaine Tech | |
| 11/2/2020 | 71.90 | 30.60 | --- | --- | 41.30 | Blaine Tech | |
| MW-SF-1 | 3/12/2007 | 78.93 | 28.71 | --- | --- | 50.22 | Secor |
| | 4/30/2007 | 78.93 | 28.44 | --- | --- | 50.49 | Secor |
| | 8/28/2007 | 78.93 | 27.94 | --- | --- | 50.99 | Stantec |
| | 11/12/2007 | 78.93 | 28.76 | --- | --- | 50.17 | Stantec |
| | 2/19/2008 | 78.93 | 29.50 | --- | --- | 49.43 | Stantec |
| | 4/14/2008 | 78.93 | 29.16 | --- | --- | 49.77 | Stantec |
| | 8/11/2008 | 78.93 | 29.75 | --- | --- | 49.18 | Stantec |
| | 10/13/2008 | 78.93 | 29.86 | --- | --- | 49.07 | Stantec |
| | 2/23/2009 | 78.93 | 30.00 | --- | --- | 48.93 | Blaine Tech |
| | 4/20/2009 | 78.93 | 29.97 | --- | --- | 48.96 | Blaine Tech |
| | 7/20/2009 | 78.93 | 30.98 | --- | --- | 47.95 | Blaine Tech |
| | 7/22/2009 | 78.93 | 30.98 | --- | --- | 47.95 | Blaine Tech |
| | 10/19/2009 | 78.93 | 31.11 | --- | --- | 47.82 | Blaine Tech |
| | 3/15/2010 | 78.93 | 31.74 | --- | --- | 47.19 | Blaine Tech |
| | 5/24/2010 | 78.93 | 30.79 | --- | --- | 48.14 | Blaine Tech |
| | 5/28/2010 | 78.93 | 30.57 | --- | --- | 48.36 | Blaine Tech |
| | 6/22/2010 | 78.93 | 30.84 | --- | --- | 48.09 | Blaine Tech |
| | 7/12/2010 | 78.93 | 30.51 | --- | --- | 48.42 | Blaine Tech |
| | 10/4/2010 | 78.93 | 30.88 | --- | --- | 48.05 | Blaine Tech |
| | 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| MW-SF-1 Continued | 6/4/2014 | 78.93 | 35.98 | 35.27 | 0.71 | 43.52 | Nieto & Sons |
| | 6/10/2014 | 78.93 | 36.91 | 34.48 | 2.43 | 43.96 | Nieto & Sons |
| | 7/3/2014 | 78.93 | 36.72 | 34.71 | 2.01 | 43.82 | Nieto & Sons |
| | 7/8/2014 | 78.93 | 36.60 | 34.45 | 2.15 | 44.05 | Blaine Tech |
| | 7/18/2014 | 78.93 | 35.18 | 34.77 | 0.41 | 44.08 | Blaine Tech |
| | 7/24/2014 | 78.93 | 35.30 | 34.62 | 0.68 | 44.17 | Blaine Tech |
| | 8/1/2014 | 78.93 | 34.74 | 34.44 | 0.30 | 44.43 | Blaine Tech |
| | 8/14/2014 | 78.93 | 34.75 | 34.41 | 0.34 | 44.45 | Blaine Tech |
| | 8/19/2014 | 78.93 | 34.66 | 34.37 | 0.29 | 44.50 | Blaine Tech |
| | 8/29/2014 | 78.93 | 35.65 | 35.38 | 0.27 | 43.50 | Blaine Tech |
| | 9/18/2014 | 78.93 | 34.85 | 34.49 | 0.36 | 44.37 | Blaine Tech |
| | 9/26/2014 | 78.93 | 34.78 | 34.45 | 0.33 | 44.41 | Blaine Tech |
| | 10/1/2014 | 78.93 | 34.77 | 34.41 | 0.36 | 44.45 | Blaine Tech |
| | 10/6/2014 | 78.93 | 34.78 | 34.42 | 0.36 | 44.44 | Blaine Tech |
| | 10/14/2014 | 78.93 | 34.65 | 34.41 | 0.24 | 44.47 | Blaine Tech |
| | 10/23/2014 | 78.93 | 34.84 | 34.45 | 0.39 | 44.40 | Blaine Tech |
| | 10/27/2014 | 78.93 | 34.80 | 34.43 | 0.37 | 44.43 | Blaine Tech |
| | 11/10/2014 | 78.93 | 34.91 | 34.51 | 0.40 | 44.34 | Blaine Tech |
| | 11/18/2014 | 78.93 | 34.80 | 34.43 | 0.37 | 44.43 | Blaine Tech |
| | 11/25/2014 | 78.93 | 34.53 | 34.51 | 0.02 | 44.42 | Blaine Tech |
| | 12/12/2014 | 78.93 | 35.18 | 34.78 | 0.40 | 44.07 | Blaine Tech |
| | 12/19/2014 | 78.93 | 35.34 | 34.88 | 0.46 | 43.96 | Blaine Tech |
| | 4/20/2015 | 78.93 | 34.89 | 34.48 | 0.41 | 44.37 | Blaine Tech |
| | 5/19/2015 | 78.93 | 38.45 | 34.55 | 3.90 | 43.60 | Northstar |
| | 5/29/2015 | 78.93 | 36.36 | 35.22 | 1.14 | 43.48 | Northstar |
| | 6/5/2015 | 78.93 | 36.50 | 35.43 | 1.07 | 43.29 | Northstar |
| | 6/12/2015 | 78.93 | 35.80 | 35.41 | 0.39 | 43.44 | Northstar |
| | 6/19/2015 | 78.93 | 36.02 | 35.42 | 0.60 | 43.39 | Northstar |
| | 6/26/2015 | 78.93 | 36.60 | 36.45 | 0.15 | 42.45 | Northstar |
| | 10/19/2015 | 78.93 | 36.35 | 35.53 | 0.82 | 43.24 | Blaine Tech |
| | 11/17/2015 | 78.93 | 35.65 | --- | --- | 43.28 | Kinder Morgan |
| | 3/14/2016 | 78.93 | 40.40 | --- | --- | 38.53 | Blaine Tech |
| | 4/11/2016 | 78.93 | 37.96 | --- | --- | 40.97 | Blaine Tech |
| 6/29/2016 | 78.93 | 39.05 | --- | --- | 39.88 | Blaine Tech | |
| 8/22/2016 | 78.93 | 39.04 | --- | --- | 39.87 | Blaine Tech | |
| 10/3/2016 | 78.93 | 39.20 | --- | --- | 39.73 | Blaine Tech | |
| 4/17/2017 | 78.93 | 35.75 | --- | --- | 43.18 | Blaine Tech | |
| 10/2/2017 | 78.93 | 39.98 | --- | --- | 38.95 | Blaine Tech | |
| 4/16/2018 | 78.93 | 39.43 | --- | --- | 39.50 | Blaine Tech | |
| 11/5/2018 | 78.93 | 39.20 | --- | --- | 39.73 | Blaine Tech | |
| 4/16/2019 | 78.93 | 37.94 | --- | --- | 40.99 | Blaine Tech | |
| 10/28/2019 | 78.93 | 39.41 | --- | --- | 39.52 | Blaine Tech | |
| 5/4/2020 | 78.93 | 36.65 | --- | --- | 42.28 | Blaine Tech | |
| 11/2/2020 | 78.93 | 37.39 | --- | --- | 41.54 | 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| MW-SF-2 Continued | 4/11/2011 | 78.53 | 29.83 | --- | --- | 48.70 | Blaine Tech |
| | 7/11/2011 | 78.53 | NM | --- | --- | NC | |
| | 10/10/2011 | 78.53 | 29.82 | --- | --- | 48.71 | Blaine Tech |
| | 1/9/2012 | 78.53 | 30.52 | --- | --- | 48.01 | Blaine Tech |
| | 4/16/2012 | 78.53 | 31.28 | --- | --- | 47.25 | Blaine Tech |
| | 7/9/2012 | 78.53 | 33.18 | --- | --- | 45.35 | Blaine Tech |
| | 10/15/2012 | 78.53 | 32.11 | --- | --- | 46.42 | Blaine Tech |
| | 1/14/2013 | 78.53 | 33.59 | --- | --- | 44.94 | Blaine Tech |
| | 4/8/2013 | 78.53 | 33.32 | --- | --- | 45.21 | Blaine Tech |
| | 10/7/2013 | 78.53 | 34.58 | 33.08 | 1.50 | 45.15 | Blaine Tech |
| | 4/14/2014 | 78.53 | 37.50 | 33.27 | 4.23 | 44.41 | Blaine Tech |
| | 5/6/2014 | 78.53 | 37.71 | 33.24 | 4.47 | 44.40 | Nieto & Sons |
| | 5/12/2014 | 78.53 | 37.53 | 33.34 | 4.19 | 44.35 | Nieto & Sons |
| | 5/20/2014 | 78.53 | 37.62 | 33.51 | 4.11 | 44.20 | Nieto & Sons |
| | 5/27/2014 | 78.53 | 38.24 | 33.77 | 4.47 | 43.87 | Nieto & Sons |
| | 6/4/2014 | 78.53 | 34.63 | --- | --- | 43.90 | Nieto & Sons |
| | 6/10/2014 | 78.53 | 38.49 | 34.00 | 4.49 | 43.63 | Nieto & Sons |
| | 8/8/2014 | 78.53 | 36.23 | 33.82 | 2.41 | 44.23 | Blaine Tech |
| | 8/13/2014 | 78.53 | 36.75 | 33.59 | 3.16 | 44.31 | Blaine Tech |
| | 8/19/2014 | 78.53 | 36.90 | 33.60 | 3.30 | 44.27 | Blaine Tech |
| | 8/29/2014 | 78.53 | 37.11 | 33.53 | 3.58 | 44.28 | Blaine Tech |
| | 9/5/2014 | 78.53 | 37.09 | 33.51 | 3.58 | 44.30 | Blaine Tech |
| | 9/11/2014 | 78.53 | 37.12 | 33.51 | 3.61 | 44.30 | Blaine Tech |
| | 9/18/2014 | 78.53 | 36.89 | 33.60 | 3.29 | 44.27 | Blaine Tech |
| | 9/26/2014 | 78.53 | 37.28 | 33.54 | 3.74 | 44.24 | Blaine Tech |
| | 10/1/2014 | 78.53 | 37.18 | 33.56 | 3.62 | 44.25 | Blaine Tech |
| | 10/6/2014 | 78.53 | 37.16 | 33.59 | 3.57 | 44.23 | Blaine Tech |
| | 10/14/2014 | 78.53 | 37.15 | 33.64 | 3.51 | 44.19 | Blaine Tech |
| | 10/23/2014 | 78.53 | 37.24 | 33.61 | 3.63 | 44.19 | Blaine Tech |
| | 10/27/2014 | 78.53 | 37.04 | 33.54 | 3.50 | 44.29 | Blaine Tech |
| | 11/3/2014 | 78.53 | 37.14 | 33.55 | 3.59 | 44.26 | Blaine Tech |
| | 11/10/2014 | 78.53 | 37.33 | 33.56 | 3.77 | 44.22 | Blaine Tech |
| | 11/18/2014 | 78.53 | 37.21 | 33.64 | 3.57 | 44.18 | Blaine Tech |
| | 11/25/2014 | 78.53 | 37.40 | 33.69 | 3.71 | 44.10 | Blaine Tech |
| | 12/3/2014 | 78.53 | 37.16 | 33.60 | 3.56 | 44.22 | Blaine Tech |
| | 12/12/2014 | 78.53 | 38.05 | 33.91 | 4.14 | 43.79 | Blaine Tech |
| | 12/19/2014 | 78.53 | 38.40 | 33.95 | 4.45 | 43.69 | Blaine Tech |
| | 4/20/2015 | 78.53 | 36.15 | 34.73 | 1.42 | 43.52 | Blaine Tech |
| | 6/25/2015 | 78.53 | 38.95 | 35.57 | 3.38 | 42.28 | Blaine Tech |
| | 10/21/2015 | 78.53 | 36.32 | 36.13 | 0.19 | 42.36 | Kinder Morgan |
| | 3/16/2016 | 78.53 | 39.27 | --- | --- | 39.26 | Kinder Morgan |
| | 4/11/2016 | 78.53 | 37.47 | --- | --- | 41.06 | Blaine Tech |
| | 6/29/2016 | 78.53 | 38.08 | --- | --- | 40.45 | Blaine Tech |
| 8/22/2016 | 78.53 | 38.83 | --- | --- | 39.70 | Blaine Tech | |
| 10/3/2016 | 78.53 | 39.60 | --- | --- | 38.93 | Blaine Tech | |
| 3/10/2017 | 78.53 | 36.47 | --- | --- | 42.06 | CH2M | |
| 4/17/2017 | 78.53 | 35.78 | --- | --- | 42.75 | Blaine Tech | |
| 10/2/2017 | 78.53 | 39.68 | --- | --- | 38.85 | Blaine Tech | |
| 4/16/2018 | 78.53 | 39.47 | --- | --- | 39.06 | Blaine Tech | |
| 11/5/2018 | 78.53 | 39.55 | --- | --- | 38.98 | Blaine Tech | |
| 4/16/2019 | 78.53 | 37.95 | --- | --- | 40.58 | Blaine Tech | |
| 10/28/2019 | 78.53 | 39.26 | --- | --- | 39.27 | Blaine Tech | |
| 5/4/2020 | 78.53 | 36.66 | --- | --- | 41.87 | Blaine Tech | |
| 11/2/2020 | 78.53 | 37.14 | --- | --- | 41.39 | 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 |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| MW-SF-3 Continued | 10/17/2008 | 77.62 | 29.45 | --- | --- | 48.17 | Envent |
| | 12/18/2008 | 78.12 | 31.08 | 30.82 | 0.26 | 47.25 | Envent |
| | 1/15/2009 | 78.12 | 29.96 | 29.94 | 0.02 | 48.18 | Envent |
| | 3/20/2009 | 78.12 | 31.10 | --- | --- | 47.02 | Envent |
| | 3/24/2009 | 78.12 | 27.82 | --- | --- | 50.30 | Envent |
| | 4/21/2009 | 78.12 | 29.51 | 29.50 | 0.01 | 48.62 | Envent |
| | 7/21/2009 | 78.12 | 30.07 | --- | --- | 48.05 | Envent |
| | 10/19/2009 | 78.12 | NM | --- | --- | NC | Blaine Tech |
| | 11/6/2009 | 78.12 | 30.37 | 30.35 | 0.02 | 47.77 | Kinder Morgan |
| | 12/9/2009 | 78.12 | 30.53 | --- | --- | 47.59 | Kinder Morgan |
| | 9/3/2010 | 78.12 | 30.97 | 30.42 | 0.55 | 47.59 | Kinder Morgan |
| | 10/4/2010 | 78.12 | 30.88 | 30.30 | 0.58 | 47.70 | Blaine Tech |
| | 4/12/2011 | 78.12 | 29.44 | --- | --- | 48.68 | Blaine Tech |
| | 10/10/2011 | 78.12 | 30.75 | --- | --- | 47.37 | Blaine Tech |
| | 4/16/2012 | 78.12 | NM | --- | --- | NC | Blaine Tech |
| | 7/9/2012 | 78.12 | NM | --- | --- | NC | Blaine Tech |
| | 10/15/2012 | 78.12 | 32.47 | --- | --- | 45.65 | Blaine Tech |
| | 5/24/2013 | 78.12 | 33.35 | 32.51 | 0.84 | 45.44 | Blaine Tech |
| | 9/25/2013 | 78.12 | 34.40 | --- | --- | 43.72 | Blaine Tech |
| | 10/7/2013 | 78.12 | NM | --- | --- | NC | Blaine Tech |
| | 11/14/2013 | 78.12 | 33.26 | --- | --- | 44.86 | Blaine Tech |
| | 4/18/2014 | 78.12 | 33.72 | 33.62 | 0.10 | 44.48 | Blaine Tech |
| | 8/8/2014 | 78.12 | 34.07 | 33.71 | 0.36 | 44.34 | Blaine Tech |
| | 10/14/2014 | 78.12 | 34.55 | 33.92 | 0.63 | 44.07 | Blaine Tech |
| | 10/23/2014 | 78.12 | 34.57 | 33.94 | 0.63 | 44.05 | Blaine Tech |
| | 10/27/2014 | 78.12 | 34.49 | 33.85 | 0.64 | 44.14 | Blaine Tech |
| | 11/10/2014 | 78.12 | 34.65 | 33.94 | 0.71 | 44.04 | Blaine Tech |
| | 11/18/2014 | 78.12 | 34.62 | 33.88 | 0.74 | 44.09 | Blaine Tech |
| | 11/25/2014 | 78.12 | 34.22 | 33.94 | 0.28 | 44.12 | Blaine Tech |
| | 12/12/2014 | 78.12 | 34.89 | 34.38 | 0.51 | 43.64 | Blaine Tech |
| | 12/19/2014 | 78.12 | 35.04 | 34.43 | 0.61 | 43.57 | Blaine Tech |
| | 4/20/2015 | 78.12 | 34.52 | --- | --- | 43.60 | Blaine Tech |
| | 10/21/2015 | 78.12 | 35.18 | --- | --- | 42.94 | Kinder Morgan |
| 3/14/2016 | 78.12 | 39.43 | 39.40 | 0.03 | 38.71 | Blaine Tech | |
| 4/11/2016 | 78.12 | 37.17 | --- | --- | 40.95 | Blaine Tech | |
| 6/30/2016 | 78.12 | 38.28 | --- | --- | 39.84 | Kinder Morgan | |
| 8/22/2016 | 78.12 | 38.33 | --- | --- | 39.79 | Kinder Morgan | |
| 10/3/2016 | 78.12 | 39.40 | --- | --- | 38.72 | Kinder Morgan | |
| 3/8/2017 | 78.12 | 35.75 | --- | --- | 42.37 | CH2M | |
| 4/17/2017 | 78.12 | 35.15 | --- | --- | 42.97 | Blaine Tech | |
| 10/2/2017 | 78.12 | 39.20 | --- | --- | 38.92 | Blaine Tech | |
| 4/16/2018 | 78.12 | 38.81 | --- | --- | 39.31 | Blaine Tech | |
| 11/5/2018 | 78.12 | 38.69 | --- | --- | 39.43 | Blaine Tech | |
| 4/16/2019 | 78.12 | NM | --- | --- | NC | Blaine Tech | |
| 10/28/2019 | 78.12 | 38.77 | --- | --- | 39.35 | Blaine Tech | |
| 5/4/2020 | 78.12 | 36.19 | --- | --- | 41.93 | Blaine Tech | |
| 11/2/2020 | 78.12 | 36.55 | --- | --- | 41.57 | Blaine Tech | |
| MW-SF-4 | 3/12/2007 | 79.38 | 30.01 | 29.41 | 0.60 | 49.85 | Secor |
| | 4/30/2007 | 79.38 | 29.96 | 29.11 | 0.85 | 50.10 | Secor |
| | 8/14/2007 | 79.38 | 30.34 | 28.38 | 1.96 | 50.60 | Geomatrix |
| | 8/28/2007 | 79.38 | 29.95 | 28.30 | 1.65 | 50.74 | Stantec |
| | 9/11/2007 | 79.38 | 29.98 | 28.43 | 1.55 | 50.63 | Geomatrix |
| | 10/5/2007 | 79.38 | 30.68 | 28.85 | 1.83 | 50.15 | Geomatrix |
| | 10/12/2007 | 79.38 | 30.27 | 29.96 | 0.31 | 49.36 | Geomatrix |
| | 10/19/2007 | 79.38 | 30.28 | --- | --- | 49.10 | Geomatrix |
| | 10/26/2007 | 79.38 | 30.52 | --- | --- | 48.86 | Geomatrix |
| 11/2/2007 | 79.38 | 30.68 | --- | --- | 48.70 | Geomatrix | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|--------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| MW-SF-4 Continued | 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 | |
| 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| MW-SF-4 Continued | 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 |
| | 4/16/2018 | 79.38 | 39.90 | --- | --- | 39.48 | Blaine Tech |
| | 11/5/2018 | 79.38 | 39.78 | --- | --- | 39.60 | Blaine Tech |
| | 4/16/2019 | 79.38 | 38.45 | --- | --- | 40.93 | Blaine Tech |
| | 10/28/2019 | 79.38 | 39.75 | --- | --- | 39.63 | Blaine Tech |
| 5/4/2020 | 79.38 | 37.13 | --- | --- | 42.25 | Blaine Tech | |
| 11/2/2020 | 79.38 | 37.46 | --- | --- | 41.92 | 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 | Blaine Tech |
| | 10/10/2011 | 79.74 | 31.28 | --- | --- | 48.46 | Blaine Tech |
| | 1/9/2012 | 79.74 | 32.12 | --- | --- | 47.62 | Blaine Tech |
| | 4/16/2012 | 79.74 | 33.30 | --- | --- | 46.44 | Blaine Tech |
| | 7/9/2012 | 79.74 | 34.45 | --- | --- | 45.29 | Blaine Tech |
| | 10/15/2012 | 79.74 | 33.28 | --- | --- | 46.46 | Blaine Tech |
| | 1/14/2013 | 79.74 | 33.37 | --- | --- | 46.37 | Blaine Tech |
| | 4/8/2013 | 79.74 | 34.28 | --- | --- | 45.46 | Blaine Tech |
| | 10/7/2013 | 79.74 | 34.58 | --- | --- | 45.16 | Blaine Tech |
| | 4/14/2014 | 79.74 | 35.33 | --- | --- | 44.41 | Blaine Tech |
| | 10/27/2014 | 79.74 | 35.48 | --- | --- | 44.26 | Blaine Tech |
| | 4/20/2015 | 79.74 | 36.05 | --- | --- | 43.69 | Blaine Tech |
| 10/19/2015 | 79.74 | 36.82 | --- | --- | 42.92 | Blaine Tech | |
| 3/14/2016 | 79.74 | DRY | --- | --- | NC | Blaine Tech | |
| 4/11/2016 | 79.74 | DRY | --- | --- | NC | Blaine Tech | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| MW-SF-5 Continued | 6/29/2016 | 79.74 | DRY | --- | --- | NC | Blaine Tech |
| | 8/22/2016 | 79.74 | DRY | --- | --- | NC | Blaine Tech |
| | 10/3/2016 | 79.74 | DRY | --- | --- | NC | Blaine Tech |
| | 4/17/2017 | 79.74 | 36.88 | --- | --- | 42.86 | Blaine Tech |
| | 10/2/2017 | 79.74 | DRY | --- | --- | NC | Blaine Tech |
| | 4/16/2018 | 79.74 | DRY | --- | --- | NC | Blaine Tech |
| | 11/5/2018 | 79.74 | DRY | --- | --- | NC | Blaine Tech |
| | 4/16/2019 | 79.74 | DRY | --- | --- | NC | Blaine Tech |
| | 10/28/2019 | 79.74 | DRY | --- | --- | NC | Blaine Tech |
| | 5/4/2020 | 79.74 | 37.86 | --- | --- | 41.88 | Blaine Tech |
| MW-SF-6 | 11/2/2020 | 79.74 | DRY | --- | --- | NC | Blaine Tech |
| | 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 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|--------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| MW-SF-6 Continued | 6/29/2016 | 76.8 | 36.89 | --- | --- | 39.91 | Blaine Tech |
| | 8/22/2016 | 76.8 | 37.11 | --- | --- | 39.69 | Blaine Tech |
| | 10/3/2016 | 76.8 | 38.45 | --- | --- | 38.35 | Blaine Tech |
| | 4/17/2017 | 76.8 | 34.03 | --- | --- | 42.77 | Blaine Tech |
| | 10/2/2017 | 76.8 | 37.89 | --- | --- | 38.91 | Blaine Tech |
| | 4/16/2018 | 76.8 | 37.65 | --- | --- | 39.15 | Blaine Tech |
| | 11/5/2018 | 76.8 | 37.70 | --- | --- | 39.10 | Blaine Tech |
| | 4/16/2019 | 76.8 | 36.13 | --- | --- | 40.67 | Blaine Tech |
| | 10/28/2019 | 76.8 | 37.41 | --- | --- | 39.39 | Blaine Tech |
| | 5/4/2020 | 76.8 | 34.90 | --- | --- | 41.90 | Blaine Tech |
| | 11/2/2020 | 76.8 | 35.35 | --- | --- | 41.45 | 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| MW-SF-9 Continued | 9/26/2014 | 74.1 | 30.25 | 29.84 | 0.41 | 44.18 | Blaine Tech |
| | 10/1/2014 | 74.1 | 30.24 | 29.84 | 0.40 | 44.19 | Blaine Tech |
| | 10/6/2014 | 74.1 | 30.24 | 29.83 | 0.41 | 44.19 | Blaine Tech |
| | 10/14/2014 | 74.1 | 30.12 | 29.81 | 0.31 | 44.23 | Blaine Tech |
| | 10/23/2014 | 74.1 | 30.27 | 29.85 | 0.42 | 44.17 | Blaine Tech |
| | 10/27/2014 | 74.1 | 30.29 | 29.89 | 0.40 | 44.14 | Blaine Tech |
| | 11/18/2014 | 74.1 | 30.35 | 29.86 | 0.49 | 44.15 | Blaine Tech |
| | 11/25/2014 | 74.1 | 30.42 | 29.91 | 0.51 | 44.10 | Blaine Tech |
| | 12/12/2014 | 74.1 | 30.65 | 30.10 | 0.55 | 43.90 | Blaine Tech |
| | 12/19/2014 | 74.1 | 30.80 | 30.13 | 0.67 | 43.85 | Blaine Tech |
| | 4/20/2015 | 74.1 | 36.69 | 27.67 | 9.02 | 44.76 | Blaine Tech |
| | 5/19/2015 | 74.1 | 35.68 | 26.83 | 8.85 | 45.63 | Blaine Tech |
| | 5/21/2015 | 74.1 | 32.50 | 27.31 | 5.19 | 45.83 | Northstar |
| | 5/29/2015 | 74.1 | 32.95 | 30.10 | 2.85 | 43.47 | Northstar |
| | 6/2/2015 | 74.1 | 31.67 | 30.45 | 1.22 | 43.42 | Northstar |
| | 6/5/2015 | 74.10 | 31.85 | 30.60 | 1.25 | 43.27 | Northstar |
| | 6/12/2015 | 74.10 | 31.28 | 30.75 | 0.53 | 43.25 | Northstar |
| | 6/19/2015 | 74.10 | 31.30 | 31.00 | 0.30 | 43.04 | Northstar |
| | 6/26/2015 | 74.10 | 31.20 | 29.50 | 1.70 | 44.29 | Northstar |
| | 8/11/2015 | 74.10 | 36.90 | 29.90 | 7.00 | 42.90 | Northstar |
| | 8/18/2015 | 74.10 | 35.19 | 30.25 | 4.94 | 42.94 | Northstar |
| | 8/28/2015 | 74.10 | 31.60 | 30.75 | 0.85 | 43.19 | Kinder Morgan |
| | 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 |
| 5/4/2020 | 74.10 | DRY | --- | --- | NC | Blaine Tech | |
| 11/2/2020 | 74.10 | DRY | --- | --- | NC | Blaine Tech | |
| MW-SF-10 | 10/17/2008 | 76.53 | 27.49 | --- | --- | 49.04 | Envent |
| | 10/19/2009 | 76.53 | 28.61 | --- | --- | 47.92 | Blaine Tech |
| | 10/4/2010 | 76.53 | 28.50 | 28.36 | 0.14 | 48.14 | Blaine Tech |
| | 4/11/2011 | 76.53 | 27.41 | 27.37 | 0.04 | 49.15 | Blaine Tech |
| | 10/10/2011 | 76.53 | 27.60 | --- | --- | 48.93 | Blaine Tech |
| | 4/16/2012 | 76.53 | 28.81 | --- | --- | 47.72 | Blaine Tech |
| | 7/9/2012 | 76.53 | NM | --- | --- | NC | Blaine Tech |
| | 10/15/2012 | 76.53 | 29.27 | --- | --- | 47.26 | Blaine Tech |
| | 4/8/2013 | 76.53 | DRY | --- | --- | NC | Blaine Tech |
| | 10/7/2013 | 76.53 | DRY | --- | --- | NC | Blaine Tech |
| | 4/14/2014 | 76.53 | DRY | --- | --- | NC | Blaine Tech |
| | 10/27/2014 | 76.53 | DRY | --- | --- | NC | Blaine Tech |
| | 4/20/2015 | 76.53 | DRY | --- | --- | NC | Blaine Tech |
| | 10/19/2015 | 76.53 | DRY | --- | --- | NC | Blaine Tech |
| | 3/14/2016 | 76.53 | DRY | --- | --- | NC | Blaine Tech |
| | 4/11/2016 | 76.53 | DRY | --- | --- | NC | Blaine Tech |
| | 6/29/2016 | 76.53 | DRY | --- | --- | NC | Blaine Tech |
| | 8/22/2016 | 76.53 | DRY | --- | --- | NC | Blaine Tech |
| | 10/3/2016 | 76.53 | DRY | --- | --- | NC | Blaine Tech |
| | 4/17/2017 | 76.53 | DRY | --- | --- | NC | Blaine Tech |
| | 10/2/2017 | 76.53 | DRY | --- | --- | NC | Blaine Tech |
| | 4/16/2018 | 76.53 | DRY | --- | --- | NC | Blaine Tech |
| 11/5/2018 | 76.53 | DRY | --- | --- | NC | Blaine Tech | |
| 4/16/2019 | 76.53 | DRY | --- | --- | NC | Blaine Tech | |
| 10/28/2019 | 76.53 | DRY | --- | --- | NC | Blaine Tech | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|-----------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| MW-SF-10 | 5/4/2020 | 76.53 | DRY | --- | --- | NC | Blaine Tech |
| Continued | 11/2/2020 | 76.53 | DRY | --- | --- | NC | Blaine Tech |
| MW-SF-11 | 8/14/2007 | 78.56 | 28.58 | 28.30 | 0.28 | 50.20 | Geomatrix |
| | 8/21/2007 | 78.56 | 28.76 | 28.63 | 0.13 | 49.90 | Geomatrix |
| | 8/28/2007 | 78.56 | 28.22 | --- | --- | 50.34 | Stantec |
| | 9/11/2007 | 78.56 | 26.90 | --- | --- | 51.66 | Geomatrix |
| | 10/5/2007 | 78.56 | 28.43 | --- | --- | 50.13 | Geomatrix |
| | 11/2/2007 | 78.56 | 29.48 | 29.38 | 0.10 | 49.16 | Geomatrix |
| | 11/12/2007 | 78.56 | 29.03 | --- | --- | 49.53 | Stantec |
| | 8/15/2008 | 78.56 | 30.13 | --- | --- | 48.43 | Envent |
| | 10/17/2008 | 78.56 | 30.50 | --- | --- | 48.06 | Envent |
| | 12/18/2008 | 78.56 | 29.92 | --- | --- | 48.64 | Envent |
| | 1/15/2009 | 78.56 | 30.32 | --- | --- | 48.24 | Envent |
| | 3/24/2009 | 78.56 | 31.05 | --- | --- | 47.51 | Envent |
| | 4/21/2009 | 78.56 | 30.03 | --- | --- | 48.53 | Envent |
| | 7/21/2009 | 78.56 | 30.89 | --- | --- | 47.67 | Envent |
| | 10/19/2009 | 78.56 | NM | --- | --- | NC | Blaine Tech |
| | 11/9/2009 | 78.56 | 31.00 | --- | --- | 47.56 | Kinder Morgan |
| | 9/3/2010 | 78.56 | 31.22 | --- | --- | 47.34 | Kinder Morgan |
| | 10/4/2010 | 78.56 | 30.94 | --- | --- | 47.62 | Blaine Tech |
| | 4/12/2011 | 78.56 | 30.82 | --- | --- | 47.74 | Blaine Tech |
| | 10/10/2011 | 78.56 | 30.10 | --- | --- | 48.46 | Blaine Tech |
| | 4/16/2012 | 78.56 | NM | --- | --- | NC | Blaine Tech |
| | 7/9/2012 | 78.56 | NM | --- | --- | NC | Blaine Tech |
| | 10/15/2012 | 78.56 | 33.28 | --- | --- | 45.28 | Blaine Tech |
| | 4/8/2013 | 78.56 | 33.11 | --- | --- | 45.45 | Blaine Tech |
| | 10/7/2013 | 78.56 | 33.91 | --- | --- | 44.65 | Blaine Tech |
| | 4/14/2014 | 78.56 | 35.20 | 34.95 | 0.25 | 43.56 | Blaine Tech |
| | 5/5/2014 | 78.56 | 36.52 | 33.71 | 2.81 | 44.29 | Nieto & Sons |
| | 5/12/2014 | 78.56 | 35.45 | 33.87 | 1.58 | 44.37 | Nieto & Sons |
| | 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 |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By | |
|-----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|-----------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | | |
| MW-SF-11 Continued | 8/22/2016 | 78.56 | 39.25 | --- | --- | 39.31 | Blaine Tech | |
| | 10/3/2016 | 78.56 | 40.05 | --- | --- | 38.51 | Blaine Tech | |
| | 3/10/2017 | 78.56 | 36.56 | --- | --- | 42.00 | CH2M | |
| | 4/17/2017 | 78.56 | 35.91 | --- | --- | 42.65 | Blaine Tech | |
| | 10/2/2017 | 78.56 | 40.09 | --- | --- | 38.47 | Blaine Tech | |
| | 4/16/2018 | 78.56 | 39.90 | --- | --- | 38.66 | Blaine Tech | |
| | 11/5/2018 | 78.56 | 39.52 | --- | --- | 39.04 | Blaine Tech | |
| | 4/16/2019 | 78.56 | 38.52 | --- | --- | 40.04 | Blaine Tech | |
| | 10/28/2019 | 78.56 | 39.13 | --- | --- | 39.43 | Blaine Tech | |
| | 5/4/2020 | 78.56 | 36.95 | --- | --- | 41.61 | Blaine Tech | |
| | 11/2/2020 | 78.56 | 37.18 | --- | --- | 41.38 | Blaine Tech | |
| | MW-SF-12 | 8/14/2007 | 78.07 | 27.76 | --- | --- | 50.31 | Geomatrix |
| | | 8/21/2007 | 78.07 | 27.43 | --- | --- | 50.64 | Geomatrix |
| 8/28/2007 | | 78.07 | 27.58 | --- | --- | 50.49 | Stantec | |
| 9/11/2007 | | 78.07 | 27.73 | --- | --- | 50.34 | Geomatrix | |
| 10/5/2007 | | 78.07 | 28.06 | --- | --- | 50.01 | Geomatrix | |
| 11/2/2007 | | 78.07 | 29.59 | --- | --- | 48.48 | Geomatrix | |
| 11/12/2007 | | 78.07 | 28.33 | --- | --- | 49.74 | Stantec | |
| 8/12/2008 | | 78.07 | 30.02 | --- | --- | 48.05 | Envent | |
| 10/17/2008 | | 78.07 | 30.42 | --- | --- | 47.65 | Envent | |
| 12/18/2008 | | 78.07 | 31.55 | --- | --- | 46.52 | Envent | |
| 1/15/2009 | | 78.07 | 30.11 | --- | --- | 47.96 | Envent | |
| 3/24/2009 | | 78.07 | 29.41 | --- | --- | 48.66 | Envent | |
| 4/21/2009 | | 78.07 | 29.52 | --- | --- | 48.55 | Envent | |
| 7/21/2009 | | 78.07 | 28.58 | --- | --- | 49.49 | Envent | |
| 10/19/2009 | | 78.07 | NM | --- | --- | NC | Blaine Tech | |
| 11/4/2009 | | 78.07 | 30.36 | --- | --- | 47.71 | Kinder Morgan | |
| 2/4/2010 | | 78.07 | 29.20 | --- | --- | 48.87 | Kinder Morgan | |
| 10/4/2010 | | 78.07 | 30.70 | --- | --- | 47.37 | Blaine Tech | |
| 4/11/2011 | | 78.07 | 29.47 | --- | --- | 48.60 | Blaine Tech | |
| 10/10/2011 | | 78.07 | 26.60 | --- | --- | 51.47 | Blaine Tech | |
| 4/16/2012 | | 78.07 | 31.40 | --- | --- | 46.67 | Blaine Tech | |
| 7/9/2012 | | 78.07 | NM | --- | --- | NC | Blaine Tech | |
| 10/15/2012 | | 78.07 | 32.12 | --- | --- | 45.95 | Blaine Tech | |
| 4/8/2013 | | 78.07 | DRY | --- | --- | NC | Blaine Tech | |
| 10/7/2013 | | 78.07 | NM | --- | --- | NC | Blaine Tech | |
| 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 | | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|-----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| MW-SF-12 Continued | 12/12/2014 | 78.07 | 37.92 | 33.45 | 4.47 | 43.73 | Blaine Tech |
| | 12/19/2014 | 78.07 | 38.25 | 33.50 | 4.75 | 43.62 | Blaine Tech |
| | 3/17/2015 | 78.07 | 36.42 | 34.05 | 2.37 | 43.55 | Kinder Morgan |
| | 4/20/2015 | 78.07 | 36.42 | 34.05 | 2.37 | 43.55 | Blaine Tech |
| | 10/20/2015 | 78.07 | 36.78 | 34.84 | 1.94 | 42.84 | Kinder Morgan |
| | 3/16/2016 | 78.07 | 39.03 | --- | --- | 39.04 | Kinder Morgan |
| | 4/11/2016 | 78.07 | 37.13 | --- | --- | 40.94 | Blaine Tech |
| | 6/29/2016 | 78.07 | 38.34 | 38.28 | 0.06 | 39.78 | Blaine Tech |
| | 8/22/2016 | 78.07 | 38.60 | --- | --- | 39.47 | Blaine Tech |
| | 10/3/2016 | 78.07 | 39.45 | --- | --- | 38.62 | Blaine Tech |
| | 3/10/2017 | 78.07 | 36.09 | --- | --- | 41.98 | CH2M |
| | 4/17/2017 | 78.07 | 35.12 | --- | --- | 42.95 | Blaine Tech |
| | 10/2/2017 | 78.07 | 39.31 | --- | --- | 38.76 | Blaine Tech |
| | 4/16/2018 | 78.07 | 39.09 | --- | --- | 38.98 | Blaine Tech |
| | 11/5/2018 | 78.07 | 38.96 | --- | --- | 39.11 | Blaine Tech |
| | 4/16/2019 | 78.07 | 37.53 | --- | --- | 40.54 | Blaine Tech |
| | 10/28/2019 | 78.07 | 38.78 | --- | --- | 39.29 | Blaine Tech |
| | 5/4/2020 | 78.07 | 36.36 | --- | --- | 41.71 | Blaine Tech |
| | 11/2/2020 | 78.07 | 36.53 | --- | --- | 41.54 | Blaine Tech |
| MW-SF-13 | 8/14/2007 | 73.40 | 22.98 | --- | --- | 50.42 | Geomatrix |
| | 8/21/2007 | 73.40 | 23.11 | --- | --- | 50.29 | Geomatrix |
| | 8/28/2007 | 73.40 | 22.85 | --- | --- | 50.55 | Stantec |
| | 9/11/2007 | 73.40 | 23.10 | --- | --- | 50.30 | Geomatrix |
| | 10/5/2007 | 73.40 | 28.11 | --- | --- | 45.29 | Geomatrix |
| | 11/2/2007 | 73.40 | 25.43 | 25.41 | 0.02 | 47.99 | Geomatrix |
| | 11/12/2007 | 73.40 | 23.70 | --- | --- | 49.70 | Stantec |
| | 12/21/2007 | 73.40 | 24.45 | 24.42 | 0.03 | 48.97 | Geomatrix |
| | 8/15/2008 | 73.40 | 27.38 | 24.11 | 3.27 | 48.47 | Envent |
| | 10/17/2008 | 73.40 | 27.28 | 24.33 | 2.95 | 48.33 | Envent |
| | 10/21/2008 | 73.40 | 27.14 | 24.26 | 2.88 | 48.42 | Envent |
| | 12/17/2008 | 73.40 | 26.21 | 24.70 | 1.51 | 48.32 | Envent |
| | 1/15/2009 | 73.40 | 26.90 | 24.80 | 2.10 | 48.08 | Envent |
| | 3/27/2009 | 73.40 | 26.46 | 25.49 | 0.97 | 47.67 | Envent |
| | 4/21/2009 | 73.40 | 24.86 | 24.78 | 0.08 | 48.60 | Envent |
| | 7/21/2009 | 73.40 | 25.72 | 25.48 | 0.24 | 47.86 | Envent |
| | 10/19/2009 | 73.40 | NM | --- | --- | NC | Blaine Tech |
| | 11/6/2009 | 73.40 | 25.72 | --- | --- | 47.68 | Kinder Morgan |
| | 2/4/2010 | 73.40 | 25.43 | 25.30 | 0.13 | 48.07 | Kinder Morgan |
| | 9/3/2010 | 73.40 | 27.40 | 25.71 | 1.69 | 47.27 | Kinder Morgan |
| | 10/4/2010 | 73.40 | 26.95 | 25.92 | 1.03 | 47.22 | Blaine Tech |
| | 4/12/2011 | 73.40 | 24.79 | 24.78 | 0.01 | 48.62 | Blaine Tech |
| | 10/10/2011 | 73.40 | 26.00 | --- | --- | 47.40 | Blaine Tech |
| | 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|-----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| MW-SF-13 Continued | 8/1/2014 | 73.40 | 29.82 | 29.25 | 0.57 | 44.01 | Blaine Tech |
| | 8/8/2014 | 73.40 | 34.07 | 33.71 | 0.36 | 39.60 | Blaine Tech |
| | 8/14/2014 | 73.40 | 29.96 | 29.13 | 0.83 | 44.06 | Blaine Tech |
| | 8/19/2014 | 73.40 | 29.91 | 29.15 | 0.76 | 44.06 | Blaine Tech |
| | 8/29/2014 | 73.40 | 30.15 | 29.02 | 1.13 | 44.10 | Blaine Tech |
| | 9/5/2014 | 73.40 | 30.19 | 29.08 | 1.11 | 44.04 | Blaine Tech |
| | 9/11/2014 | 73.40 | 30.66 | 28.91 | 1.75 | 44.05 | Blaine Tech |
| | 9/18/2014 | 73.40 | 30.41 | 29.15 | 1.26 | 43.94 | Blaine Tech |
| | 9/26/2014 | 73.40 | 30.18 | 29.14 | 1.04 | 44.00 | Blaine Tech |
| | 10/1/2014 | 73.40 | 30.38 | 29.05 | 1.33 | 44.02 | Blaine Tech |
| | 10/6/2014 | 73.40 | 30.10 | 29.12 | 0.98 | 44.04 | Blaine Tech |
| | 10/13/2014 | 73.40 | 30.28 | 29.07 | 1.21 | 44.03 | Blaine Tech |
| | 10/23/2014 | 73.40 | 30.72 | 28.95 | 1.77 | 44.01 | Blaine Tech |
| | 10/27/2014 | 73.40 | 30.21 | 29.06 | 1.15 | 44.05 | Blaine Tech |
| | 11/3/2014 | 73.40 | 30.62 | 28.93 | 1.69 | 44.05 | Blaine Tech |
| | 11/18/2014 | 73.40 | 30.54 | 29.11 | 1.43 | 43.93 | Blaine Tech |
| | 11/25/2014 | 73.40 | 29.48 | 29.14 | 0.34 | 44.18 | Blaine Tech |
| | 12/3/2014 | 73.40 | 31.02 | 28.93 | 2.09 | 43.95 | Blaine Tech |
| | 12/12/2014 | 73.40 | 31.05 | 29.40 | 1.65 | 43.59 | Blaine Tech |
| | 12/19/2014 | 73.40 | 31.11 | 29.40 | 1.71 | 43.57 | Blaine Tech |
| | 4/20/2015 | 73.40 | 32.44 | 29.04 | 3.40 | 43.51 | Blaine Tech |
| | 10/19/2015 | 73.40 | 35.16 | 29.31 | 5.85 | 42.63 | Blaine Tech |
| | 3/14/2016 | 73.40 | 34.72 | --- | --- | 38.68 | Blaine Tech |
| | 4/11/2016 | 73.40 | 32.28 | --- | --- | 41.12 | Blaine Tech |
| | 6/29/2016 | 73.40 | 33.62 | --- | --- | 39.78 | Blaine Tech |
| | 8/22/2016 | 73.40 | 33.66 | --- | --- | 39.74 | Blaine Tech |
| | 10/3/2016 | 73.40 | 34.20 | --- | --- | 39.20 | Blaine Tech |
| | 3/24/2017 | 73.40 | 31.25 | --- | --- | 42.15 | CH2M |
| | 4/17/2017 | 73.40 | 30.40 | --- | --- | 43.00 | Blaine Tech |
| | 10/2/2017 | 73.40 | 34.52 | --- | --- | 38.88 | Blaine Tech |
| | 4/16/2018 | 73.40 | 34.26 | --- | --- | 39.14 | Blaine Tech |
| | 11/5/2018 | 73.40 | 34.43 | --- | --- | 38.97 | Blaine Tech |
| 4/16/2019 | 73.40 | 32.29 | --- | --- | 41.11 | Blaine Tech | |
| 11/1/2019 | 73.40 | 33.76 | --- | --- | 39.64 | Blaine Tech | |
| 5/4/2020 | 73.40 | 31.52 | --- | --- | 41.88 | Blaine Tech | |
| 11/2/2020 | 73.40 | 32.05 | --- | --- | 41.35 | 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|-----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| MW-SF-14 Continued | 4/16/2012 | 78.16 | NM | --- | --- | NC | Blaine Tech |
| | 7/9/2012 | 78.16 | NM | --- | --- | NC | Blaine Tech |
| | 10/15/2012 | 78.16 | 30.02 | --- | --- | 48.14 | Blaine Tech |
| | 4/8/2013 | 78.16 | 32.75 | --- | --- | 45.41 | Blaine Tech |
| | 5/24/2013 | 78.16 | 32.75 | --- | --- | 45.41 | Blaine Tech |
| | 9/26/2013 | 78.16 | 34.50 | 34.25 | 0.25 | 43.86 | Blaine Tech |
| | 10/7/2013 | 78.16 | NM | --- | --- | NC | Blaine Tech |
| | 11/14/2013 | 78.16 | 33.57 | 33.19 | 0.38 | 44.89 | Blaine Tech |
| | 4/14/2014 | 78.16 | 34.81 | 33.56 | 1.25 | 44.35 | Blaine Tech |
| | 8/8/2014 | 78.16 | 34.24 | 33.98 | 0.26 | 44.13 | Blaine Tech |
| | 10/14/2014 | 78.16 | 34.36 | 33.80 | 0.56 | 44.25 | Blaine Tech |
| | 10/23/2014 | 78.16 | 34.49 | 34.43 | 0.06 | 43.72 | Blaine Tech |
| | 10/27/2014 | 78.16 | 34.40 | 33.97 | 0.43 | 44.10 | Blaine Tech |
| | 11/18/2014 | 78.16 | 34.27 | 34.07 | 0.20 | 44.05 | Blaine Tech |
| | 4/20/2015 | 78.16 | 34.48 | --- | --- | 43.68 | Blaine Tech |
| | 10/21/2015 | 78.16 | 35.25 | --- | --- | 42.91 | Blaine Tech |
| | 3/14/2016 | 78.16 | 36.21 | --- | --- | 41.95 | Blaine Tech |
| | 4/11/2016 | 78.16 | 37.14 | --- | --- | 41.02 | Blaine Tech |
| | 6/29/2016 | 78.16 | 37.36 | --- | --- | 40.80 | Blaine Tech |
| | 8/22/2016 | 78.16 | DRY | --- | --- | NC | Blaine Tech |
| | 10/3/2016 | 78.16 | DRY | --- | --- | NC | Blaine Tech |
| | 4/17/2017 | 78.16 | 35.40 | --- | --- | 42.76 | Blaine Tech |
| | 10/2/2017 | 78.16 | DRY | --- | --- | NC | Blaine Tech |
| 4/16/2018 | 78.16 | DRY | --- | --- | NC | Blaine Tech | |
| 11/5/2018 | 78.16 | DRY | --- | --- | NC | Blaine Tech | |
| 4/16/2019 | 78.16 | DRY | --- | --- | NC | Blaine Tech | |
| 10/28/2019 | 78.16 | DRY | --- | --- | NC | Blaine Tech | |
| 5/4/2020 | 78.16 | DRY | --- | --- | NC | Blaine Tech | |
| 11/2/2020 | 78.16 | DRY | --- | --- | NC | Blaine Tech | |
| MW-SF-15 | 8/14/2007 | 78.27 | 27.78 | 27.75 | 0.03 | 50.51 | Geomatrix |
| | 8/21/2007 | 78.27 | 27.69 | 27.65 | 0.04 | 50.61 | Geomatrix |
| | 8/28/2007 | 78.27 | 27.65 | 27.61 | 0.04 | 50.65 | Stantec |
| | 9/11/2007 | 78.27 | 27.62 | --- | --- | 50.65 | Geomatrix |
| | 10/5/2007 | 78.27 | 28.15 | --- | --- | 50.12 | Geomatrix |
| | 11/2/2007 | 78.27 | 30.45 | 30.20 | 0.25 | 48.02 | Geomatrix |
| | 11/12/2007 | 78.27 | 28.75 | --- | --- | 49.52 | Stantec |
| | 8/15/2008 | 78.27 | 30.12 | 29.35 | 0.77 | 48.77 | Envent |
| | 10/17/2008 | 78.27 | 30.80 | 29.44 | 1.36 | 48.56 | Envent |
| | 10/21/2008 | 78.27 | 30.80 | 29.31 | 1.49 | 48.66 | Envent |
| | 12/18/2008 | 78.27 | 32.11 | 30.56 | 1.55 | 47.40 | Envent |
| | 1/15/2009 | 78.27 | 31.75 | 29.70 | 2.05 | 48.16 | Envent |
| | 3/24/2009 | 78.27 | 30.32 | 29.93 | 0.39 | 48.26 | Envent |
| | 4/21/2009 | 78.27 | 29.96 | 29.60 | 0.36 | 48.60 | Envent |
| | 7/21/2009 | 78.27 | 30.45 | --- | --- | 47.82 | Envent |
| | 10/19/2009 | 78.27 | NM | --- | --- | NC | Blaine Tech |
| | 11/4/2009 | 78.27 | 31.10 | 30.45 | 0.36 | 47.46 | Kinder Morgan |
| | 12/9/2009 | 78.27 | 30.87 | --- | --- | 47.40 | Kinder Morgan |
| | 10/4/2010 | 78.27 | 30.66 | 30.65 | 0.01 | 47.62 | Blaine Tech |
| | 4/12/2011 | 78.27 | 30.50 | 29.40 | 1.10 | 48.65 | Blaine Tech |
| | 10/10/2011 | 78.27 | 29.60 | --- | --- | 48.67 | Blaine Tech |
| | 12/2/2011 | 78.27 | 31.40 | 30.05 | 1.35 | 47.95 | Blaine Tech |
| | 4/16/2012 | 78.27 | 32.48 | 32.39 | 0.09 | 45.86 | Blaine Tech |
| | 7/9/2012 | 78.27 | NM | --- | --- | NC | Blaine Tech |
| | 10/15/2012 | 78.16 | 33.04 | --- | --- | 45.12 | Blaine Tech |
| | 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 | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|-----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| MW-SF-15 Continued | 11/14/2013 | 78.27 | 33.41 | 33.38 | 0.03 | 44.88 | Blaine Tech |
| | 4/18/2014 | 78.27 | 33.85 | --- | --- | 44.42 | Blaine Tech |
| | 8/8/2014 | 78.27 | 34.87 | 33.96 | 0.91 | 44.13 | Blaine Tech |
| | 8/13/2014 | 78.27 | 34.89 | 33.95 | 0.94 | 44.13 | Blaine Tech |
| | 8/19/2014 | 78.27 | 34.90 | 33.94 | 0.96 | 44.14 | Blaine Tech |
| | 8/29/2014 | 78.27 | 35.65 | 35.38 | 0.27 | 42.84 | Blaine Tech |
| | 10/27/2014 | 78.27 | 35.82 | --- | --- | 42.45 | Blaine Tech |
| | 4/20/2015 | 78.27 | 36.63 | 34.12 | 2.51 | 43.65 | Blaine Tech |
| | 10/19/2015 | 78.27 | 37.90 | 34.87 | 3.03 | 42.79 | Blaine Tech |
| | 11/17/2015 | 78.27 | 37.71 | 35.36 | 2.35 | 42.44 | Kinder Morgan |
| | 3/14/2016 | 78.27 | 39.70 | --- | --- | 38.57 | Blaine Tech |
| | 4/11/2016 | 78.27 | 37.24 | --- | --- | 41.03 | Blaine Tech |
| | 6/29/2016 | 78.27 | 38.70 | --- | --- | 39.57 | Blaine Tech |
| | 8/22/2016 | 78.27 | 38.78 | --- | --- | 39.49 | Blaine Tech |
| | 10/3/2016 | 78.27 | 39.56 | --- | --- | 38.71 | Blaine Tech |
| | 3/23/2017 | 78.27 | 36.10 | --- | --- | 42.17 | CH2M |
| | 4/17/2017 | 78.27 | 35.39 | --- | --- | 42.88 | Blaine Tech |
| | 10/2/2017 | 78.27 | 39.40 | --- | --- | 38.87 | Blaine Tech |
| | 4/16/2018 | 78.27 | 39.10 | --- | --- | 39.17 | Blaine Tech |
| | 11/5/2018 | 78.27 | 39.00 | --- | --- | 39.27 | Blaine Tech |
| 4/23/2019 | 78.27 | 36.15 | --- | --- | 42.12 | Blaine Tech | |
| 10/28/2019 | 78.27 | 38.92 | --- | --- | 39.35 | Blaine Tech | |
| 5/4/2020 | 78.27 | 36.37 | --- | --- | 41.90 | Blaine Tech | |
| 11/2/2020 | 78.27 | 36.72 | --- | --- | 41.55 | Blaine Tech | |
| MW-SF-16 | 8/14/2007 | 78.21 | 27.68 | --- | --- | 50.53 | Geomatrix |
| | 8/21/2007 | 78.21 | 27.33 | --- | --- | 50.88 | Geomatrix |
| | 8/28/2007 | 78.21 | 27.51 | --- | --- | 50.70 | Stantec |
| | 9/11/2007 | 78.21 | 27.59 | --- | --- | 50.62 | Geomatrix |
| | 10/5/2007 | 78.21 | 28.10 | --- | --- | 50.11 | Geomatrix |
| | 11/2/2007 | 78.21 | 29.81 | --- | --- | 48.40 | Geomatrix |
| | 11/12/2007 | 78.21 | 28.40 | --- | --- | 49.81 | Stantec |
| | 8/15/2008 | 78.21 | 29.36 | --- | --- | 48.85 | Envent |
| | 10/17/2008 | 78.21 | 29.51 | --- | --- | 48.70 | Envent |
| | 12/18/2008 | 78.21 | 30.94 | --- | --- | 47.27 | Envent |
| | 1/15/2009 | 78.21 | 30.01 | 30.00 | 0.01 | 48.21 | Envent |
| | 3/24/2009 | 78.21 | 29.82 | --- | --- | 48.39 | Envent |
| | 4/21/2009 | 78.21 | 29.60 | --- | --- | 48.61 | Envent |
| | 7/21/2009 | 78.21 | 30.36 | --- | --- | 47.85 | Envent |
| | 10/19/2009 | 78.21 | NM | --- | --- | NC | Blaine Tech |
| | 11/4/2009 | 78.21 | 30.58 | --- | --- | 47.63 | Kinder Morgan |
| | 2/4/2010 | 78.21 | 30.36 | --- | --- | 47.85 | Kinder Morgan |
| | 9/3/2010 | 78.21 | 30.25 | --- | --- | 47.96 | Kinder Morgan |
| | 10/4/2010 | 78.21 | 30.49 | --- | --- | 47.72 | Blaine Tech |
| | 4/12/2011 | 78.21 | 29.52 | --- | --- | 48.69 | Blaine Tech |
| | 10/10/2011 | 78.21 | 29.85 | --- | --- | 48.36 | Blaine Tech |
| | 4/16/2012 | 78.21 | NM | --- | --- | NC | Blaine Tech |
| | 7/9/2012 | 78.21 | NM | --- | --- | NC | Blaine Tech |
| | 10/15/2012 | 78.21 | 32.47 | --- | --- | 45.74 | Blaine Tech |
| | 4/8/2013 | 78.21 | 32.97 | 32.73 | 0.24 | 45.43 | Blaine Tech |
| | 5/24/2013 | 78.21 | 32.97 | 32.73 | 0.24 | 45.43 | Blaine Tech |
| | 10/7/2013 | 78.21 | NM | --- | --- | NC | Blaine Tech |
| | 11/14/2013 | 78.21 | 33.80 | 33.21 | 0.59 | 44.88 | Blaine Tech |
| | 4/18/2014 | 78.21 | 34.20 | 33.65 | 0.55 | 44.45 | Blaine Tech |
| | 8/8/2014 | 78.21 | 34.06 | 34.05 | 0.01 | 44.16 | Blaine Tech |
| 10/27/2014 | 78.21 | 34.25 | --- | --- | 43.96 | Blaine Tech | |
| 4/20/2015 | 78.21 | 34.52 | --- | --- | 43.69 | Blaine Tech | |
| 6/8/2015 | 78.21 | 35.17 | 35.00 | 0.17 | 43.18 | Blaine Tech | |

Table 9. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells

SFPP Norwalk Pump Station, Norwalk, California

| Well ID | Date Gauged | Top of Well Casing Elevation | Measured Depth to Groundwater | Measured Depth to Product | Apparent Product Thickness | Corrected Groundwater Elevation | Gauged By |
|-----------------------|-------------|------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------------|---------------|
| | | (feet msl) | (feet btoc) | (feet btoc) | (feet) | (feet msl) | |
| MW-SF-16 continued | 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 |
| | 4/16/2018 | 78.21 | DRY | --- | --- | NC | Blaine Tech |
| | 11/5/2018 | 78.21 | DRY | --- | --- | NC | Blaine Tech |
| | 4/16/2019 | 78.21 | DRY | --- | --- | NC | Blaine Tech |
| | 10/28/2019 | 78.21 | DRY | --- | --- | NC | Blaine Tech |
| 5/4/2020 | 78.21 | DRY | --- | --- | NC | Blaine Tech | |
| 11/2/2020 | 78.21 | DRY | --- | --- | NC | Blaine Tech | |

Notes:

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

--- = not detected or not applicable

DRY = no measurable water observed in the well

feet btoc = feet below top of casing

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

NC = not calculated

NM = not measured

Figures

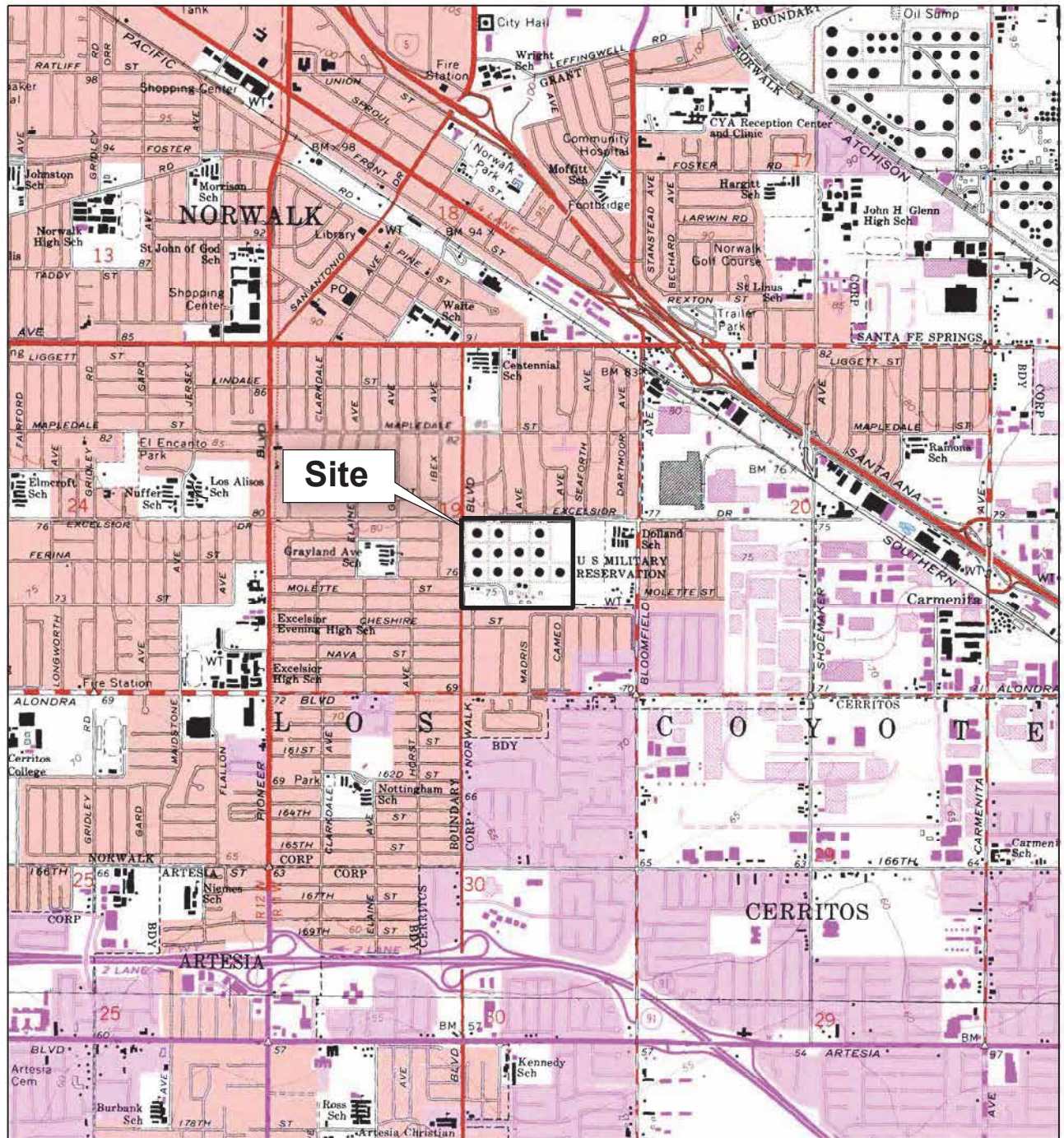
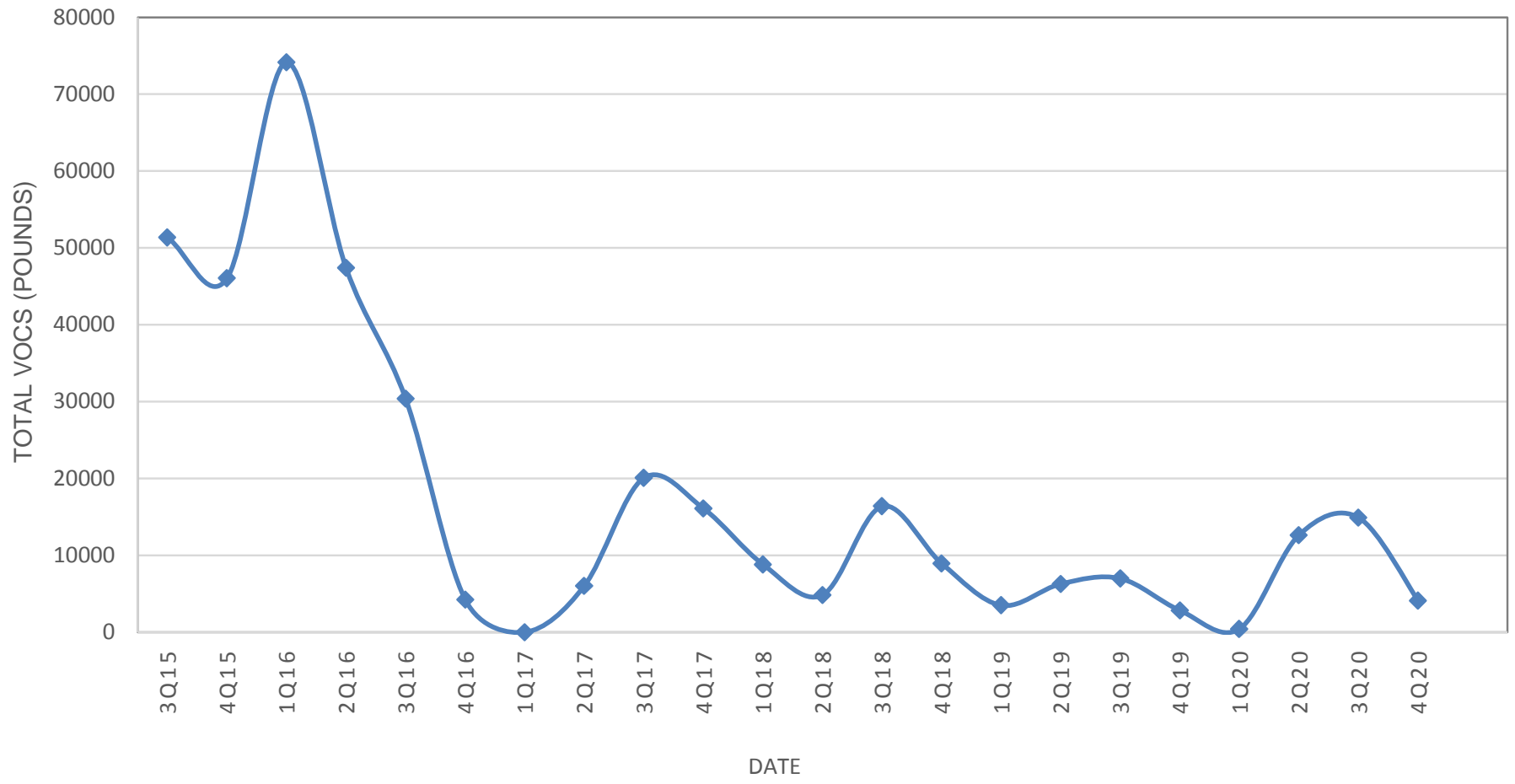


Figure 1. Site Location Map
 SFPP Norwalk Pump Station
 Norwalk, California

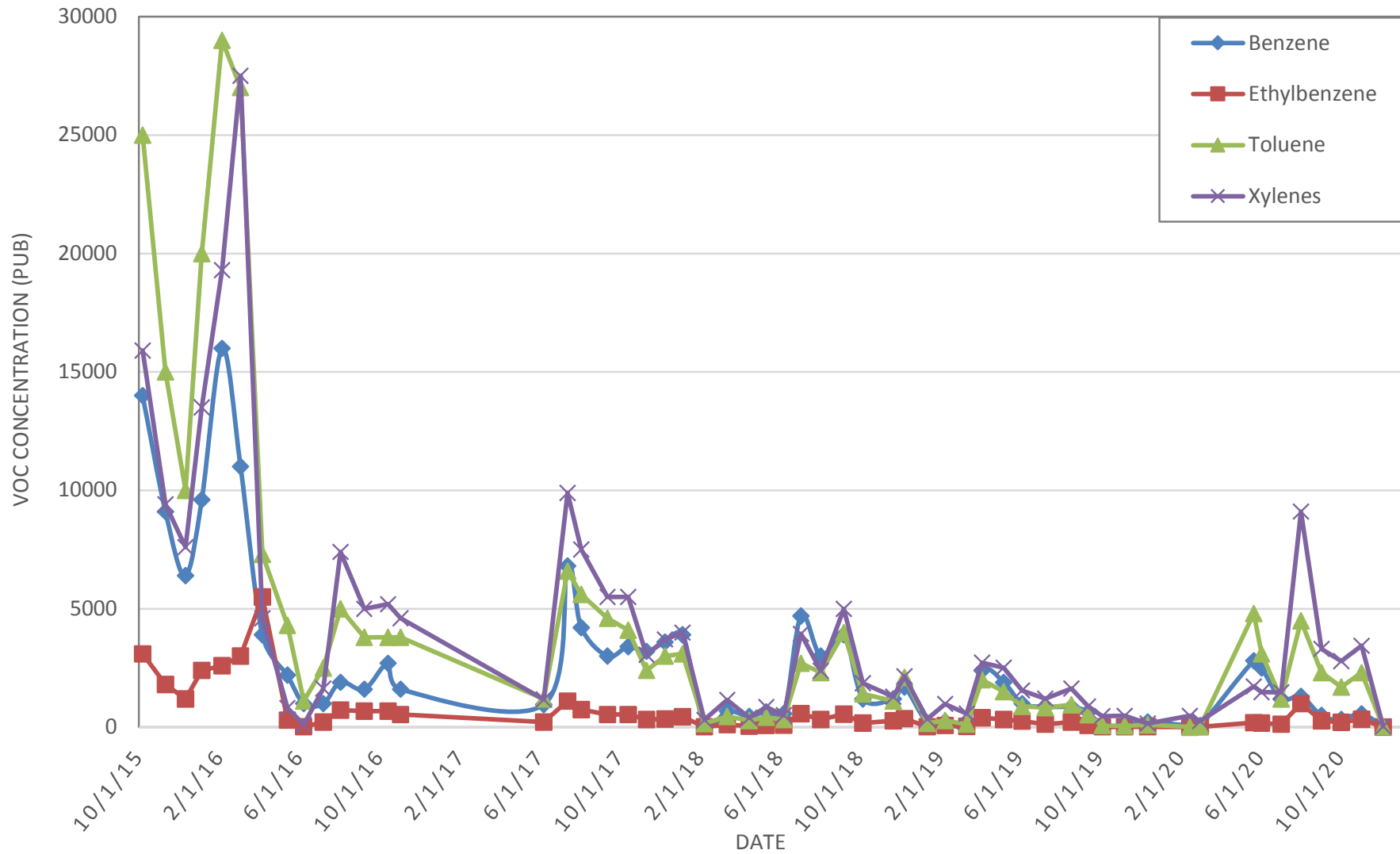
BASEMAP MODIFIED FROM U.S.G.S. 7.5 MINUTE QUADRANGLE MAP
 LOS ALAMITOS 1964, CALIFORNIA. PHOTO-REVISED 1981.
 WHITTIER 1965, CALIFORNIA. PHOTO-REVISED 1981.

Jacobs



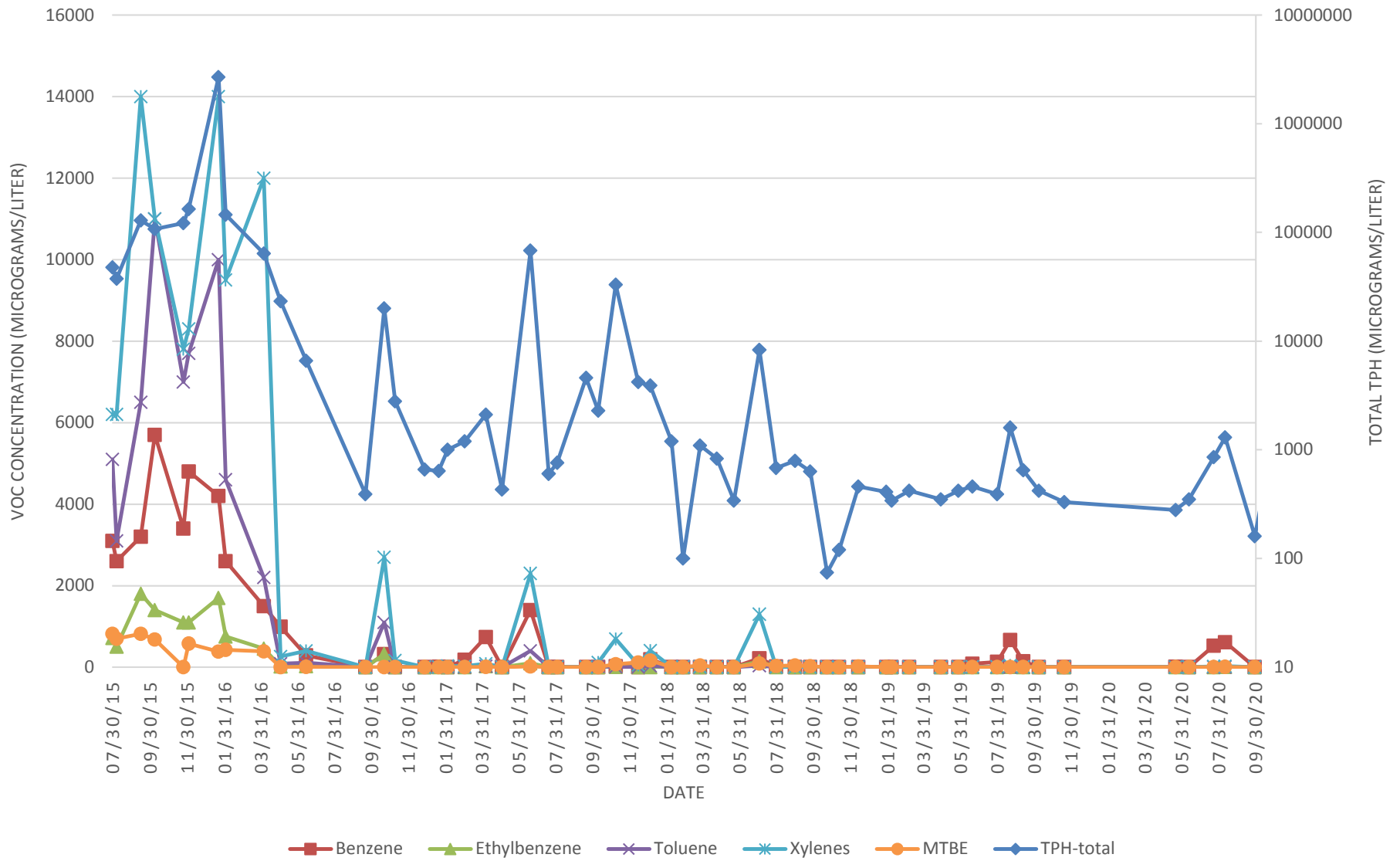
Note:
 VOC = volatile organic compound

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



Note:
 VOC = volatile organic compound

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



Note:
VOC = volatile organic compound

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

Appendix A
Laboratory Analytical Reports

November 02, 2020

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

TEL:

FAX:

Workorder No.: N042771

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on October 27, 2020 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,



Nancy Sibucan
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 ASSET Laboratories - Las Vegas.



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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: N042771

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.



CLIENT: CH2MHill
Project: SFPP Norwalk
Lab Order: N042771
Contract No:

Work Order Sample Summary

| Lab Sample ID | Client Sample ID | Matrix | Collection Date | Date Received | Date Reported |
|---------------|------------------|------------|------------------------|---------------|---------------|
| N042771-001A | INF-102720 | Wastewater | 10/27/2020 10:00:00 AM | 10/27/2020 | 11/2/2020 |
| N042771-001B | INF-102720 | Wastewater | 10/27/2020 10:00:00 AM | 10/27/2020 | 11/2/2020 |
| N042771-001C | INF-102720 | Wastewater | 10/27/2020 10:00:00 AM | 10/27/2020 | 11/2/2020 |



ASSET Laboratories

ANALYTICAL RESULTS

Print Date: 02-Nov-20

CLIENT: CH2MHill
Lab Order: N042771
Project: SFPP Norwalk
Lab ID: N042771-001

Client Sample ID: INF-102720
Collection Date: 10/27/2020 10:00:00 AM
Matrix: WASTEWATER

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed |
|----------|--------|-----|-----|------|-------|----|---------------|
|----------|--------|-----|-----|------|-------|----|---------------|

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

| RunID: | CA01638-MS08_201028A | QC Batch: | R20VW015 | PrepDate: | Analyst: | AW |
|-----------------------------|----------------------|-----------|----------|-----------|----------|---------------------|
| 1,1,1,2-Tetrachloroethane | ND | 0.25 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,1,1-Trichloroethane | ND | 0.20 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,1,2,2-Tetrachloroethane | ND | 0.11 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,1,2-Trichloroethane | ND | 0.23 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,1-Dichloroethane | ND | 0.22 | 0.50 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,1-Dichloroethene | ND | 0.17 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,1-Dichloropropene | ND | 0.16 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,2,3-Trichlorobenzene | ND | 0.37 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,2,3-Trichloropropane | ND | 0.23 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,2,4-Trichlorobenzene | ND | 0.10 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,2,4-Trimethylbenzene | 5.2 | 0.060 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,2-Dibromo-3-chloropropane | ND | 0.32 | 2.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,2-Dibromoethane | ND | 0.19 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,2-Dichlorobenzene | ND | 0.089 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,2-Dichloroethane | 0.18 | 0.16 | 0.50 | J ug/L | 1 | 10/28/2020 12:52 PM |
| 1,2-Dichloropropane | ND | 0.16 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,3,5-Trimethylbenzene | 2.4 | 0.051 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,3-Dichlorobenzene | ND | 0.081 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,3-Dichloropropane | ND | 0.13 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 1,4-Dichlorobenzene | ND | 0.080 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 2,2-Dichloropropane | ND | 0.22 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 2-Butanone | ND | 4.7 | 10 | ug/L | 1 | 10/28/2020 12:52 PM |
| 2-Chlorotoluene | ND | 0.090 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 4-Chlorotoluene | ND | 0.065 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 4-Isopropyltoluene | ND | 0.085 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| 4-Methyl-2-pentanone | ND | 0.83 | 10 | ug/L | 1 | 10/28/2020 12:52 PM |
| Acetone | 5.8 | 4.6 | 10 | J ug/L | 1 | 10/28/2020 12:52 PM |
| Benzene | 270 | 1.1 | 10 | ug/L | 10 | 10/28/2020 01:40 PM |
| Bromobenzene | ND | 0.093 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Bromochloromethane | ND | 0.26 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Bromodichloromethane | ND | 0.20 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Bromoform | ND | 0.23 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Bromomethane | ND | 0.38 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Carbon disulfide | ND | 0.19 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Carbon tetrachloride | ND | 0.33 | 0.50 | ug/L | 1 | 10/28/2020 12:52 PM |
| Chlorobenzene | ND | 0.11 | 1.0 | ug/L | 1 | 10/28/2020 12:52 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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ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

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ASSET Laboratories

ANALYTICAL RESULTS

Print Date: 02-Nov-20

CLIENT: CH2MHill
Lab Order: N042771
Project: SFPP Norwalk
Lab ID: N042771-001

Client Sample ID: INF-102720
Collection Date: 10/27/2020 10:00:00 AM
Matrix: WASTEWATER

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed |
|----------|--------|-----|-----|------|-------|----|---------------|
|----------|--------|-----|-----|------|-------|----|---------------|

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

| RunID: | CA01638-MS08_201028A | QC Batch: | R20VW015 | PrepDate: | Analyst: | AW |
|-----------------------------|----------------------|-----------|----------|-----------|----------|---------------------|
| Chloroethane | ND | 0.69 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Chloroform | ND | 0.38 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Chloromethane | ND | 0.23 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| cis-1,2-Dichloroethene | ND | 0.11 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| cis-1,3-Dichloropropene | ND | 0.16 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Di-isopropyl ether | 4.0 | 0.15 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Dibromochloromethane | ND | 0.23 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Dibromomethane | ND | 0.13 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Dichlorodifluoromethane | ND | 0.16 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Ethyl tert-butyl ether | ND | 0.10 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Ethylbenzene | 1.9 | 0.11 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Freon-113 | ND | 0.28 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Hexachlorobutadiene | ND | 0.30 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Isopropylbenzene | 1.3 | 0.092 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| m,p-Xylene | 6.1 | 0.23 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Methylene chloride | ND | 1.2 | 2.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| MTBE | 1.0 | 0.44 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| n-Butylbenzene | 0.21 | 0.093 | 1.0 | J ug/L | 1 | 10/28/2020 12:52 PM |
| n-Propylbenzene | 2.0 | 0.10 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Naphthalene | 19 | 0.41 | 1.0 | ug/L | 1 | 10/29/2020 07:35 PM |
| o-Xylene | 0.71 | 0.087 | 1.0 | J ug/L | 1 | 10/28/2020 12:52 PM |
| sec-Butylbenzene | 0.22 | 0.076 | 1.0 | J ug/L | 1 | 10/28/2020 12:52 PM |
| Styrene | ND | 0.41 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Tert-amyl methyl ether | ND | 0.13 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Tert-Butanol | 8.7 | 2.8 | 5.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| tert-Butylbenzene | ND | 0.10 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Tetrachloroethene | ND | 0.25 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Toluene | 1.0 | 0.13 | 2.0 | J ug/L | 1 | 10/28/2020 12:52 PM |
| trans-1,2-Dichloroethene | ND | 0.27 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| trans-1,3-Dichloropropene | ND | 0.12 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Trichloroethene | ND | 0.26 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Trichlorofluoromethane | ND | 0.23 | 1.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Vinyl chloride | ND | 0.19 | 0.50 | ug/L | 1 | 10/28/2020 12:52 PM |
| Xylenes, Total | 6.8 | 1.5 | 2.0 | ug/L | 1 | 10/28/2020 12:52 PM |
| Surr: 1,2-Dichloroethane-d4 | 99.4 | 0 | 72-119 | %REC | 10 | 10/28/2020 01:40 PM |
| Surr: 1,2-Dichloroethane-d4 | 104 | 0 | 72-119 | %REC | 1 | 10/29/2020 07:35 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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ANALYTICAL RESULTS

Print Date: 02-Nov-20

CLIENT: CH2MHill
Lab Order: N042771
Project: SFPP Norwalk
Lab ID: N042771-001

Client Sample ID: INF-102720
Collection Date: 10/27/2020 10:00:00 AM
Matrix: WASTEWATER

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed |
|----------|--------|-----|-----|------|-------|----|---------------|
|----------|--------|-----|-----|------|-------|----|---------------|

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

| RunID: | CA01638-MS08_201028A | QC Batch: | R20VW015 | PrepDate: | Analyst: | AW | |
|--------|-----------------------|-----------|----------|-----------|----------|----|---------------------|
| Surr: | 1,2-Dichloroethane-d4 | 91.0 | 0 | 72-119 | %REC | 1 | 10/28/2020 12:52 PM |
| Surr: | 4-Bromofluorobenzene | 101 | 0 | 76-119 | %REC | 1 | 10/29/2020 07:35 PM |
| Surr: | 4-Bromofluorobenzene | 98.9 | 0 | 76-119 | %REC | 10 | 10/28/2020 01:40 PM |
| Surr: | 4-Bromofluorobenzene | 103 | 0 | 76-119 | %REC | 1 | 10/28/2020 12:52 PM |
| Surr: | Dibromofluoromethane | 88.4 | 0 | 85-115 | %REC | 1 | 10/28/2020 12:52 PM |
| Surr: | Dibromofluoromethane | 100 | 0 | 85-115 | %REC | 1 | 10/29/2020 07:35 PM |
| Surr: | Dibromofluoromethane | 95.3 | 0 | 85-115 | %REC | 10 | 10/28/2020 01:40 PM |
| Surr: | Toluene-d8 | 97.0 | 0 | 81-120 | %REC | 1 | 10/28/2020 12:52 PM |
| Surr: | Toluene-d8 | 102 | 0 | 81-120 | %REC | 10 | 10/28/2020 01:40 PM |
| Surr: | Toluene-d8 | 99.2 | 0 | 81-120 | %REC | 1 | 10/29/2020 07:35 PM |

TPH EXTRACTABLE BY GC/FID

EPA 3510C

EPA 8015B

| RunID: | NV00922-GC1_201027C | QC Batch: | 82783 | PrepDate: | 10/28/2020 | Analyst: | PL |
|----------------------|---------------------|-----------|--------|-----------|------------|---------------------|----|
| TPH-Diesel (C13-C22) | 260 | 16 | 27 | ug/L | 1 | 10/29/2020 12:10 PM | |
| TPH-Oil (C23-C36) | 120 | 15 | 27 | ug/L | 1 | 10/29/2020 12:10 PM | |
| Surr: Octacosane | 90.9 | 0 | 26-152 | %REC | 1 | 10/29/2020 12:10 PM | |
| Surr: p-Terphenyl | 83.8 | 0 | 57-132 | %REC | 1 | 10/29/2020 12:10 PM | |

GASOLINE RANGE ORGANICS BY GC/FID

EPA 8015B

| RunID: | NV00922-GC4_201028A | QC Batch: | E20VW106 | PrepDate: | Analyst: | BH |
|--------------------------|---------------------|-----------|----------|-----------|----------|---------------------|
| TPH-Gasoline (C4-C12) | 660 | 21 | 50 | ug/L | 1 | 10/28/2020 11:48 AM |
| Surr: Chlorobenzene - d5 | 106 | 0 | 74-138 | %REC | 1 | 10/28/2020 11:48 AM |

TOTAL TPH

EPA 8015B

| RunID: | NV00922-GC1_201027C | QC Batch: | R148336 | PrepDate: | Analyst: | PL |
|-----------|---------------------|-----------|---------|-----------|----------|------------|
| Total TPH | 1000 | 21 | 100 | ug/L | 1 | 10/29/2020 |

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



ASSET LABORATORIES
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CLIENT: CH2MHill
Work Order: N042771
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_FP_SFPP

| | | | | | | | | | | | |
|----------------------------|------------------------|------------------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: MB-82783 | SampType: MBLK | TestCode: 8015_W_FP_ | Units: ug/L | Prep Date: 10/28/2020 | RunNo: 148336 | | | | | | |
| Client ID: PBW | Batch ID: 82783 | TestNo: EPA 8015B EPA 3510C | | Analysis Date: 10/28/2020 | SeqNo: 3983878 | | | | | | |
| 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) | 18.036 | 25 | | | | | | | | | J |
| Surr: Octacosane | 61.697 | | 80.00 | | 77.1 | 26 | 152 | | | | |
| Surr: p-Terphenyl | 58.503 | | 80.00 | | 73.1 | 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: N042771
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_SFPPTOT

| Sample ID: MB-R148336 | SampType: MBLK | TestCode: 8015_W_SFP | Units: ug/L | Prep Date: | RunNo: 148336 | | | | | | |
|------------------------------|--------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: R148336 | TestNo: EPA 8015B | | Analysis Date: 10/29/2020 | SeqNo: 3983883 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Total TPH | 58.036 | 100 | | | | | | | | | 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 |



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CLIENT: CH2MHill
Work Order: N042771
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_WSFP

| | | | | | | | | | | | |
|------------------------------|---------------------------|-----------------------------|----------------------------------|-----------------------|----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: E201028LCS | SampType: LCS | TestCode: 8015GAS_WS | Units: ug/L | Prep Date: | RunNo: 148325 | | | | | | |
| Client ID: LCSW | Batch ID: E20VW106 | TestNo: EPA 8015B | Analysis Date: 10/28/2020 | SeqNo: 3982728 | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| TPH-Gasoline (C4-C12) | 832.000 | 50 | 1000 | 0 | 83.2 | 67 | 136 | | | | |
| Surr: Chlorobenzene - d5 | 46018.000 | | 50000 | | 92.0 | 74 | 138 | | | | |

| | | | | | | | | | | | |
|-----------------------------|---------------------------|-----------------------------|----------------------------------|-----------------------|----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: E201028MB | SampType: MBLK | TestCode: 8015GAS_WS | Units: ug/L | Prep Date: | RunNo: 148325 | | | | | | |
| Client ID: PBW | Batch ID: E20VW106 | TestNo: EPA 8015B | Analysis Date: 10/28/2020 | SeqNo: 3982729 | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| TPH-Gasoline (C4-C12) | 40.000 | 50 | | | | | | | | | J |
| Surr: Chlorobenzene - d5 | 54320.000 | | 50000 | | 109 | 74 | 138 | | | | |

| | | | | | | | | | | | |
|----------------------------------|---------------------------|-----------------------------|----------------------------------|-----------------------|----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: N042772-001BMS | SampType: MS | TestCode: 8015GAS_WS | Units: ug/L | Prep Date: | RunNo: 148325 | | | | | | |
| Client ID: ZZZZZ | Batch ID: E20VW106 | TestNo: EPA 8015B | Analysis Date: 10/28/2020 | SeqNo: 3982732 | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| TPH-Gasoline (C4-C12) | 1156.000 | 50 | 1000 | 40.00 | 112 | 67 | 136 | | | | |
| Surr: Chlorobenzene - d5 | 53301.000 | | 50000 | | 107 | 74 | 138 | | | | |

| | | | | | | | | | | | |
|-----------------------------------|---------------------------|-----------------------------|----------------------------------|-----------------------|----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: N042772-001BMSD | SampType: MSD | TestCode: 8015GAS_WS | Units: ug/L | Prep Date: | RunNo: 148325 | | | | | | |
| Client ID: ZZZZZ | Batch ID: E20VW106 | TestNo: EPA 8015B | Analysis Date: 10/28/2020 | SeqNo: 3982733 | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| TPH-Gasoline (C4-C12) | 943.000 | 50 | 1000 | 40.00 | 90.3 | 67 | 136 | 1156 | 20.3 | 30 | |
| Surr: Chlorobenzene - d5 | 46433.000 | | 50000 | | 92.9 | 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: N042771
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: P201029LCS | SampType: LCS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 148360 | | | | | | |
|------------------------------|---------------------------|-----------------------------|----------------------------------|-----------------------|----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: P20VW110 | TestNo: EPA 8260B | Analysis Date: 10/29/2020 | SeqNo: 3984970 | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Naphthalene | 20.400 | 1.0 | 20.00 | 0 | 102 | 54 | 138 | | | | |
| Surr: 1,2-Dichloroethane-d4 | 27.140 | | 25.00 | | 109 | 72 | 119 | | | | |
| Surr: 4-Bromofluorobenzene | 25.920 | | 25.00 | | 104 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 26.750 | | 25.00 | | 107 | 85 | 115 | | | | |
| Surr: Toluene-d8 | 25.470 | | 25.00 | | 102 | 81 | 120 | | | | |

| Sample ID: N042737-003AMS | SampType: MS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 148360 | | | | | | |
|----------------------------------|---------------------------|-----------------------------|----------------------------------|-----------------------|----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: ZZZZZ | Batch ID: P20VW110 | TestNo: EPA 8260B | Analysis Date: 10/29/2020 | SeqNo: 3984971 | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Naphthalene | 17.020 | 1.0 | 20.00 | 0 | 85.1 | 54 | 138 | | | | |
| Surr: 1,2-Dichloroethane-d4 | 23.850 | | 25.00 | | 95.4 | 72 | 119 | | | | |
| Surr: 4-Bromofluorobenzene | 25.080 | | 25.00 | | 100 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 24.920 | | 25.00 | | 99.7 | 85 | 115 | | | | |
| Surr: Toluene-d8 | 25.810 | | 25.00 | | 103 | 81 | 120 | | | | |

| Sample ID: N042737-003AMSD | SampType: MSD | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 148360 | | | | | | |
|-----------------------------------|---------------------------|-----------------------------|----------------------------------|-----------------------|----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: ZZZZZ | Batch ID: P20VW110 | TestNo: EPA 8260B | Analysis Date: 10/29/2020 | SeqNo: 3984972 | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Naphthalene | 16.790 | 1.0 | 20.00 | 0 | 84.0 | 54 | 138 | 17.02 | 1.36 | 20 | |
| Surr: 1,2-Dichloroethane-d4 | 24.600 | | 25.00 | | 98.4 | 72 | 119 | | 0 | | |
| Surr: 4-Bromofluorobenzene | 25.040 | | 25.00 | | 100 | 76 | 119 | | 0 | | |
| Surr: Dibromofluoromethane | 25.190 | | 25.00 | | 101 | 85 | 115 | | 0 | | |
| Surr: Toluene-d8 | 25.110 | | 25.00 | | 100 | 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: N042771
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: P201029MB5 | SampType: MBLK | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 148360 | | | | | | |
|------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: P20VW110 | TestNo: EPA 8260B | | Analysis Date: 10/29/2020 | SeqNo: 3984973 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Naphthalene | ND | 1.0 | | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 23.430 | | 25.00 | | 93.7 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 25.310 | | 25.00 | | 101 | 85 | 115 | | | | |
| Surr: Toluene-d8 | 25.340 | | 25.00 | | 101 | 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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CLIENT: CH2MHill
Work Order: N042771
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: R201028-LCS | SampType: LCS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 148328 | | | | | | |
|-------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: R20VW015 | TestNo: EPA 8260B | | Analysis Date: 10/28/2020 | SeqNo: 3982799 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,1,1,2-Tetrachloroethane | 20.030 | 1.0 | 20.00 | 0 | 100 | 81 | 129 | | | | |
| 1,1,1-Trichloroethane | 19.850 | 1.0 | 20.00 | 0 | 99.2 | 67 | 132 | | | | |
| 1,1,2,2-Tetrachloroethane | 20.340 | 1.0 | 20.00 | 0 | 102 | 63 | 128 | | | | |
| 1,1,2-Trichloroethane | 20.510 | 1.0 | 20.00 | 0 | 103 | 75 | 125 | | | | |
| 1,1-Dichloroethane | 19.940 | 0.50 | 20.00 | 0 | 99.7 | 69 | 133 | | | | |
| 1,1-Dichloroethene | 18.280 | 1.0 | 20.00 | 0 | 91.4 | 68 | 130 | | | | |
| 1,1-Dichloropropene | 20.510 | 1.0 | 20.00 | 0 | 103 | 73 | 132 | | | | |
| 1,2,3-Trichlorobenzene | 22.420 | 1.0 | 20.00 | 0 | 112 | 67 | 137 | | | | |
| 1,2,3-Trichloropropane | 21.300 | 1.0 | 20.00 | 0 | 106 | 73 | 124 | | | | |
| 1,2,4-Trichlorobenzene | 21.650 | 1.0 | 20.00 | 0 | 108 | 66 | 134 | | | | |
| 1,2,4-Trimethylbenzene | 22.390 | 1.0 | 20.00 | 0 | 112 | 74 | 132 | | | | |
| 1,2-Dibromo-3-chloropropane | 20.170 | 2.0 | 20.00 | 0 | 101 | 50 | 132 | | | | |
| 1,2-Dibromoethane | 20.750 | 1.0 | 20.00 | 0 | 104 | 80 | 121 | | | | |
| 1,2-Dichlorobenzene | 20.690 | 1.0 | 20.00 | 0 | 103 | 71 | 122 | | | | |
| 1,2-Dichloroethane | 21.160 | 0.50 | 20.00 | 0 | 106 | 69 | 132 | | | | |
| 1,2-Dichloropropane | 19.840 | 1.0 | 20.00 | 0 | 99.2 | 75 | 125 | | | | |
| 1,3,5-Trimethylbenzene | 22.630 | 1.0 | 20.00 | 0 | 113 | 74 | 131 | | | | |
| 1,3-Dichlorobenzene | 20.680 | 1.0 | 20.00 | 0 | 103 | 75 | 124 | | | | |
| 1,3-Dichloropropane | 20.880 | 1.0 | 20.00 | 0 | 104 | 73 | 126 | | | | |
| 1,4-Dichlorobenzene | 20.470 | 1.0 | 20.00 | 0 | 102 | 74 | 123 | | | | |
| 2,2-Dichloropropane | 19.420 | 1.0 | 20.00 | 0 | 97.1 | 69 | 137 | | | | |
| 2-Butanone | 215.060 | 10 | 200.0 | 0 | 108 | 49 | 136 | | | | |
| 2-Chlorotoluene | 21.360 | 1.0 | 20.00 | 0 | 107 | 73 | 126 | | | | |
| 4-Chlorotoluene | 22.140 | 1.0 | 20.00 | 0 | 111 | 74 | 128 | | | | |
| 4-Isopropyltoluene | 24.600 | 1.0 | 20.00 | 0 | 123 | 73 | 130 | | | | |
| 4-Methyl-2-pentanone | 226.050 | 10 | 200.0 | 0 | 113 | 58 | 134 | | | | |
| Acetone | 228.780 | 10 | 200.0 | 0 | 114 | 40 | 135 | | | | |
| Benzene | 19.940 | 1.0 | 20.00 | 0 | 99.7 | 81 | 122 | | | | |
| Bromobenzene | 19.910 | 1.0 | 20.00 | 0 | 99.6 | 76 | 124 | | | | |
| Bromochloromethane | 19.610 | 1.0 | 20.00 | 0 | 98.0 | 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 |

CLIENT: CH2MHill
Work Order: N042771
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: R201028-LCS | SampType: LCS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 148328 | | | | | | |
|-------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: R20VW015 | TestNo: EPA 8260B | | Analysis Date: 10/28/2020 | SeqNo: 3982799 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Bromodichloromethane | 21.240 | 1.0 | 20.00 | 0 | 106 | 76 | 121 | | | | |
| Bromoform | 20.620 | 1.0 | 20.00 | 0 | 103 | 69 | 128 | | | | |
| Bromomethane | 20.430 | 1.0 | 20.00 | 0 | 102 | 53 | 141 | | | | |
| Carbon disulfide | 16.120 | 1.0 | 20.00 | 0 | 80.6 | 75 | 125 | | | | |
| Carbon tetrachloride | 20.410 | 0.50 | 20.00 | 0 | 102 | 66 | 138 | | | | |
| Chlorobenzene | 20.090 | 1.0 | 20.00 | 0 | 100 | 81 | 122 | | | | |
| Chloroethane | 17.470 | 1.0 | 20.00 | 0 | 87.4 | 58 | 133 | | | | |
| Chloroform | 19.950 | 1.0 | 20.00 | 0 | 99.8 | 69 | 128 | | | | |
| Chloromethane | 16.150 | 1.0 | 20.00 | 0 | 80.8 | 56 | 131 | | | | |
| cis-1,2-Dichloroethene | 19.290 | 1.0 | 20.00 | 0 | 96.5 | 72 | 126 | | | | |
| cis-1,3-Dichloropropene | 20.480 | 1.0 | 20.00 | 0 | 102 | 69 | 131 | | | | |
| Di-isopropyl ether | 19.520 | 1.0 | 20.00 | 0 | 97.6 | 70 | 130 | | | | |
| Dibromochloromethane | 20.930 | 1.0 | 20.00 | 0 | 105 | 66 | 133 | | | | |
| Dibromomethane | 20.650 | 1.0 | 20.00 | 0 | 103 | 76 | 125 | | | | |
| Dichlorodifluoromethane | 13.920 | 1.0 | 20.00 | 0 | 69.6 | 53 | 153 | | | | |
| Ethyl tert-butyl ether | 19.240 | 1.0 | 20.00 | 0 | 96.2 | 70 | 130 | | | | |
| Ethylbenzene | 20.560 | 1.0 | 20.00 | 0 | 103 | 73 | 127 | | | | |
| Freon-113 | 18.760 | 1.0 | 20.00 | 0 | 93.8 | 75 | 125 | | | | |
| Hexachlorobutadiene | 20.080 | 1.0 | 20.00 | 0 | 100 | 67 | 131 | | | | |
| Isopropylbenzene | 21.660 | 1.0 | 20.00 | 0 | 108 | 75 | 127 | | | | |
| m,p-Xylene | 43.480 | 1.0 | 40.00 | 0 | 109 | 76 | 128 | | | | |
| Methylene chloride | 21.490 | 2.0 | 20.00 | 0 | 107 | 63 | 137 | | | | |
| MTBE | 19.240 | 1.0 | 20.00 | 0 | 96.2 | 65 | 123 | | | | |
| n-Butylbenzene | 22.640 | 1.0 | 20.00 | 0 | 113 | 69 | 137 | | | | |
| n-Propylbenzene | 21.600 | 1.0 | 20.00 | 0 | 108 | 72 | 129 | | | | |
| o-Xylene | 21.420 | 1.0 | 20.00 | 0 | 107 | 80 | 121 | | | | |
| sec-Butylbenzene | 22.880 | 1.0 | 20.00 | 0 | 114 | 72 | 127 | | | | |
| Styrene | 22.050 | 1.0 | 20.00 | 0 | 110 | 65 | 134 | | | | |
| Tert-amyl methyl ether | 18.580 | 1.0 | 20.00 | 0 | 92.9 | 70 | 130 | | | | |
| Tert-Butanol | 99.930 | 5.0 | 100.0 | 0 | 99.9 | 70 | 130 | | | | |

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: N042771
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: R201028-LCS | SampType: LCS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 148328 | | | | | | |
|-------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: R20VW015 | TestNo: EPA 8260B | | Analysis Date: 10/28/2020 | SeqNo: 3982799 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| tert-Butylbenzene | 22.460 | 1.0 | 20.00 | 0 | 112 | 70 | 129 | | | | |
| Tetrachloroethene | 19.430 | 1.0 | 20.00 | 0 | 97.2 | 66 | 128 | | | | |
| Toluene | 20.030 | 2.0 | 20.00 | 0 | 100 | 77 | 122 | | | | |
| trans-1,2-Dichloroethene | 18.990 | 1.0 | 20.00 | 0 | 95.0 | 63 | 137 | | | | |
| trans-1,3-Dichloropropene | 21.190 | 1.0 | 20.00 | 0 | 106 | 59 | 135 | | | | |
| Trichloroethene | 19.040 | 1.0 | 20.00 | 0 | 95.2 | 70 | 127 | | | | |
| Trichlorofluoromethane | 19.100 | 1.0 | 20.00 | 0 | 95.5 | 57 | 129 | | | | |
| Vinyl chloride | 16.790 | 0.50 | 20.00 | 0 | 84.0 | 50 | 134 | | | | |
| Xylenes, Total | 64.900 | 2.0 | 60.00 | 0 | 108 | 75 | 125 | | | | |
| Surr: 1,2-Dichloroethane-d4 | 25.450 | | 25.00 | | 102 | 72 | 119 | | | | |
| Surr: 4-Bromofluorobenzene | 26.250 | | 25.00 | | 105 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 24.740 | | 25.00 | | 99.0 | 85 | 115 | | | | |
| Surr: Toluene-d8 | 25.260 | | 25.00 | | 101 | 81 | 120 | | | | |

| Sample ID: N042772-001A-MS | SampType: MS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 148328 | | | | | | |
|-----------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: ZZZZZ | Batch ID: R20VW015 | TestNo: EPA 8260B | | Analysis Date: 10/28/2020 | SeqNo: 3982800 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,1,1,2-Tetrachloroethane | 19.210 | 1.0 | 20.00 | 0 | 96.0 | 81 | 129 | | | | |
| 1,1,1-Trichloroethane | 18.950 | 1.0 | 20.00 | 0 | 94.8 | 67 | 132 | | | | |
| 1,1,2,2-Tetrachloroethane | 19.300 | 1.0 | 20.00 | 0 | 96.5 | 63 | 128 | | | | |
| 1,1,2-Trichloroethane | 18.440 | 1.0 | 20.00 | 0 | 92.2 | 75 | 125 | | | | |
| 1,1-Dichloroethane | 18.120 | 0.50 | 20.00 | 0 | 90.6 | 69 | 133 | | | | |
| 1,1-Dichloroethene | 17.160 | 1.0 | 20.00 | 0 | 85.8 | 68 | 130 | | | | |
| 1,1-Dichloropropene | 20.000 | 1.0 | 20.00 | 0 | 100 | 73 | 132 | | | | |
| 1,2,3-Trichlorobenzene | 21.800 | 1.0 | 20.00 | 0 | 109 | 67 | 137 | | | | |
| 1,2,3-Trichloropropane | 20.400 | 1.0 | 20.00 | 0 | 102 | 73 | 124 | | | | |
| 1,2,4-Trichlorobenzene | 21.480 | 1.0 | 20.00 | 0 | 107 | 66 | 134 | | | | |
| 1,2,4-Trimethylbenzene | 22.000 | 1.0 | 20.00 | 0 | 110 | 74 | 132 | | | | |
| 1,2-Dibromo-3-chloropropane | 19.560 | 2.0 | 20.00 | 0 | 97.8 | 50 | 132 | | | | |

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: N042771
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: N042772-001A-MS | SampType: MS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 148328 | | | | | | |
|-----------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: ZZZZZZ | Batch ID: R20VW015 | TestNo: EPA 8260B | | Analysis Date: 10/28/2020 | SeqNo: 3982800 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,2-Dibromoethane | 18.900 | 1.0 | 20.00 | 0 | 94.5 | 80 | 121 | | | | |
| 1,2-Dichlorobenzene | 19.580 | 1.0 | 20.00 | 0 | 97.9 | 71 | 122 | | | | |
| 1,2-Dichloroethane | 19.630 | 0.50 | 20.00 | 0 | 98.2 | 69 | 132 | | | | |
| 1,2-Dichloropropane | 18.760 | 1.0 | 20.00 | 0 | 93.8 | 75 | 125 | | | | |
| 1,3,5-Trimethylbenzene | 22.030 | 1.0 | 20.00 | 0 | 110 | 74 | 131 | | | | |
| 1,3-Dichlorobenzene | 19.870 | 1.0 | 20.00 | 0 | 99.4 | 75 | 124 | | | | |
| 1,3-Dichloropropane | 19.580 | 1.0 | 20.00 | 0 | 97.9 | 73 | 126 | | | | |
| 1,4-Dichlorobenzene | 19.590 | 1.0 | 20.00 | 0 | 98.0 | 74 | 123 | | | | |
| 2,2-Dichloropropane | 19.160 | 1.0 | 20.00 | 0 | 95.8 | 69 | 137 | | | | |
| 2-Butanone | 135.070 | 10 | 200.0 | 0 | 67.5 | 49 | 136 | | | | |
| 2-Chlorotoluene | 21.170 | 1.0 | 20.00 | 0 | 106 | 73 | 126 | | | | |
| 4-Chlorotoluene | 21.320 | 1.0 | 20.00 | 0 | 107 | 74 | 128 | | | | |
| 4-Isopropyltoluene | 23.740 | 1.0 | 20.00 | 0 | 119 | 73 | 130 | | | | |
| 4-Methyl-2-pentanone | 204.310 | 10 | 200.0 | 0 | 102 | 58 | 134 | | | | |
| Acetone | 99.330 | 10 | 200.0 | 5.650 | 46.8 | 40 | 135 | | | | |
| Benzene | 18.840 | 1.0 | 20.00 | 0 | 94.2 | 81 | 122 | | | | |
| Bromobenzene | 19.260 | 1.0 | 20.00 | 0 | 96.3 | 76 | 124 | | | | |
| Bromochloromethane | 17.820 | 1.0 | 20.00 | 0 | 89.1 | 65 | 129 | | | | |
| Bromodichloromethane | 19.480 | 1.0 | 20.00 | 0 | 97.4 | 76 | 121 | | | | |
| Bromoform | 19.630 | 1.0 | 20.00 | 0 | 98.2 | 69 | 128 | | | | |
| Bromomethane | 18.490 | 1.0 | 20.00 | 0.3900 | 90.5 | 53 | 141 | | | | |
| Carbon disulfide | 15.350 | 1.0 | 20.00 | 0 | 76.8 | 75 | 125 | | | | |
| Carbon tetrachloride | 20.600 | 0.50 | 20.00 | 0 | 103 | 66 | 138 | | | | |
| Chlorobenzene | 19.160 | 1.0 | 20.00 | 0 | 95.8 | 81 | 122 | | | | |
| Chloroethane | 15.590 | 1.0 | 20.00 | 0 | 78.0 | 58 | 133 | | | | |
| Chloroform | 17.990 | 1.0 | 20.00 | 0 | 90.0 | 69 | 128 | | | | |
| Chloromethane | 14.800 | 1.0 | 20.00 | 0.3200 | 72.4 | 56 | 131 | | | | |
| cis-1,2-Dichloroethene | 17.840 | 1.0 | 20.00 | 0 | 89.2 | 72 | 126 | | | | |
| cis-1,3-Dichloropropene | 19.080 | 1.0 | 20.00 | 0 | 95.4 | 69 | 131 | | | | |
| Di-isopropyl ether | 17.650 | 1.0 | 20.00 | 0 | 88.2 | 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 |

CLIENT: CH2MHill
Work Order: N042771
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: N042772-001A-MS | SampType: MS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 148328 | | | | | | |
|-----------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: ZZZZZZ | Batch ID: R20VW015 | TestNo: EPA 8260B | | Analysis Date: 10/28/2020 | SeqNo: 3982800 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Dibromochloromethane | 20.030 | 1.0 | 20.00 | 0 | 100 | 66 | 133 | | | | |
| Dibromomethane | 18.590 | 1.0 | 20.00 | 0 | 93.0 | 76 | 125 | | | | |
| Dichlorodifluoromethane | 13.340 | 1.0 | 20.00 | 0 | 66.7 | 53 | 153 | | | | |
| Ethyl tert-butyl ether | 17.670 | 1.0 | 20.00 | 0 | 88.4 | 70 | 130 | | | | |
| Ethylbenzene | 19.960 | 1.0 | 20.00 | 0 | 99.8 | 73 | 127 | | | | |
| Freon-113 | 18.040 | 1.0 | 20.00 | 0 | 90.2 | 75 | 125 | | | | |
| Hexachlorobutadiene | 19.500 | 1.0 | 20.00 | 0 | 97.5 | 67 | 131 | | | | |
| Isopropylbenzene | 21.620 | 1.0 | 20.00 | 0 | 108 | 75 | 127 | | | | |
| m,p-Xylene | 42.010 | 1.0 | 40.00 | 0 | 105 | 76 | 128 | | | | |
| Methylene chloride | 19.270 | 2.0 | 20.00 | 0 | 96.4 | 63 | 137 | | | | |
| MTBE | 17.420 | 1.0 | 20.00 | 0 | 87.1 | 65 | 123 | | | | |
| n-Butylbenzene | 22.120 | 1.0 | 20.00 | 0 | 111 | 69 | 137 | | | | |
| n-Propylbenzene | 21.160 | 1.0 | 20.00 | 0 | 106 | 72 | 129 | | | | |
| o-Xylene | 20.610 | 1.0 | 20.00 | 0 | 103 | 80 | 121 | | | | |
| sec-Butylbenzene | 22.590 | 1.0 | 20.00 | 0 | 113 | 72 | 127 | | | | |
| Styrene | 19.310 | 1.0 | 20.00 | 0 | 96.6 | 65 | 134 | | | | |
| Tert-amyl methyl ether | 17.800 | 1.0 | 20.00 | 0 | 89.0 | 70 | 130 | | | | |
| Tert-Butanol | 87.850 | 5.0 | 100.0 | 0 | 87.8 | 70 | 130 | | | | |
| tert-Butylbenzene | 21.940 | 1.0 | 20.00 | 0 | 110 | 70 | 129 | | | | |
| Tetrachloroethene | 18.710 | 1.0 | 20.00 | 0 | 93.6 | 66 | 128 | | | | |
| Toluene | 18.830 | 2.0 | 20.00 | 0 | 94.2 | 77 | 122 | | | | |
| trans-1,2-Dichloroethene | 17.690 | 1.0 | 20.00 | 0 | 88.4 | 63 | 137 | | | | |
| trans-1,3-Dichloropropene | 19.810 | 1.0 | 20.00 | 0 | 99.0 | 59 | 135 | | | | |
| Trichloroethene | 18.090 | 1.0 | 20.00 | 0 | 90.4 | 70 | 127 | | | | |
| Trichlorofluoromethane | 18.380 | 1.0 | 20.00 | 0 | 91.9 | 57 | 129 | | | | |
| Vinyl chloride | 16.070 | 0.50 | 20.00 | 0 | 80.4 | 50 | 134 | | | | |
| Xylenes, Total | 62.620 | 2.0 | 60.00 | 0 | 104 | 75 | 125 | | | | |
| Surr: 1,2-Dichloroethane-d4 | 24.350 | | 25.00 | | 97.4 | 72 | 119 | | | | |
| Surr: 4-Bromofluorobenzene | 26.250 | | 25.00 | | 105 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 23.520 | | 25.00 | | 94.1 | 85 | 115 | | | | |

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: N042771
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| | | | | | | | | | | | |
|-----------------------------------|---------------------------|-----------------------------|----------------------------------|-----------------------|----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: N042772-001A-MS | SampType: MS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 148328 | | | | | | |
| Client ID: ZZZZZ | Batch ID: R20VW015 | TestNo: EPA 8260B | Analysis Date: 10/28/2020 | SeqNo: 3982800 | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Surr: Toluene-d8 | 25.200 | | 25.00 | | 101 | 81 | 120 | | | | |

| | | | | | | | | | | | |
|------------------------------------|---------------------------|-----------------------------|----------------------------------|-----------------------|----------------------|----------|-----------|-------------|--------|----------|------|
| Sample ID: N042772-001A-MSD | SampType: MSD | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 148328 | | | | | | |
| Client ID: ZZZZZ | Batch ID: R20VW015 | TestNo: EPA 8260B | Analysis Date: 10/28/2020 | SeqNo: 3982801 | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,1,1,2-Tetrachloroethane | 20.080 | 1.0 | 20.00 | 0 | 100 | 81 | 129 | 19.21 | 4.43 | 20 | |
| 1,1,1-Trichloroethane | 18.710 | 1.0 | 20.00 | 0 | 93.6 | 67 | 132 | 18.95 | 1.27 | 20 | |
| 1,1,2,2-Tetrachloroethane | 19.660 | 1.0 | 20.00 | 0 | 98.3 | 63 | 128 | 19.30 | 1.85 | 20 | |
| 1,1,2-Trichloroethane | 19.500 | 1.0 | 20.00 | 0 | 97.5 | 75 | 125 | 18.44 | 5.59 | 20 | |
| 1,1-Dichloroethane | 18.280 | 0.50 | 20.00 | 0 | 91.4 | 69 | 133 | 18.12 | 0.879 | 20 | |
| 1,1-Dichloroethene | 16.910 | 1.0 | 20.00 | 0 | 84.6 | 68 | 130 | 17.16 | 1.47 | 20 | |
| 1,1-Dichloropropene | 19.800 | 1.0 | 20.00 | 0 | 99.0 | 73 | 132 | 20.00 | 1.01 | 20 | |
| 1,2,3-Trichlorobenzene | 21.500 | 1.0 | 20.00 | 0 | 108 | 67 | 137 | 21.80 | 1.39 | 20 | |
| 1,2,3-Trichloropropane | 20.180 | 1.0 | 20.00 | 0 | 101 | 73 | 124 | 20.40 | 1.08 | 20 | |
| 1,2,4-Trichlorobenzene | 21.350 | 1.0 | 20.00 | 0 | 107 | 66 | 134 | 21.48 | 0.607 | 20 | |
| 1,2,4-Trimethylbenzene | 22.010 | 1.0 | 20.00 | 0 | 110 | 74 | 132 | 22.00 | 0.0454 | 20 | |
| 1,2-Dibromo-3-chloropropane | 19.890 | 2.0 | 20.00 | 0 | 99.4 | 50 | 132 | 19.56 | 1.67 | 20 | |
| 1,2-Dibromoethane | 19.170 | 1.0 | 20.00 | 0 | 95.9 | 80 | 121 | 18.90 | 1.42 | 20 | |
| 1,2-Dichlorobenzene | 19.950 | 1.0 | 20.00 | 0 | 99.8 | 71 | 122 | 19.58 | 1.87 | 20 | |
| 1,2-Dichloroethane | 20.290 | 0.50 | 20.00 | 0 | 101 | 69 | 132 | 19.63 | 3.31 | 20 | |
| 1,2-Dichloropropane | 19.080 | 1.0 | 20.00 | 0 | 95.4 | 75 | 125 | 18.76 | 1.69 | 20 | |
| 1,3,5-Trimethylbenzene | 22.390 | 1.0 | 20.00 | 0 | 112 | 74 | 131 | 22.03 | 1.62 | 20 | |
| 1,3-Dichlorobenzene | 20.230 | 1.0 | 20.00 | 0 | 101 | 75 | 124 | 19.87 | 1.80 | 20 | |
| 1,3-Dichloropropane | 20.210 | 1.0 | 20.00 | 0 | 101 | 73 | 126 | 19.58 | 3.17 | 20 | |
| 1,4-Dichlorobenzene | 19.680 | 1.0 | 20.00 | 0 | 98.4 | 74 | 123 | 19.59 | 0.458 | 20 | |
| 2,2-Dichloropropane | 18.820 | 1.0 | 20.00 | 0 | 94.1 | 69 | 137 | 19.16 | 1.79 | 20 | |
| 2-Butanone | 136.930 | 10 | 200.0 | 0 | 68.5 | 49 | 136 | 135.1 | 1.37 | 20 | |
| 2-Chlorotoluene | 21.300 | 1.0 | 20.00 | 0 | 106 | 73 | 126 | 21.17 | 0.612 | 20 | |
| 4-Chlorotoluene | 21.640 | 1.0 | 20.00 | 0 | 108 | 74 | 128 | 21.32 | 1.49 | 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: N042771
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: N042772-001A-MSD | SampType: MSD | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 148328 | | | | | | |
|------------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|-------|----------|------|
| Client ID: ZZZZZZ | Batch ID: R20VW015 | TestNo: EPA 8260B | | Analysis Date: 10/28/2020 | SeqNo: 3982801 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 4-Isopropyltoluene | 23.940 | 1.0 | 20.00 | 0 | 120 | 73 | 130 | 23.74 | 0.839 | 20 | |
| 4-Methyl-2-pentanone | 210.870 | 10 | 200.0 | 0 | 105 | 58 | 134 | 204.3 | 3.16 | 20 | |
| Acetone | 98.330 | 10 | 200.0 | 5.650 | 46.3 | 40 | 135 | 99.33 | 1.01 | 20 | |
| Benzene | 19.100 | 1.0 | 20.00 | 0 | 95.5 | 81 | 122 | 18.84 | 1.37 | 20 | |
| Bromobenzene | 19.620 | 1.0 | 20.00 | 0 | 98.1 | 76 | 124 | 19.26 | 1.85 | 20 | |
| Bromochloromethane | 18.640 | 1.0 | 20.00 | 0 | 93.2 | 65 | 129 | 17.82 | 4.50 | 20 | |
| Bromodichloromethane | 20.150 | 1.0 | 20.00 | 0 | 101 | 76 | 121 | 19.48 | 3.38 | 20 | |
| Bromoform | 19.910 | 1.0 | 20.00 | 0 | 99.6 | 69 | 128 | 19.63 | 1.42 | 20 | |
| Bromomethane | 19.860 | 1.0 | 20.00 | 0.3900 | 97.4 | 53 | 141 | 18.49 | 7.14 | 20 | |
| Carbon disulfide | 15.070 | 1.0 | 20.00 | 0 | 75.4 | 75 | 125 | 15.35 | 1.84 | 20 | |
| Carbon tetrachloride | 20.120 | 0.50 | 20.00 | 0 | 101 | 66 | 138 | 20.60 | 2.36 | 20 | |
| Chlorobenzene | 19.620 | 1.0 | 20.00 | 0 | 98.1 | 81 | 122 | 19.16 | 2.37 | 20 | |
| Chloroethane | 16.000 | 1.0 | 20.00 | 0 | 80.0 | 58 | 133 | 15.59 | 2.60 | 20 | |
| Chloroform | 18.660 | 1.0 | 20.00 | 0 | 93.3 | 69 | 128 | 17.99 | 3.66 | 20 | |
| Chloromethane | 15.320 | 1.0 | 20.00 | 0.3200 | 75.0 | 56 | 131 | 14.80 | 3.45 | 20 | |
| cis-1,2-Dichloroethene | 18.050 | 1.0 | 20.00 | 0 | 90.3 | 72 | 126 | 17.84 | 1.17 | 20 | |
| cis-1,3-Dichloropropene | 20.010 | 1.0 | 20.00 | 0 | 100 | 69 | 131 | 19.08 | 4.76 | 20 | |
| Di-isopropyl ether | 18.430 | 1.0 | 20.00 | 0 | 92.2 | 70 | 130 | 17.65 | 4.32 | 20 | |
| Dibromochloromethane | 20.720 | 1.0 | 20.00 | 0 | 104 | 66 | 133 | 20.03 | 3.39 | 20 | |
| Dibromomethane | 19.360 | 1.0 | 20.00 | 0 | 96.8 | 76 | 125 | 18.59 | 4.06 | 20 | |
| Dichlorodifluoromethane | 12.970 | 1.0 | 20.00 | 0 | 64.9 | 53 | 153 | 13.34 | 2.81 | 20 | |
| Ethyl tert-butyl ether | 18.810 | 1.0 | 20.00 | 0 | 94.1 | 70 | 130 | 17.67 | 6.25 | 20 | |
| Ethylbenzene | 20.070 | 1.0 | 20.00 | 0 | 100 | 73 | 127 | 19.96 | 0.550 | 20 | |
| Freon-113 | 17.830 | 1.0 | 20.00 | 0 | 89.2 | 75 | 125 | 18.04 | 1.17 | 20 | |
| Hexachlorobutadiene | 19.170 | 1.0 | 20.00 | 0 | 95.9 | 67 | 131 | 19.50 | 1.71 | 20 | |
| Isopropylbenzene | 21.730 | 1.0 | 20.00 | 0 | 109 | 75 | 127 | 21.62 | 0.507 | 20 | |
| m,p-Xylene | 42.250 | 1.0 | 40.00 | 0 | 106 | 76 | 128 | 42.01 | 0.570 | 20 | |
| Methylene chloride | 19.610 | 2.0 | 20.00 | 0 | 98.0 | 63 | 137 | 19.27 | 1.75 | 20 | |
| MTBE | 18.500 | 1.0 | 20.00 | 0 | 92.5 | 65 | 123 | 17.42 | 6.01 | 20 | |
| n-Butylbenzene | 21.800 | 1.0 | 20.00 | 0 | 109 | 69 | 137 | 22.12 | 1.46 | 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 |



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 NVO0922
 ORELAP/NELAP Cert 4046

CLIENT: CH2MHill
Work Order: N042771
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: N042772-001A-MSD | | SampType: MSD | | TestCode: 8260_WP_SF | | Units: ug/L | | Prep Date: | | RunNo: 148328 | |
|------------------------------------|--------|---------------------------|-----------|-----------------------------|------|----------------------------------|-----------|-------------|-------|-----------------------|------|
| Client ID: ZZZZZZ | | Batch ID: R20VW015 | | TestNo: EPA 8260B | | Analysis Date: 10/28/2020 | | | | SeqNo: 3982801 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| n-Propylbenzene | 21.300 | 1.0 | 20.00 | 0 | 106 | 72 | 129 | 21.16 | 0.659 | 20 | |
| o-Xylene | 21.190 | 1.0 | 20.00 | 0 | 106 | 80 | 121 | 20.61 | 2.78 | 20 | |
| sec-Butylbenzene | 22.280 | 1.0 | 20.00 | 0 | 111 | 72 | 127 | 22.59 | 1.38 | 20 | |
| Styrene | 19.750 | 1.0 | 20.00 | 0 | 98.8 | 65 | 134 | 19.31 | 2.25 | 20 | |
| Tert-amyl methyl ether | 19.190 | 1.0 | 20.00 | 0 | 96.0 | 70 | 130 | 17.80 | 7.52 | 20 | |
| Tert-Butanol | 89.970 | 5.0 | 100.0 | 0 | 90.0 | 70 | 130 | 87.85 | 2.38 | 20 | |
| tert-Butylbenzene | 22.230 | 1.0 | 20.00 | 0 | 111 | 70 | 129 | 21.94 | 1.31 | 20 | |
| Tetrachloroethene | 18.840 | 1.0 | 20.00 | 0 | 94.2 | 66 | 128 | 18.71 | 0.692 | 20 | |
| Toluene | 19.230 | 2.0 | 20.00 | 0 | 96.2 | 77 | 122 | 18.83 | 2.10 | 20 | |
| trans-1,2-Dichloroethene | 17.940 | 1.0 | 20.00 | 0 | 89.7 | 63 | 137 | 17.69 | 1.40 | 20 | |
| trans-1,3-Dichloropropene | 20.910 | 1.0 | 20.00 | 0 | 105 | 59 | 135 | 19.81 | 5.40 | 20 | |
| Trichloroethene | 18.510 | 1.0 | 20.00 | 0 | 92.6 | 70 | 127 | 18.09 | 2.30 | 20 | |
| Trichlorofluoromethane | 17.950 | 1.0 | 20.00 | 0 | 89.8 | 57 | 129 | 18.38 | 2.37 | 20 | |
| Vinyl chloride | 15.640 | 0.50 | 20.00 | 0 | 78.2 | 50 | 134 | 16.07 | 2.71 | 20 | |
| Xylenes, Total | 63.440 | 2.0 | 60.00 | 0 | 106 | 75 | 125 | 62.62 | 1.30 | 20 | |
| Surr: 1,2-Dichloroethane-d4 | 24.230 | | 25.00 | | 96.9 | 72 | 119 | | 0 | | |
| Surr: 4-Bromofluorobenzene | 26.450 | | 25.00 | | 106 | 76 | 119 | | 0 | | |
| Surr: Dibromofluoromethane | 23.740 | | 25.00 | | 95.0 | 85 | 115 | | 0 | | |
| Surr: Toluene-d8 | 25.580 | | 25.00 | | 102 | 81 | 120 | | 0 | | |

| Sample ID: R201028-MB3 | | SampType: MBLK | | TestCode: 8260_WP_SF | | Units: ug/L | | Prep Date: | | RunNo: 148328 | |
|-------------------------------|--------|---------------------------|-----------|-----------------------------|------|----------------------------------|-----------|-------------|------|-----------------------|------|
| Client ID: PBW | | Batch ID: R20VW015 | | TestNo: EPA 8260B | | Analysis Date: 10/28/2020 | | | | SeqNo: 3982802 | |
| 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:

- | | | |
|--|--|--|
| 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: N042771
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: R201028-MB3 | SampType: MBLK | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 148328 | | | | | | |
|-------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: R20VW015 | TestNo: EPA 8260B | | Analysis Date: 10/28/2020 | SeqNo: 3982802 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| 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 | | | | | | | | | |
| Acetone | 5.390 | 10 | | | | | | | | | J |
| Benzene | ND | 1.0 | | | | | | | | | |
| Bromobenzene | ND | 1.0 | | | | | | | | | |
| Bromochloromethane | ND | 1.0 | | | | | | | | | |
| Bromodichloromethane | ND | 1.0 | | | | | | | | | |
| Bromoform | ND | 1.0 | | | | | | | | | |
| Bromomethane | 0.400 | 1.0 | | | | | | | | | J |
| Carbon disulfide | ND | 1.0 | | | | | | | | | |
| Carbon tetrachloride | ND | 0.50 | | | | | | | | | |
| Chlorobenzene | 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: N042771
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: R201028-MB3 | SampType: MBLK | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 148328 | | | | | | |
|-------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: R20VW015 | TestNo: EPA 8260B | | Analysis Date: 10/28/2020 | SeqNo: 3982802 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---------------------------|--------|-----|-----------|-------------|------|----------|-----------|-------------|------|----------|------|
| 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 | | | | | | | | | |
| 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 |
| S Spike/Surrogate outside of limits due to matrix interference | DO Surrogate Diluted Out | Calculations are based on raw values |

CLIENT: CH2MHill
Work Order: N042771
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: R201028-MB3 | SampType: MBLK | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 148328 | | | | | | |
|-------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: R20VW015 | TestNo: EPA 8260B | | Analysis Date: 10/28/2020 | SeqNo: 3982802 | | | | | | |
| 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 | 25.780 | | 25.00 | | 103 | 72 | 119 | | | | |
| Surr: 4-Bromofluorobenzene | 24.410 | | 25.00 | | 97.6 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 25.020 | | 25.00 | | 100 | 85 | 115 | | | | |
| Surr: Toluene-d8 | 25.140 | | 25.00 | | 101 | 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 |



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

N042771

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: 10/27/20
 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: Ryan Koch | | Report To: Eric Davis | | Attention: Ryan Koch - Ref. AFE# 81195 | | Sampler Name: <i>[Signature]</i> JAMES D'12 | |
| Address: 1001 Louisiana St., Houston, TX 77002 | | Copy To: Ryan Koch | | Company Name: Kinder Morgan Energy Partners | | Sampler Signature: <i>[Signature]</i> | |
| Email To: Ryan_Koch@kindermorgan.com eric.davis@jacobs.com ; nls.or@clv@jacobs.com | | Purchase Order No.: | | Address: 1001 Louisiana St., Houston, TX 77002 | | Sample Date: <u>10/27/20</u> | |
| Phone 713-420-6730 Fax 714-560-4801 | | Project Name: SFPP Norwalk | | ATL Project Manager: Marlon Cartin | | | |

| ITEM # | SAMPLE ID | LOCATION/ DESCRIPTION | MATRIX | SAMPLE TYPE (G=GRAB C=COMP) | SAMPLING | | TOTAL # OF CONTAINERS | SAMPLE TEMPERATURE (°F) | Analysis Test | V | V | A | Comments |
|--------|--------------------|-----------------------|--------|-----------------------------|----------|------|-----------------------|-------------------------|---|---|---|---|------------|
| | | | | | DATE | TIME | | | | | | | |
| 1 | INF- <u>102720</u> | INFLUENT | WW | G | | | 9 | | Full VOCs + Oxygenates List (82608) | X | X | X | N042771-01 |
| 2 | | | | | | | | | TPH-gas (C6-C12) (80158) | | | | |
| 3 | | | | | | | | | TPH-L (C13-C21, TPH-H (C24+), Total TPH (80159) | | | | |
| 4 | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | |

| | | | |
|--|--|--|---|
| Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: <u>10/27/20 1030</u> | Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: <u>10/27/20 1408</u> | Turn Around Time (TAT): <input type="checkbox"/> DA = Same Day <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 72 Hours <input checked="" type="checkbox"/> 5 Workdays <input type="checkbox"/> 10 Workdays <small>TAT Starts at 8 AM the following day if samples received after 3:00 PM.</small> | Special Instructions: <u>Las Vegas</u> <u>2.38 IR#2</u> <u>G50# 5783</u> |
| Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: <u>10/27/20 1530</u> | Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: <u>THUR 10/27/20 1530</u> | | |
| Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: <u>THUR 10/27/20 1800</u> | Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: <u>Beikys Hernandez BMS 10/28/20 8:30am</u> | Preservatives: W = Water WW = Wastewater H = HCl N = HNO3 S = H2SO4 O = Oil P = Product S = Soil Z = Zn(AC)2 D = NaOH T = Na2S2O8 Others/Specify: | Container Types: T = Tube V = VOA P = Pint A = Amber J = Jar B = Tedlar G = Glass M = Metal P = Plastic C = Can |

CHILLED / INTAKE / ICE COOLER / 3.8°C
 IR#1 / ASSET COURIER

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: 10/27/2020 Workorder: N042771
 Rep sample Temp (Deg C): 3.8 IR Gun ID: 1
 Temp Blank: Yes No
 Carrier name: ASSET
 Last 4 digits of Tracking No.: NA Packing Material Used: None
 Cooling process: Ice Ice Pack Dry Ice Other None

Sample Receipt Checklist

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

Comments: Received at Las Vegas Lab on 10/28/20 at 2.3 oC, IR# 2, GSO# 5783.

For:

Checklist Completed By: TM BHdez 10/28/2020

Reviewed By: MBC 10/28/2020

ASSET Laboratories

WORK ORDER Summary

28-Oct-20

WorkOrder: N042771

Client ID: CH2HI03

Project: SFPP Norwalk

QC Level: RTNE

Date Received: 10/27/2020

Comments:

| Sample ID | Client Sample ID | Date Collected | Date Due | Matrix | Test No | Test Name | Hld | MS | Sub | Storage |
|--------------|------------------|------------------------|-----------|------------|-----------|---|--------------------------|--------------------------|--------------------------|---------|
| N042771-001A | INF-102720 | 10/27/2020 10:00:00 AM | 11/3/2020 | Wastewater | EPA 8260B | VOLATILE ORGANIC COMPOUNDS BY GC/MS | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | V-CA |
| N042771-001B | | | 11/3/2020 | | EPA 8015B | GASOLINE RANGE ORGANICS BY GC/FID | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | VW |
| N042771-001C | | | 11/3/2020 | | EPA 3510C | SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | WW |
| | | | 11/3/2020 | | EPA 8015B | TPH EXTRACTABLE BY GC/FID | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | WW |
| | | | 11/3/2020 | | EPA 8015B | Total TPH | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | WW |
| N042771-002A | FOLDER | 11/3/2020 | 11/3/2020 | | Folder | Folder | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | LAB |
| | | | 11/3/2020 | | Folder | Folder | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | LAB |



800-322-5555
www.gls-us.com

Ship From
ASSET LABORATORIES
THAD MALIT
11110 ARTESIA BLVD. SUITE B
CERRITOS, CA 90703

Tracking #: 550955783

CPS



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

LAS VEGAS

C89102A

COD: \$0.00
Weight: 0 lb(s)
Reference:



Delivery Instructions:
HOLD FOR PICK UP
Signature Type: STANDARD

29606498

LVS NV891-A 1

Print Date: 10/27/2020 4:35 PM

Package 2 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 General Logistics Systems US, Inc. (GLS) 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.gls-us.com.

*2-3"
Je A2*



October 22, 2020

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



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

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

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

LABORATORY TEST RESULTS

Project Reference: SFPP Norwalk
Lab Number: L100504-01/04

Enclosed are results for sample(s) received 10/05/20 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

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

Preliminary results were e-mailed to Eric Davis, Nils Orliczky and Danny Hill on 10/21/20.

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

Sincerely,

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

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

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

Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 10/05/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

| Lab No.: | L100504-01 | | | L100504-02 | | | L100504-03 | | | L100504-04 | | |
|-------------------------------|---------------|---------|----------|---------------|---------|----------|----------------|---------|----------|----------------|---------|----------|
| Client Sample I.D.: | VEFF-10-01 | | | VEFF-10-01D | | | VPOST-10-01 | | | VINP-10-01 | | |
| Date/Time Sampled: | 10/1/20 11:00 | | | 10/1/20 11:00 | | | 10/1/20 12:00 | | | 10/1/20 12:10 | | |
| Date/Time Analyzed: | 10/11/20 9:19 | | | 10/11/20 9:55 | | | 10/11/20 10:30 | | | 10/11/20 11:05 | | |
| QC Batch No.: | 201011MS2A1 | | | 201011MS2A1 | | | 201011MS2A1 | | | 201011MS2A1 | | |
| Analyst Initials: | DT | | | DT | | | DT | | | DT | | |
| Dilution Factor: | 2.4 | | | 2.5 | | | 2.5 | | | 12 | | |
| ANALYTE | Result ppmv | RL ppmv | MDL ppmv | Result ppmv | RL ppmv | MDL ppmv | Result ppmv | RL ppmv | MDL ppmv | Result ppmv | RL ppmv | MDL ppmv |
| Benzene | 0.00089 J | 0.0024 | 0.00023 | ND | 0.0025 | 0.00024 | 0.096 | 0.0025 | 0.00024 | 0.32 | 0.012 | 0.0012 |
| Chloroform | ND | 0.0024 | 0.00034 | ND | 0.0025 | 0.00034 | 0.00063 J | 0.0025 | 0.00034 | ND | 0.012 | 0.0017 |
| Carbon Tetrachloride | ND | 0.0024 | 0.00042 | ND | 0.0025 | 0.00043 | ND | 0.0025 | 0.00043 | ND | 0.012 | 0.0021 |
| 1,4-Dioxane | ND | 0.012 | 0.00042 | ND | 0.012 | 0.00043 | ND | 0.012 | 0.00043 | ND | 0.062 | 0.0022 |
| 1,4-Dichlorobenzene | ND | 0.0024 | 0.00035 | ND | 0.0025 | 0.00036 | ND | 0.0025 | 0.00036 | ND | 0.012 | 0.0018 |
| 1,1-Dichloroethane | ND | 0.0024 | 0.00033 | ND | 0.0025 | 0.00034 | ND | 0.0025 | 0.00034 | ND | 0.012 | 0.0017 |
| Ethylbenzene | 0.0015 J | 0.0024 | 0.00014 | 0.0012 J | 0.0025 | 0.00014 | 0.070 | 0.0025 | 0.00014 | 0.20 | 0.012 | 0.00071 |
| 1,2-Dichloroethane | ND | 0.0024 | 0.00018 | ND | 0.0025 | 0.00018 | 0.0011 J | 0.0025 | 0.00018 | 0.0030 J | 0.012 | 0.00092 |
| Methylene Chloride | ND | 0.0024 | 0.00069 | ND | 0.0025 | 0.00070 | ND | 0.0025 | 0.00070 | ND | 0.012 | 0.0035 |
| t-Butyl Methyl Ether (MTBE) | ND | 0.0024 | 0.00054 | ND | 0.0025 | 0.00055 | 0.14 | 0.0025 | 0.00055 | 0.47 | 0.012 | 0.0028 |
| Tetrachloroethene | ND | 0.0024 | 0.00029 | ND | 0.0025 | 0.00030 | ND | 0.0025 | 0.00030 | ND | 0.012 | 0.0015 |
| 1,1,2-Trichloroethane | ND | 0.0024 | 0.00039 | ND | 0.0025 | 0.00040 | ND | 0.0025 | 0.00040 | ND | 0.012 | 0.0020 |
| Trichloroethene | ND | 0.0024 | 0.00034 | ND | 0.0025 | 0.00035 | ND | 0.0025 | 0.00035 | ND | 0.012 | 0.0017 |
| Vinyl Chloride | ND | 0.0024 | 0.00039 | ND | 0.0025 | 0.00040 | ND | 0.0025 | 0.00040 | ND | 0.012 | 0.0020 |
| Naphthalene | 0.0011 J | 0.012 | 0.00092 | 0.00096 J | 0.012 | 0.00095 | 0.0012 J | 0.012 | 0.00095 | ND | 0.062 | 0.0047 |
| c-1,2-Dichloroethene | ND | 0.0024 | 0.00046 | ND | 0.0025 | 0.00048 | ND | 0.0025 | 0.00048 | ND | 0.012 | 0.0024 |
| 2-Butanone | 0.0066 | 0.0024 | 0.0015 | 0.0041 | 0.0025 | 0.0015 | 0.013 | 0.0025 | 0.0015 | 0.020 | 0.012 | 0.0076 |
| Dichlorodifluoromethane (12) | ND | 0.0024 | 0.00037 | ND | 0.0025 | 0.00038 | 0.00054 J | 0.0025 | 0.00038 | ND | 0.012 | 0.0019 |
| Chloromethane | ND | 0.0048 | 0.00053 | ND | 0.0049 | 0.00054 | 0.00081 J | 0.0049 | 0.00054 | ND | 0.025 | 0.0027 |
| 1,1,1-Trichloroethane | ND | 0.0024 | 0.00024 | ND | 0.0025 | 0.00025 | ND | 0.0025 | 0.00025 | ND | 0.012 | 0.0012 |
| 1,2-CI-1,1,2,2-F ethane (114) | ND | 0.0024 | 0.00048 | ND | 0.0025 | 0.00050 | ND | 0.0025 | 0.00050 | ND | 0.012 | 0.0025 |
| Bromomethane | ND | 0.0024 | 0.00071 | ND | 0.0025 | 0.00072 | ND | 0.0025 | 0.00072 | ND | 0.012 | 0.0036 |
| Chloroethane | ND | 0.0024 | 0.00020 | ND | 0.0025 | 0.00021 | ND | 0.0025 | 0.00021 | ND | 0.012 | 0.010 |
| Trichlorofluoromethane (11) | ND | 0.0024 | 0.00052 | ND | 0.0025 | 0.00053 | ND | 0.0025 | 0.00053 | ND | 0.012 | 0.0027 |
| 1,2-Dichloropropane | ND | 0.0024 | 0.00044 | ND | 0.0025 | 0.00045 | ND | 0.0025 | 0.00045 | ND | 0.012 | 0.0022 |
| Bromodichloromethane | ND | 0.0024 | 0.00014 | ND | 0.0025 | 0.00015 | ND | 0.0025 | 0.00015 | ND | 0.012 | 0.00074 |
| c-1,3-Dichloropropene | ND | 0.0024 | 0.00029 | ND | 0.0025 | 0.00030 | ND | 0.0025 | 0.00030 | ND | 0.012 | 0.0015 |
| 4-Methyl-2-Pentanone | ND | 0.0024 | 0.00016 | ND | 0.0025 | 0.00017 | ND | 0.0025 | 0.00017 | ND | 0.012 | 0.00083 |
| Toluene | 0.026 | 0.0024 | 0.00019 | 0.020 | 0.0025 | 0.00020 | 0.54 | 0.0025 | 0.00020 | 1.7 | 0.012 | 0.00098 |
| t-1,3-Dichloropropene | ND | 0.0024 | 0.00025 | ND | 0.0025 | 0.00025 | ND | 0.0025 | 0.00025 | ND | 0.012 | 0.0013 |
| 1,1-Dichloroethene | ND | 0.0024 | 0.00055 | ND | 0.0025 | 0.00056 | ND | 0.0025 | 0.00056 | ND | 0.012 | 0.0028 |
| 1,3-Dichloropropane | ND | 0.0024 | 0.00012 | ND | 0.0025 | 0.00012 | ND | 0.0025 | 0.00012 | ND | 0.012 | 0.00061 |
| Carbon Disulfide | 0.0095 J | 0.012 | 0.00058 | 0.0095 J | 0.012 | 0.00059 | 0.0027 J | 0.012 | 0.00059 | 0.032 J | 0.062 | 0.0030 |
| 2-Hexanone | ND | 0.0024 | 0.00050 | ND | 0.0025 | 0.00051 | ND | 0.0025 | 0.00051 | ND | 0.012 | 0.0025 |
| Dibromochloromethane | ND | 0.0024 | 0.00044 | ND | 0.0025 | 0.00045 | ND | 0.0025 | 0.00045 | ND | 0.012 | 0.0022 |
| 1,2-Dibromoethane | ND | 0.0024 | 0.00022 | ND | 0.0025 | 0.00022 | ND | 0.0025 | 0.00022 | ND | 0.012 | 0.0011 |
| Chlorobenzene | ND | 0.0024 | 0.00019 | ND | 0.0025 | 0.00019 | 0.0019 J | 0.0025 | 0.00019 | 0.0055 J | 0.012 | 0.00096 |
| 1,1,2-CI 1,2,2-F ethane (113) | ND | 0.0024 | 0.00065 | ND | 0.0025 | 0.00066 | ND | 0.0025 | 0.00066 | ND | 0.012 | 0.0033 |
| p,&m-Xylene | 0.014 | 0.0024 | 0.00027 | 0.011 | 0.0025 | 0.00028 | 0.64 | 0.0025 | 0.00028 | 2.0 | 0.012 | 0.0014 |



Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 10/05/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

| Lab No.: | L100504-01 | | | L100504-02 | | | L100504-03 | | | L100504-04 | | |
|------------------------------|---------------|---------|----------|---------------|---------|----------|----------------|---------|----------|----------------|---------|----------|
| Client Sample I.D.: | VEFF-10-01 | | | VEFF-10-01D | | | VPOST-10-01 | | | VINP-10-01 | | |
| Date/Time Sampled: | 10/1/20 11:00 | | | 10/1/20 11:00 | | | 10/1/20 12:00 | | | 10/1/20 12:10 | | |
| Date/Time Analyzed: | 10/11/20 9:19 | | | 10/11/20 9:55 | | | 10/11/20 10:30 | | | 10/11/20 11:05 | | |
| QC Batch No.: | 201011MS2A1 | | | 201011MS2A1 | | | 201011MS2A1 | | | 201011MS2A1 | | |
| Analyst Initials: | DT | | | DT | | | DT | | | DT | | |
| Dilution Factor: | 2.4 | | | 2.5 | | | 2.5 | | | 12 | | |
| 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 |
| o-Xylene | 0.0045 | 0.0024 | 0.00029 | 0.0034 | 0.0025 | 0.00030 | 0.27 | 0.0025 | 0.00030 | 0.79 | 0.012 | 0.0015 |
| Styrene | ND | 0.0024 | 0.00031 | ND | 0.0025 | 0.00032 | 0.0083 | 0.0025 | 0.00032 | ND | 0.012 | 0.0016 |
| Bromoform | ND | 0.0024 | 0.00013 | ND | 0.0025 | 0.00014 | ND | 0.0025 | 0.00014 | ND | 0.012 | 0.00069 |
| Isopropyl benzene | ND | 0.0024 | 0.00025 | ND | 0.0025 | 0.00026 | 0.0058 | 0.0025 | 0.00026 | 0.016 | 0.012 | 0.0013 |
| 1,1,2,2-Tetrachloroethane | ND | 0.0048 | 0.00015 | ND | 0.0049 | 0.00015 | ND | 0.0049 | 0.00015 | ND | 0.025 | 0.00075 |
| Benzyl Chloride | ND | 0.0024 | 0.00044 | ND | 0.0025 | 0.00045 | ND | 0.0025 | 0.00045 | ND | 0.012 | 0.0023 |
| 1,2,3-Trichloropropane | ND | 0.0024 | 0.00065 | ND | 0.0025 | 0.00066 | ND | 0.0025 | 0.00066 | ND | 0.012 | 0.0033 |
| n-Propyl Benzene | 0.0021 J | 0.0024 | 0.00014 | 0.0015 J | 0.0025 | 0.00014 | 0.013 | 0.0025 | 0.00014 | 0.032 | 0.012 | 0.00072 |
| 4-Ethyl Toluene | 0.012 | 0.0024 | 0.00015 | 0.0092 | 0.0025 | 0.00016 | 0.14 | 0.0025 | 0.00016 | 0.36 | 0.012 | 0.00078 |
| 1,3,5-Trimethylbenzene | 0.0051 | 0.0048 | 0.00042 | 0.0041 J | 0.0049 | 0.00043 | 0.076 | 0.0049 | 0.00043 | 0.19 | 0.025 | 0.0021 |
| 4-Chlorotoluene | ND | 0.0024 | 0.00029 | ND | 0.0025 | 0.00029 | ND | 0.0025 | 0.00029 | ND | 0.012 | 0.0015 |
| tert-Butylbenzene | ND | 0.0024 | 0.00022 | ND | 0.0025 | 0.00022 | ND | 0.0025 | 0.00022 | ND | 0.012 | 0.0011 |
| 1,2,4-Trimethylbenzene | 0.016 | 0.0048 | 0.00027 | 0.013 | 0.0049 | 0.00028 | 0.11 | 0.0049 | 0.00028 | 0.25 | 0.025 | 0.0014 |
| sec-Butylbenzene | 0.00043 J | 0.0024 | 0.00023 | 0.00030 J | 0.0025 | 0.00024 | 0.0021 J | 0.0025 | 0.00024 | 0.0052 J | 0.012 | 0.0012 |
| p-Isopropyltoluene | 0.0022 J | 0.0024 | 0.00031 | 0.0021 J | 0.0025 | 0.00032 | 0.0035 | 0.0025 | 0.00032 | 0.0065 J | 0.012 | 0.0016 |
| 1,3-Dichlorobenzene | ND | 0.0024 | 0.00029 | ND | 0.0025 | 0.00030 | ND | 0.0025 | 0.00030 | ND | 0.012 | 0.0015 |
| Acetone | 0.030 | 0.012 | 0.00069 | 0.022 | 0.012 | 0.00071 | 0.037 | 0.012 | 0.00071 | 0.047 J | 0.062 | 0.0036 |
| n-Butylbenzene | 0.0018 J | 0.0024 | 0.00018 | 0.0016 J | 0.0025 | 0.00018 | ND | 0.0025 | 0.00018 | ND | 0.012 | 0.00090 |
| 1,2-Dichlorobenzene | ND | 0.0024 | 0.00030 | ND | 0.0025 | 0.00031 | ND | 0.0025 | 0.00031 | ND | 0.012 | 0.0015 |
| 1,2,4-Trichlorobenzene | ND | 0.0048 | 0.00040 | ND | 0.0049 | 0.00041 | ND | 0.0049 | 0.00041 | ND | 0.025 | 0.0020 |
| Hexachlorobutadiene | ND | 0.0024 | 0.00014 | ND | 0.0025 | 0.00014 | ND | 0.0025 | 0.00014 | ND | 0.012 | 0.00072 |
| t-Butanol | ND | 0.012 | 0.00046 | ND | 0.012 | 0.00047 | ND | 0.012 | 0.00047 | ND | 0.062 | 0.0024 |
| n-Hexane | 0.00070 J | 0.012 | 0.00032 | 0.00051 J | 0.012 | 0.00033 | 0.33 | 0.012 | 0.00033 | 1.1 | 0.062 | 0.0017 |
| Isopropyl ether | ND | 0.012 | 0.00027 | ND | 0.012 | 0.00027 | ND | 0.012 | 0.00027 | ND | 0.062 | 0.0014 |
| t-Butyl ethyl ether | ND | 0.012 | 0.00048 | ND | 0.012 | 0.00049 | ND | 0.012 | 0.00049 | ND | 0.062 | 0.0025 |
| 2,2-Dichloropropane | ND | 0.012 | 0.00023 | ND | 0.012 | 0.00023 | ND | 0.012 | 0.00023 | ND | 0.062 | 0.0012 |
| t-Amyl methyl ether | ND | 0.012 | 0.00017 | ND | 0.012 | 0.00017 | 0.0012 J | 0.012 | 0.00017 | 0.0045 J | 0.062 | 0.00087 |
| t-1,2-Dichloroethene | ND | 0.0024 | 0.00072 | ND | 0.0025 | 0.00074 | ND | 0.0025 | 0.00074 | ND | 0.012 | 0.0037 |
| 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 10/20/20

The cover letter is an integral part of this analytical report



Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 10/05/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

| Lab No.: | METHOD BLANK | | | | | | | | | | | | | |
|-------------------------------|---------------|---------|----------|--|--|--|--|--|--|--|--|--|--|--|
| Client Sample I.D.: | - | | | | | | | | | | | | | |
| Date/Time Sampled: | - | | | | | | | | | | | | | |
| Date/Time Analyzed: | 10/11/20 7:07 | | | | | | | | | | | | | |
| QC Batch No.: | 201011MS2A1 | | | | | | | | | | | | | |
| Analyst Initials: | DT | | | | | | | | | | | | | |
| Dilution Factor: | 0.20 | | | | | | | | | | | | | |
| ANALYTE | Result ppmv | RL ppmv | MDL ppmv | | | | | | | | | | | |
| Benzene | ND | 0.00020 | 0.000019 | | | | | | | | | | | |
| Chloroform | ND | 0.00020 | 0.000028 | | | | | | | | | | | |
| Carbon Tetrachloride | ND | 0.00020 | 0.000035 | | | | | | | | | | | |
| 1,4-Dioxane | ND | 0.0010 | 0.000035 | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 0.00020 | 0.000029 | | | | | | | | | | | |
| 1,1-Dichloroethane | ND | 0.00020 | 0.000027 | | | | | | | | | | | |
| Ethylbenzene | ND | 0.00020 | 0.000011 | | | | | | | | | | | |
| 1,2-Dichloroethane | ND | 0.00020 | 0.000015 | | | | | | | | | | | |
| Methylene Chloride | ND | 0.00020 | 0.000057 | | | | | | | | | | | |
| t-Butyl Methyl Ether (MTBE) | ND | 0.00020 | 0.000045 | | | | | | | | | | | |
| Tetrachloroethene | ND | 0.00020 | 0.000024 | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ND | 0.00020 | 0.000032 | | | | | | | | | | | |
| Trichloroethene | ND | 0.00020 | 0.000028 | | | | | | | | | | | |
| Vinyl Chloride | ND | 0.00020 | 0.000032 | | | | | | | | | | | |
| Naphthalene | ND | 0.0010 | 0.000077 | | | | | | | | | | | |
| c-1,2-Dichloroethene | ND | 0.00020 | 0.000039 | | | | | | | | | | | |
| 2-Butanone | ND | 0.00020 | 0.00012 | | | | | | | | | | | |
| Dichlorodifluoromethane (12) | ND | 0.00020 | 0.000031 | | | | | | | | | | | |
| Chloromethane | ND | 0.00040 | 0.000044 | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ND | 0.00020 | 0.000020 | | | | | | | | | | | |
| 1,2-CI-1,1,2,2-F ethane (114) | ND | 0.00020 | 0.000040 | | | | | | | | | | | |
| Bromomethane | ND | 0.00020 | 0.000059 | | | | | | | | | | | |
| Chloroethane | ND | 0.00020 | 0.00017 | | | | | | | | | | | |
| Trichlorofluoromethane (11) | ND | 0.00020 | 0.000043 | | | | | | | | | | | |
| 1,2-Dichloropropane | ND | 0.00020 | 0.000036 | | | | | | | | | | | |
| Bromodichloromethane | ND | 0.00020 | 0.000012 | | | | | | | | | | | |
| c-1,3-Dichloropropene | ND | 0.00020 | 0.000024 | | | | | | | | | | | |
| 4-Methyl-2-Pentanone | ND | 0.00020 | 0.000013 | | | | | | | | | | | |
| Toluene | ND | 0.00020 | 0.000016 | | | | | | | | | | | |
| t-1,3-Dichloropropene | ND | 0.00020 | 0.000021 | | | | | | | | | | | |
| 1,1-Dichloroethene | ND | 0.00020 | 0.000045 | | | | | | | | | | | |
| 1,3-Dichloropropane | ND | 0.00020 | 0.000099 | | | | | | | | | | | |
| Carbon Disulfide | 0.000094 J | 0.0010 | 0.000048 | | | | | | | | | | | |
| 2-Hexanone | ND | 0.00020 | 0.000041 | | | | | | | | | | | |
| Dibromochloromethane | ND | 0.00020 | 0.000036 | | | | | | | | | | | |
| 1,2-Dibromoethane | ND | 0.00020 | 0.000018 | | | | | | | | | | | |
| Chlorobenzene | ND | 0.00020 | 0.000016 | | | | | | | | | | | |
| 1,1,2-CI 1,2,2-F ethane (113) | ND | 0.00020 | 0.000054 | | | | | | | | | | | |
| p,&m-Xylene | ND | 0.00020 | 0.000023 | | | | | | | | | | | |



Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 10/05/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

| Lab No.: | METHOD BLANK | | | | | | | | | | | | | |
|------------------------------|---------------|---------|----------|--|--|--|--|--|--|--|--|--|--|--|
| Client Sample I.D.: | - | | | | | | | | | | | | | |
| Date/Time Sampled: | - | | | | | | | | | | | | | |
| Date/Time Analyzed: | 10/11/20 7:07 | | | | | | | | | | | | | |
| QC Batch No.: | 201011MS2A1 | | | | | | | | | | | | | |
| Analyst Initials: | DT | | | | | | | | | | | | | |
| Dilution Factor: | 0.20 | | | | | | | | | | | | | |
| ANALYTE | Result ppmv | RL ppmv | MDL ppmv | | | | | | | | | | | |
| o-Xylene | ND | 0.00020 | 0.000024 | | | | | | | | | | | |
| Styrene | ND | 0.00020 | 0.000026 | | | | | | | | | | | |
| Bromoform | ND | 0.00020 | 0.000011 | | | | | | | | | | | |
| Isopropyl benzene | ND | 0.00020 | 0.000021 | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 0.00040 | 0.000012 | | | | | | | | | | | |
| Benzyl Chloride | ND | 0.00020 | 0.000037 | | | | | | | | | | | |
| 1,2,3-Trichloropropane | ND | 0.00020 | 0.000054 | | | | | | | | | | | |
| n-Propyl Benzene | ND | 0.00020 | 0.000012 | | | | | | | | | | | |
| 4-Ethyl Toluene | ND | 0.00020 | 0.000013 | | | | | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 0.00040 | 0.000035 | | | | | | | | | | | |
| 4-Chlorotoluene | ND | 0.00020 | 0.000024 | | | | | | | | | | | |
| tert-Butylbenzene | ND | 0.00020 | 0.000018 | | | | | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 0.00040 | 0.000023 | | | | | | | | | | | |
| sec-Butylbenzene | ND | 0.00020 | 0.000019 | | | | | | | | | | | |
| p-Isopropyltoluene | ND | 0.00020 | 0.000026 | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 0.00020 | 0.000024 | | | | | | | | | | | |
| Acetone | 0.00035 J | 0.0010 | 0.000058 | | | | | | | | | | | |
| n-Butylbenzene | ND | 0.00020 | 0.000015 | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 0.00020 | 0.000025 | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 0.00040 | 0.000033 | | | | | | | | | | | |
| Hexachlorobutadiene | ND | 0.00020 | 0.000012 | | | | | | | | | | | |
| t-Butanol | ND | 0.0010 | 0.000038 | | | | | | | | | | | |
| n-Hexane | ND | 0.0010 | 0.000027 | | | | | | | | | | | |
| Isopropyl ether | ND | 0.0010 | 0.000022 | | | | | | | | | | | |
| t-Butyl ethyl ether | ND | 0.0010 | 0.000040 | | | | | | | | | | | |
| 2,2-Dichloropropane | ND | 0.0010 | 0.000019 | | | | | | | | | | | |
| t-Amyl methyl ether | ND | 0.0010 | 0.000014 | | | | | | | | | | | |
| t-1,2-Dichloroethene | ND | 0.00020 | 0.000060 | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene (TIC) | ND | -- | -- | | | | | | | | | | | |

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

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date: 10/20/20

The cover letter is an integral part of this analytical report



LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 201011MS2A1

Matrix: Air

Reporting Units: ppmv

EPA Method TO15
LABORATORY CONTROL SAMPLE SUMMARY

| Lab No.: | | METHOD BLANK | | LCS | | LCSD | | | | | |
|---------------------------|-------------|---------------|-----------|---------------|--------|---------------|--------|-----|----------|-----------|----------|
| Date/Time Analyzed: | | 10/11/20 7:07 | | 10/11/20 5:54 | | 10/11/20 6:30 | | | | | |
| Analyst Initials: | | VM | | VM | | VM | | | | | |
| Dilution Factor: | | 0.20 | | 1.0 | | 1.0 | | | | | |
| ANALYTE | Result ppmv | RL ppmv | AMT. ppmv | Result ppmv | % Rec. | Result ppmv | % Rec. | RPD | Low %Rec | High %Rec | Max. RPD |
| 1,1-Dichloroethene | ND | 0.00020 | 0.010 | 0.00940 | 94.0 | 0.00895 | 89.5 | 4.8 | 70 | 130 | 30.0 |
| Methylene Chloride | ND | 0.00020 | 0.010 | 0.00922 | 92.2 | 0.00889 | 88.9 | 3.6 | 70 | 130 | 30.0 |
| Trichloroethene | ND | 0.00020 | 0.010 | 0.00945 | 94.5 | 0.00931 | 93.1 | 1.5 | 70 | 130 | 30.0 |
| Toluene | ND | 0.00020 | 0.010 | 0.00948 | 94.8 | 0.00942 | 94.2 | 0.7 | 70 | 130 | 30.0 |
| 1,1,2,2-Tetrachloroethane | ND | 0.00020 | 0.010 | 0.00928 | 92.8 | 0.00921 | 92.1 | 0.8 | 70 | 130 | 30.0 |

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____

Mark Johnson
Operations Manager

Date: _____

10/20/21

The cover letter is an integral part of this analytical report



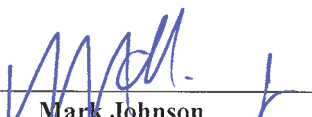
Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 10/05/20
 Matrix: Air
 Reporting Units: ppmv

EPA METHOD TO3

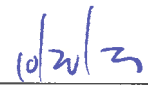
| Lab No.: | L100504-01 | L100504-02 | L100504-03 | L100504-04 | | | | |
|---------------------|----------------|---------------|----------------|---------------|----------------|------------|----------------|------------|
| Client Sample I.D.: | VEFF-10-01 | VEFF-10-01D | VPOST-10-01 | VINF-10-01 | | | | |
| Date/Time Sampled: | 10/1/20 11:00 | 10/1/20 11:00 | 10/1/20 12:00 | 10/1/20 12:10 | | | | |
| Date/Time Analyzed: | 10/9/20 12:16 | 10/9/20 12:39 | 10/9/20 13:02 | 10/9/20 13:24 | | | | |
| QC Batch No.: | 201009GC11A1 | 201009GC11A1 | 201009GC11A1 | 201009GC11A1 | | | | |
| Analyst Initials: | AS | AS | AS | AS | | | | |
| Dilution Factor: | 2.4 | 2.5 | 2.5 | 2.5 | | | | |
| ANALYTE | Result ppmv | RL ppmv | Result ppmv | RL ppmv | Result ppmv | RL ppmv | Result ppmv | RL ppmv |
| TVOC as Hexane | ND | 2.4 | ND | 2.5 | 24 | 2.5 | 93 | 2.5 |
| | | | | | | | | |

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

Reviewed/Approved By: _____


 Mark Johnson
 Operations Manager

Date _____



The cover letter is an integral part of this analytical report



QC Batch No: 201009GC11A1

Matrix: Air

Reporting Units: ppmv

**EPA METHOD TO3
LABORATORY CONTROL SAMPLE SUMMARY**

| Lab No.: | METHOD BLANK | LCS | | LCSD | | | | | | |
|-------------------|----------------|---------------|----------------|---------------|----------------|--------|----------|-------------|--------------|-------------|
| Date Analyzed: | 10/9/20 11:53 | 10/9/20 11:08 | | 10/9/20 11:30 | | | | | | |
| Analyst Initials: | AS | AS | | AS | | | | | | |
| Dilution Factor: | 1.0 | 1.0 | | 1.0 | | | | | | |
| ANALYTE | Result ppmv | RL ppmv | Result ppmv | % Rec. | Result ppmv | % Rec. | RPD % | Low %Rec | High %Rec | Max. RPD |
| TVOC as Hexane | ND | 1.0 | 3.62 | 72 | 3.53 | 71 | 2.5 | 70 | 130 | 25 |
| | | | | | | | | | | |

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____

(Signature)
Mark Johnson
Operations Manager

Date 10/20/20

The cover letter is an integral part of this analytical report



Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 10/05/20
 Matrix: Air
 Reporting Units: % v/v

ASTM D1946

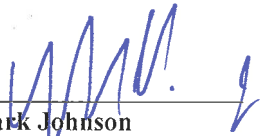
| Lab No.: | L100504-04 | | | | | | |
|---------------------|-----------------|-------------|--|--|--|--|--|
| Client Sample I.D.: | VINF-10-01 | | | | | | |
| Date/Time Sampled: | 10/1/20 12:10 | | | | | | |
| Date/Time Analyzed: | 10/10/20 10:18 | | | | | | |
| QC Batch No.: | 201010GC8A1 | | | | | | |
| Analyst Initials: | AS | | | | | | |
| Dilution Factor: | 2.5 | | | | | | |
| ANALYTE | Result % v/v | RL % v/v | | | | | |
| Carbon Dioxide | 0.82 | 0.025 | | | | | |
| Oxygen/Argon | 21 | 1.2 | | | | | |
| Nitrogen | 78 | 2.5 | | | | | |
| Methane | 0.015 | 0.0025 | | | | | |
| | | | | | | | |

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____


 Mark Johnson
 Operations Manager

Date _____

10/20/20

The cover letter is an integral part of this analytical report



December 02, 2020

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

TEL:

FAX:

Workorder No.: N043134

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on November 23, 2020 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,



Nancy Sibucan
Laboratory Director

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CLIENT: CH2MHill
Project: SFPP Norwalk
Lab Order: N043134

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) recovery biased high on analytes Acetone and 2-Butanone. Sample results were non-detect (ND) for these analytes therefore reanalysis of the samples was not necessary.

Matrix Spike is outside recovery criteria on analyte Bromomethane possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.



CLIENT: CH2MHill
Project: SFPP Norwalk
Lab Order: N043134
Contract No:

Work Order Sample Summary

| Lab Sample ID | Client Sample ID | Matrix | Collection Date | Date Received | Date Reported |
|---------------|------------------|------------|------------------------|---------------|---------------|
| N043134-001A | INF-112320 | Wastewater | 11/23/2020 12:15:00 PM | 11/23/2020 | 12/2/2020 |
| N043134-001B | INF-112320 | Wastewater | 11/23/2020 12:15:00 PM | 11/23/2020 | 12/2/2020 |
| N043134-001C | INF-112320 | Wastewater | 11/23/2020 12:15:00 PM | 11/23/2020 | 12/2/2020 |



ASSET Laboratories

ANALYTICAL RESULTS

Print Date: 02-Dec-20

CLIENT: CH2MHill
Lab Order: N043134
Project: SFPP Norwalk
Lab ID: N043134-001

Client Sample ID: INF-112320
Collection Date: 11/23/2020 12:15:00 PM
Matrix: WASTEWATER

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed |
|----------|--------|-----|-----|------|-------|----|---------------|
|----------|--------|-----|-----|------|-------|----|---------------|

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

| RunID: | NV00922-MS5_201130A | QC Batch: | P20VW123 | PrepDate: | Analyst: | HG |
|-----------------------------|---------------------|-----------|----------|-----------|----------|---------------------|
| 1,1,1,2-Tetrachloroethane | ND | 0.25 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,1,1-Trichloroethane | ND | 0.20 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,1,2,2-Tetrachloroethane | ND | 0.11 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,1,2-Trichloroethane | ND | 0.23 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,1-Dichloroethane | ND | 0.22 | 0.50 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,1-Dichloroethene | ND | 0.17 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,1-Dichloropropene | ND | 0.16 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,2,3-Trichlorobenzene | ND | 0.37 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,2,3-Trichloropropane | ND | 0.23 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,2,4-Trichlorobenzene | ND | 0.10 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,2,4-Trimethylbenzene | 3.2 | 0.060 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,2-Dibromo-3-chloropropane | ND | 0.32 | 2.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,2-Dibromoethane | ND | 0.19 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,2-Dichlorobenzene | ND | 0.089 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,2-Dichloroethane | ND | 0.16 | 0.50 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,2-Dichloropropane | ND | 0.16 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,3,5-Trimethylbenzene | 2.5 | 0.051 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,3-Dichlorobenzene | ND | 0.081 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,3-Dichloropropane | ND | 0.13 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 1,4-Dichlorobenzene | ND | 0.080 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 2,2-Dichloropropane | ND | 0.22 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 2-Butanone | ND | 4.7 | 10 | ug/L | 1 | 11/30/2020 01:18 PM |
| 2-Chlorotoluene | ND | 0.090 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 4-Chlorotoluene | ND | 0.065 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 4-Isopropyltoluene | ND | 0.085 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| 4-Methyl-2-pentanone | ND | 0.83 | 10 | ug/L | 1 | 11/30/2020 01:18 PM |
| Acetone | ND | 4.6 | 10 | ug/L | 1 | 11/30/2020 01:18 PM |
| Benzene | 250 | 1.1 | 10 | ug/L | 10 | 11/30/2020 01:40 PM |
| Bromobenzene | ND | 0.093 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Bromochloromethane | ND | 0.26 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Bromodichloromethane | ND | 0.20 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Bromoform | ND | 0.23 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Bromomethane | ND | 0.38 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Carbon disulfide | ND | 0.19 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Carbon tetrachloride | ND | 0.33 | 0.50 | ug/L | 1 | 11/30/2020 01:18 PM |
| Chlorobenzene | ND | 0.11 | 1.0 | ug/L | 1 | 11/30/2020 01:18 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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ANALYTICAL RESULTS

Print Date: 02-Dec-20

CLIENT: CH2MHill
Lab Order: N043134
Project: SFPP Norwalk
Lab ID: N043134-001

Client Sample ID: INF-112320
Collection Date: 11/23/2020 12:15:00 PM
Matrix: WASTEWATER

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed |
|----------|--------|-----|-----|------|-------|----|---------------|
|----------|--------|-----|-----|------|-------|----|---------------|

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

| RunID: | QC Batch: | PrepDate: | Analyst: | | | |
|-----------------------------|-----------------|-----------|-----------|--------|----|---------------------|
| NV00922-MS5_201130A | P20VW123 | | HG | | | |
| Chloroethane | ND | 0.69 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Chloroform | ND | 0.38 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Chloromethane | ND | 0.23 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| cis-1,2-Dichloroethene | ND | 0.11 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| cis-1,3-Dichloropropene | ND | 0.16 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Di-isopropyl ether | 24 | 0.15 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Dibromochloromethane | ND | 0.23 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Dibromomethane | ND | 0.13 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Dichlorodifluoromethane | ND | 0.16 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Ethyl tert-butyl ether | ND | 0.10 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Ethylbenzene | 2.2 | 0.11 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Freon-113 | ND | 0.28 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Hexachlorobutadiene | ND | 0.30 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Isopropylbenzene | 4.2 | 0.092 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| m,p-Xylene | 4.8 | 0.23 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Methylene chloride | ND | 1.2 | 2.0 | ug/L | 1 | 11/30/2020 09:24 PM |
| MTBE | 7.0 | 0.44 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| n-Butylbenzene | 0.66 | 0.093 | 1.0 | J ug/L | 1 | 11/30/2020 01:18 PM |
| n-Propylbenzene | 6.7 | 0.10 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Naphthalene | 41 | 0.41 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| o-Xylene | 0.69 | 0.087 | 1.0 | J ug/L | 1 | 11/30/2020 01:18 PM |
| sec-Butylbenzene | 0.76 | 0.076 | 1.0 | J ug/L | 1 | 11/30/2020 01:18 PM |
| Styrene | ND | 0.41 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Tert-amyl methyl ether | ND | 0.13 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Tert-Butanol | 70 | 2.8 | 5.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| tert-Butylbenzene | ND | 0.10 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Tetrachloroethene | ND | 0.25 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Toluene | 1.1 | 0.13 | 2.0 | J ug/L | 1 | 11/30/2020 01:18 PM |
| trans-1,2-Dichloroethene | ND | 0.27 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| trans-1,3-Dichloropropene | ND | 0.12 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Trichloroethene | ND | 0.26 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Trichlorofluoromethane | ND | 0.23 | 1.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Vinyl chloride | ND | 0.19 | 0.50 | ug/L | 1 | 11/30/2020 01:18 PM |
| Xylenes, Total | 5.5 | 1.5 | 2.0 | ug/L | 1 | 11/30/2020 01:18 PM |
| Surr: 1,2-Dichloroethane-d4 | 99.8 | 0 | 72-119 | %REC | 1 | 11/30/2020 01:18 PM |
| Surr: 1,2-Dichloroethane-d4 | 104 | 0 | 72-119 | %REC | 10 | 11/30/2020 01:40 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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ANALYTICAL RESULTS

Print Date: 02-Dec-20

| | |
|------------------------------|--|
| CLIENT: CH2MHill | Client Sample ID: INF-112320 |
| Lab Order: N043134 | Collection Date: 11/23/2020 12:15:00 PM |
| Project: SFPP Norwalk | Matrix: WASTEWATER |
| Lab ID: N043134-001 | |

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed |
|----------|--------|-----|-----|------|-------|----|---------------|
|----------|--------|-----|-----|------|-------|----|---------------|

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

| | | | | | | |
|-----------------------------------|---------------------------|---|--------|-----------|----|---------------------|
| RunID: NV00922-MS5_201130A | QC Batch: P20VW123 | | | PrepDate: | | Analyst: HG |
| Surr: 1,2-Dichloroethane-d4 | 106 | 0 | 72-119 | %REC | 1 | 11/30/2020 09:24 PM |
| Surr: 4-Bromofluorobenzene | 107 | 0 | 76-119 | %REC | 1 | 11/30/2020 09:24 PM |
| Surr: 4-Bromofluorobenzene | 106 | 0 | 76-119 | %REC | 1 | 11/30/2020 01:18 PM |
| Surr: 4-Bromofluorobenzene | 102 | 0 | 76-119 | %REC | 10 | 11/30/2020 01:40 PM |
| Surr: Dibromofluoromethane | 96.0 | 0 | 85-115 | %REC | 1 | 11/30/2020 09:24 PM |
| Surr: Dibromofluoromethane | 108 | 0 | 85-115 | %REC | 10 | 11/30/2020 01:40 PM |
| Surr: Dibromofluoromethane | 101 | 0 | 85-115 | %REC | 1 | 11/30/2020 01:18 PM |
| Surr: Toluene-d8 | 105 | 0 | 81-120 | %REC | 10 | 11/30/2020 01:40 PM |
| Surr: Toluene-d8 | 100 | 0 | 81-120 | %REC | 1 | 11/30/2020 01:18 PM |
| Surr: Toluene-d8 | 96.4 | 0 | 81-120 | %REC | 1 | 11/30/2020 09:24 PM |

TPH EXTRACTABLE BY GC/FID

EPA 3510C

EPA 8015B

| | | | | | | |
|-----------------------------------|------------------------|----|--------|-----------------------------|---|---------------------|
| RunID: NV00922-GC1_201124B | QC Batch: 83155 | | | PrepDate: 11/24/2020 | | Analyst: PL |
| TPH-Diesel (C13-C22) | 810 | 16 | 26 | ug/L | 1 | 11/24/2020 07:14 PM |
| TPH-Oil (C23-C36) | 160 | 14 | 26 | ug/L | 1 | 11/24/2020 07:14 PM |
| Surr: Octacosane | 93.4 | 0 | 26-152 | %REC | 1 | 11/24/2020 07:14 PM |
| Surr: p-Terphenyl | 90.9 | 0 | 57-132 | %REC | 1 | 11/24/2020 07:14 PM |

GASOLINE RANGE ORGANICS BY GC/FID

EPA 8015B

| | | | | | | |
|-----------------------------------|---------------------------|----|--------|-----------|---|---------------------|
| RunID: NV00922-GC4_201124A | QC Batch: E20VW117 | | | PrepDate: | | Analyst: BH |
| TPH-Gasoline (C4-C12) | 620 | 21 | 50 | ug/L | 1 | 11/24/2020 03:03 PM |
| Surr: Chlorobenzene - d5 | 106 | 0 | 74-138 | %REC | 1 | 11/24/2020 03:03 PM |

TOTAL TPH

EPA 8015B

| | | | | | | |
|-----------------------------------|--------------------------|----|-----|-----------|---|--------------------|
| RunID: NV00922-GC1_201124B | QC Batch: R148965 | | | PrepDate: | | Analyst: PL |
| Total TPH | 1600 | 21 | 100 | ug/L | 1 | 11/24/2020 |

| | | |
|--------------------|--|--|
| 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: N043134
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_FP_SFPP

| Sample ID: MB-83155 | SampType: MBLK | TestCode: 8015_W_FP_ | Units: ug/L | Prep Date: 11/24/2020 | RunNo: 148965 | | | | | | |
|----------------------------|------------------------|------------------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: 83155 | TestNo: EPA 8015B EPA 3510C | | Analysis Date: 11/24/2020 | SeqNo: 4016569 | | | | | | |
| 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) | 17.285 | 25 | | | | | | | | | J |
| Surr: Octacosane | 57.109 | | 80.00 | | 71.4 | 26 | 152 | | | | |
| Surr: p-Terphenyl | 56.863 | | 80.00 | | 71.1 | 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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 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
Work Order: N043134
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_SFPPTOT

| Sample ID: MB-R148965 | SampType: MBLK | TestCode: 8015_W_SFP | Units: ug/L | Prep Date: | RunNo: 148965 | | | | | | |
|------------------------------|--------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: R148965 | TestNo: EPA 8015B | | Analysis Date: 11/24/2020 | SeqNo: 4017082 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Total TPH | 61.285 | 100 | | | | | | | | | 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 |



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CLIENT: CH2MHill
Work Order: N043134
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_WSFP

| | | | | | | | | | | | |
|------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: E201124LCS | SampType: LCS | TestCode: 8015GAS_WS | Units: ug/L | Prep Date: | RunNo: 148952 | | | | | | |
| Client ID: LCSW | Batch ID: E20VW117 | TestNo: EPA 8015B | | Analysis Date: 11/24/2020 | SeqNo: 4016176 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| | | | | | | | | | | | |
|--------------------------|-----------|----|-------|---|------|----|-----|--|--|--|--|
| TPH-Gasoline (C4-C12) | 849.000 | 50 | 1000 | 0 | 84.9 | 67 | 136 | | | | |
| Surr: Chlorobenzene - d5 | 43084.000 | | 50000 | | 86.2 | 74 | 138 | | | | |

| | | | | | | | | | | | |
|-----------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: E201124MB | SampType: MBLK | TestCode: 8015GAS_WS | Units: ug/L | Prep Date: | RunNo: 148952 | | | | | | |
| Client ID: PBW | Batch ID: E20VW117 | TestNo: EPA 8015B | | Analysis Date: 11/24/2020 | SeqNo: 4016177 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| | | | | | | | | | | | |
|--------------------------|-----------|----|-------|--|------|----|-----|--|--|--|---|
| TPH-Gasoline (C4-C12) | 44.000 | 50 | | | | | | | | | J |
| Surr: Chlorobenzene - d5 | 47285.000 | | 50000 | | 94.6 | 74 | 138 | | | | |

| | | | | | | | | | | | |
|----------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: N043124-002BMS | SampType: MS | TestCode: 8015GAS_WS | Units: ug/L | Prep Date: | RunNo: 148952 | | | | | | |
| Client ID: ZZZZZ | Batch ID: E20VW117 | TestNo: EPA 8015B | | Analysis Date: 11/24/2020 | SeqNo: 4016179 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| | | | | | | | | | | | |
|--------------------------|-----------|----|-------|-------|------|----|-----|--|--|--|--|
| TPH-Gasoline (C4-C12) | 1254.000 | 50 | 1000 | 120.0 | 113 | 67 | 136 | | | | |
| Surr: Chlorobenzene - d5 | 44263.000 | | 50000 | | 88.5 | 74 | 138 | | | | |

| | | | | | | | | | | | |
|-----------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: N043124-002BMSD | SampType: MSD | TestCode: 8015GAS_WS | Units: ug/L | Prep Date: | RunNo: 148952 | | | | | | |
| Client ID: ZZZZZ | Batch ID: E20VW117 | TestNo: EPA 8015B | | Analysis Date: 11/24/2020 | SeqNo: 4016180 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| | | | | | | | | | | | |
|--------------------------|-----------|----|-------|-------|-----|----|-----|------|------|----|--|
| TPH-Gasoline (C4-C12) | 1280.000 | 50 | 1000 | 120.0 | 116 | 67 | 136 | 1254 | 2.05 | 30 | |
| Surr: Chlorobenzene - d5 | 51369.000 | | 50000 | | 103 | 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: N043134
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: P201130LCS | SampType: LCS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149028 | | | | | | |
|------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: P20VW123 | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | SeqNo: 4019228 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,1,1,2-Tetrachloroethane | 19.140 | 1.0 | 20.00 | 0 | 95.7 | 81 | 129 | | | | |
| 1,1,1-Trichloroethane | 20.870 | 1.0 | 20.00 | 0 | 104 | 67 | 132 | | | | |
| 1,1,2,2-Tetrachloroethane | 20.490 | 1.0 | 20.00 | 0 | 102 | 63 | 128 | | | | |
| 1,1,2-Trichloroethane | 21.100 | 1.0 | 20.00 | 0 | 106 | 75 | 125 | | | | |
| 1,1-Dichloroethane | 20.460 | 0.50 | 20.00 | 0 | 102 | 69 | 133 | | | | |
| 1,1-Dichloroethene | 19.940 | 1.0 | 20.00 | 0 | 99.7 | 68 | 130 | | | | |
| 1,1-Dichloropropene | 21.160 | 1.0 | 20.00 | 0 | 106 | 73 | 132 | | | | |
| 1,2,3-Trichlorobenzene | 22.970 | 1.0 | 20.00 | 0 | 115 | 67 | 137 | | | | |
| 1,2,3-Trichloropropane | 18.970 | 1.0 | 20.00 | 0 | 94.8 | 73 | 124 | | | | |
| 1,2,4-Trichlorobenzene | 20.860 | 1.0 | 20.00 | 0 | 104 | 66 | 134 | | | | |
| 1,2,4-Trimethylbenzene | 17.740 | 1.0 | 20.00 | 0 | 88.7 | 74 | 132 | | | | |
| 1,2-Dibromo-3-chloropropane | 22.530 | 2.0 | 20.00 | 0 | 113 | 50 | 132 | | | | |
| 1,2-Dibromoethane | 21.630 | 1.0 | 20.00 | 0 | 108 | 80 | 121 | | | | |
| 1,2-Dichlorobenzene | 18.940 | 1.0 | 20.00 | 0 | 94.7 | 71 | 122 | | | | |
| 1,2-Dichloroethane | 21.360 | 0.50 | 20.00 | 0 | 107 | 69 | 132 | | | | |
| 1,2-Dichloropropane | 19.410 | 1.0 | 20.00 | 0 | 97.0 | 75 | 125 | | | | |
| 1,3,5-Trimethylbenzene | 17.470 | 1.0 | 20.00 | 0 | 87.4 | 74 | 131 | | | | |
| 1,3-Dichlorobenzene | 19.150 | 1.0 | 20.00 | 0 | 95.8 | 75 | 124 | | | | |
| 1,3-Dichloropropane | 19.210 | 1.0 | 20.00 | 0 | 96.0 | 73 | 126 | | | | |
| 1,4-Dichlorobenzene | 18.450 | 1.0 | 20.00 | 0 | 92.2 | 74 | 123 | | | | |
| 2,2-Dichloropropane | 19.920 | 1.0 | 20.00 | 0 | 99.6 | 69 | 137 | | | | |
| 2-Butanone | 409.510 | 10 | 200.0 | 0 | 205 | 49 | 136 | | | | S |
| 2-Chlorotoluene | 18.570 | 1.0 | 20.00 | 0 | 92.8 | 73 | 126 | | | | |
| 4-Chlorotoluene | 18.960 | 1.0 | 20.00 | 0 | 94.8 | 74 | 128 | | | | |
| 4-Isopropyltoluene | 17.220 | 1.0 | 20.00 | 0 | 86.1 | 73 | 130 | | | | |
| 4-Methyl-2-pentanone | 267.440 | 10 | 200.0 | 0 | 134 | 58 | 134 | | | | |
| Acetone | 397.180 | 10 | 200.0 | 0 | 199 | 40 | 135 | | | | S |
| Benzene | 19.870 | 1.0 | 20.00 | 0 | 99.4 | 81 | 122 | | | | |
| Bromobenzene | 18.530 | 1.0 | 20.00 | 0 | 92.6 | 76 | 124 | | | | |
| Bromochloromethane | 22.550 | 1.0 | 20.00 | 0 | 113 | 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 |

CLIENT: CH2MHill
Work Order: N043134
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: P201130LCS | SampType: LCS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149028 | | | | | | |
|------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: P20VW123 | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | SeqNo: 4019228 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Bromodichloromethane | 19.850 | 1.0 | 20.00 | 0 | 99.2 | 76 | 121 | | | | |
| Bromoform | 19.650 | 1.0 | 20.00 | 0 | 98.2 | 69 | 128 | | | | |
| Bromomethane | 23.640 | 1.0 | 20.00 | 0 | 118 | 53 | 141 | | | | |
| Carbon disulfide | 20.260 | 1.0 | 20.00 | 0 | 101 | 75 | 125 | | | | |
| Carbon tetrachloride | 20.210 | 0.50 | 20.00 | 0 | 101 | 66 | 138 | | | | |
| Chlorobenzene | 18.590 | 1.0 | 20.00 | 0 | 93.0 | 81 | 122 | | | | |
| Chloroethane | 19.210 | 1.0 | 20.00 | 0 | 96.0 | 58 | 133 | | | | |
| Chloroform | 21.200 | 1.0 | 20.00 | 0 | 106 | 69 | 128 | | | | |
| Chloromethane | 18.140 | 1.0 | 20.00 | 0 | 90.7 | 56 | 131 | | | | |
| cis-1,2-Dichloroethene | 21.570 | 1.0 | 20.00 | 0 | 108 | 72 | 126 | | | | |
| cis-1,3-Dichloropropene | 21.010 | 1.0 | 20.00 | 0 | 105 | 69 | 131 | | | | |
| Di-isopropyl ether | 21.370 | 1.0 | 20.00 | 0 | 107 | 70 | 130 | | | | |
| Dibromochloromethane | 19.290 | 1.0 | 20.00 | 0 | 96.5 | 66 | 133 | | | | |
| Dibromomethane | 20.980 | 1.0 | 20.00 | 0 | 105 | 76 | 125 | | | | |
| Dichlorodifluoromethane | 16.740 | 1.0 | 20.00 | 0 | 83.7 | 53 | 153 | | | | |
| Ethyl tert-butyl ether | 24.350 | 1.0 | 20.00 | 0 | 122 | 70 | 130 | | | | |
| Ethylbenzene | 18.510 | 1.0 | 20.00 | 0 | 92.6 | 73 | 127 | | | | |
| Freon-113 | 20.710 | 1.0 | 20.00 | 0 | 104 | 75 | 125 | | | | |
| Hexachlorobutadiene | 19.280 | 1.0 | 20.00 | 0 | 96.4 | 67 | 131 | | | | |
| Isopropylbenzene | 18.480 | 1.0 | 20.00 | 0 | 92.4 | 75 | 127 | | | | |
| m,p-Xylene | 39.470 | 1.0 | 40.00 | 0 | 98.7 | 76 | 128 | | | | |
| MTBE | 22.630 | 1.0 | 20.00 | 0 | 113 | 65 | 123 | | | | |
| n-Butylbenzene | 18.510 | 1.0 | 20.00 | 0 | 92.6 | 69 | 137 | | | | |
| n-Propylbenzene | 18.830 | 1.0 | 20.00 | 0 | 94.2 | 72 | 129 | | | | |
| Naphthalene | 19.150 | 1.0 | 20.00 | 0 | 95.8 | 54 | 138 | | | | |
| o-Xylene | 19.320 | 1.0 | 20.00 | 0 | 96.6 | 80 | 121 | | | | |
| sec-Butylbenzene | 19.420 | 1.0 | 20.00 | 0 | 97.1 | 72 | 127 | | | | |
| Styrene | 20.330 | 1.0 | 20.00 | 0 | 102 | 65 | 134 | | | | |
| Tert-amyl methyl ether | 21.480 | 1.0 | 20.00 | 0 | 107 | 70 | 130 | | | | |
| Tert-Butanol | 129.630 | 5.0 | 100.0 | 0 | 130 | 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: N043134
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: P201130LCS | SampType: LCS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149028 | | | | | | |
|------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: P20VW123 | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | SeqNo: 4019228 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| tert-Butylbenzene | 17.080 | 1.0 | 20.00 | 0 | 85.4 | 70 | 129 | | | | |
| Tetrachloroethene | 19.220 | 1.0 | 20.00 | 0 | 96.1 | 66 | 128 | | | | |
| Toluene | 20.130 | 2.0 | 20.00 | 0 | 101 | 77 | 122 | | | | |
| trans-1,2-Dichloroethene | 21.220 | 1.0 | 20.00 | 0 | 106 | 63 | 137 | | | | |
| trans-1,3-Dichloropropene | 21.870 | 1.0 | 20.00 | 0 | 109 | 59 | 135 | | | | |
| Trichloroethene | 20.220 | 1.0 | 20.00 | 0 | 101 | 70 | 127 | | | | |
| Trichlorofluoromethane | 21.030 | 1.0 | 20.00 | 0 | 105 | 57 | 129 | | | | |
| Vinyl chloride | 19.510 | 0.50 | 20.00 | 0 | 97.6 | 50 | 134 | | | | |
| Xylenes, Total | 58.790 | 2.0 | 60.00 | 0 | 98.0 | 75 | 125 | | | | |
| Surr: 1,2-Dichloroethane-d4 | 28.230 | | 25.00 | | 113 | 72 | 119 | | | | |
| Surr: 4-Bromofluorobenzene | 25.240 | | 25.00 | | 101 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 27.390 | | 25.00 | | 110 | 85 | 115 | | | | |
| Surr: Toluene-d8 | 25.320 | | 25.00 | | 101 | 81 | 120 | | | | |

| Sample ID: P201130MB3 | SampType: MBLK | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149028 | | | | | | |
|------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: P20VW123 | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | SeqNo: 4019231 | | | | | | |
| 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 | | | | | | | | | |

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: N043134
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: P201130MB3 | SampType: MBLK | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149028 | | | | | | |
|------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: P20VW123 | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | SeqNo: 4019231 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|-------------------------|--------|------|-----------|-------------|------|----------|-----------|-------------|------|----------|------|
| 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 | | | | | | | | | |
| 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 | | | | | | | | | |

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: N043134
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: P201130MB3 | SampType: MBLK | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149028 | | | | | | |
|------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: P20VW123 | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | SeqNo: 4019231 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 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 | | | | | | | | | |
| 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 | | | | | | | | | |
| Trichlorofluoromethane | ND | 1.0 | | | | | | | | | |
| Vinyl chloride | ND | 0.50 | | | | | | | | | |
| Xylenes, Total | ND | 2.0 | | | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 25.040 | | 25.00 | | 100 | 72 | 119 | | | | |
| Surr: 4-Bromofluorobenzene | 21.790 | | 25.00 | | 87.2 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 25.860 | | 25.00 | | 103 | 85 | 115 | | | | |

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: N043134
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| | | | | | | | | | | | |
|------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: P201130MB3 | SampType: MBLK | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149028 | | | | | | |
| Client ID: PBW | Batch ID: P20VW123 | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | SeqNo: 4019231 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Surr: Toluene-d8 | 23.800 | | 25.00 | | 95.2 | 81 | 120 | | | | |

| | | | | | | | | | | | |
|----------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: N043110-001BMS | SampType: MS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149028 | | | | | | |
| Client ID: ZZZZZ | Batch ID: P20VW123 | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | SeqNo: 4019243 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,1,1,2-Tetrachloroethane | 19.360 | 1.0 | 20.00 | 0 | 96.8 | 81 | 129 | | | | |
| 1,1,1-Trichloroethane | 22.830 | 1.0 | 20.00 | 0 | 114 | 67 | 132 | | | | |
| 1,1,2,2-Tetrachloroethane | 19.900 | 1.0 | 20.00 | 0 | 99.5 | 63 | 128 | | | | |
| 1,1,2-Trichloroethane | 19.440 | 1.0 | 20.00 | 0 | 97.2 | 75 | 125 | | | | |
| 1,1-Dichloroethane | 22.390 | 0.50 | 20.00 | 0 | 112 | 69 | 133 | | | | |
| 1,1-Dichloroethene | 24.000 | 1.0 | 20.00 | 0 | 120 | 68 | 130 | | | | |
| 1,1-Dichloropropene | 23.010 | 1.0 | 20.00 | 0 | 115 | 73 | 132 | | | | |
| 1,2,3-Trichlorobenzene | 19.710 | 1.0 | 20.00 | 0 | 98.6 | 67 | 137 | | | | |
| 1,2,3-Trichloropropane | 18.690 | 1.0 | 20.00 | 0 | 93.5 | 73 | 124 | | | | |
| 1,2,4-Trichlorobenzene | 20.560 | 1.0 | 20.00 | 0 | 103 | 66 | 134 | | | | |
| 1,2,4-Trimethylbenzene | 19.820 | 1.0 | 20.00 | 0 | 99.1 | 74 | 132 | | | | |
| 1,2-Dibromo-3-chloropropane | 19.250 | 2.0 | 20.00 | 0 | 96.2 | 50 | 132 | | | | |
| 1,2-Dibromoethane | 20.730 | 1.0 | 20.00 | 0 | 104 | 80 | 121 | | | | |
| 1,2-Dichlorobenzene | 20.130 | 1.0 | 20.00 | 0 | 101 | 71 | 122 | | | | |
| 1,2-Dichloroethane | 20.890 | 0.50 | 20.00 | 0 | 104 | 69 | 132 | | | | |
| 1,2-Dichloropropane | 19.740 | 1.0 | 20.00 | 0 | 98.7 | 75 | 125 | | | | |
| 1,3,5-Trimethylbenzene | 19.890 | 1.0 | 20.00 | 0 | 99.4 | 74 | 131 | | | | |
| 1,3-Dichlorobenzene | 21.360 | 1.0 | 20.00 | 0 | 107 | 75 | 124 | | | | |
| 1,3-Dichloropropane | 19.560 | 1.0 | 20.00 | 0 | 97.8 | 73 | 126 | | | | |
| 1,4-Dichlorobenzene | 19.980 | 1.0 | 20.00 | 0 | 99.9 | 74 | 123 | | | | |
| 2,2-Dichloropropane | 22.170 | 1.0 | 20.00 | 0 | 111 | 69 | 137 | | | | |
| 2-Butanone | 152.580 | 10 | 200.0 | 0 | 76.3 | 49 | 136 | | | | |
| 2-Chlorotoluene | 20.900 | 1.0 | 20.00 | 0 | 104 | 73 | 126 | | | | |
| 4-Chlorotoluene | 21.040 | 1.0 | 20.00 | 0 | 105 | 74 | 128 | | | | |

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: N043134
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: N043110-001BMS | SampType: MS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149028 | | | | | | |
|----------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: ZZZZZZ | Batch ID: P20VW123 | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | SeqNo: 4019243 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 4-Isopropyltoluene | 19.850 | 1.0 | 20.00 | 0 | 99.2 | 73 | 130 | | | | |
| 4-Methyl-2-pentanone | 192.830 | 10 | 200.0 | 0 | 96.4 | 58 | 134 | | | | |
| Acetone | 127.170 | 10 | 200.0 | 0 | 63.6 | 40 | 135 | | | | |
| Benzene | 20.920 | 1.0 | 20.00 | 0 | 105 | 81 | 122 | | | | |
| Bromobenzene | 19.590 | 1.0 | 20.00 | 0 | 98.0 | 76 | 124 | | | | |
| Bromochloromethane | 22.440 | 1.0 | 20.00 | 0 | 112 | 65 | 129 | | | | |
| Bromodichloromethane | 20.260 | 1.0 | 20.00 | 0 | 101 | 76 | 121 | | | | |
| Bromoform | 19.930 | 1.0 | 20.00 | 0 | 99.7 | 69 | 128 | | | | |
| Bromomethane | 28.970 | 1.0 | 20.00 | 0 | 145 | 53 | 141 | | | | S |
| Carbon disulfide | 23.940 | 1.0 | 20.00 | 0 | 120 | 75 | 125 | | | | |
| Carbon tetrachloride | 21.800 | 0.50 | 20.00 | 0 | 109 | 66 | 138 | | | | |
| Chlorobenzene | 20.300 | 1.0 | 20.00 | 0 | 102 | 81 | 122 | | | | |
| Chloroethane | 23.590 | 1.0 | 20.00 | 0 | 118 | 58 | 133 | | | | |
| Chloroform | 22.440 | 1.0 | 20.00 | 0 | 112 | 69 | 128 | | | | |
| Chloromethane | 22.800 | 1.0 | 20.00 | 0 | 114 | 56 | 131 | | | | |
| cis-1,2-Dichloroethene | 22.390 | 1.0 | 20.00 | 0 | 112 | 72 | 126 | | | | |
| cis-1,3-Dichloropropene | 20.670 | 1.0 | 20.00 | 0 | 103 | 69 | 131 | | | | |
| Di-isopropyl ether | 21.610 | 1.0 | 20.00 | 0 | 108 | 70 | 130 | | | | |
| Dibromochloromethane | 20.130 | 1.0 | 20.00 | 0 | 101 | 66 | 133 | | | | |
| Dibromomethane | 19.930 | 1.0 | 20.00 | 0 | 99.7 | 76 | 125 | | | | |
| Dichlorodifluoromethane | 24.510 | 1.0 | 20.00 | 0 | 123 | 53 | 153 | | | | |
| Ethyl tert-butyl ether | 23.910 | 1.0 | 20.00 | 0 | 120 | 70 | 130 | | | | |
| Ethylbenzene | 21.360 | 1.0 | 20.00 | 0 | 107 | 73 | 127 | | | | |
| Freon-113 | 24.720 | 1.0 | 20.00 | 0 | 124 | 75 | 125 | | | | |
| Hexachlorobutadiene | 20.020 | 1.0 | 20.00 | 0 | 100 | 67 | 131 | | | | |
| Isopropylbenzene | 22.150 | 1.0 | 20.00 | 0 | 111 | 75 | 127 | | | | |
| m,p-Xylene | 44.810 | 1.0 | 40.00 | 0 | 112 | 76 | 128 | | | | |
| MTBE | 20.790 | 1.0 | 20.00 | 0 | 104 | 65 | 123 | | | | |
| n-Butylbenzene | 21.610 | 1.0 | 20.00 | 0 | 108 | 69 | 137 | | | | |
| n-Propylbenzene | 22.150 | 1.0 | 20.00 | 0 | 111 | 72 | 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 |

CLIENT: CH2MHill
Work Order: N043134
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: N043110-001BMS | | SampType: MS | | TestCode: 8260_WP_SF | | Units: ug/L | | Prep Date: | | RunNo: 149028 | |
|----------------------------------|---------|---------------------------|-----------|-----------------------------|------|----------------------------------|-----------|-------------|------|-----------------------|------|
| Client ID: ZZZZZ | | Batch ID: P20VW123 | | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | | | | SeqNo: 4019243 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Naphthalene | 16.430 | 1.0 | 20.00 | 2.280 | 70.8 | 54 | 138 | | | | |
| o-Xylene | 21.320 | 1.0 | 20.00 | 0 | 107 | 80 | 121 | | | | |
| sec-Butylbenzene | 23.230 | 1.0 | 20.00 | 0 | 116 | 72 | 127 | | | | |
| Styrene | 21.920 | 1.0 | 20.00 | 0 | 110 | 65 | 134 | | | | |
| Tert-amyl methyl ether | 19.940 | 1.0 | 20.00 | 0 | 99.7 | 70 | 130 | | | | |
| Tert-Butanol | 109.280 | 5.0 | 100.0 | 0 | 109 | 70 | 130 | | | | |
| tert-Butylbenzene | 19.900 | 1.0 | 20.00 | 0 | 99.5 | 70 | 129 | | | | |
| Tetrachloroethene | 22.000 | 1.0 | 20.00 | 0 | 110 | 66 | 128 | | | | |
| Toluene | 21.550 | 2.0 | 20.00 | 0 | 108 | 77 | 122 | | | | |
| trans-1,2-Dichloroethene | 23.360 | 1.0 | 20.00 | 0 | 117 | 63 | 137 | | | | |
| trans-1,3-Dichloropropene | 21.200 | 1.0 | 20.00 | 0 | 106 | 59 | 135 | | | | |
| Trichloroethene | 21.580 | 1.0 | 20.00 | 0 | 108 | 70 | 127 | | | | |
| Trichlorofluoromethane | 25.030 | 1.0 | 20.00 | 0 | 125 | 57 | 129 | | | | |
| Vinyl chloride | 23.950 | 0.50 | 20.00 | 0 | 120 | 50 | 134 | | | | |
| Xylenes, Total | 66.130 | 2.0 | 60.00 | 0 | 110 | 75 | 125 | | | | |
| Surr: 1,2-Dichloroethane-d4 | 27.400 | | 25.00 | | 110 | 72 | 119 | | | | |
| Surr: 4-Bromofluorobenzene | 26.410 | | 25.00 | | 106 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 27.810 | | 25.00 | | 111 | 85 | 115 | | | | |
| Surr: Toluene-d8 | 25.570 | | 25.00 | | 102 | 81 | 120 | | | | |

| Sample ID: N043110-001BMSD | | SampType: MSD | | TestCode: 8260_WP_SF | | Units: ug/L | | Prep Date: | | RunNo: 149028 | |
|-----------------------------------|--------|---------------------------|-----------|-----------------------------|------|----------------------------------|-----------|-------------|------|-----------------------|------|
| Client ID: ZZZZZ | | Batch ID: P20VW123 | | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | | | | SeqNo: 4019244 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,1,1,2-Tetrachloroethane | 19.860 | 1.0 | 20.00 | 0 | 99.3 | 81 | 129 | 19.36 | 2.55 | 20 | |
| 1,1,1-Trichloroethane | 22.270 | 1.0 | 20.00 | 0 | 111 | 67 | 132 | 22.83 | 2.48 | 20 | |
| 1,1,1,2-Tetrachloroethane | 21.160 | 1.0 | 20.00 | 0 | 106 | 63 | 128 | 19.90 | 6.14 | 20 | |
| 1,1,2-Trichloroethane | 21.150 | 1.0 | 20.00 | 0 | 106 | 75 | 125 | 19.44 | 8.43 | 20 | |
| 1,1-Dichloroethane | 21.660 | 0.50 | 20.00 | 0 | 108 | 69 | 133 | 22.39 | 3.31 | 20 | |
| 1,1-Dichloroethene | 20.850 | 1.0 | 20.00 | 0 | 104 | 68 | 130 | 24.00 | 14.0 | 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: N043134
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: N043110-001BMSD | SampType: MSD | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149028 | | | | | | |
|-----------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|-------|----------|------|
| Client ID: ZZZZZZ | Batch ID: P20VW123 | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | SeqNo: 4019244 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,1-Dichloropropene | 21.680 | 1.0 | 20.00 | 0 | 108 | 73 | 132 | 23.01 | 5.95 | 20 | |
| 1,2,3-Trichlorobenzene | 23.220 | 1.0 | 20.00 | 0 | 116 | 67 | 137 | 19.71 | 16.4 | 20 | |
| 1,2,3-Trichloropropane | 19.590 | 1.0 | 20.00 | 0 | 98.0 | 73 | 124 | 18.69 | 4.70 | 20 | |
| 1,2,4-Trichlorobenzene | 22.380 | 1.0 | 20.00 | 0 | 112 | 66 | 134 | 20.56 | 8.48 | 20 | |
| 1,2,4-Trimethylbenzene | 19.390 | 1.0 | 20.00 | 0 | 97.0 | 74 | 132 | 19.82 | 2.19 | 20 | |
| 1,2-Dibromo-3-chloropropane | 21.140 | 2.0 | 20.00 | 0 | 106 | 50 | 132 | 19.25 | 9.36 | 20 | |
| 1,2-Dibromoethane | 20.630 | 1.0 | 20.00 | 0 | 103 | 80 | 121 | 20.73 | 0.484 | 20 | |
| 1,2-Dichlorobenzene | 20.540 | 1.0 | 20.00 | 0 | 103 | 71 | 122 | 20.13 | 2.02 | 20 | |
| 1,2-Dichloroethane | 21.090 | 0.50 | 20.00 | 0 | 105 | 69 | 132 | 20.89 | 0.953 | 20 | |
| 1,2-Dichloropropane | 20.120 | 1.0 | 20.00 | 0 | 101 | 75 | 125 | 19.74 | 1.91 | 20 | |
| 1,3,5-Trimethylbenzene | 19.390 | 1.0 | 20.00 | 0 | 97.0 | 74 | 131 | 19.89 | 2.55 | 20 | |
| 1,3-Dichlorobenzene | 21.160 | 1.0 | 20.00 | 0 | 106 | 75 | 124 | 21.36 | 0.941 | 20 | |
| 1,3-Dichloropropane | 20.020 | 1.0 | 20.00 | 0 | 100 | 73 | 126 | 19.56 | 2.32 | 20 | |
| 1,4-Dichlorobenzene | 20.310 | 1.0 | 20.00 | 0 | 102 | 74 | 123 | 19.98 | 1.64 | 20 | |
| 2,2-Dichloropropane | 19.880 | 1.0 | 20.00 | 0 | 99.4 | 69 | 137 | 22.17 | 10.9 | 20 | |
| 2-Butanone | 159.720 | 10 | 200.0 | 0 | 79.9 | 49 | 136 | 152.6 | 4.57 | 20 | |
| 2-Chlorotoluene | 20.390 | 1.0 | 20.00 | 0 | 102 | 73 | 126 | 20.90 | 2.47 | 20 | |
| 4-Chlorotoluene | 21.200 | 1.0 | 20.00 | 0 | 106 | 74 | 128 | 21.04 | 0.758 | 20 | |
| 4-Isopropyltoluene | 19.230 | 1.0 | 20.00 | 0 | 96.2 | 73 | 130 | 19.85 | 3.17 | 20 | |
| 4-Methyl-2-pentanone | 213.600 | 10 | 200.0 | 0 | 107 | 58 | 134 | 192.8 | 10.2 | 20 | |
| Acetone | 128.780 | 10 | 200.0 | 0 | 64.4 | 40 | 135 | 127.2 | 1.26 | 20 | |
| Benzene | 20.630 | 1.0 | 20.00 | 0 | 103 | 81 | 122 | 20.92 | 1.40 | 20 | |
| Bromobenzene | 20.410 | 1.0 | 20.00 | 0 | 102 | 76 | 124 | 19.59 | 4.10 | 20 | |
| Bromochloromethane | 21.380 | 1.0 | 20.00 | 0 | 107 | 65 | 129 | 22.44 | 4.84 | 20 | |
| Bromodichloromethane | 20.470 | 1.0 | 20.00 | 0 | 102 | 76 | 121 | 20.26 | 1.03 | 20 | |
| Bromoform | 19.680 | 1.0 | 20.00 | 0 | 98.4 | 69 | 128 | 19.93 | 1.26 | 20 | |
| Bromomethane | 25.950 | 1.0 | 20.00 | 0 | 130 | 53 | 141 | 28.97 | 11.0 | 20 | |
| Carbon disulfide | 21.900 | 1.0 | 20.00 | 0 | 110 | 75 | 125 | 23.94 | 8.90 | 20 | |
| Carbon tetrachloride | 21.450 | 0.50 | 20.00 | 0 | 107 | 66 | 138 | 21.80 | 1.62 | 20 | |
| Chlorobenzene | 19.600 | 1.0 | 20.00 | 0 | 98.0 | 81 | 122 | 20.30 | 3.51 | 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 |



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
Work Order: N043134
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: N043110-001BMSD | SampType: MSD | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149028 | | | | | | |
|-----------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|-------|----------|------|
| Client ID: ZZZZZZ | Batch ID: P20VW123 | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | SeqNo: 4019244 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Chloroethane | 23.720 | 1.0 | 20.00 | 0 | 119 | 58 | 133 | 23.59 | 0.550 | 20 | |
| Chloroform | 21.480 | 1.0 | 20.00 | 0 | 107 | 69 | 128 | 22.44 | 4.37 | 20 | |
| Chloromethane | 22.360 | 1.0 | 20.00 | 0 | 112 | 56 | 131 | 22.80 | 1.95 | 20 | |
| cis-1,2-Dichloroethene | 21.550 | 1.0 | 20.00 | 0 | 108 | 72 | 126 | 22.39 | 3.82 | 20 | |
| cis-1,3-Dichloropropene | 20.940 | 1.0 | 20.00 | 0 | 105 | 69 | 131 | 20.67 | 1.30 | 20 | |
| Di-isopropyl ether | 21.720 | 1.0 | 20.00 | 0 | 109 | 70 | 130 | 21.61 | 0.508 | 20 | |
| Dibromochloromethane | 20.410 | 1.0 | 20.00 | 0 | 102 | 66 | 133 | 20.13 | 1.38 | 20 | |
| Dibromomethane | 20.290 | 1.0 | 20.00 | 0 | 101 | 76 | 125 | 19.93 | 1.79 | 20 | |
| Dichlorodifluoromethane | 21.740 | 1.0 | 20.00 | 0 | 109 | 53 | 153 | 24.51 | 12.0 | 20 | |
| Ethyl tert-butyl ether | 23.730 | 1.0 | 20.00 | 0 | 119 | 70 | 130 | 23.91 | 0.756 | 20 | |
| Ethylbenzene | 20.150 | 1.0 | 20.00 | 0 | 101 | 73 | 127 | 21.36 | 5.83 | 20 | |
| Freon-113 | 22.520 | 1.0 | 20.00 | 0 | 113 | 75 | 125 | 24.72 | 9.31 | 20 | |
| Hexachlorobutadiene | 20.400 | 1.0 | 20.00 | 0 | 102 | 67 | 131 | 20.02 | 1.88 | 20 | |
| Isopropylbenzene | 21.450 | 1.0 | 20.00 | 0 | 107 | 75 | 127 | 22.15 | 3.21 | 20 | |
| m,p-Xylene | 43.110 | 1.0 | 40.00 | 0 | 108 | 76 | 128 | 44.81 | 3.87 | 20 | |
| MTBE | 21.700 | 1.0 | 20.00 | 0 | 108 | 65 | 123 | 20.79 | 4.28 | 20 | |
| n-Butylbenzene | 20.490 | 1.0 | 20.00 | 0 | 102 | 69 | 137 | 21.61 | 5.32 | 20 | |
| n-Propylbenzene | 21.480 | 1.0 | 20.00 | 0 | 107 | 72 | 129 | 22.15 | 3.07 | 20 | |
| Naphthalene | 19.650 | 1.0 | 20.00 | 2.280 | 86.9 | 54 | 138 | 16.43 | 17.8 | 20 | |
| o-Xylene | 20.760 | 1.0 | 20.00 | 0 | 104 | 80 | 121 | 21.32 | 2.66 | 20 | |
| sec-Butylbenzene | 22.060 | 1.0 | 20.00 | 0 | 110 | 72 | 127 | 23.23 | 5.17 | 20 | |
| Styrene | 21.610 | 1.0 | 20.00 | 0 | 108 | 65 | 134 | 21.92 | 1.42 | 20 | |
| Tert-amyl methyl ether | 21.080 | 1.0 | 20.00 | 0 | 105 | 70 | 130 | 19.94 | 5.56 | 20 | |
| Tert-Butanol | 115.830 | 5.0 | 100.0 | 0 | 116 | 70 | 130 | 109.3 | 5.82 | 20 | |
| tert-Butylbenzene | 19.270 | 1.0 | 20.00 | 0 | 96.4 | 70 | 129 | 19.90 | 3.22 | 20 | |
| Tetrachloroethene | 20.780 | 1.0 | 20.00 | 0 | 104 | 66 | 128 | 22.00 | 5.70 | 20 | |
| Toluene | 20.830 | 2.0 | 20.00 | 0 | 104 | 77 | 122 | 21.55 | 3.40 | 20 | |
| trans-1,2-Dichloroethene | 21.290 | 1.0 | 20.00 | 0 | 106 | 63 | 137 | 23.36 | 9.27 | 20 | |
| trans-1,3-Dichloropropene | 21.850 | 1.0 | 20.00 | 0 | 109 | 59 | 135 | 21.20 | 3.02 | 20 | |
| Trichloroethene | 21.220 | 1.0 | 20.00 | 0 | 106 | 70 | 127 | 21.58 | 1.68 | 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: N043134
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: N043110-001BMSD | | SampType: MSD | | TestCode: 8260_WP_SF | | Units: ug/L | | Prep Date: | | RunNo: 149028 | |
|-----------------------------------|--------|---------------------------|-----------|-----------------------------|------|----------------------------------|-----------|-------------|------|-----------------------|------|
| Client ID: ZZZZZZ | | Batch ID: P20VW123 | | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | | | | SeqNo: 4019244 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Trichlorofluoromethane | 22.210 | 1.0 | 20.00 | 0 | 111 | 57 | 129 | 25.03 | 11.9 | 20 | |
| Vinyl chloride | 21.850 | 0.50 | 20.00 | 0 | 109 | 50 | 134 | 23.95 | 9.17 | 20 | |
| Xylenes, Total | 63.870 | 2.0 | 60.00 | 0 | 106 | 75 | 125 | 66.13 | 3.48 | 20 | |
| Surr: 1,2-Dichloroethane-d4 | 27.510 | | 25.00 | | 110 | 72 | 119 | | 0 | | |
| Surr: 4-Bromofluorobenzene | 27.900 | | 25.00 | | 112 | 76 | 119 | | 0 | | |
| Surr: Dibromofluoromethane | 27.500 | | 25.00 | | 110 | 85 | 115 | | 0 | | |
| Surr: Toluene-d8 | 26.650 | | 25.00 | | 107 | 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 |



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
Work Order: N043134
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: R201130-LCS | | SampType: LCS | | TestCode: 8260_WP_SF | | Units: ug/L | | Prep Date: | | RunNo: 149031 | |
|-------------------------------|--------|---------------------------|-----------|-----------------------------|------|----------------------------------|-----------|-------------|------|-----------------------|------|
| Client ID: LCSW | | Batch ID: R20VW031 | | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | | | | SeqNo: 4019331 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Methylene chloride | 18.070 | 2.0 | 20.00 | 0 | 90.4 | 63 | 137 | | | | |
| Surr: 1,2-Dichloroethane-d4 | 26.860 | | 25.00 | | 107 | 72 | 119 | | | | |
| Surr: 4-Bromofluorobenzene | 26.450 | | 25.00 | | 106 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 24.370 | | 25.00 | | 97.5 | 85 | 115 | | | | |
| Surr: Toluene-d8 | 24.730 | | 25.00 | | 98.9 | 81 | 120 | | | | |

| Sample ID: N043142-001B-MS | | SampType: MS | | TestCode: 8260_WP_SF | | Units: ug/L | | Prep Date: | | RunNo: 149031 | |
|-----------------------------------|--------|---------------------------|-----------|-----------------------------|------|----------------------------------|-----------|-------------|------|-----------------------|------|
| Client ID: ZZZZZ | | Batch ID: R20VW031 | | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | | | | SeqNo: 4019332 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Methylene chloride | 18.950 | 2.0 | 20.00 | 0 | 94.8 | 63 | 137 | | | | |
| Surr: 1,2-Dichloroethane-d4 | 25.780 | | 25.00 | | 103 | 72 | 119 | | | | |
| Surr: 4-Bromofluorobenzene | 26.780 | | 25.00 | | 107 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 23.660 | | 25.00 | | 94.6 | 85 | 115 | | | | |
| Surr: Toluene-d8 | 25.040 | | 25.00 | | 100 | 81 | 120 | | | | |

| Sample ID: N043142-001B-MSD | | SampType: MSD | | TestCode: 8260_WP_SF | | Units: ug/L | | Prep Date: | | RunNo: 149031 | |
|------------------------------------|--------|---------------------------|-----------|-----------------------------|------|----------------------------------|-----------|-------------|------|-----------------------|------|
| Client ID: ZZZZZ | | Batch ID: R20VW031 | | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | | | | SeqNo: 4019333 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Methylene chloride | 18.580 | 2.0 | 20.00 | 0 | 92.9 | 63 | 137 | 18.95 | 1.97 | 20 | |
| Surr: 1,2-Dichloroethane-d4 | 25.140 | | 25.00 | | 101 | 72 | 119 | | 0 | | |
| Surr: 4-Bromofluorobenzene | 26.630 | | 25.00 | | 107 | 76 | 119 | | 0 | | |
| Surr: Dibromofluoromethane | 23.350 | | 25.00 | | 93.4 | 85 | 115 | | 0 | | |
| Surr: Toluene-d8 | 24.850 | | 25.00 | | 99.4 | 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: N043134
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: R201130-MB4 | SampType: MBLK | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149031 | | | | | | |
|-------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: R20VW031 | TestNo: EPA 8260B | | Analysis Date: 11/30/2020 | SeqNo: 4019334 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Methylene chloride | ND | 2.0 | | | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 30.710 | | 25.00 | | 123 | 72 | 119 | | | | S |
| Surr: 4-Bromofluorobenzene | 24.790 | | 25.00 | | 99.2 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 27.680 | | 25.00 | | 111 | 85 | 115 | | | | |
| Surr: Toluene-d8 | 25.490 | | 25.00 | | 102 | 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 |



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

N043134

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: 11/23/20
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: Ryan Koch | | Report To: Eric Davis | | Attention: Ryan Koch - Ref. AFE# 81195 | | Sampler Name: <i>J. Jacobs</i> | |
| Address: 1001 Louisiana St., Houston, TX 77002 | | Copy To: Ryan Koch | | Company Name: Kinder Morgan Energy Partners | | Sampler Signature: <i>J. Jacobs</i> | |
| Email To: Ryan_Koch@kindermorgan.com eric.davis@jacobs.com; nils.orlicky@jacobs.com | | Purchase Order No.: | | Address: 1001 Louisiana St., Houston, TX 77002 | | Sample Date: 11/23/20 | |
| Phone 713-420-6730 Fax 714-560-4801 | | Project Name: SFPP Norwalk | | ATL Project Manager: Marlon Cartin | | | |

| ITEM # | SAMPLE ID | LOCATION/DESCRIPTION | MATRIX | SAMPLE TYPE (G=GRAB C=COMP) | CONTAINER TYPE | | TOTAL # OF CONTAINERS | SAMPLE TEMPERATURE (°F) | Analysis Test | V | V | A | | | | | | | | | Comments | |
|--------|------------|----------------------|--------|-----------------------------|-----------------|-------------|-----------------------|-------------------------|---|---|---|---|--|--|--|--|--|--|--|--|----------|------------|
| | | | | | # OF CONTAINERS | VOLUME (mL) | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| 1 | INF-112320 | INFLUENT | WW | G | | | 9 | | Full VOCs + Oxygenates List (8260B) TPH-gas (C6-C12) (8015B) TPH-L (C13-C22), TPH-H (C23+), Total TPH (8015B) | X | X | X | | | | | | | | | | N043134-01 |
| 2 | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | |

| | | | |
|---|---|--|---|
| Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 11/23/20 1230 | Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 11/23/20 2:30 | Turn Around Time (TAT): <input type="checkbox"/> A = Same Day <input type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input checked="" type="checkbox"/> E = 5 Workdays <input type="checkbox"/> F = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM. | Special Instructions: 2-4°C IR#2 GSO#9502 |
| Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 11/23/20 1630 | Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 11/23/20 1630 | | |
| Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 11/23/20 1800 | Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 11/24/20 9:00 AM | | |
| Matrix: W = Water WW = Wastewater H = HCl N = HNO3 S = H2SO4 O = Oil P = Product S = Soil Z = Zn(Ac)2 D = NaOH T = Na2S2O3 | | Container Type: T = Tube V = VOA P = Pmt A = Amber J = Jar B = Tedlar G = Glass M = Metal P = Plastic C = Can | |
| Others/Specify: | | Others/Specify: | |

CA: 2.2°C IR#1 COOLER/ICE ASSET

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: 11/23/2020 Workorder: N043134
 Rep sample Temp (Deg C): 2.2 IR Gun ID: 1
 Temp Blank: Yes No
 Carrier name: ASSET
 Last 4 digits of Tracking No.: NA Packing Material Used: None
 Cooling process: Ice Ice Pack Dry Ice Other None

Sample Receipt Checklist

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

Comments: Received at Las Vegas Lab on 11/24/20 at 2.4 oC, IR# 2, GSO# 9502.

For:

Checklist Completed By: AD BHdez 11/24/2020

Reviewed By: MBC 11/24/2020

ASSET Laboratories

WORK ORDER Summary

24-Nov-20

WorkOrder: N043134

Client ID: CH2HI03

Project: SFPP Norwalk

QC Level: RTNE

Date Received: 11/23/2020

Comments:

| Sample ID | Client Sample ID | Date Collected | Date Due | Matrix | Test No | Test Name | Hld | MS | Sub | Storage |
|--------------|------------------|------------------------|-----------|------------|-----------|---|--------------------------|--------------------------|--------------------------|---------|
| N043134-001A | INF-112320 | 11/23/2020 12:15:00 PM | 12/2/2020 | Wastewater | EPA 8260B | VOLATILE ORGANIC COMPOUNDS BY GC/MS | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | V-CA |
| N043134-001B | | | 12/2/2020 | | EPA 8015B | GASOLINE RANGE ORGANICS BY GC/FID | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | VW |
| N043134-001C | | | 12/2/2020 | | EPA 3510C | SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | WW |
| | | | 12/2/2020 | | EPA 8015B | TPH EXTRACTABLE BY GC/FID | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | WW |
| | | | 12/2/2020 | | EPA 8015B | Total TPH | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | WW |
| N043134-002A | FOLDER | 12/2/2020 | 12/2/2020 | | Folder | Folder | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | LAB |
| | | | 12/2/2020 | | Folder | Folder | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | LAB |

800-322-5555
www.gls-us.com**Ship From**
ASSET LABORATORIES
THAD MALIT
11110 ARTESIA BLVD. SUITE B
CERRITOS, CA 90703

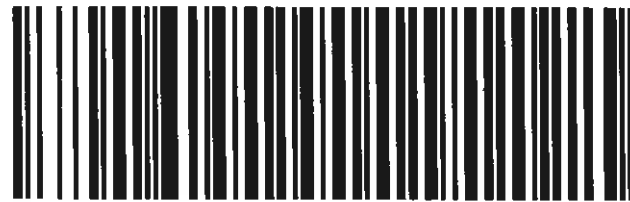
Tracking #: 551289502

CPS

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

LAS VEGAS

C89102A

COD: \$0.00
Weight: 0 lb(s)
Reference:

31311612

Delivery Instructions:
HOLD FOR PICKUP
Signature Type: STANDARD

LVS NV891-A 1

Print Date: 11/23/2020 5:20 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 General Logistics Systems US, Inc. (GLS) 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.gls-us.com.

2.40C



November 24, 2020

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



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

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

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

LABORATORY TEST RESULTS

Project Reference: SFPP Norwalk
Lab Number: L110403-01/04

Enclosed are results for sample(s) received 11/04/20 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

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

Preliminary results were e-mailed to Eric Davis, Nils Orliczky and Danny Hill on 11/23/20.

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

Sincerely,

A handwritten signature in blue ink, appearing to read "mjohnson", followed by a checkmark.

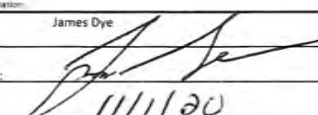
Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

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


L110403-01/04

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: 11/1/20
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 Attention: Eric Davis | | Report To: Eric Davis (eric.davis@ch2m.com) | | Attention: Eric Davis | | Sampler Name: James Dye | |
| Address: 1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017 | | Copy To: Vladimir Carino (vcarino@ch2m.com) | | Company: CH2M | | Sampler Signature:  | |
| Email To: eric.davis@ch2m.com vcarino@ch2m.com | | Purchase Order No.: | | Address: 1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017 | | Sample Date: 11/1/20 | |
| Phone: 404-323-1600 Fax: | | Project Name: SFPP Norwalk | | Project Manager: Joann De La Ossa | | | |

| ITEM # | SAMPLE ID | LOCATION/ DESCRIPTION | MATRIX | SAMPLE TYPE (G/GIAB, C-COMP) | CONTAINER TYPE | | TOTAL # OF CONTAINERS | Analysis Test | | | Comments | |
|-------------|-----------|--------------------------|--------|------------------------------|-----------------|--------------|-----------------------|-----------------------------|-------------------------------|---|----------|---|
| | | | | | # OF CONTAINERS | PRESERVATIVE | | TO-3 (Total VOCs as Hexane) | TO-15 (VOCs, Target Analytes) | ASTM D 1946 (O2/Nitrogen, CO2, CH4, H2) | | |
| VOLUME (mL) | | | | | SAMPLING | | | | | | | |
| | | | | | DATE | TIME | | | | | | |
| -01 | L110403-1 | VEFF- 110120 | | Vapor G | | 11/01/20 | 1238 | 1 | X | X | | Individually Certified 6-Liter SUMMA |
| -02 | | VEFF- 110120 D | | Vapor G | | 11/01/20 | 1238 | 1 | X | X | | Individually Certified 6-Liter SUMMA |
| -03 | | VPOST- 110120 | | Vapor G | | 11/01/20 | 1340 | 1 | X | X | | Individually Certified 1-Liter SUMMA |
| -04 | | VINF- 110120 ADMISSIO | | Vapor G | | 11/01/20 | 1350 | 1 | X | X | X | Batch Certified 1-Liter Summa |
| 5 | | | | | | | | | | | | Target analytes includes Historical VOCs and remaining ATU list per subcontract |
| 6 | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | |

| | | | |
|--|---|---|----------------------|
| Retrieved by (Signature and Printed Name):  Date / Time: 11/3/20 12:00 | Retrieved by (Signature and Printed Name): FEDEX Date / Time: 11/3/20 12:00 | Turn Around Time (TAT): <input type="checkbox"/> A = Same Day <input type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input type="checkbox"/> E = 5 Workdays <input type="checkbox"/> F = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM. | Special Instruction: |
| Retrieved by (Signature and Printed Name): | Retrieved by (Signature and Printed Name): | | |
| Retrieved by (Signature and Printed Name): | Retrieved by (Signature and Printed Name): Corine Johnson 11/4/20 12:02 | | |

| | | |
|---|--|---|
| Matrix: W = Water O = Oil Others/Specify: | Preservatives: H = HCl Z = Zn(AC)2 Others/Specify: | Container Type: T = Tube J = Jar M = Metal V = VOA B = Tedlar P = Plastic P = Pint G = Glass C = Can A = Amber |
|---|--|---|

Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 11/04/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

| Lab No.: | L110403-01 | | | L110403-02 | | | L110403-03 | | | L110403-04 | | |
|-------------------------------|----------------|---------|----------|----------------|---------|----------|----------------|---------|----------|---------------|---------|----------|
| Client Sample I.D.: | VEFF-11-01 | | | VEFF-11-01D | | | VPOST-11-01 | | | VINP-11-01 | | |
| Date/Time Sampled: | 11/1/20 12:38 | | | 11/1/20 12:38 | | | 11/1/20 13:40 | | | 11/1/20 13:50 | | |
| Date/Time Analyzed: | 11/17/20 16:21 | | | 11/17/20 17:00 | | | 11/18/20 23:33 | | | 11/19/20 0:14 | | |
| QC Batch No.: | 201117MS2A1 | | | 201117MS2A1 | | | 201118MS2A1 | | | 201118MS2A1 | | |
| Analyst Initials: | DT | | | DT | | | DT | | | DT | | |
| Dilution Factor: | 2.5 | | | 2.5 | | | 3.4 | | | 12 | | |
| ANALYTE | Result ppmv | RL ppmv | MDL ppmv | Result ppmv | RL ppmv | MDL ppmv | Result ppmv | RL ppmv | MDL ppmv | Result ppmv | RL ppmv | MDL ppmv |
| Benzene | 0.0011 J | 0.0025 | 0.00024 | 0.0011 J | 0.0025 | 0.00024 | 0.17 | 0.0034 | 0.00033 | 0.56 | 0.012 | 0.0012 |
| Chloroform | ND | 0.0025 | 0.00035 | ND | 0.0025 | 0.00035 | 0.00070 J | 0.0034 | 0.00048 | ND | 0.012 | 0.0017 |
| Carbon Tetrachloride | ND | 0.0025 | 0.00044 | ND | 0.0025 | 0.00044 | ND | 0.0034 | 0.00060 | ND | 0.012 | 0.0021 |
| 1,4-Dioxane | ND | 0.013 | 0.00044 | ND | 0.013 | 0.00044 | ND | 0.017 | 0.00060 | ND | 0.060 | 0.0021 |
| 1,4-Dichlorobenzene | ND | 0.0025 | 0.00037 | ND | 0.0025 | 0.00037 | ND | 0.0034 | 0.00050 | ND | 0.012 | 0.0018 |
| 1,1-Dichloroethane | ND | 0.0025 | 0.00034 | ND | 0.0025 | 0.00034 | ND | 0.0034 | 0.00047 | ND | 0.012 | 0.0016 |
| Ethylbenzene | 0.0014 J | 0.0025 | 0.00015 | 0.0015 J | 0.0025 | 0.00015 | 0.13 | 0.0034 | 0.00020 | 0.34 | 0.012 | 0.00069 |
| 1,2-Dichloroethane | ND | 0.0025 | 0.00019 | ND | 0.0025 | 0.00019 | 0.0011 J | 0.0034 | 0.00026 | 0.0037 J | 0.012 | 0.00089 |
| Methylene Chloride | ND | 0.0025 | 0.00072 | ND | 0.0025 | 0.00072 | ND | 0.0034 | 0.00098 | ND | 0.012 | 0.0034 |
| t-Butyl Methyl Ether (MTBE) | ND | 0.0025 | 0.00056 | ND | 0.0025 | 0.00056 | 0.15 | 0.0034 | 0.00077 | 0.54 | 0.012 | 0.0027 |
| Tetrachloroethene | ND | 0.0025 | 0.00030 | ND | 0.0025 | 0.00030 | ND | 0.0034 | 0.00041 | ND | 0.012 | 0.0014 |
| 1,1,2-Trichloroethane | ND | 0.0025 | 0.00041 | ND | 0.0025 | 0.00041 | ND | 0.0034 | 0.00056 | ND | 0.012 | 0.0019 |
| Trichloroethene | ND | 0.0025 | 0.00036 | ND | 0.0025 | 0.00036 | ND | 0.0034 | 0.00049 | ND | 0.012 | 0.0017 |
| Vinyl Chloride | ND | 0.0025 | 0.00041 | ND | 0.0025 | 0.00041 | ND | 0.0034 | 0.00056 | ND | 0.012 | 0.0020 |
| Naphthalene | ND | 0.013 | 0.00097 | ND | 0.013 | 0.00097 | ND | 0.017 | 0.0013 | ND | 0.060 | 0.0046 |
| c-1,2-Dichloroethene | ND | 0.0025 | 0.00049 | ND | 0.0025 | 0.00049 | ND | 0.0034 | 0.00066 | ND | 0.012 | 0.0023 |
| 2-Butanone | 0.011 | 0.0025 | 0.0016 | 0.012 | 0.0025 | 0.0016 | 0.024 | 0.0034 | 0.0021 | 0.029 | 0.012 | 0.0074 |
| Dichlorodifluoromethane (12) | ND | 0.0025 | 0.00039 | ND | 0.0025 | 0.00039 | ND | 0.0034 | 0.00053 | ND | 0.012 | 0.0018 |
| Chloromethane | ND | 0.0051 | 0.00056 | ND | 0.0051 | 0.00056 | ND | 0.0069 | 0.00076 | ND | 0.024 | 0.0026 |
| 1,1,1-Trichloroethane | ND | 0.0025 | 0.00025 | ND | 0.0025 | 0.00025 | ND | 0.0034 | 0.00034 | ND | 0.012 | 0.0012 |
| 1,2-CI-1,1,2,2-F ethane (114) | ND | 0.0025 | 0.00051 | ND | 0.0025 | 0.00051 | ND | 0.0034 | 0.00069 | ND | 0.012 | 0.0024 |
| Bromomethane | 0.00096 J | 0.0025 | 0.00074 | ND | 0.0025 | 0.00074 | ND | 0.0034 | 0.0010 | ND | 0.012 | 0.0035 |
| Chloroethane | ND | 0.0025 | 0.0021 | ND | 0.0025 | 0.0021 | ND | 0.0034 | 0.0029 | ND | 0.012 | 0.010 |
| Trichlorofluoromethane (11) | ND | 0.0025 | 0.00054 | ND | 0.0025 | 0.00054 | ND | 0.0034 | 0.00074 | ND | 0.012 | 0.0026 |
| 1,2-Dichloropropane | ND | 0.0025 | 0.00046 | ND | 0.0025 | 0.00046 | ND | 0.0034 | 0.00062 | ND | 0.012 | 0.0022 |
| Bromodichloromethane | ND | 0.0025 | 0.00015 | ND | 0.0025 | 0.00015 | ND | 0.0034 | 0.00021 | ND | 0.012 | 0.00072 |
| c-1,3-Dichloropropene | ND | 0.0025 | 0.00030 | ND | 0.0025 | 0.00030 | ND | 0.0034 | 0.00041 | ND | 0.012 | 0.0014 |
| 4-Methyl-2-Pentanone | ND | 0.0025 | 0.00017 | ND | 0.0025 | 0.00017 | ND | 0.0034 | 0.00023 | ND | 0.012 | 0.00081 |
| Toluene | 0.032 | 0.0025 | 0.00020 | 0.039 | 0.0025 | 0.00020 | 0.82 | 0.0034 | 0.00027 | 2.3 | 0.012 | 0.00096 |
| t-1,3-Dichloropropene | ND | 0.0025 | 0.00026 | ND | 0.0025 | 0.00026 | ND | 0.0034 | 0.00035 | ND | 0.012 | 0.0012 |
| 1,1-Dichloroethene | ND | 0.0025 | 0.00057 | ND | 0.0025 | 0.00057 | ND | 0.0034 | 0.00078 | ND | 0.012 | 0.0027 |
| 1,3-Dichloropropane | ND | 0.0025 | 0.00013 | ND | 0.0025 | 0.00013 | ND | 0.0034 | 0.00017 | ND | 0.012 | 0.00060 |
| Carbon Disulfide | 0.0045 J | 0.013 | 0.00061 | 0.049 | 0.013 | 0.00061 | 0.0062 J | 0.017 | 0.00082 | 0.037 J | 0.060 | 0.0029 |
| 2-Hexanone | ND | 0.0025 | 0.00052 | ND | 0.0025 | 0.00052 | ND | 0.0034 | 0.00071 | ND | 0.012 | 0.0025 |
| Dibromochloromethane | ND | 0.0025 | 0.00046 | ND | 0.0025 | 0.00046 | ND | 0.0034 | 0.00063 | ND | 0.012 | 0.0022 |
| 1,2-Dibromoethane | ND | 0.0025 | 0.00023 | ND | 0.0025 | 0.00023 | ND | 0.0034 | 0.00031 | ND | 0.012 | 0.0011 |
| Chlorobenzene | ND | 0.0025 | 0.00020 | ND | 0.0025 | 0.00020 | 0.0028 J | 0.0034 | 0.00027 | 0.0096 J | 0.012 | 0.00094 |
| 1,1,2-CI 1,2,2-F ethane (113) | ND | 0.0025 | 0.00068 | ND | 0.0025 | 0.00068 | ND | 0.0034 | 0.00092 | ND | 0.012 | 0.0032 |
| p,&m-Xylene | 0.011 | 0.0025 | 0.00029 | 0.012 | 0.0025 | 0.00029 | 0.92 | 0.0034 | 0.00039 | 2.5 | 0.012 | 0.0014 |



Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 11/04/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

| Lab No.: | L110403-01 | | | L110403-02 | | | L110403-03 | | | L110403-04 | | |
|------------------------------|----------------|---------|----------|----------------|---------|----------|----------------|---------|----------|---------------|---------|----------|
| Client Sample I.D.: | VEFF-11-01 | | | VEFF-11-01D | | | VPOST-11-01 | | | VINP-11-01 | | |
| Date/Time Sampled: | 11/1/20 12:38 | | | 11/1/20 12:38 | | | 11/1/20 13:40 | | | 11/1/20 13:50 | | |
| Date/Time Analyzed: | 11/17/20 16:21 | | | 11/17/20 17:00 | | | 11/18/20 23:33 | | | 11/19/20 0:14 | | |
| QC Batch No.: | 201117MS2A1 | | | 201117MS2A1 | | | 201118MS2A1 | | | 201118MS2A1 | | |
| Analyst Initials: | DT | | | DT | | | DT | | | DT | | |
| Dilution Factor: | 2.5 | | | 2.5 | | | 3.4 | | | 12 | | |
| 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 |
| o-Xylene | 0.0036 | 0.0025 | 0.00031 | 0.0039 | 0.0025 | 0.00031 | 0.37 | 0.0034 | 0.00042 | 0.94 | 0.012 | 0.0015 |
| Styrene | 0.00037 J | 0.0025 | 0.00032 | 0.00063 J | 0.0025 | 0.00032 | 0.011 | 0.0034 | 0.00044 | 0.030 | 0.012 | 0.0015 |
| Bromoform | ND | 0.0025 | 0.00014 | ND | 0.0025 | 0.00014 | ND | 0.0034 | 0.00019 | ND | 0.012 | 0.00067 |
| Isopropyl benzene | ND | 0.0025 | 0.00026 | ND | 0.0025 | 0.00026 | 0.0085 | 0.0034 | 0.00036 | 0.025 | 0.012 | 0.0013 |
| 1,1,2,2-Tetrachloroethane | ND | 0.0051 | 0.00015 | ND | 0.0051 | 0.00015 | ND | 0.0069 | 0.00021 | ND | 0.024 | 0.00074 |
| Benzyl Chloride | ND | 0.0025 | 0.00046 | ND | 0.0025 | 0.00046 | ND | 0.0034 | 0.00063 | ND | 0.012 | 0.0022 |
| 1,2,3-Trichloropropane | ND | 0.0025 | 0.00068 | ND | 0.0025 | 0.00068 | ND | 0.0034 | 0.00092 | 0.0062 J | 0.012 | 0.0032 |
| n-Propyl Benzene | 0.00025 J | 0.0025 | 0.00015 | 0.00035 J | 0.0025 | 0.00015 | 0.019 | 0.0034 | 0.00020 | 0.046 | 0.012 | 0.00070 |
| 4-Ethyl Toluene | 0.0024 J | 0.0025 | 0.00016 | 0.0025 J | 0.0025 | 0.00016 | 0.21 | 0.0034 | 0.00022 | 0.44 | 0.012 | 0.00076 |
| 1,3,5-Trimethylbenzene | 0.0014 J | 0.0051 | 0.00044 | 0.0015 J | 0.0051 | 0.00044 | 0.12 | 0.0069 | 0.00059 | 0.27 | 0.024 | 0.0021 |
| 4-Chlorotoluene | ND | 0.0025 | 0.00030 | ND | 0.0025 | 0.00030 | ND | 0.0034 | 0.00041 | ND | 0.012 | 0.0014 |
| tert-Butylbenzene | ND | 0.0025 | 0.00023 | ND | 0.0025 | 0.00023 | ND | 0.0034 | 0.00031 | ND | 0.012 | 0.0011 |
| 1,2,4-Trimethylbenzene | 0.0025 J | 0.0051 | 0.00029 | 0.0029 J | 0.0051 | 0.00029 | 0.16 | 0.0069 | 0.00039 | 0.28 | 0.024 | 0.0014 |
| sec-Butylbenzene | ND | 0.0025 | 0.00024 | ND | 0.0025 | 0.00024 | 0.0028 J | 0.0034 | 0.00033 | 0.0078 J | 0.012 | 0.0012 |
| p-Isopropyltoluene | 0.0013 J | 0.0025 | 0.00033 | 0.0037 | 0.0025 | 0.00033 | 0.011 | 0.0034 | 0.00045 | 0.0078 J | 0.012 | 0.0016 |
| 1,3-Dichlorobenzene | ND | 0.0025 | 0.00031 | ND | 0.0025 | 0.00031 | ND | 0.0034 | 0.00042 | ND | 0.012 | 0.0015 |
| Acetone | 0.013 | 0.013 | 0.00073 | 0.019 | 0.013 | 0.00073 | 0.022 | 0.017 | 0.00099 | 0.054 J | 0.060 | 0.0035 |
| n-Butylbenzene | 0.00040 J | 0.0025 | 0.00018 | 0.00039 J | 0.0025 | 0.00018 | ND | 0.0034 | 0.00025 | ND | 0.012 | 0.00088 |
| 1,2-Dichlorobenzene | ND | 0.0025 | 0.00031 | ND | 0.0025 | 0.00031 | ND | 0.0034 | 0.00043 | ND | 0.012 | 0.0015 |
| 1,2,4-Trichlorobenzene | ND | 0.0051 | 0.00042 | ND | 0.0051 | 0.00042 | ND | 0.0069 | 0.00057 | ND | 0.024 | 0.0020 |
| Hexachlorobutadiene | ND | 0.0025 | 0.00015 | ND | 0.0025 | 0.00015 | ND | 0.0034 | 0.00020 | ND | 0.012 | 0.00071 |
| t-Butanol | 0.0012 J | 0.013 | 0.00048 | 0.0042 J | 0.013 | 0.00048 | 0.013 J | 0.017 | 0.00066 | ND | 0.060 | 0.0023 |
| n-Hexane | 0.00087 J | 0.013 | 0.00034 | 0.00088 J | 0.013 | 0.00034 | 0.39 | 0.017 | 0.00046 | 1.5 | 0.060 | 0.0016 |
| Isopropyl ether | ND | 0.013 | 0.00028 | ND | 0.013 | 0.00028 | ND | 0.017 | 0.00038 | ND | 0.060 | 0.0013 |
| t-Butyl ethyl ether | ND | 0.013 | 0.00050 | ND | 0.013 | 0.00050 | ND | 0.017 | 0.00069 | ND | 0.060 | 0.0024 |
| 2,2-Dichloropropane | ND | 0.013 | 0.00024 | ND | 0.013 | 0.00024 | ND | 0.017 | 0.00033 | ND | 0.060 | 0.0011 |
| t-Amyl methyl ether | ND | 0.013 | 0.00018 | ND | 0.013 | 0.00018 | 0.0018 J | 0.017 | 0.00024 | 0.0072 J | 0.060 | 0.00085 |
| t-1,2-Dichloroethene | ND | 0.0025 | 0.00076 | ND | 0.0025 | 0.00076 | ND | 0.0034 | 0.0010 | ND | 0.012 | 0.0036 |
| 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: 11/23/20

The cover letter is an integral part of this analytical report



Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 11/04/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

| Lab No.: | METHOD BLANK | | | METHOD BLANK | | | | | | | | |
|-------------------------------|----------------|---------|----------|----------------|---------|----------|--|--|--|--|--|--|
| Client Sample I.D.: | -- | | | -- | | | | | | | | |
| Date/Time Sampled: | -- | | | -- | | | | | | | | |
| Date/Time Analyzed: | 11/17/20 11:31 | | | 11/18/20 15:31 | | | | | | | | |
| QC Batch No.: | 201117MS2A1 | | | 201118MS2A1 | | | | | | | | |
| Analyst Initials: | DT | | | DT | | | | | | | | |
| Dilution Factor: | 0.20 | | | 0.20 | | | | | | | | |
| ANALYTE | Result ppmv | RL ppmv | MDL ppmv | Result ppmv | RL ppmv | MDL ppmv | | | | | | |
| Benzene | ND | 0.00020 | 0.000019 | ND | 0.00020 | 0.000019 | | | | | | |
| Chloroform | ND | 0.00020 | 0.000028 | ND | 0.00020 | 0.000028 | | | | | | |
| Carbon Tetrachloride | ND | 0.00020 | 0.000035 | ND | 0.00020 | 0.000035 | | | | | | |
| 1,4-Dioxane | ND | 0.0010 | 0.000035 | ND | 0.0010 | 0.000035 | | | | | | |
| 1,4-Dichlorobenzene | ND | 0.00020 | 0.000029 | ND | 0.00020 | 0.000029 | | | | | | |
| 1,1-Dichloroethane | ND | 0.00020 | 0.000027 | ND | 0.00020 | 0.000027 | | | | | | |
| Ethylbenzene | ND | 0.00020 | 0.000011 | ND | 0.00020 | 0.000011 | | | | | | |
| 1,2-Dichloroethane | ND | 0.00020 | 0.000015 | ND | 0.00020 | 0.000015 | | | | | | |
| Methylene Chloride | ND | 0.00020 | 0.000057 | ND | 0.00020 | 0.000057 | | | | | | |
| t-Butyl Methyl Ether (MTBE) | ND | 0.00020 | 0.000045 | ND | 0.00020 | 0.000045 | | | | | | |
| Tetrachloroethene | ND | 0.00020 | 0.000024 | ND | 0.00020 | 0.000024 | | | | | | |
| 1,1,2-Trichloroethane | ND | 0.00020 | 0.000032 | ND | 0.00020 | 0.000032 | | | | | | |
| Trichloroethene | ND | 0.00020 | 0.000028 | ND | 0.00020 | 0.000028 | | | | | | |
| Vinyl Chloride | ND | 0.00020 | 0.000032 | ND | 0.00020 | 0.000032 | | | | | | |
| Naphthalene | ND | 0.0010 | 0.000077 | ND | 0.0010 | 0.000077 | | | | | | |
| 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 | | | | | | |
| Dichlorodifluoromethane (12) | ND | 0.00020 | 0.000031 | ND | 0.00020 | 0.000031 | | | | | | |
| Chloromethane | ND | 0.00040 | 0.000044 | ND | 0.00040 | 0.000044 | | | | | | |
| 1,1,1-Trichloroethane | ND | 0.00020 | 0.000020 | ND | 0.00020 | 0.000020 | | | | | | |
| 1,2-CI-1,1,2,2-F ethane (114) | ND | 0.00020 | 0.000040 | ND | 0.00020 | 0.000040 | | | | | | |
| Bromomethane | 0.00018 J | 0.00020 | 0.000059 | 0.000077 J | 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 | | | | | | |
| 1,2-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-Dichloroethene | ND | 0.00020 | 0.000045 | ND | 0.00020 | 0.000045 | | | | | | |
| 1,3-Dichloropropane | ND | 0.00020 | 0.000099 | ND | 0.00020 | 0.000099 | | | | | | |
| Carbon Disulfide | ND | 0.0010 | 0.000048 | ND | 0.0010 | 0.000048 | | | | | | |
| 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 | | | | | | |
| 1,1,2-CI 1,2,2-F ethane (113) | ND | 0.00020 | 0.000054 | ND | 0.00020 | 0.000054 | | | | | | |
| p,&m-Xylene | ND | 0.00020 | 0.000023 | ND | 0.00020 | 0.000023 | | | | | | |



Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 11/04/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

| Lab No.: | METHOD BLANK | | | METHOD BLANK | | | | | | | | | |
|------------------------------|----------------|---------|----------|----------------|---------|----------|--|--|--|--|--|--|--|
| Client Sample I.D.: | -- | | | -- | | | | | | | | | |
| Date/Time Sampled: | -- | | | -- | | | | | | | | | |
| Date/Time Analyzed: | 11/17/20 11:31 | | | 11/18/20 15:31 | | | | | | | | | |
| QC Batch No.: | 201117MS2A1 | | | 201118MS2A1 | | | | | | | | | |
| Analyst Initials: | DT | | | DT | | | | | | | | | |
| Dilution Factor: | 0.20 | | | 0.20 | | | | | | | | | |
| ANALYTE | Result ppmv | RL ppmv | MDL ppmv | Result ppmv | RL ppmv | MDL ppmv | | | | | | | |
| o-Xylene | ND | 0.00020 | 0.000024 | ND | 0.00020 | 0.000024 | | | | | | | |
| 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 | | | | | | | |
| Acetone | ND | 0.0010 | 0.000058 | 0.00024 J | 0.0010 | 0.000058 | | | | | | | |
| 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 | | | | | | | |
| t-1,2-Dichloroethene | ND | 0.00020 | 0.000060 | ND | 0.00020 | 0.000060 | | | | | | | |
| 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: 11/23/20

The cover letter is an integral part of this analytical report



LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 201117MS2A1

Matrix: Air

Reporting Units: ppmv

**EPA Method TO15
LABORATORY CONTROL SAMPLE SUMMARY**

| Lab No.: | METHOD BLANK | | ICV/LCS | | ICV/LCSD | | | | | | |
|---------------------------|----------------|---------|----------------|-------------|----------------|-------------|--------|-----|----------|-----------|----------|
| Date/Time Analyzed: | 11/17/20 11:31 | | 11/17/20 10:12 | | 11/17/20 10:51 | | | | | | |
| Analyst Initials: | DT | | DT | | DT | | | | | | |
| Dilution Factor: | 0.20 | | 1.0 | | 1.0 | | | | | | |
| ANALYTE | Result ppmv | RL ppmv | AMT. ppmv | Result ppmv | % Rec. | Result ppmv | % Rec. | RPD | Low %Rec | High %Rec | Max. RPD |
| I,1-Dichloroethene | ND | 0.00020 | 0.010 | 0.00997 | 99.7 | 0.0100 | 100 | 0.5 | 70 | 130 | 30.0 |
| Methylene Chloride | ND | 0.00020 | 0.010 | 0.00998 | 99.8 | 0.0100 | 100 | 0.4 | 70 | 130 | 30.0 |
| Trichloroethene | ND | 0.00020 | 0.010 | 0.00981 | 98.1 | 0.00992 | 99.2 | 1.1 | 70 | 130 | 30.0 |
| Toluene | ND | 0.00020 | 0.010 | 0.00965 | 96.5 | 0.00982 | 98.2 | 1.7 | 70 | 130 | 30.0 |
| 1,1,2,2-Tetrachloroethane | ND | 0.00020 | 0.010 | 0.00842 | 84.2 | 0.00873 | 87.3 | 3.7 | 70 | 130 | 30.0 |

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____

Mark Johnson
Operations Manager

Date: _____

11/23/20

The cover letter is an integral part of this analytical report



LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 201118MS2A1

Matrix: Air

Reporting Units: ppmv

EPA Method TO15
LABORATORY CONTROL SAMPLE SUMMARY

| Lab No.: | METHOD BLANK | | | LCS | LCSD | | | | | | |
|---------------------------|----------------|---------|-----------|----------------|----------------|-------------|--------|-----|----------|-----------|----------|
| Date/Time Analyzed: | 11/18/20 15:31 | | | 11/18/20 13:29 | 11/18/20 14:05 | | | | | | |
| Analyst Initials: | DT | | | DT | DT | | | | | | |
| Dilution Factor: | 0.20 | | | 1.0 | 1.0 | | | | | | |
| ANALYTE | Result ppmv | RL ppmv | AMT. ppmv | Result ppmv | % Rec. | Result ppmv | % Rec. | RPD | Low %Rec | High %Rec | Max. RPD |
| I,1-Dichloroethene | ND | 0.00020 | 0.010 | 0.0106 | 106 | 0.0104 | 104 | 2.3 | 70 | 130 | 30.0 |
| Methylene Chloride | ND | 0.00020 | 0.010 | 0.0106 | 106 | 0.0105 | 105 | 1.1 | 70 | 130 | 30.0 |
| Trichloroethene | ND | 0.00020 | 0.010 | 0.0105 | 105 | 0.0104 | 104 | 0.8 | 70 | 130 | 30.0 |
| Toluene | ND | 0.00020 | 0.010 | 0.0103 | 103 | 0.0100 | 100 | 3.4 | 70 | 130 | 30.0 |
| 1,1,2,2-Tetrachloroethane | ND | 0.00020 | 0.010 | 0.00853 | 85.3 | 0.00862 | 86.2 | 1.1 | 70 | 130 | 30.0 |

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____

Mark Johnson
Operations Manager

Date: _____

The cover letter is an integral part of this analytical report



Client: **Jacobs**
 Attn: **Eric Davis**
 Project Name: **SFPP Norwalk**
 Project No.: **NA**
 Date Received: **11/04/20**
 Matrix: **Air**
 Reporting Units: **ppmv**

EPA METHOD TO3

| Lab No.: | L110403-01 | L110403-02 | L110403-03 | L110403-04 | | | | |
|---------------------|----------------|----------------|----------------|----------------|----------------|------------|----------------|------------|
| Client Sample I.D.: | VEFF-11-01 | VEFF-11-01D | VPOST-11-01 | VINF-11-01 | | | | |
| Date/Time Sampled: | 11/1/20 12:38 | 11/1/20 12:38 | 11/1/20 13:40 | 11/1/20 13:50 | | | | |
| Date/Time Analyzed: | 11/12/20 13:28 | 11/12/20 13:51 | 11/12/20 14:14 | 11/12/20 14:37 | | | | |
| QC Batch No.: | 201112GC11A1 | 201112GC11A1 | 201112GC11A1 | 201112GC11A1 | | | | |
| Analyst Initials: | CM | CM | CM | CM | | | | |
| Dilution Factor: | 2.5 | 2.5 | 2.4 | 2.4 | | | | |
| ANALYTE | Result ppmv | RL ppmv | Result ppmv | RL ppmv | Result ppmv | RL ppmv | Result ppmv | RL ppmv |
| TVOC as Hexane | ND | 2.5 | ND | 2.5 | 28 | 2.4 | 130 | 2.4 |

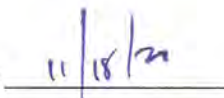
ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____


 Mark Johnson
 Operations Manager

Date _____



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QC Batch No: 201112GC11A1

Matrix: Air

Reporting Units: ppmv

**EPA METHOD TO3
LABORATORY CONTROL SAMPLE SUMMARY**

| Lab No.: | METHOD BLANK | LCS | | LCSD | | | | | | |
|-------------------|----------------|---------------|-------------|----------------|-------------|--------|-------|----------|-----------|----------|
| Date Analyzed: | 11/12/20 10:37 | 11/12/20 9:51 | | 11/12/20 10:14 | | | | | | |
| Analyst Initials: | CM | CM | | CM | | | | | | |
| Dilution Factor: | 1.0 | 1.0 | | 1.0 | | | | | | |
| ANALYTE | Result ppmv | RL ppmv | Result ppmv | % Rec. | Result ppmv | % Rec. | RPD % | Low %Rec | High %Rec | Max. RPD |
| TVOC as Hexane | ND | 1.0 | 5.09 | 102 | 4.85 | 97 | 4.8 | 70 | 130 | 25 |

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____


Mark Johnson
Operations Manager

Date _____

11/18/20

The cover letter is an integral part of this analytical report



Client: Jacobs
Attn: Eric Davis
Project Name: SFPP Norwalk
Project No.: NA
Date Received: 11/04/20
Matrix: Air
Reporting Units: % v/v

ASTM D1946

| | | | | | | | |
|----------------------------|-------------------------|---------------------|--|--|--|--|--|
| Lab No.: | L110403-04 | | | | | | |
| Client Sample I.D.: | VINF-11-01 | | | | | | |
| Date/Time Sampled: | 11/1/20 13:50 | | | | | | |
| Date/Time Analyzed: | 11/12/20 9:45 | | | | | | |
| QC Batch No.: | 201111GC8A2 | | | | | | |
| Analyst Initials: | CM | | | | | | |
| Dilution Factor: | 2.4 | | | | | | |
| ANALYTE | Result % v/v | RL % v/v | | | | | |
| Carbon Dioxide | 1.1 | 0.024 | | | | | |
| Oxygen/Argon | 21 | 1.2 | | | | | |
| Nitrogen | 78 | 2.4 | | | | | |
| Methane | 0.0084 | 0.0024 | | | | | |
| | | | | | | | |

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____


Mark Johnson
Operations Manager

Date _____



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December 16, 2020

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

TEL:

FAX:

Workorder No.: N043365

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on December 08, 2020 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,



Nancy Sibucan
Laboratory Director

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CLIENT: CH2MHill
Project: SFPP Norwalk
Lab Order: N043365

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:

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



CLIENT: CH2MHill
Project: SFPP Norwalk
Lab Order: N043365
Contract No:

Work Order Sample Summary

| Lab Sample ID | Client Sample ID | Matrix | Collection Date | Date Received | Date Reported |
|---------------|------------------|------------|-----------------------|---------------|---------------|
| N043365-001A | INF-12-08-20 | Wastewater | 12/8/2020 12:00:00 PM | 12/8/2020 | 12/16/2020 |
| N043365-001B | INF-12-08-20 | Wastewater | 12/8/2020 12:00:00 PM | 12/8/2020 | 12/16/2020 |
| N043365-001C | INF-12-08-20 | Wastewater | 12/8/2020 12:00:00 PM | 12/8/2020 | 12/16/2020 |



ASSET Laboratories

ANALYTICAL RESULTS

Print Date: 16-Dec-20

CLIENT: CH2MHill
Lab Order: N043365
Project: SFPP Norwalk
Lab ID: N043365-001

Client Sample ID: INF-12-08-20
Collection Date: 12/8/2020 12:00:00 PM
Matrix: WASTEWATER

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed |
|----------|--------|-----|-----|------|-------|----|---------------|
|----------|--------|-----|-----|------|-------|----|---------------|

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

| RunID: | CA01638-MS08_201209A | QC Batch: | R20VW035 | PrepDate: | Analyst: | AW |
|-----------------------------|----------------------|-----------|----------|-----------|----------|--------------------|
| 1,1,1,2-Tetrachloroethane | ND | 0.25 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,1,1-Trichloroethane | ND | 0.20 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,1,2,2-Tetrachloroethane | ND | 0.11 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,1,2-Trichloroethane | ND | 0.23 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,1-Dichloroethane | ND | 0.22 | 0.50 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,1-Dichloroethene | ND | 0.17 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,1-Dichloropropene | ND | 0.16 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,2,3-Trichlorobenzene | ND | 0.37 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,2,3-Trichloropropane | ND | 0.23 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,2,4-Trichlorobenzene | ND | 0.10 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,2,4-Trimethylbenzene | 2.9 | 0.060 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,2-Dibromo-3-chloropropane | ND | 0.32 | 2.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,2-Dibromoethane | ND | 0.19 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,2-Dichlorobenzene | ND | 0.089 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,2-Dichloroethane | ND | 0.16 | 0.50 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,2-Dichloropropane | ND | 0.16 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,3,5-Trimethylbenzene | 1.1 | 0.051 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,3-Dichlorobenzene | ND | 0.081 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,3-Dichloropropane | ND | 0.13 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 1,4-Dichlorobenzene | ND | 0.080 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 2,2-Dichloropropane | ND | 0.22 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 2-Butanone | ND | 4.7 | 10 | ug/L | 1 | 12/9/2020 12:16 PM |
| 2-Chlorotoluene | ND | 0.090 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 4-Chlorotoluene | ND | 0.065 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| 4-Isopropyltoluene | 0.10 | 0.085 | 1.0 | J ug/L | 1 | 12/9/2020 12:16 PM |
| 4-Methyl-2-pentanone | ND | 0.83 | 10 | ug/L | 1 | 12/9/2020 12:16 PM |
| Acetone | 13 | 4.6 | 10 | ug/L | 1 | 12/9/2020 12:16 PM |
| Benzene | 490 | 1.1 | 10 | ug/L | 10 | 12/9/2020 01:54 PM |
| Bromobenzene | ND | 0.093 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Bromochloromethane | ND | 0.26 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Bromodichloromethane | ND | 0.20 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Bromoform | ND | 0.23 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Bromomethane | ND | 0.38 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Carbon disulfide | 0.41 | 0.19 | 1.0 | J ug/L | 1 | 12/9/2020 12:16 PM |
| Carbon tetrachloride | ND | 0.33 | 0.50 | ug/L | 1 | 12/9/2020 12:16 PM |
| Chlorobenzene | ND | 0.11 | 1.0 | ug/L | 1 | 12/9/2020 12:16 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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ANALYTICAL RESULTS

Print Date: 16-Dec-20

CLIENT: CH2MHill
Lab Order: N043365
Project: SFPP Norwalk
Lab ID: N043365-001

Client Sample ID: INF-12-08-20
Collection Date: 12/8/2020 12:00:00 PM
Matrix: WASTEWATER

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed |
|----------|--------|-----|-----|------|-------|----|---------------|
|----------|--------|-----|-----|------|-------|----|---------------|

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

| RunID: | CA01638-MS08_201209A | QC Batch: | R20VW035 | PrepDate: | Analyst: | AW |
|-----------------------------|----------------------|-----------|----------|-----------|----------|---------------------|
| Chloroethane | ND | 0.69 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Chloroform | ND | 0.38 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Chloromethane | ND | 0.23 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| cis-1,2-Dichloroethene | ND | 0.11 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| cis-1,3-Dichloropropene | ND | 0.16 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Di-isopropyl ether | 9.9 | 0.15 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Dibromochloromethane | ND | 0.23 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Dibromomethane | ND | 0.13 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Dichlorodifluoromethane | ND | 0.16 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Ethyl tert-butyl ether | ND | 0.10 | 1.0 | ug/L | 1 | 12/15/2020 06:52 PM |
| Ethylbenzene | 4.2 | 0.11 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Freon-113 | ND | 0.28 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Hexachlorobutadiene | ND | 0.30 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Isopropylbenzene | 2.6 | 0.092 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| m,p-Xylene | 7.1 | 0.23 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Methylene chloride | ND | 1.2 | 2.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| MTBE | 6.3 | 0.44 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| n-Butylbenzene | 0.49 | 0.093 | 1.0 | J ug/L | 1 | 12/9/2020 12:16 PM |
| n-Propylbenzene | 5.3 | 0.10 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Naphthalene | 28 | 0.41 | 1.0 | ug/L | 1 | 12/15/2020 06:52 PM |
| o-Xylene | 0.94 | 0.087 | 1.0 | J ug/L | 1 | 12/9/2020 12:16 PM |
| sec-Butylbenzene | 0.37 | 0.076 | 1.0 | J ug/L | 1 | 12/9/2020 12:16 PM |
| Styrene | ND | 0.41 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Tert-amyl methyl ether | ND | 0.13 | 1.0 | ug/L | 1 | 12/15/2020 06:52 PM |
| Tert-Butanol | 55 | 2.8 | 5.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| tert-Butylbenzene | ND | 0.10 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Tetrachloroethene | ND | 0.25 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Toluene | 1.4 | 0.13 | 2.0 | J ug/L | 1 | 12/9/2020 12:16 PM |
| trans-1,2-Dichloroethene | ND | 0.27 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| trans-1,3-Dichloropropene | ND | 0.12 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Trichloroethene | ND | 0.26 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Trichlorofluoromethane | ND | 0.23 | 1.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Vinyl chloride | ND | 0.19 | 0.50 | ug/L | 1 | 12/9/2020 12:16 PM |
| Xylenes, Total | 8.0 | 1.5 | 2.0 | ug/L | 1 | 12/9/2020 12:16 PM |
| Surr: 1,2-Dichloroethane-d4 | 114 | 0 | 72-119 | %REC | 10 | 12/9/2020 01:54 PM |
| Surr: 1,2-Dichloroethane-d4 | 96.5 | 0 | 72-119 | %REC | 1 | 12/15/2020 06:52 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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ANALYTICAL RESULTS

Print Date: 16-Dec-20

CLIENT: CH2MHill
Lab Order: N043365
Project: SFPP Norwalk
Lab ID: N043365-001

Client Sample ID: INF-12-08-20
Collection Date: 12/8/2020 12:00:00 PM
Matrix: WASTEWATER

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed |
|----------|--------|-----|-----|------|-------|----|---------------|
|----------|--------|-----|-----|------|-------|----|---------------|

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

| RunID: | CA01638-MS08_201209A | QC Batch: | R20VW035 | PrepDate: | Analyst: | AW | |
|--------|-----------------------|-----------|----------|-----------|----------|----|---------------------|
| Surr: | 1,2-Dichloroethane-d4 | 92.9 | 0 | 72-119 | %REC | 1 | 12/9/2020 12:16 PM |
| Surr: | 4-Bromofluorobenzene | 102 | 0 | 76-119 | %REC | 1 | 12/9/2020 12:16 PM |
| Surr: | 4-Bromofluorobenzene | 100 | 0 | 76-119 | %REC | 10 | 12/9/2020 01:54 PM |
| Surr: | 4-Bromofluorobenzene | 97.8 | 0 | 76-119 | %REC | 1 | 12/15/2020 06:52 PM |
| Surr: | Dibromofluoromethane | 98.0 | 0 | 85-115 | %REC | 10 | 12/9/2020 01:54 PM |
| Surr: | Dibromofluoromethane | 86.2 | 0 | 85-115 | %REC | 1 | 12/9/2020 12:16 PM |
| Surr: | Dibromofluoromethane | 97.5 | 0 | 85-115 | %REC | 1 | 12/15/2020 06:52 PM |
| Surr: | Toluene-d8 | 103 | 0 | 81-120 | %REC | 10 | 12/9/2020 01:54 PM |
| Surr: | Toluene-d8 | 101 | 0 | 81-120 | %REC | 1 | 12/15/2020 06:52 PM |
| Surr: | Toluene-d8 | 97.5 | 0 | 81-120 | %REC | 1 | 12/9/2020 12:16 PM |

TPH EXTRACTABLE BY GC/FID

EPA 3510C

EPA 8015B

| RunID: | NV00922-GC1_201210A | QC Batch: | 83377 | PrepDate: | 12/9/2020 | Analyst: | PL |
|----------------------|---------------------|-----------|--------|-----------|-----------|---------------------|----|
| TPH-Diesel (C13-C22) | 480 | 15 | 25 | ug/L | 1 | 12/10/2020 01:12 PM | |
| TPH-Oil (C23-C36) | 150 | 14 | 25 | ug/L | 1 | 12/10/2020 01:12 PM | |
| Surr: Octacosane | 96.1 | 0 | 26-152 | %REC | 1 | 12/10/2020 01:12 PM | |
| Surr: p-Terphenyl | 92.4 | 0 | 57-132 | %REC | 1 | 12/10/2020 01:12 PM | |

GASOLINE RANGE ORGANICS BY GC/FID

EPA 8015B

| RunID: | NV00922-GC4_201209A | QC Batch: | E20VW123 | PrepDate: | Analyst: | BH |
|--------------------------|---------------------|-----------|----------|-----------|----------|--------------------|
| TPH-Gasoline (C4-C12) | 890 | 21 | 50 | ug/L | 1 | 12/9/2020 01:43 PM |
| Surr: Chlorobenzene - d5 | 111 | 0 | 74-138 | %REC | 1 | 12/9/2020 01:43 PM |

TOTAL TPH

EPA 8015B

| RunID: | NV00922-GC1_201210A | QC Batch: | R149317 | PrepDate: | Analyst: | PL |
|-----------|---------------------|-----------|---------|-----------|----------|------------|
| Total TPH | 1500 | 21 | 100 | ug/L | 1 | 12/10/2020 |

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: N043365
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_FP_SFPP

| | | | | | | | | | | | |
|----------------------------|------------------------|------------------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: MB-83377 | SampType: MBLK | TestCode: 8015_W_FP_ | Units: ug/L | Prep Date: 12/9/2020 | RunNo: 149317 | | | | | | |
| Client ID: PBW | Batch ID: 83377 | TestNo: EPA 8015B EPA 3510C | | Analysis Date: 12/10/2020 | SeqNo: 4036141 | | | | | | |
| 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) | 18.788 | 25 | | | | | | | | | J |
| Surr: Octacosane | 72.291 | | 80.00 | | 90.4 | 26 | 152 | | | | |
| Surr: p-Terphenyl | 69.860 | | 80.00 | | 87.3 | 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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 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
Work Order: N043365
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_SFPPTOT

| Sample ID: MB-R149317 | SampType: MBLK | TestCode: 8015_W_SFP | Units: ug/L | Prep Date: | RunNo: 149317 | | | | | | |
|------------------------------|--------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: R149317 | TestNo: EPA 8015B | | Analysis Date: 12/10/2020 | SeqNo: 4037372 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Total TPH | 54.788 | 100 | | | | | | | | | 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 |



CALIFORNIA | P: 562.219.7435 F: 562.219.7436
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 ORELAP/NELAP Cert 4046

CLIENT: CH2MHill
Work Order: N043365
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_WSFP

| | | | | | | | | | | | |
|------------------------------|---------------------------|-----------------------------|---------------------------------|-----------------------|----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: E201209LCS | SampType: LCS | TestCode: 8015GAS_WS | Units: ug/L | Prep Date: | RunNo: 149266 | | | | | | |
| Client ID: LCSW | Batch ID: E20VW123 | TestNo: EPA 8015B | Analysis Date: 12/9/2020 | SeqNo: 4033131 | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| TPH-Gasoline (C4-C12) | 925.000 | 50 | 1000 | 0 | 92.5 | 67 | 136 | | | | |
| Surr: Chlorobenzene - d5 | 44058.000 | | 50000 | | 88.1 | 74 | 138 | | | | |

| | | | | | | | | | | | |
|-----------------------------|---------------------------|-----------------------------|---------------------------------|-----------------------|----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: E201209MB | SampType: MBLK | TestCode: 8015GAS_WS | Units: ug/L | Prep Date: | RunNo: 149266 | | | | | | |
| Client ID: PBW | Batch ID: E20VW123 | TestNo: EPA 8015B | Analysis Date: 12/9/2020 | SeqNo: 4033132 | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| TPH-Gasoline (C4-C12) | 36.000 | 50 | | | | | | | | | J |
| Surr: Chlorobenzene - d5 | 48815.000 | | 50000 | | 97.6 | 74 | 138 | | | | |

| | | | | | | | | | | | |
|-----------------------------------|---------------------------|-----------------------------|---------------------------------|-----------------------|----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: N043364-001BMSD | SampType: MSD | TestCode: 8015GAS_WS | Units: ug/L | Prep Date: | RunNo: 149266 | | | | | | |
| Client ID: ZZZZZ | Batch ID: E20VW123 | TestNo: EPA 8015B | Analysis Date: 12/9/2020 | SeqNo: 4033135 | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| TPH-Gasoline (C4-C12) | 1021.000 | 50 | 1000 | 42.00 | 97.9 | 67 | 136 | 1002 | 1.88 | 30 | |
| Surr: Chlorobenzene - d5 | 46303.000 | | 50000 | | 92.6 | 74 | 138 | | 0 | 0 | |

| | | | | | | | | | | | |
|----------------------------------|---------------------------|-----------------------------|---------------------------------|-----------------------|----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: N043364-001BMS | SampType: MS | TestCode: 8015GAS_WS | Units: ug/L | Prep Date: | RunNo: 149266 | | | | | | |
| Client ID: ZZZZZ | Batch ID: E20VW123 | TestNo: EPA 8015B | Analysis Date: 12/9/2020 | SeqNo: 4033137 | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| TPH-Gasoline (C4-C12) | 1002.000 | 50 | 1000 | 42.00 | 96.0 | 67 | 136 | | | | |
| Surr: Chlorobenzene - d5 | 52671.000 | | 50000 | | 105 | 74 | 138 | | | | |

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: N043365
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: R201209-LCS | SampType: LCS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149271 | | | | | | |
|-------------------------------|---------------------------|-----------------------------|--------------------|---------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: R20VW035 | TestNo: EPA 8260B | | Analysis Date: 12/9/2020 | SeqNo: 4033270 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,1,1,2-Tetrachloroethane | 19.860 | 1.0 | 20.00 | 0 | 99.3 | 81 | 129 | | | | |
| 1,1,1-Trichloroethane | 20.640 | 1.0 | 20.00 | 0 | 103 | 67 | 132 | | | | |
| 1,1,2,2-Tetrachloroethane | 18.400 | 1.0 | 20.00 | 0 | 92.0 | 63 | 128 | | | | |
| 1,1,2-Trichloroethane | 19.240 | 1.0 | 20.00 | 0 | 96.2 | 75 | 125 | | | | |
| 1,1-Dichloroethane | 18.080 | 0.50 | 20.00 | 0 | 90.4 | 69 | 133 | | | | |
| 1,1-Dichloroethene | 17.060 | 1.0 | 20.00 | 0 | 85.3 | 68 | 130 | | | | |
| 1,1-Dichloropropene | 19.520 | 1.0 | 20.00 | 0 | 97.6 | 73 | 132 | | | | |
| 1,2,3-Trichlorobenzene | 20.480 | 1.0 | 20.00 | 0 | 102 | 67 | 137 | | | | |
| 1,2,3-Trichloropropane | 21.410 | 1.0 | 20.00 | 0 | 107 | 73 | 124 | | | | |
| 1,2,4-Trichlorobenzene | 20.240 | 1.0 | 20.00 | 0 | 101 | 66 | 134 | | | | |
| 1,2,4-Trimethylbenzene | 23.140 | 1.0 | 20.00 | 0 | 116 | 74 | 132 | | | | |
| 1,2-Dibromo-3-chloropropane | 19.010 | 2.0 | 20.00 | 0 | 95.1 | 50 | 132 | | | | |
| 1,2-Dibromoethane | 18.990 | 1.0 | 20.00 | 0 | 95.0 | 80 | 121 | | | | |
| 1,2-Dichlorobenzene | 19.550 | 1.0 | 20.00 | 0 | 97.8 | 71 | 122 | | | | |
| 1,2-Dichloroethane | 22.600 | 0.50 | 20.00 | 0 | 113 | 69 | 132 | | | | |
| 1,2-Dichloropropane | 17.340 | 1.0 | 20.00 | 0 | 86.7 | 75 | 125 | | | | |
| 1,3,5-Trimethylbenzene | 21.990 | 1.0 | 20.00 | 0 | 110 | 74 | 131 | | | | |
| 1,3-Dichlorobenzene | 19.450 | 1.0 | 20.00 | 0 | 97.3 | 75 | 124 | | | | |
| 1,3-Dichloropropane | 19.670 | 1.0 | 20.00 | 0 | 98.4 | 73 | 126 | | | | |
| 1,4-Dichlorobenzene | 19.410 | 1.0 | 20.00 | 0 | 97.0 | 74 | 123 | | | | |
| 2,2-Dichloropropane | 19.880 | 1.0 | 20.00 | 0 | 99.4 | 69 | 137 | | | | |
| 2-Butanone | 204.710 | 10 | 200.0 | 0 | 102 | 49 | 136 | | | | |
| 2-Chlorotoluene | 21.110 | 1.0 | 20.00 | 0 | 106 | 73 | 126 | | | | |
| 4-Chlorotoluene | 21.400 | 1.0 | 20.00 | 0 | 107 | 74 | 128 | | | | |
| 4-Isopropyltoluene | 23.470 | 1.0 | 20.00 | 0 | 117 | 73 | 130 | | | | |
| 4-Methyl-2-pentanone | 217.990 | 10 | 200.0 | 0 | 109 | 58 | 134 | | | | |
| Acetone | 229.110 | 10 | 200.0 | 0 | 115 | 40 | 135 | | | | |
| Benzene | 18.430 | 1.0 | 20.00 | 0 | 92.2 | 81 | 122 | | | | |
| Bromobenzene | 19.220 | 1.0 | 20.00 | 0 | 96.1 | 76 | 124 | | | | |
| Bromochloromethane | 16.890 | 1.0 | 20.00 | 0 | 84.4 | 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 |

CLIENT: CH2MHill
Work Order: N043365
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: R201209-LCS | SampType: LCS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149271 | | | | | | |
|-------------------------------|---------------------------|-----------------------------|--------------------|---------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: R20VW035 | TestNo: EPA 8260B | | Analysis Date: 12/9/2020 | SeqNo: 4033270 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Bromodichloromethane | 20.840 | 1.0 | 20.00 | 0 | 104 | 76 | 121 | | | | |
| Bromoform | 19.150 | 1.0 | 20.00 | 0 | 95.8 | 69 | 128 | | | | |
| Bromomethane | 19.930 | 1.0 | 20.00 | 0 | 99.7 | 53 | 141 | | | | |
| Carbon disulfide | 16.110 | 1.0 | 20.00 | 0 | 80.6 | 75 | 125 | | | | |
| Carbon tetrachloride | 22.090 | 0.50 | 20.00 | 0 | 110 | 66 | 138 | | | | |
| Chlorobenzene | 18.780 | 1.0 | 20.00 | 0 | 93.9 | 81 | 122 | | | | |
| Chloroethane | 17.210 | 1.0 | 20.00 | 0 | 86.1 | 58 | 133 | | | | |
| Chloroform | 19.590 | 1.0 | 20.00 | 0 | 98.0 | 69 | 128 | | | | |
| Chloromethane | 17.100 | 1.0 | 20.00 | 0 | 85.5 | 56 | 131 | | | | |
| cis-1,2-Dichloroethene | 16.630 | 1.0 | 20.00 | 0 | 83.2 | 72 | 126 | | | | |
| cis-1,3-Dichloropropene | 18.560 | 1.0 | 20.00 | 0 | 92.8 | 69 | 131 | | | | |
| Di-isopropyl ether | 17.300 | 1.0 | 20.00 | 0 | 86.5 | 70 | 130 | | | | |
| Dibromochloromethane | 20.850 | 1.0 | 20.00 | 0 | 104 | 66 | 133 | | | | |
| Dibromomethane | 19.330 | 1.0 | 20.00 | 0 | 96.7 | 76 | 125 | | | | |
| Dichlorodifluoromethane | 17.280 | 1.0 | 20.00 | 0 | 86.4 | 53 | 153 | | | | |
| Ethylbenzene | 19.730 | 1.0 | 20.00 | 0 | 98.6 | 73 | 127 | | | | |
| Freon-113 | 18.900 | 1.0 | 20.00 | 0 | 94.5 | 75 | 125 | | | | |
| Hexachlorobutadiene | 20.070 | 1.0 | 20.00 | 0 | 100 | 67 | 131 | | | | |
| Isopropylbenzene | 20.730 | 1.0 | 20.00 | 0 | 104 | 75 | 127 | | | | |
| m,p-Xylene | 42.140 | 1.0 | 40.00 | 0 | 105 | 76 | 128 | | | | |
| Methylene chloride | 19.100 | 2.0 | 20.00 | 0 | 95.5 | 63 | 137 | | | | |
| MTBE | 17.760 | 1.0 | 20.00 | 0 | 88.8 | 65 | 123 | | | | |
| n-Butylbenzene | 22.900 | 1.0 | 20.00 | 0 | 114 | 69 | 137 | | | | |
| n-Propylbenzene | 20.870 | 1.0 | 20.00 | 0 | 104 | 72 | 129 | | | | |
| o-Xylene | 20.570 | 1.0 | 20.00 | 0 | 103 | 80 | 121 | | | | |
| sec-Butylbenzene | 21.480 | 1.0 | 20.00 | 0 | 107 | 72 | 127 | | | | |
| Styrene | 20.590 | 1.0 | 20.00 | 0 | 103 | 65 | 134 | | | | |
| Tert-Butanol | 115.610 | 5.0 | 100.0 | 0 | 116 | 70 | 130 | | | | |
| tert-Butylbenzene | 22.010 | 1.0 | 20.00 | 0 | 110 | 70 | 129 | | | | |
| Tetrachloroethene | 18.590 | 1.0 | 20.00 | 0 | 93.0 | 66 | 128 | | | | |

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 2676 | NV Cert NVO0922
 ORELAP/NELAP Cert 4046

CLIENT: CH2MHill
Work Order: N043365
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: R201209-LCS | SampType: LCS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149271 | | | | | | |
|-------------------------------|---------------------------|-----------------------------|--------------------|---------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: R20VW035 | TestNo: EPA 8260B | | Analysis Date: 12/9/2020 | SeqNo: 4033270 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Toluene | 18.690 | 2.0 | 20.00 | 0 | 93.5 | 77 | 122 | | | | |
| trans-1,2-Dichloroethene | 16.460 | 1.0 | 20.00 | 0 | 82.3 | 63 | 137 | | | | |
| trans-1,3-Dichloropropene | 21.040 | 1.0 | 20.00 | 0 | 105 | 59 | 135 | | | | |
| Trichloroethene | 18.040 | 1.0 | 20.00 | 0 | 90.2 | 70 | 127 | | | | |
| Trichlorofluoromethane | 24.830 | 1.0 | 20.00 | 0 | 124 | 57 | 129 | | | | |
| Vinyl chloride | 18.080 | 0.50 | 20.00 | 0 | 90.4 | 50 | 134 | | | | |
| Xylenes, Total | 62.710 | 2.0 | 60.00 | 0 | 105 | 75 | 125 | | | | |
| Surr: 1,2-Dichloroethane-d4 | 28.470 | | 25.00 | | 114 | 72 | 119 | | | | |
| Surr: 4-Bromofluorobenzene | 27.150 | | 25.00 | | 109 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 24.550 | | 25.00 | | 98.2 | 85 | 115 | | | | |
| Surr: Toluene-d8 | 25.640 | | 25.00 | | 103 | 81 | 120 | | | | |

| Sample ID: N043364-001A-MS | SampType: MS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149271 | | | | | | |
|-----------------------------------|---------------------------|-----------------------------|--------------------|---------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: ZZZZZ | Batch ID: R20VW035 | TestNo: EPA 8260B | | Analysis Date: 12/9/2020 | SeqNo: 4033271 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,1,1,2-Tetrachloroethane | 18.490 | 1.0 | 20.00 | 0 | 92.5 | 81 | 129 | | | | |
| 1,1,1-Trichloroethane | 20.690 | 1.0 | 20.00 | 0 | 103 | 67 | 132 | | | | |
| 1,1,2,2-Tetrachloroethane | 16.330 | 1.0 | 20.00 | 0 | 81.7 | 63 | 128 | | | | |
| 1,1,2-Trichloroethane | 16.580 | 1.0 | 20.00 | 0 | 82.9 | 75 | 125 | | | | |
| 1,1-Dichloroethane | 17.700 | 0.50 | 20.00 | 0 | 88.5 | 69 | 133 | | | | |
| 1,1-Dichloroethene | 19.090 | 1.0 | 20.00 | 0 | 95.4 | 68 | 130 | | | | |
| 1,1-Dichloropropene | 20.700 | 1.0 | 20.00 | 0 | 104 | 73 | 132 | | | | |
| 1,2,3-Trichlorobenzene | 19.650 | 1.0 | 20.00 | 0 | 98.2 | 67 | 137 | | | | |
| 1,2,3-Trichloropropane | 19.850 | 1.0 | 20.00 | 0 | 99.2 | 73 | 124 | | | | |
| 1,2,4-Trichlorobenzene | 19.490 | 1.0 | 20.00 | 0 | 97.5 | 66 | 134 | | | | |
| 1,2,4-Trimethylbenzene | 23.070 | 1.0 | 20.00 | 0 | 115 | 74 | 132 | | | | |
| 1,2-Dibromo-3-chloropropane | 15.710 | 2.0 | 20.00 | 0 | 78.6 | 50 | 132 | | | | |
| 1,2-Dibromoethane | 17.100 | 1.0 | 20.00 | 0 | 85.5 | 80 | 121 | | | | |
| 1,2-Dichlorobenzene | 18.810 | 1.0 | 20.00 | 0 | 94.1 | 71 | 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: N043365
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: N043364-001A-MS | SampType: MS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149271 | | | | | | |
|-----------------------------------|---------------------------|-----------------------------|--------------------|---------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: ZZZZZ | Batch ID: R20VW035 | TestNo: EPA 8260B | | Analysis Date: 12/9/2020 | SeqNo: 4033271 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,2-Dichloroethane | 21.290 | 0.50 | 20.00 | 0 | 106 | 69 | 132 | | | | |
| 1,2-Dichloropropane | 16.750 | 1.0 | 20.00 | 0 | 83.8 | 75 | 125 | | | | |
| 1,3,5-Trimethylbenzene | 22.210 | 1.0 | 20.00 | 0 | 111 | 74 | 131 | | | | |
| 1,3-Dichlorobenzene | 19.020 | 1.0 | 20.00 | 0 | 95.1 | 75 | 124 | | | | |
| 1,3-Dichloropropane | 18.590 | 1.0 | 20.00 | 0 | 93.0 | 73 | 126 | | | | |
| 1,4-Dichlorobenzene | 18.980 | 1.0 | 20.00 | 0 | 94.9 | 74 | 123 | | | | |
| 2,2-Dichloropropane | 19.810 | 1.0 | 20.00 | 0 | 99.0 | 69 | 137 | | | | |
| 2-Butanone | 113.810 | 10 | 200.0 | 0 | 56.9 | 49 | 136 | | | | |
| 2-Chlorotoluene | 21.500 | 1.0 | 20.00 | 0 | 108 | 73 | 126 | | | | |
| 4-Chlorotoluene | 21.320 | 1.0 | 20.00 | 0 | 107 | 74 | 128 | | | | |
| 4-Isopropyltoluene | 23.550 | 1.0 | 20.00 | 0 | 118 | 73 | 130 | | | | |
| 4-Methyl-2-pentanone | 173.760 | 10 | 200.0 | 0 | 86.9 | 58 | 134 | | | | |
| Acetone | 87.290 | 10 | 200.0 | 5.400 | 40.9 | 40 | 135 | | | | |
| Benzene | 18.590 | 1.0 | 20.00 | 0 | 93.0 | 81 | 122 | | | | |
| Bromobenzene | 18.130 | 1.0 | 20.00 | 0 | 90.7 | 76 | 124 | | | | |
| Bromochloromethane | 16.430 | 1.0 | 20.00 | 0 | 82.2 | 65 | 129 | | | | |
| Bromodichloromethane | 19.420 | 1.0 | 20.00 | 0 | 97.1 | 76 | 121 | | | | |
| Bromoform | 16.760 | 1.0 | 20.00 | 0 | 83.8 | 69 | 128 | | | | |
| Bromomethane | 24.160 | 1.0 | 20.00 | 0.4700 | 118 | 53 | 141 | | | | |
| Carbon disulfide | 21.200 | 1.0 | 20.00 | 0 | 106 | 75 | 125 | | | | |
| Carbon tetrachloride | 22.780 | 0.50 | 20.00 | 0 | 114 | 66 | 138 | | | | |
| Chlorobenzene | 18.310 | 1.0 | 20.00 | 0 | 91.6 | 81 | 122 | | | | |
| Chloroethane | 19.360 | 1.0 | 20.00 | 0 | 96.8 | 58 | 133 | | | | |
| Chloroform | 18.040 | 1.0 | 20.00 | 0 | 90.2 | 69 | 128 | | | | |
| Chloromethane | 21.090 | 1.0 | 20.00 | 0 | 105 | 56 | 131 | | | | |
| cis-1,2-Dichloroethene | 16.340 | 1.0 | 20.00 | 0 | 81.7 | 72 | 126 | | | | |
| cis-1,3-Dichloropropene | 17.220 | 1.0 | 20.00 | 0 | 86.1 | 69 | 131 | | | | |
| Di-isopropyl ether | 16.180 | 1.0 | 20.00 | 0 | 80.9 | 70 | 130 | | | | |
| Dibromochloromethane | 19.670 | 1.0 | 20.00 | 0 | 98.4 | 66 | 133 | | | | |
| Dibromomethane | 17.650 | 1.0 | 20.00 | 0 | 88.2 | 76 | 125 | | | | |

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: N043365
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: N043364-001A-MS | SampType: MS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149271 | | | | | | |
|-----------------------------------|---------------------------|-----------------------------|--------------------|---------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: ZZZZZZ | Batch ID: R20VW035 | TestNo: EPA 8260B | | Analysis Date: 12/9/2020 | SeqNo: 4033271 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Dichlorodifluoromethane | 28.250 | 1.0 | 20.00 | 0 | 141 | 53 | 153 | | | | |
| Ethylbenzene | 20.120 | 1.0 | 20.00 | 0 | 101 | 73 | 127 | | | | |
| Freon-113 | 20.780 | 1.0 | 20.00 | 0 | 104 | 75 | 125 | | | | |
| Hexachlorobutadiene | 18.700 | 1.0 | 20.00 | 0 | 93.5 | 67 | 131 | | | | |
| Isopropylbenzene | 21.450 | 1.0 | 20.00 | 0 | 107 | 75 | 127 | | | | |
| m,p-Xylene | 42.860 | 1.0 | 40.00 | 0 | 107 | 76 | 128 | | | | |
| Methylene chloride | 18.260 | 2.0 | 20.00 | 0 | 91.3 | 63 | 137 | | | | |
| MTBE | 15.600 | 1.0 | 20.00 | 0 | 78.0 | 65 | 123 | | | | |
| n-Butylbenzene | 22.610 | 1.0 | 20.00 | 0 | 113 | 69 | 137 | | | | |
| n-Propylbenzene | 21.270 | 1.0 | 20.00 | 0 | 106 | 72 | 129 | | | | |
| o-Xylene | 20.490 | 1.0 | 20.00 | 0 | 102 | 80 | 121 | | | | |
| sec-Butylbenzene | 21.640 | 1.0 | 20.00 | 0 | 108 | 72 | 127 | | | | |
| Styrene | 19.600 | 1.0 | 20.00 | 0 | 98.0 | 65 | 134 | | | | |
| Tert-Butanol | 101.940 | 5.0 | 100.0 | 0 | 102 | 70 | 130 | | | | |
| tert-Butylbenzene | 22.030 | 1.0 | 20.00 | 0 | 110 | 70 | 129 | | | | |
| Tetrachloroethene | 19.550 | 1.0 | 20.00 | 0 | 97.8 | 66 | 128 | | | | |
| Toluene | 18.480 | 2.0 | 20.00 | 0 | 92.4 | 77 | 122 | | | | |
| trans-1,2-Dichloroethene | 17.150 | 1.0 | 20.00 | 0 | 85.8 | 63 | 137 | | | | |
| trans-1,3-Dichloropropene | 18.830 | 1.0 | 20.00 | 0 | 94.2 | 59 | 135 | | | | |
| Trichloroethene | 18.060 | 1.0 | 20.00 | 0 | 90.3 | 70 | 127 | | | | |
| Trichlorofluoromethane | 28.120 | 1.0 | 20.00 | 0 | 141 | 57 | 129 | | | | S |
| Vinyl chloride | 23.540 | 0.50 | 20.00 | 0 | 118 | 50 | 134 | | | | |
| Xylenes, Total | 63.350 | 2.0 | 60.00 | 0 | 106 | 75 | 125 | | | | |
| Surr: 1,2-Dichloroethane-d4 | 25.810 | | 25.00 | | 103 | 72 | 119 | | | | |
| Surr: 4-Bromofluorobenzene | 26.370 | | 25.00 | | 105 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 23.360 | | 25.00 | | 93.4 | 85 | 115 | | | | |
| Surr: Toluene-d8 | 25.230 | | 25.00 | | 101 | 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 |

CLIENT: CH2MHill
Work Order: N043365
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: N043364-001A-MSD | SampType: MSD | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149271 | | | | | | |
|------------------------------------|---------------------------|-----------------------------|--------------------|---------------------------------|-----------------------|----------|-----------|-------------|--------|----------|------|
| Client ID: ZZZZZZ | Batch ID: R20VW035 | TestNo: EPA 8260B | | Analysis Date: 12/9/2020 | SeqNo: 4033272 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,1,1,2-Tetrachloroethane | 18.480 | 1.0 | 20.00 | 0 | 92.4 | 81 | 129 | 18.49 | 0.0541 | 20 | |
| 1,1,1-Trichloroethane | 20.850 | 1.0 | 20.00 | 0 | 104 | 67 | 132 | 20.69 | 0.770 | 20 | |
| 1,1,2,2-Tetrachloroethane | 16.990 | 1.0 | 20.00 | 0 | 85.0 | 63 | 128 | 16.33 | 3.96 | 20 | |
| 1,1,2-Trichloroethane | 16.720 | 1.0 | 20.00 | 0 | 83.6 | 75 | 125 | 16.58 | 0.841 | 20 | |
| 1,1-Dichloroethane | 17.770 | 0.50 | 20.00 | 0 | 88.8 | 69 | 133 | 17.70 | 0.395 | 20 | |
| 1,1-Dichloroethene | 19.270 | 1.0 | 20.00 | 0 | 96.4 | 68 | 130 | 19.09 | 0.938 | 20 | |
| 1,1-Dichloropropene | 20.220 | 1.0 | 20.00 | 0 | 101 | 73 | 132 | 20.70 | 2.35 | 20 | |
| 1,2,3-Trichlorobenzene | 18.970 | 1.0 | 20.00 | 0 | 94.8 | 67 | 137 | 19.65 | 3.52 | 20 | |
| 1,2,3-Trichloropropane | 19.760 | 1.0 | 20.00 | 0 | 98.8 | 73 | 124 | 19.85 | 0.454 | 20 | |
| 1,2,4-Trichlorobenzene | 18.600 | 1.0 | 20.00 | 0 | 93.0 | 66 | 134 | 19.49 | 4.67 | 20 | |
| 1,2,4-Trimethylbenzene | 22.430 | 1.0 | 20.00 | 0 | 112 | 74 | 132 | 23.07 | 2.81 | 20 | |
| 1,2-Dibromo-3-chloropropane | 17.670 | 2.0 | 20.00 | 0 | 88.4 | 50 | 132 | 15.71 | 11.7 | 20 | |
| 1,2-Dibromoethane | 17.580 | 1.0 | 20.00 | 0 | 87.9 | 80 | 121 | 17.10 | 2.77 | 20 | |
| 1,2-Dichlorobenzene | 18.320 | 1.0 | 20.00 | 0 | 91.6 | 71 | 122 | 18.81 | 2.64 | 20 | |
| 1,2-Dichloroethane | 21.460 | 0.50 | 20.00 | 0 | 107 | 69 | 132 | 21.29 | 0.795 | 20 | |
| 1,2-Dichloropropane | 16.820 | 1.0 | 20.00 | 0 | 84.1 | 75 | 125 | 16.75 | 0.417 | 20 | |
| 1,3,5-Trimethylbenzene | 21.440 | 1.0 | 20.00 | 0 | 107 | 74 | 131 | 22.21 | 3.53 | 20 | |
| 1,3-Dichlorobenzene | 18.380 | 1.0 | 20.00 | 0 | 91.9 | 75 | 124 | 19.02 | 3.42 | 20 | |
| 1,3-Dichloropropane | 18.630 | 1.0 | 20.00 | 0 | 93.2 | 73 | 126 | 18.59 | 0.215 | 20 | |
| 1,4-Dichlorobenzene | 18.390 | 1.0 | 20.00 | 0 | 92.0 | 74 | 123 | 18.98 | 3.16 | 20 | |
| 2,2-Dichloropropane | 20.020 | 1.0 | 20.00 | 0 | 100 | 69 | 137 | 19.81 | 1.05 | 20 | |
| 2-Butanone | 125.800 | 10 | 200.0 | 0 | 62.9 | 49 | 136 | 113.8 | 10.0 | 20 | |
| 2-Chlorotoluene | 20.660 | 1.0 | 20.00 | 0 | 103 | 73 | 126 | 21.50 | 3.98 | 20 | |
| 4-Chlorotoluene | 20.800 | 1.0 | 20.00 | 0 | 104 | 74 | 128 | 21.32 | 2.47 | 20 | |
| 4-Isopropyltoluene | 22.500 | 1.0 | 20.00 | 0 | 112 | 73 | 130 | 23.55 | 4.56 | 20 | |
| 4-Methyl-2-pentanone | 192.060 | 10 | 200.0 | 0 | 96.0 | 58 | 134 | 173.8 | 10.0 | 20 | |
| Acetone | 96.930 | 10 | 200.0 | 5.400 | 45.8 | 40 | 135 | 87.29 | 10.5 | 20 | |
| Benzene | 18.390 | 1.0 | 20.00 | 0 | 92.0 | 81 | 122 | 18.59 | 1.08 | 20 | |
| Bromobenzene | 18.150 | 1.0 | 20.00 | 0 | 90.8 | 76 | 124 | 18.13 | 0.110 | 20 | |
| Bromochloromethane | 16.820 | 1.0 | 20.00 | 0 | 84.1 | 65 | 129 | 16.43 | 2.35 | 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 |



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NEVADA | P:702.307.2659 F:702.307.2691
 3151 W. Post Rd., Las Vegas, NV 89118
 ELAP Cert 2676 | NV Cert N000922
 ORELAP/NELAP Cert 4046

CLIENT: CH2MHill
Work Order: N043365
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: N043364-001A-MSD | SampType: MSD | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149271 | | | | | | |
|------------------------------------|---------------------------|-----------------------------|--------------------|---------------------------------|-----------------------|----------|-----------|-------------|-------|----------|------|
| Client ID: ZZZZZZ | Batch ID: R20VW035 | TestNo: EPA 8260B | | Analysis Date: 12/9/2020 | SeqNo: 4033272 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Bromodichloromethane | 18.930 | 1.0 | 20.00 | 0 | 94.6 | 76 | 121 | 19.42 | 2.56 | 20 | |
| Bromoform | 18.160 | 1.0 | 20.00 | 0 | 90.8 | 69 | 128 | 16.76 | 8.02 | 20 | |
| Bromomethane | 25.410 | 1.0 | 20.00 | 0.4700 | 125 | 53 | 141 | 24.16 | 5.04 | 20 | |
| Carbon disulfide | 21.320 | 1.0 | 20.00 | 0 | 107 | 75 | 125 | 21.20 | 0.564 | 20 | |
| Carbon tetrachloride | 22.170 | 0.50 | 20.00 | 0 | 111 | 66 | 138 | 22.78 | 2.71 | 20 | |
| Chlorobenzene | 18.330 | 1.0 | 20.00 | 0 | 91.7 | 81 | 122 | 18.31 | 0.109 | 20 | |
| Chloroethane | 20.050 | 1.0 | 20.00 | 0 | 100 | 58 | 133 | 19.36 | 3.50 | 20 | |
| Chloroform | 18.650 | 1.0 | 20.00 | 0 | 93.3 | 69 | 128 | 18.04 | 3.33 | 20 | |
| Chloromethane | 22.870 | 1.0 | 20.00 | 0 | 114 | 56 | 131 | 21.09 | 8.10 | 20 | |
| cis-1,2-Dichloroethene | 16.890 | 1.0 | 20.00 | 0 | 84.4 | 72 | 126 | 16.34 | 3.31 | 20 | |
| cis-1,3-Dichloropropene | 18.010 | 1.0 | 20.00 | 0 | 90.1 | 69 | 131 | 17.22 | 4.48 | 20 | |
| Di-isopropyl ether | 17.190 | 1.0 | 20.00 | 0 | 86.0 | 70 | 130 | 16.18 | 6.05 | 20 | |
| Dibromochloromethane | 19.810 | 1.0 | 20.00 | 0 | 99.0 | 66 | 133 | 19.67 | 0.709 | 20 | |
| Dibromomethane | 17.750 | 1.0 | 20.00 | 0 | 88.8 | 76 | 125 | 17.65 | 0.565 | 20 | |
| Dichlorodifluoromethane | 28.500 | 1.0 | 20.00 | 0 | 142 | 53 | 153 | 28.25 | 0.881 | 20 | |
| Ethylbenzene | 19.870 | 1.0 | 20.00 | 0 | 99.4 | 73 | 127 | 20.12 | 1.25 | 20 | |
| Freon-113 | 20.560 | 1.0 | 20.00 | 0 | 103 | 75 | 125 | 20.78 | 1.06 | 20 | |
| Hexachlorobutadiene | 18.640 | 1.0 | 20.00 | 0 | 93.2 | 67 | 131 | 18.70 | 0.321 | 20 | |
| Isopropylbenzene | 20.650 | 1.0 | 20.00 | 0 | 103 | 75 | 127 | 21.45 | 3.80 | 20 | |
| m,p-Xylene | 42.590 | 1.0 | 40.00 | 0 | 106 | 76 | 128 | 42.86 | 0.632 | 20 | |
| Methylene chloride | 18.970 | 2.0 | 20.00 | 0 | 94.8 | 63 | 137 | 18.26 | 3.81 | 20 | |
| MTBE | 16.680 | 1.0 | 20.00 | 0 | 83.4 | 65 | 123 | 15.60 | 6.69 | 20 | |
| n-Butylbenzene | 21.590 | 1.0 | 20.00 | 0 | 108 | 69 | 137 | 22.61 | 4.62 | 20 | |
| n-Propylbenzene | 20.470 | 1.0 | 20.00 | 0 | 102 | 72 | 129 | 21.27 | 3.83 | 20 | |
| o-Xylene | 20.490 | 1.0 | 20.00 | 0 | 102 | 80 | 121 | 20.49 | 0 | 20 | |
| sec-Butylbenzene | 20.820 | 1.0 | 20.00 | 0 | 104 | 72 | 127 | 21.64 | 3.86 | 20 | |
| Styrene | 19.790 | 1.0 | 20.00 | 0 | 99.0 | 65 | 134 | 19.60 | 0.965 | 20 | |
| Tert-Butanol | 115.470 | 5.0 | 100.0 | 0 | 115 | 70 | 130 | 101.9 | 12.4 | 20 | |
| tert-Butylbenzene | 21.260 | 1.0 | 20.00 | 0 | 106 | 70 | 129 | 22.03 | 3.56 | 20 | |
| Tetrachloroethene | 19.990 | 1.0 | 20.00 | 0 | 100 | 66 | 128 | 19.55 | 2.23 | 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: N043365
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: N043364-001A-MSD | SampType: MSD | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149271 | | | | | | |
|------------------------------------|---------------------------|-----------------------------|--------------------|---------------------------------|-----------------------|----------|-----------|-------------|-------|----------|------|
| Client ID: ZZZZZZ | Batch ID: R20VW035 | TestNo: EPA 8260B | | Analysis Date: 12/9/2020 | SeqNo: 4033272 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Toluene | 18.540 | 2.0 | 20.00 | 0 | 92.7 | 77 | 122 | 18.48 | 0.324 | 20 | |
| trans-1,2-Dichloroethene | 18.230 | 1.0 | 20.00 | 0 | 91.2 | 63 | 137 | 17.15 | 6.11 | 20 | |
| trans-1,3-Dichloropropene | 19.580 | 1.0 | 20.00 | 0 | 97.9 | 59 | 135 | 18.83 | 3.91 | 20 | |
| Trichloroethene | 18.490 | 1.0 | 20.00 | 0 | 92.5 | 70 | 127 | 18.06 | 2.35 | 20 | |
| Trichlorofluoromethane | 28.170 | 1.0 | 20.00 | 0 | 141 | 57 | 129 | 28.12 | 0.178 | 20 | S |
| Vinyl chloride | 23.870 | 0.50 | 20.00 | 0 | 119 | 50 | 134 | 23.54 | 1.39 | 20 | |
| Xylenes, Total | 63.080 | 2.0 | 60.00 | 0 | 105 | 75 | 125 | 63.35 | 0.427 | 20 | |
| Surr: 1,2-Dichloroethane-d4 | 26.880 | | 25.00 | | 108 | 72 | 119 | | 0 | | |
| Surr: 4-Bromofluorobenzene | 27.460 | | 25.00 | | 110 | 76 | 119 | | 0 | | |
| Surr: Dibromofluoromethane | 24.090 | | 25.00 | | 96.4 | 85 | 115 | | 0 | | |
| Surr: Toluene-d8 | 25.610 | | 25.00 | | 102 | 81 | 120 | | 0 | | |

| Sample ID: R201209-MB3 | SampType: MBLK | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149271 | | | | | | |
|-------------------------------|---------------------------|-----------------------------|--------------------|---------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: R20VW035 | TestNo: EPA 8260B | | Analysis Date: 12/9/2020 | SeqNo: 4033273 | | | | | | |
| 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 | | | | | | | | | |

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 |



ASSET LABORATORIES
ANALYTICAL SERVICES FOR THE CONSTRUCTION INDUSTRY

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 ELAP Cert 2676 | NV Cert NV00922
 ORELAP/NELAP Cert 4046

"Serving Clients with Passion and Professionalism"

CLIENT: CH2MHill
Work Order: N043365
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: R201209-MB3 | SampType: MBLK | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149271 | | | | | | |
|-------------------------------|---------------------------|-----------------------------|--------------------|---------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: R20VW035 | TestNo: EPA 8260B | | Analysis Date: 12/9/2020 | SeqNo: 4033273 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

| | | | | | | | | | | | |
|-------------------------|-------|------|--|--|--|--|--|--|--|--|---|
| 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 | 0.430 | 1.0 | | | | | | | | | J |
| 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 | | | | | | | | | |

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: N043365
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: R201209-MB3 | SampType: MBLK | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149271 | | | | | | |
|-------------------------------|---------------------------|-----------------------------|--------------------|---------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: PBW | Batch ID: R20VW035 | TestNo: EPA 8260B | | Analysis Date: 12/9/2020 | SeqNo: 4033273 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Dichlorodifluoromethane | 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 | | | | | | | | | |
| o-Xylene | ND | 1.0 | | | | | | | | | |
| sec-Butylbenzene | ND | 1.0 | | | | | | | | | |
| Styrene | 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 | 27.660 | | 25.00 | | 111 | 72 | 119 | | | | |
| Surr: 4-Bromofluorobenzene | 23.460 | | 25.00 | | 93.8 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 24.710 | | 25.00 | | 98.8 | 85 | 115 | | | | |
| Surr: Toluene-d8 | 24.800 | | 25.00 | | 99.2 | 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 |

CLIENT: CH2MHill
Work Order: N043365
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| Sample ID: R201215-LCS | SampType: LCS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149443 | | | | | | |
|-------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: LCSW | Batch ID: R20VW036 | TestNo: EPA 8260B | | Analysis Date: 12/15/2020 | SeqNo: 4046468 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Ethyl tert-butyl ether | 22.350 | 1.0 | 20.00 | 0 | 112 | 70 | 130 | | | | |
| Naphthalene | 18.070 | 1.0 | 20.00 | 0 | 90.4 | 54 | 138 | | | | |
| Tert-amyl methyl ether | 23.130 | 1.0 | 20.00 | 0 | 116 | 70 | 130 | | | | |
| Surr: 1,2-Dichloroethane-d4 | 21.780 | | 25.00 | | 87.1 | 72 | 119 | | | | |
| Surr: 4-Bromofluorobenzene | 24.890 | | 25.00 | | 99.6 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 24.230 | | 25.00 | | 96.9 | 85 | 115 | | | | |
| Surr: Toluene-d8 | 27.020 | | 25.00 | | 108 | 81 | 120 | | | | |

| Sample ID: N043314-002A-MS | SampType: MS | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149443 | | | | | | |
|-----------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: ZZZZZ | Batch ID: R20VW036 | TestNo: EPA 8260B | | Analysis Date: 12/15/2020 | SeqNo: 4046469 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Ethyl tert-butyl ether | 42120.000 | 2000 | 40000 | 0 | 105 | 70 | 130 | | | | |
| Naphthalene | 35660.000 | 2000 | 40000 | 4960 | 76.8 | 54 | 138 | | | | |
| Tert-amyl methyl ether | 46000.000 | 2000 | 40000 | 0 | 115 | 70 | 130 | | | | |
| Surr: 1,2-Dichloroethane-d4 | 49480.000 | | 50000 | | 99.0 | 72 | 119 | | | | |
| Surr: 4-Bromofluorobenzene | 50340.000 | | 50000 | | 101 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 50660.000 | | 50000 | | 101 | 85 | 115 | | | | |
| Surr: Toluene-d8 | 52480.000 | | 50000 | | 105 | 81 | 120 | | | | |

| Sample ID: N043314-002A-MSD | SampType: MSD | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149443 | | | | | | |
|------------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Client ID: ZZZZZ | Batch ID: R20VW036 | TestNo: EPA 8260B | | Analysis Date: 12/15/2020 | SeqNo: 4046470 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Ethyl tert-butyl ether | 40260.000 | 2000 | 40000 | 0 | 101 | 70 | 130 | 42120 | 4.52 | 20 | |
| Naphthalene | 36660.000 | 2000 | 40000 | 4960 | 79.2 | 54 | 138 | 35660 | 2.77 | 20 | |
| Tert-amyl methyl ether | 42960.000 | 2000 | 40000 | 0 | 107 | 70 | 130 | 46000 | 6.83 | 20 | |
| Surr: 1,2-Dichloroethane-d4 | 49760.000 | | 50000 | | 99.5 | 72 | 119 | | 0 | | |
| Surr: 4-Bromofluorobenzene | 49660.000 | | 50000 | | 99.3 | 76 | 119 | | 0 | | |
| Surr: Dibromofluoromethane | 49520.000 | | 50000 | | 99.0 | 85 | 115 | | 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: N043365
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

| | | | | | | | | | | | |
|------------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: N043314-002A-MSD | SampType: MSD | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149443 | | | | | | |
| Client ID: ZZZZZZ | Batch ID: R20VW036 | TestNo: EPA 8260B | | Analysis Date: 12/15/2020 | SeqNo: 4046470 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Surr: Toluene-d8 | 50700.000 | | 50000 | | 101 | 81 | 120 | | | 0 | |

| | | | | | | | | | | | |
|-------------------------------|---------------------------|-----------------------------|--------------------|----------------------------------|-----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: R201215-MB3 | SampType: MBLK | TestCode: 8260_WP_SF | Units: ug/L | Prep Date: | RunNo: 149443 | | | | | | |
| Client ID: PBW | Batch ID: R20VW036 | TestNo: EPA 8260B | | Analysis Date: 12/15/2020 | SeqNo: 4046471 | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Ethyl tert-butyl ether | ND | 1.0 | | | | | | | | | |
| Naphthalene | ND | 1.0 | | | | | | | | | |
| Tert-amyl methyl ether | ND | 1.0 | | | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 24.650 | | 25.00 | | 98.6 | 72 | 119 | | | | |
| Surr: 4-Bromofluorobenzene | 23.940 | | 25.00 | | 95.8 | 76 | 119 | | | | |
| Surr: Dibromofluoromethane | 24.320 | | 25.00 | | 97.3 | 85 | 115 | | | | |
| Surr: Toluene-d8 | 24.910 | | 25.00 | | 99.6 | 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 |

N043365

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

CHAIN OF CUSTODY RECORD
 DATE: 12/15/20
 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: Ryan Koch | Report To: Eric Davis | Attention: Ryan Koch - Ref. AFE# 81195 | Sampler Name: |
| Address: 1001 Louisiana St., Houston, TX 77002 | Copy To: Ryan Koch | Company Name: Kinder Morgan Energy Partners | Sampler Signature: |
| Email To: Ryan_Koch@kindermorgan.com eric.davis@jacobs.com, nils.orlicky@jacobs.com | Purchase Order No.: | Address: 1001 Louisiana St., Houston, TX 77002 | Sample Date: |
| Phone 713-420-6730 Fax 714-560-4801 | Project Name: SPPP Norwalk | ATL Project Manager: Marion Cartin | |

| ITEM # | SAMPLE ID | LOCATION/ DESCRIPTION | MATRIX | SAMPLE TYPE (G=GRAB C=COMP) | CONTAINER TYPE | | TOTAL # OF CONTAINERS | SAMPLE TEMPERATURE (°F) | Analysis Test | | | Comments | |
|--------|--------------|-----------------------|--------|-----------------------------|-----------------|--------------|-----------------------|-------------------------|--|---|---|----------|------------|
| | | | | | # OF CONTAINERS | PRESERVATIVE | | | V | V | A | | |
| | | | | | | | | | Full VOCs + Oxygenates List (82608) | | | | |
| | | | | | | | | | TPH-gas (C6-C12) (80158) | | | | |
| | | | | | | | | | TPH-l (C13-c28), TPH-ll (C29), Total TPH (80158) | | | | |
| 1 | INF-12-08-20 | INFLUENT | WW | G | | | 9 | 4.1°C | | X | X | X | N043365-01 |
| 2 | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | |

| | | | |
|---|---|--|---|
| Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 12/8/20 12:30 | Received by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 12/8/20 13:31 | Turn Around Time (TAT): <input type="checkbox"/> A = Same Day <input type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input checked="" type="checkbox"/> E = 5 Workdays <input type="checkbox"/> F = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM. | Special Instruction: No weigh 3.4°C IR#2 GSO #8700 |
| Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 12/8/20 14:08 | Received by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 12/8/20 14:08 | | |
| Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 12/8/20 18:00 | Received by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 12/9/20 8:50 AM | | |
| Matrix: W = Water O = Oil Others/Specify: | Preservatives: H = HCl Z = Zn(Ac)2 Others/Specify: | Container Type: T = Tube J = Jar M = Metal V = VOA B = Tedlar P = Plastic S = H2SO4 O = NaOH C = Can P = Pint G = Glass C = Can | |

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: 12/8/2020 Workorder: N043365
 Rep sample Temp (Deg C): 4.1 IR Gun ID: 1
 Temp Blank: Yes No
 Carrier name: ASSET
 Last 4 digits of Tracking No.: NA Packing Material Used: None
 Cooling process: Ice Ice Pack Dry Ice Other None

Sample Receipt Checklist

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

Comments: Received at Las Vegas Lab on 12/9/20 at 3.4oC, IR # 2, GSO #s 8700.

For: YRT
 Checklist Completed By: AG 12/9/2020

Reviewed By: MBC 12/11/2020

ASSET Laboratories

WORK ORDER Summary

16-Dec-20

WorkOrder: N043365

Client ID: CH2HI03

Project: SFPP Norwalk

QC Level: RTNE

Date Received: 12/8/2020

Comments:

| Sample ID | Client Sample ID | Date Collected | Date Due | Matrix | Test No | Test Name | Hld | MS | Sub | Storage |
|--------------|------------------|-----------------------|------------|------------|-----------|---|--------------------------|--------------------------|--------------------------|---------|
| N043365-001A | INF-12-08-20 | 12/8/2020 12:00:00 PM | 12/14/2020 | Wastewater | EPA 8260B | VOLATILE ORGANIC COMPOUNDS BY GC/MS | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | V-CA |
| N043365-001B | | | 12/14/2020 | | EPA 8015B | GASOLINE RANGE ORGANICS BY GC/FID | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | VW |
| N043365-001C | | | 12/14/2020 | | EPA 3510C | SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | WW |
| | | | 12/14/2020 | | EPA 8015B | TPH EXTRACTABLE BY GC/FID | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | WW |
| | | | 12/14/2020 | | EPA 8015B | Total TPH | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | WW |
| N043365-002A | FOLDER | 12/15/2020 | 12/14/2020 | | Folder | Folder | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | LAB |
| | | | 12/15/2020 | | Folder | Folder | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | LAB |



800-322-5555
www.gls-us.com

Ship From

ASSET LABORATORIES
THAD MALIT
11110 ARTESIA BLVD. SUITE B
CERRITOS, CA 90703

Tracking #: 551468700

CPS



Ship To

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

LAS VEGAS

C89102A

COD: \$0.00

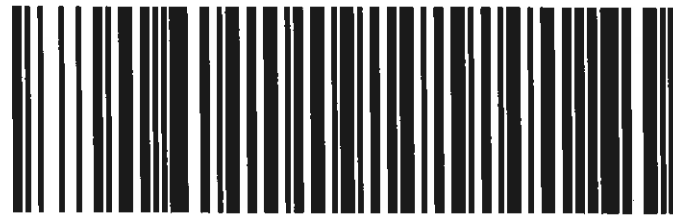
Weight: 0 lb(s)

Reference:

Delivery Instructions:

HOLD FOR PICK UP

Signature Type: STANDARD



32285631

LVS NV891-A 1

Print Date: 12/8/2020 4:59 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 General Logistics Systems US, Inc. (GLS) 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.gls-us.com.

3.40



December 28, 2020

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



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

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

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

LABORATORY TEST RESULTS

Project Reference: SFPP Norwalk
Lab Number: L120709-01/04

Enclosed are results for sample(s) received 12/07/20 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

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

Preliminary results were e-mailed to Eric Davis and Danny Hill on 12/23/20; and Nils Orliczky on 12/28/20.

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

Sincerely,

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

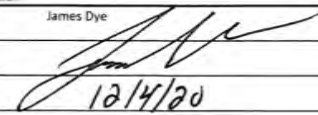
Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

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



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

L120709-01/04

CHAIN OF CUSTODY RECORD
DATE: 12/4/20
PAGE: 1 of 1

| | | | | | | | |
|--|--|---|--|--|--|--|--|
| Section A Required Client Information: | | Section B Required Project Information: | | Section C Required Project Information: | | Section D Sampler Information: | |
| Company: CH2M HILL Attention: Eric Davis | | Report To: Eric Davis (eric.davis@ch2m.com) | | Attention: Eric Davis | | Sampler Name: James Dye | |
| Address: 1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017 | | Copy To: Vladimir Carino (vcarino@ch2m.com) | | Company: CH2M | | Sampler Signature:  | |
| Email To: eric.davis@ch2m.com vcarino@ch2m.com | | Purchase Order No.: | | Address: 1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017 | | Sample Date: 12/4/20 | |
| Phone: 404-323-1600 Fax: | | Project Name: SFPP Norwalk | | Project Manager: Joann De La Ossa | | | |

| ITEM # | SAMPLE ID | LOCATION/ DESCRIPTION | MATRIX | SAMPLE TYPE (G-GRAB C-COMP) | CONTAINER TYPE | | TOTAL # OF CONTAINERS | Analysis Test | | | Comments |
|--------|----------------|------------------------------|--------|-----------------------------|-----------------|--------------|-----------------------|-----------------------------|-------------------------------|--------------------------------------|--|
| | | | | | # OF CONTAINERS | PRESERVATIVE | | TO-8 (Total VOCs as Hexane) | TO-15 (VOCs, Target Analytes) | ASTM D 1546 (O2/Argon, CO2, CH4, H2) | |
| | | | | | VOLUME (mL) | | | | | | |
| | | | | | SAMPLING | | | | | | |
| | | | | | DATE | TIME | | | | | |
| 1 | VEFF- 120420 | Effluent (stack) | Vapor | G | 12/4/20 | 1225 | 1 | X | X | | Individually Certified 6-Liter SUMMA |
| 2 | VEFF- 120420 D | Effluent (stack) (duplicate) | Vapor | G | 12/4/20 | 1225 | 1 | X | X | | Individually Certified 6-Liter SUMMA |
| 3 | VPOST- 120420 | Influent (post-dilution) | Vapor | G | 12/4/20 | 1235 | 1 | X | X | | Individually Certified 1-Liter SUMMA |
| 4 | VINF- 120420 | Influent (pre-dilution) | Vapor | G | 12/4/20 | 1245 | 1 | X | X | X | Batch Certified 1-Liter Summa |
| 5 | 121816 | | | | | | | | | | Target analytes includes Historical VOCs and remaining ATLU list per subcontract |
| 6 | | | | | | | | | | | |
| 7 | | | | | | | | | | | |
| 8 | | | | | | | | | | | |
| 9 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |

| | | | |
|---|--|--|-----------------------------|
| Delivered by (Signature and Printed Name):  Date / Time: 12/4/20 1400 Delivered by (Signature and Printed Name): FEDEX Date / Time: 12/4/20 1400 | Delivered by (Signature and Printed Name):  Date / Time: 12/7/20 1515 Delivered by (Signature and Printed Name): FedEx Date / Time: 12/7/20 1515 | Turn Around Time (TAT): <input type="checkbox"/> A = Same Day <input type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input type="checkbox"/> E = 5 Workdays <input type="checkbox"/> F = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM. | Special Instruction: |
|---|--|--|-----------------------------|

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

Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 12/07/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

| Lab No.: | L120709-01 | | | L120709-02 | | | L120709-03 | | | L120709-04 | | |
|-------------------------------|----------------|---------|----------|----------------|---------|----------|----------------|---------|----------|----------------|---------|----------|
| Client Sample I.D.: | VEFF-12-04 | | | VEFF-12-04D | | | VPOST-12-04 | | | VINP-12-04 | | |
| Date/Time Sampled: | 12/4/20 12:25 | | | 12/4/20 12:25 | | | 12/4/20 12:35 | | | 12/4/20 12:45 | | |
| Date/Time Analyzed: | 12/15/20 16:11 | | | 12/15/20 16:47 | | | 12/15/20 14:53 | | | 12/15/20 15:28 | | |
| QC Batch No.: | 201215MS2A1 | | | 201215MS2A1 | | | 201215MS2A1 | | | 201215MS2A1 | | |
| Analyst Initials: | DT | | | DT | | | DT | | | DT | | |
| Dilution Factor: | 2.2 | | | 2.4 | | | 2.3 | | | 2.4 | | |
| ANALYTE | Result ppmv | RL ppmv | MDL ppmv | Result ppmv | RL ppmv | MDL ppmv | Result ppmv | RL ppmv | MDL ppmv | Result ppmv | RL ppmv | MDL ppmv |
| Benzene | 0.00075 J | 0.0022 | 0.00021 | 0.00067 J | 0.0024 | 0.00023 | 0.010 | 0.0023 | 0.00022 | 0.022 | 0.0024 | 0.00023 |
| Chloroform | ND | 0.0022 | 0.00031 | ND | 0.0024 | 0.00034 | ND | 0.0023 | 0.00032 | ND | 0.0024 | 0.00034 |
| Carbon Tetrachloride | ND | 0.0022 | 0.00038 | ND | 0.0024 | 0.00042 | ND | 0.0023 | 0.00040 | ND | 0.0024 | 0.00042 |
| 1,4-Dioxane | ND | 0.011 | 0.00038 | ND | 0.012 | 0.00042 | ND | 0.011 | 0.00040 | ND | 0.012 | 0.00042 |
| 1,4-Dichlorobenzene | ND | 0.0022 | 0.00032 | ND | 0.0024 | 0.00035 | ND | 0.0023 | 0.00034 | ND | 0.0024 | 0.00035 |
| 1,1-Dichloroethane | ND | 0.0022 | 0.00030 | ND | 0.0024 | 0.00033 | ND | 0.0023 | 0.00031 | ND | 0.0024 | 0.00033 |
| Ethylbenzene | 0.00047 J | 0.0022 | 0.00013 | 0.00032 J | 0.0024 | 0.00014 | 0.00075 J | 0.0023 | 0.00013 | 0.0029 | 0.0024 | 0.00014 |
| 1,2-Dichloroethane | ND | 0.0022 | 0.00016 | ND | 0.0024 | 0.00018 | ND | 0.0023 | 0.00017 | ND | 0.0024 | 0.00018 |
| Methylene Chloride | ND | 0.0022 | 0.00063 | ND | 0.0024 | 0.00069 | 0.0026 | 0.0023 | 0.00066 | ND | 0.0024 | 0.00069 |
| t-Butyl Methyl Ether (MTBE) | ND | 0.0022 | 0.00049 | ND | 0.0024 | 0.00054 | 0.0027 | 0.0023 | 0.00051 | 0.0059 | 0.0024 | 0.00054 |
| Tetrachloroethene | ND | 0.0022 | 0.00026 | ND | 0.0024 | 0.00029 | 0.00063 J | 0.0023 | 0.00028 | ND | 0.0024 | 0.00029 |
| 1,1,2-Trichloroethane | ND | 0.0022 | 0.00036 | ND | 0.0024 | 0.00039 | ND | 0.0023 | 0.00037 | ND | 0.0024 | 0.00039 |
| Trichloroethene | ND | 0.0022 | 0.00031 | ND | 0.0024 | 0.00034 | ND | 0.0023 | 0.00033 | ND | 0.0024 | 0.00034 |
| Vinyl Chloride | ND | 0.0022 | 0.00036 | ND | 0.0024 | 0.00039 | ND | 0.0023 | 0.00037 | ND | 0.0024 | 0.00039 |
| Naphthalene | ND | 0.011 | 0.00084 | ND | 0.012 | 0.00092 | ND | 0.011 | 0.00088 | ND | 0.012 | 0.00092 |
| c-1,2-Dichloroethene | ND | 0.0022 | 0.00042 | ND | 0.0024 | 0.00046 | ND | 0.0023 | 0.00044 | ND | 0.0024 | 0.00046 |
| 2-Butanone | 0.014 | 0.0022 | 0.0014 | 0.013 | 0.0024 | 0.0015 | 0.017 | 0.0023 | 0.0014 | 0.022 | 0.0024 | 0.0015 |
| Dichlorodifluoromethane (12) | ND | 0.0022 | 0.00034 | ND | 0.0024 | 0.00037 | 0.00051 J | 0.0023 | 0.00035 | 0.00053 J | 0.0024 | 0.00037 |
| Chloromethane | ND | 0.0044 | 0.00048 | ND | 0.0048 | 0.00053 | ND | 0.0046 | 0.00051 | ND | 0.0048 | 0.00053 |
| 1,1,1-Trichloroethane | ND | 0.0022 | 0.00022 | ND | 0.0024 | 0.00024 | ND | 0.0023 | 0.00023 | ND | 0.0024 | 0.00024 |
| 1,2-CI-1,1,2,2-F ethane (114) | ND | 0.0022 | 0.00044 | ND | 0.0024 | 0.00048 | ND | 0.0023 | 0.00046 | ND | 0.0024 | 0.00048 |
| Bromomethane | ND | 0.0022 | 0.00064 | ND | 0.0024 | 0.00071 | ND | 0.0023 | 0.00067 | ND | 0.0024 | 0.00071 |
| Chloroethane | ND | 0.0022 | 0.0018 | ND | 0.0024 | 0.0020 | ND | 0.0023 | 0.0019 | ND | 0.0024 | 0.0020 |
| Trichlorofluoromethane (11) | ND | 0.0022 | 0.00047 | ND | 0.0024 | 0.00052 | ND | 0.0023 | 0.00049 | ND | 0.0024 | 0.00052 |
| 1,2-Dichloropropane | ND | 0.0022 | 0.00040 | ND | 0.0024 | 0.00044 | ND | 0.0023 | 0.00042 | ND | 0.0024 | 0.00044 |
| Bromodichloromethane | ND | 0.0022 | 0.00013 | ND | 0.0024 | 0.00014 | 0.00014 J | 0.0023 | 0.00014 | 0.00054 J | 0.0024 | 0.00014 |
| c-1,3-Dichloropropene | ND | 0.0022 | 0.00026 | ND | 0.0024 | 0.00029 | ND | 0.0023 | 0.00028 | ND | 0.0024 | 0.00029 |
| 4-Methyl-2-Pentanone | ND | 0.0022 | 0.00015 | ND | 0.0024 | 0.00016 | ND | 0.0023 | 0.00015 | ND | 0.0024 | 0.00016 |
| Toluene | 0.019 | 0.0022 | 0.00017 | 0.0083 | 0.0024 | 0.00019 | 0.013 | 0.0023 | 0.00018 | 0.026 | 0.0024 | 0.00019 |
| t-1,3-Dichloropropene | ND | 0.0022 | 0.00023 | ND | 0.0024 | 0.00025 | ND | 0.0023 | 0.00024 | ND | 0.0024 | 0.00025 |
| 1,1-Dichloroethene | ND | 0.0022 | 0.00050 | ND | 0.0024 | 0.00055 | ND | 0.0023 | 0.00052 | ND | 0.0024 | 0.00055 |
| 1,3-Dichloropropane | ND | 0.0022 | 0.00011 | ND | 0.0024 | 0.00012 | ND | 0.0023 | 0.00011 | ND | 0.0024 | 0.00012 |
| Carbon Disulfide | 0.020 | 0.011 | 0.00053 | 0.0085 J | 0.012 | 0.00058 | 0.0035 J | 0.011 | 0.00055 | ND | 0.012 | 0.00058 |
| 2-Hexanone | ND | 0.0022 | 0.00045 | ND | 0.0024 | 0.00050 | ND | 0.0023 | 0.00047 | ND | 0.0024 | 0.00050 |
| Dibromochloromethane | ND | 0.0022 | 0.00040 | ND | 0.0024 | 0.00044 | ND | 0.0023 | 0.00042 | ND | 0.0024 | 0.00044 |
| 1,2-Dibromoethane | ND | 0.0022 | 0.00020 | ND | 0.0024 | 0.00022 | ND | 0.0023 | 0.00021 | ND | 0.0024 | 0.00022 |
| Chlorobenzene | ND | 0.0022 | 0.00017 | ND | 0.0024 | 0.00019 | ND | 0.0023 | 0.00018 | ND | 0.0024 | 0.00019 |
| 1,1,2-CI 1,2,2-F ethane (113) | ND | 0.0022 | 0.00059 | ND | 0.0024 | 0.00065 | ND | 0.0023 | 0.00062 | ND | 0.0024 | 0.00065 |
| p,&m-Xylene | 0.0016 J | 0.0022 | 0.00025 | 0.0012 J | 0.0024 | 0.00027 | 0.0052 | 0.0023 | 0.00026 | 0.025 | 0.0024 | 0.00027 |



Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 12/07/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

| Lab No.: | L120709-01 | | | L120709-02 | | | L120709-03 | | | L120709-04 | | |
|------------------------------|----------------|---------|----------|----------------|---------|----------|----------------|---------|----------|----------------|---------|----------|
| Client Sample I.D.: | VEFF-12-04 | | | VEFF-12-04D | | | VPOST-12-04 | | | VINP-12-04 | | |
| Date/Time Sampled: | 12/4/20 12:25 | | | 12/4/20 12:25 | | | 12/4/20 12:35 | | | 12/4/20 12:45 | | |
| Date/Time Analyzed: | 12/15/20 16:11 | | | 12/15/20 16:47 | | | 12/15/20 14:53 | | | 12/15/20 15:28 | | |
| QC Batch No.: | 201215MS2A1 | | | 201215MS2A1 | | | 201215MS2A1 | | | 201215MS2A1 | | |
| Analyst Initials: | DT | | | DT | | | DT | | | DT | | |
| Dilution Factor: | 2.2 | | | 2.4 | | | 2.3 | | | 2.4 | | |
| 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 |
| o-Xylene | 0.00061 J | 0.0022 | 0.00027 | 0.00043 J | 0.0024 | 0.00029 | 0.0022 J | 0.0023 | 0.00028 | 0.010 | 0.0024 | 0.00029 |
| Styrene | 0.00040 J | 0.0022 | 0.00028 | ND | 0.0024 | 0.00031 | ND | 0.0023 | 0.00030 | 0.00054 J | 0.0024 | 0.00031 |
| Bromoform | ND | 0.0022 | 0.00012 | ND | 0.0024 | 0.00013 | ND | 0.0023 | 0.00013 | ND | 0.0024 | 0.00013 |
| Isopropyl benzene | ND | 0.0022 | 0.00023 | ND | 0.0024 | 0.00025 | ND | 0.0023 | 0.00024 | 0.00050 J | 0.0024 | 0.00025 |
| 1,1,2,2-Tetrachloroethane | ND | 0.0044 | 0.00013 | ND | 0.0048 | 0.00015 | ND | 0.0046 | 0.00014 | ND | 0.0048 | 0.00015 |
| Benzyl Chloride | ND | 0.0022 | 0.00040 | ND | 0.0024 | 0.00044 | ND | 0.0023 | 0.00042 | ND | 0.0024 | 0.00044 |
| 1,2,3-Trichloropropane | ND | 0.0022 | 0.00059 | ND | 0.0024 | 0.00065 | ND | 0.0023 | 0.00062 | ND | 0.0024 | 0.00065 |
| n-Propyl Benzene | 0.00023 J | 0.0022 | 0.00013 | ND | 0.0024 | 0.00014 | 0.00039 J | 0.0023 | 0.00013 | 0.00095 J | 0.0024 | 0.00014 |
| 4-Ethyl Toluene | 0.0010 J | 0.0022 | 0.00014 | 0.0011 J | 0.0024 | 0.00015 | 0.0030 | 0.0023 | 0.00015 | 0.0071 | 0.0024 | 0.00015 |
| 1,3,5-Trimethylbenzene | 0.00057 J | 0.0044 | 0.00038 | 0.00050 J | 0.0048 | 0.00042 | 0.0027 J | 0.0046 | 0.00040 | 0.0065 | 0.0048 | 0.00042 |
| 4-Chlorotoluene | ND | 0.0022 | 0.00026 | ND | 0.0024 | 0.00029 | ND | 0.0023 | 0.00027 | ND | 0.0024 | 0.00029 |
| tert-Butylbenzene | ND | 0.0022 | 0.00020 | ND | 0.0024 | 0.00022 | ND | 0.0023 | 0.00021 | ND | 0.0024 | 0.00022 |
| 1,2,4-Trimethylbenzene | 0.0024 J | 0.0044 | 0.00025 | 0.0025 J | 0.0048 | 0.00027 | 0.0042 J | 0.0046 | 0.00026 | 0.0083 | 0.0048 | 0.00027 |
| sec-Butylbenzene | ND | 0.0022 | 0.00021 | ND | 0.0024 | 0.00023 | ND | 0.0023 | 0.00022 | ND | 0.0024 | 0.00023 |
| p-Isopropyltoluene | 0.0013 J | 0.0022 | 0.00029 | 0.0013 J | 0.0024 | 0.00031 | 0.00065 J | 0.0023 | 0.00030 | 0.00056 J | 0.0024 | 0.00031 |
| 1,3-Dichlorobenzene | ND | 0.0022 | 0.00027 | ND | 0.0024 | 0.00029 | ND | 0.0023 | 0.00028 | ND | 0.0024 | 0.00029 |
| Acetone | 0.032 | 0.011 | 0.00063 | 0.028 | 0.012 | 0.00069 | 0.039 | 0.011 | 0.00066 | 0.041 | 0.012 | 0.00069 |
| n-Butylbenzene | 0.00043 J | 0.0022 | 0.00016 | 0.00051 J | 0.0024 | 0.00018 | 0.00089 J | 0.0023 | 0.00017 | ND | 0.0024 | 0.00018 |
| 1,2-Dichlorobenzene | ND | 0.0022 | 0.00027 | ND | 0.0024 | 0.00030 | ND | 0.0023 | 0.00029 | ND | 0.0024 | 0.00030 |
| 1,2,4-Trichlorobenzene | ND | 0.0044 | 0.00036 | ND | 0.0048 | 0.00040 | ND | 0.0046 | 0.00038 | ND | 0.0048 | 0.00040 |
| Hexachlorobutadiene | ND | 0.0022 | 0.00013 | ND | 0.0024 | 0.00014 | ND | 0.0023 | 0.00013 | ND | 0.0024 | 0.00014 |
| t-Butanol | 0.0014 J | 0.011 | 0.00042 | 0.0014 J | 0.012 | 0.00046 | 0.019 | 0.011 | 0.00044 | 0.055 | 0.012 | 0.00046 |
| n-Hexane | 0.00064 J | 0.011 | 0.00030 | ND | 0.012 | 0.00032 | 0.0038 J | 0.011 | 0.00031 | 0.0088 J | 0.012 | 0.00032 |
| Isopropyl ether | ND | 0.011 | 0.00024 | ND | 0.012 | 0.00027 | 0.0013 J | 0.011 | 0.00026 | 0.0044 J | 0.012 | 0.00027 |
| t-Butyl ethyl ether | ND | 0.011 | 0.00044 | ND | 0.012 | 0.00048 | ND | 0.011 | 0.00046 | ND | 0.012 | 0.00048 |
| 2,2-Dichloropropane | ND | 0.011 | 0.00021 | ND | 0.012 | 0.00023 | ND | 0.011 | 0.00022 | ND | 0.012 | 0.00023 |
| t-Amyl methyl ether | ND | 0.011 | 0.00016 | ND | 0.012 | 0.00017 | ND | 0.011 | 0.00016 | ND | 0.012 | 0.00017 |
| 1,1,2-Dichloroethene | ND | 0.0022 | 0.00066 | ND | 0.0024 | 0.00072 | ND | 0.0023 | 0.00069 | ND | 0.0024 | 0.00072 |
| 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: 12/23/20

The cover letter is an integral part of this analytical report



Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 12/07/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

| Lab No.: | METHOD BLANK | | | | | | | | | | | | | | | | | | |
|-------------------------------|----------------|---------|-----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Client Sample I.D.: | - | | | | | | | | | | | | | | | | | | |
| Date/Time Sampled: | - | | | | | | | | | | | | | | | | | | |
| Date/Time Analyzed: | 12/15/20 10:25 | | | | | | | | | | | | | | | | | | |
| QC Batch No.: | 201215MS2A1 | | | | | | | | | | | | | | | | | | |
| Analyst Initials: | DT | | | | | | | | | | | | | | | | | | |
| Dilution Factor: | 0.20 | | | | | | | | | | | | | | | | | | |
| ANALYTE | Result ppmv | RL ppmv | MDL ppmv | | | | | | | | | | | | | | | | |
| Benzene | ND | 0.00020 | 0.000019 | | | | | | | | | | | | | | | | |
| Chloroform | ND | 0.00020 | 0.000028 | | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ND | 0.00020 | 0.000035 | | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ND | 0.0010 | 0.000035 | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 0.00020 | 0.000029 | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ND | 0.00020 | 0.000027 | | | | | | | | | | | | | | | | |
| Ethylbenzene | ND | 0.00020 | 0.000011 | | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ND | 0.00020 | 0.000015 | | | | | | | | | | | | | | | | |
| Methylene Chloride | ND | 0.00020 | 0.000057 | | | | | | | | | | | | | | | | |
| t-Butyl Methyl Ether (MTBE) | ND | 0.00020 | 0.000045 | | | | | | | | | | | | | | | | |
| Tetrachloroethene | ND | 0.00020 | 0.000024 | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ND | 0.00020 | 0.000032 | | | | | | | | | | | | | | | | |
| Trichloroethene | ND | 0.00020 | 0.000028 | | | | | | | | | | | | | | | | |
| Vinyl Chloride | ND | 0.00020 | 0.000032 | | | | | | | | | | | | | | | | |
| Naphthalene | ND | 0.0010 | 0.000077 | | | | | | | | | | | | | | | | |
| c-1,2-Dichloroethene | ND | 0.00020 | 0.000039 | | | | | | | | | | | | | | | | |
| 2-Butanone | ND | 0.00020 | 0.00012 | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane (12) | ND | 0.00020 | 0.000031 | | | | | | | | | | | | | | | | |
| Chloromethane | ND | 0.00040 | 0.000044 | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ND | 0.00020 | 0.000020 | | | | | | | | | | | | | | | | |
| 1,2-CI-1,1,2,2-F ethane (114) | ND | 0.00020 | 0.000040 | | | | | | | | | | | | | | | | |
| Bromomethane | ND | 0.00020 | 0.000059 | | | | | | | | | | | | | | | | |
| Chloroethane | ND | 0.00020 | 0.00017 | | | | | | | | | | | | | | | | |
| Trichlorofluoromethane (11) | ND | 0.00020 | 0.000043 | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ND | 0.00020 | 0.000036 | | | | | | | | | | | | | | | | |
| Bromodichloromethane | ND | 0.00020 | 0.000012 | | | | | | | | | | | | | | | | |
| c-1,3-Dichloropropene | ND | 0.00020 | 0.000024 | | | | | | | | | | | | | | | | |
| 4-Methyl-2-Pentanone | ND | 0.00020 | 0.000013 | | | | | | | | | | | | | | | | |
| Toluene | ND | 0.00020 | 0.000016 | | | | | | | | | | | | | | | | |
| t-1,3-Dichloropropene | ND | 0.00020 | 0.000021 | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ND | 0.00020 | 0.000045 | | | | | | | | | | | | | | | | |
| 1,3-Dichloropropane | ND | 0.00020 | 0.0000099 | | | | | | | | | | | | | | | | |
| Carbon Disulfide | ND | 0.0010 | 0.000048 | | | | | | | | | | | | | | | | |
| 2-Hexanone | ND | 0.00020 | 0.000041 | | | | | | | | | | | | | | | | |
| Dibromochloromethane | ND | 0.00020 | 0.000036 | | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ND | 0.00020 | 0.000018 | | | | | | | | | | | | | | | | |
| Chlorobenzene | ND | 0.00020 | 0.000016 | | | | | | | | | | | | | | | | |
| 1,1,2-CI 1,2,2-F ethane (113) | ND | 0.00020 | 0.000054 | | | | | | | | | | | | | | | | |
| p,&m-Xylene | ND | 0.00020 | 0.000023 | | | | | | | | | | | | | | | | |



Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 12/07/20
 Matrix: Air
 Reporting Units: ppmv

EPA Method TO15

| Lab No.: | METHOD BLANK | | | | | | | | | | | | | | |
|------------------------------|----------------|---------|----------|--|--|--|--|--|--|--|--|--|--|--|--|
| Client Sample I.D.: | - | | | | | | | | | | | | | | |
| Date/Time Sampled: | - | | | | | | | | | | | | | | |
| Date/Time Analyzed: | 12/15/20 10:25 | | | | | | | | | | | | | | |
| QC Batch No.: | 201215MS2A1 | | | | | | | | | | | | | | |
| Analyst Initials: | DT | | | | | | | | | | | | | | |
| Dilution Factor: | 0.20 | | | | | | | | | | | | | | |
| ANALYTE | Result ppmv | RL ppmv | MDL ppmv | | | | | | | | | | | | |
| o-Xylene | ND | 0.00020 | 0.000024 | | | | | | | | | | | | |
| Styrene | ND | 0.00020 | 0.000026 | | | | | | | | | | | | |
| Bromoform | ND | 0.00020 | 0.000011 | | | | | | | | | | | | |
| Isopropyl benzene | ND | 0.00020 | 0.000021 | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 0.00040 | 0.000012 | | | | | | | | | | | | |
| Benzyl Chloride | ND | 0.00020 | 0.000037 | | | | | | | | | | | | |
| 1,2,3-Trichloropropane | ND | 0.00020 | 0.000054 | | | | | | | | | | | | |
| n-Propyl Benzene | ND | 0.00020 | 0.000012 | | | | | | | | | | | | |
| 4-Ethyl Toluene | ND | 0.00020 | 0.000013 | | | | | | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 0.00040 | 0.000035 | | | | | | | | | | | | |
| 4-Chlorotoluene | ND | 0.00020 | 0.000024 | | | | | | | | | | | | |
| tert-Butylbenzene | ND | 0.00020 | 0.000018 | | | | | | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 0.00040 | 0.000023 | | | | | | | | | | | | |
| sec-Butylbenzene | ND | 0.00020 | 0.000019 | | | | | | | | | | | | |
| p-Isopropyltoluene | ND | 0.00020 | 0.000026 | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 0.00020 | 0.000024 | | | | | | | | | | | | |
| Acetone | ND | 0.0010 | 0.000058 | | | | | | | | | | | | |
| n-Butylbenzene | ND | 0.00020 | 0.000015 | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 0.00020 | 0.000025 | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 0.00040 | 0.000033 | | | | | | | | | | | | |
| Hexachlorobutadiene | ND | 0.00020 | 0.000012 | | | | | | | | | | | | |
| t-Butanol | ND | 0.0010 | 0.000038 | | | | | | | | | | | | |
| n-Hexane | ND | 0.0010 | 0.000027 | | | | | | | | | | | | |
| Isopropyl ether | ND | 0.0010 | 0.000022 | | | | | | | | | | | | |
| t-Butyl ethyl ether | ND | 0.0010 | 0.000040 | | | | | | | | | | | | |
| 2,2-Dichloropropane | ND | 0.0010 | 0.000019 | | | | | | | | | | | | |
| t-Amyl methyl ether | ND | 0.0010 | 0.000014 | | | | | | | | | | | | |
| t-1,2-Dichloroethene | ND | 0.00020 | 0.000060 | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene (TIC) | ND | -- | -- | | | | | | | | | | | | |

MDL = Method Detection Limit

ND= Not Detected (below MDL)

RL = Reporting Limit

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

Reviewed/Approved By: _____

Mark Johnson
 Mark Johnson
 Operations Manager

Date *12/23/20*

The cover letter is an integral part of this analytical report



LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 201215MS2A1

Matrix: Air

Reporting Units: ppmv

**EPA Method TO15
LABORATORY CONTROL SAMPLE SUMMARY**

| Lab No.: | | METHOD BLANK | | LCS | | LCSD | | | | | |
|---------------------------|-------------|----------------|-----------|---------------|--------|---------------|--------|-----|----------|-----------|----------|
| Date/Time Analyzed: | | 12/15/20 10:25 | | 12/15/20 9:11 | | 12/15/20 9:46 | | | | | |
| Analyst Initials: | | DT | | DT | | DT | | | | | |
| Dilution Factor: | | 0.20 | | 1.0 | | 1.0 | | | | | |
| ANALYTE | Result ppmv | RL ppmv | AMT. ppmv | Result ppmv | % Rec. | Result ppmv | % Rec. | RPD | Low %Rec | High %Rec | Max. RPD |
| 1,1-Dichloroethene | ND | 0.00020 | 0.010 | 0.00859 | 85.9 | 0.00871 | 87.1 | 1.4 | 70 | 130 | 30.0 |
| Methylene Chloride | ND | 0.00020 | 0.010 | 0.00974 | 97.4 | 0.00932 | 93.2 | 4.4 | 70 | 130 | 30.0 |
| Trichloroethene | ND | 0.00020 | 0.010 | 0.00923 | 92.3 | 0.00916 | 91.6 | 0.8 | 70 | 130 | 30.0 |
| Toluene | ND | 0.00020 | 0.010 | 0.00892 | 89.2 | 0.00911 | 91.1 | 2.0 | 70 | 130 | 30.0 |
| 1,1,2,2-Tetrachloroethane | ND | 0.00020 | 0.010 | 0.00880 | 88.0 | 0.00885 | 88.5 | 0.6 | 70 | 130 | 30.0 |

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____

Mark Johnson
Operations Manager

Date: _____

The cover letter is an integral part of this analytical report



Client: Jacobs
 Attn: Eric Davis
 Project Name: SFPP Norwalk
 Project No.: NA
 Date Received: 12/07/20
 Matrix: Air
 Reporting Units: ppmv

EPA METHOD TO3

| Lab No.: | L120709-01 | L120709-02 | L120709-03 | L120709-04 | | | | |
|---------------------|----------------|----------------|----------------|----------------|----------------|------------|----------------|------------|
| Client Sample I.D.: | VEFF-12-04 | VEFF-12-04D | VPOST-12-04 | VINF-12-04 | | | | |
| Date/Time Sampled: | 12/4/20 12:25 | 12/4/20 12:25 | 12/4/20 12:35 | 12/4/20 12:45 | | | | |
| Date/Time Analyzed: | 12/18/20 14:19 | 12/18/20 14:42 | 12/18/20 15:05 | 12/18/20 15:28 | | | | |
| QC Batch No.: | 201218GC11A1 | 201218GC11A1 | 201218GC11A1 | 201218GC11A1 | | | | |
| Analyst Initials: | CM | CM | CM | CM | | | | |
| Dilution Factor: | 2.2 | 2.4 | 2.3 | 2.4 | | | | |
| ANALYTE | Result ppmv | RL ppmv | Result ppmv | RL ppmv | Result ppmv | RL ppmv | Result ppmv | RL ppmv |
| TVOC as Hexane | 0.65 | 2.2 | 0.49 | 2.4 | 0.80 | 2.3 | 1.6 | 2.4 |

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____

Mark Johnson
 Mark Johnson
 Operations Manager

Date 12/23/20

The cover letter is an integral part of this analytical report



QC Batch No: 201218GC11A1

Matrix: Air

Reporting Units: ppmv

**EPA METHOD TO3
LABORATORY CONTROL SAMPLE SUMMARY**

| Lab No.: | METHOD BLANK | LCS | LCS | LCS | | | | | | |
|-------------------|----------------|----------------|----------------|----------------|-------------|--------|-------|----------|-----------|----------|
| Date Analyzed: | 12/18/20 13:31 | 12/18/20 12:23 | 12/18/20 12:23 | 12/18/20 12:45 | | | | | | |
| Analyst Initials: | CM | CM | CM | CM | | | | | | |
| Dilution Factor: | 1.0 | 1.0 | 1.0 | 1.0 | | | | | | |
| ANALYTE | Result ppmv | RL ppmv | Result ppmv | % Rec. | Result ppmv | % Rec. | RPD % | Low %Rec | High %Rec | Max. RPD |
| TVOC as Hexane | ND | 1.0 | 4.93 | 99 | 4.76 | 95 | 3.5 | 70 | 130 | 25 |
| | | | | | | | | | | |

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____


Mark Johnson
Operations Manager

Date 12/23/20

The cover letter is an integral part of this analytical report



Client: Jacobs
Attn: Eric Davis
Project Name: SFPP Norwalk
Project No.: NA
Date Received: 12/07/20
Matrix: Air
Reporting Units: % v/v

ASTM D1946

| Lab No.: | L120709-04 | | | | | |
|---------------------|-----------------|-------------|--|--|--|--|
| Client Sample I.D.: | VINF-12-04 | | | | | |
| Date/Time Sampled: | 12/4/20 12:45 | | | | | |
| Date/Time Analyzed: | 12/14/20 11:07 | | | | | |
| QC Batch No.: | 201214GC8A1 | | | | | |
| Analyst Initials: | CM | | | | | |
| Dilution Factor: | 2.4 | | | | | |
| ANALYTE | Result % v/v | RL % v/v | | | | |
| Carbon Dioxide | 0.20 | 0.024 | | | | |
| Oxygen/Argon | 22 | 1.2 | | | | |
| Nitrogen | 78 | 2.4 | | | | |
| Methane | ND | 0.0024 | | | | |
| | | | | | | |

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____


 Mark Johnson
 Operations Manager

Date 12/23/20

The cover letter is an integral part of this analytical report





9765 Eton Avenue
Chatsworth
California 91311
Tel: (818) 998-5547
Fax: (818) 998-7258

January 12, 2021

Eric Davis
CH2M Hill, Inc.
P.O. Box 241329
Denver, CO 80224

**Re : KMEP Norwalk Biosparge Startup / 693142
MB187336 / 0L02033**

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received on 12/02/20 15:00 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Program Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report or require additional information please call me at American Analytix.

Sincerely,

A handwritten signature in black ink, appearing to read 'Stuart Sigman'.

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Sample ID | Laboratory ID | Matrix | TAT | Date Sampled | Date Received |
|--------------------|---------------|--------|-----|----------------|----------------|
| Fixed Gases | | | | | |
| SVM-23-5 | 0L02033-01 | Vapor | 10 | 12/02/20 08:46 | 12/02/20 15:00 |
| SVM-23-14.5 | 0L02033-02 | Vapor | 10 | 12/02/20 08:48 | 12/02/20 15:00 |
| SVM-22-5 | 0L02033-03 | Vapor | 10 | 12/02/20 09:18 | 12/02/20 15:00 |
| SVM-22-14.5 | 0L02033-04 | Vapor | 10 | 12/02/20 09:18 | 12/02/20 15:00 |
| SVM-21-5 | 0L02033-05 | Vapor | 10 | 12/02/20 09:41 | 12/02/20 15:00 |
| SVM-21-14.5 | 0L02033-06 | Vapor | 10 | 12/02/20 09:41 | 12/02/20 15:00 |
| SVM-17-5 | 0L02033-07 | Vapor | 10 | 12/02/20 10:08 | 12/02/20 15:00 |
| SVM-17-14.5 | 0L02033-08 | Vapor | 10 | 12/02/20 10:08 | 12/02/20 15:00 |
| SVM-20-5 | 0L02033-09 | Vapor | 10 | 12/02/20 11:00 | 12/02/20 15:00 |
| SVM-20-14.5 | 0L02033-10 | Vapor | 10 | 12/02/20 11:00 | 12/02/20 15:00 |
| SVM-18-5 | 0L02033-11 | Vapor | 10 | 12/02/20 11:38 | 12/02/20 15:00 |
| SVM-18-14.5 | 0L02033-12 | Vapor | 10 | 12/02/20 11:38 | 12/02/20 15:00 |
| SVM-19-5 | 0L02033-13 | Vapor | 10 | 12/02/20 12:06 | 12/02/20 15:00 |
| SVM-109-5 | 0L02033-14 | Vapor | 10 | 12/02/20 12:40 | 12/02/20 15:00 |
| SVM-109-10 | 0L02033-15 | Vapor | 10 | 12/02/20 12:40 | 12/02/20 15:00 |
| SVM-14R-5 | 0L02033-17 | Vapor | 10 | 12/02/20 13:20 | 12/02/20 15:00 |
| SVM-14R-16 | 0L02033-18 | Vapor | 10 | 12/02/20 13:24 | 12/02/20 15:00 |
| SVM-14R-16 DUP | 0L02033-19 | Vapor | 10 | 12/02/20 13:24 | 12/02/20 15:00 |
| SVM-14R-22 | 0L02033-20 | Vapor | 10 | 12/02/20 13:20 | 12/02/20 15:00 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Sample ID | Laboratory ID | Matrix | TAT | Date Sampled | Date Received |
|-------------|---------------|--------|-----|----------------|----------------|
| SVM-13-7 | 0L02033-21 | Vapor | 10 | 12/03/20 08:14 | 12/03/20 15:00 |
| SVM-13-15 | 0L02033-22 | Vapor | 10 | 12/03/20 08:14 | 12/03/20 15:00 |
| SVM-13-22 | 0L02033-23 | Vapor | 10 | 12/03/20 08:14 | 12/03/20 15:00 |
| SVM-11-7 | 0L02033-24 | Vapor | 10 | 12/03/20 08:50 | 12/03/20 15:00 |
| SVM-11-15 | 0L02033-25 | Vapor | 10 | 12/03/20 08:50 | 12/03/20 15:00 |
| SVM-11-22 | 0L02033-26 | Vapor | 10 | 12/03/20 08:50 | 12/03/20 15:00 |
| SVM-12-7 | 0L02033-27 | Vapor | 10 | 12/03/20 10:05 | 12/03/20 15:00 |
| SVM-12-15 | 0L02033-28 | Vapor | 10 | 12/03/20 09:46 | 12/03/20 15:00 |
| SVM-12-22 | 0L02033-29 | Vapor | 10 | 12/03/20 09:40 | 12/03/20 15:00 |
| SVM-1-5 | 0L02033-30 | Vapor | 10 | 12/03/20 11:08 | 12/03/20 15:00 |
| SVM-1-15 | 0L02033-31 | Vapor | 10 | 12/03/20 11:08 | 12/03/20 15:00 |
| SVM-2-5 | 0L02033-32 | Vapor | 10 | 12/03/20 11:21 | 12/03/20 15:00 |
| SVM-15-7 | 0L02033-33 | Vapor | 10 | 12/03/20 11:49 | 12/03/20 15:00 |
| SVM-15-15 | 0L02033-34 | Vapor | 10 | 12/03/20 11:49 | 12/03/20 15:00 |
| SVM-15-22 | 0L02033-35 | Vapor | 10 | 12/03/20 11:49 | 12/03/20 15:00 |
| SVM-6-7 | 0L02033-36 | Vapor | 10 | 12/03/20 12:04 | 12/03/20 15:00 |
| SVM-6-13 | 0L02033-37 | Vapor | 10 | 12/03/20 12:04 | 12/03/20 15:00 |
| SVM-7-7 | 0L02033-38 | Vapor | 10 | 12/03/20 12:22 | 12/03/20 15:00 |
| SVM-7-7 DUP | 0L02033-39 | Vapor | 10 | 12/03/20 12:22 | 12/03/20 15:00 |
| SVM-7-13 | 0L02033-40 | Vapor | 10 | 12/03/20 12:22 | 12/03/20 15:00 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Sample ID | Laboratory ID | Matrix | TAT | Date Sampled | Date Received |
|---------------------------------|---------------|--------|-----|----------------|----------------|
| SVM-10-5 | 0L02033-42 | Vapor | 10 | 12/03/20 12:38 | 12/03/20 15:00 |
| SVM-25-5 | 0L02033-43 | Vapor | 10 | 12/04/20 07:43 | 12/04/20 15:00 |
| SVM-25-5 DUP | 0L02033-44 | Vapor | 10 | 12/04/20 07:43 | 12/04/20 15:00 |
| SVM-25-10 | 0L02033-45 | Vapor | 10 | 12/04/20 07:41 | 12/04/20 15:00 |
| SVM-24-10 | 0L02033-46 | Vapor | 10 | 12/04/20 08:13 | 12/04/20 15:00 |
| SVM-24-5 | 0L02033-47 | Vapor | 10 | 12/04/20 08:13 | 12/04/20 15:00 |
| SVM-3-5 | 0L02033-48 | Vapor | 10 | 12/04/20 08:52 | 12/04/20 15:00 |
| SVM-3-15 | 0L02033-49 | Vapor | 10 | 12/04/20 08:52 | 12/04/20 15:00 |
| SVM-5-5 | 0L02033-50 | Vapor | 10 | 12/04/20 09:20 | 12/04/20 15:00 |
| SVM-5-15 | 0L02033-51 | Vapor | 10 | 12/04/20 09:20 | 12/04/20 15:00 |
| SVM-8-5 | 0L02033-52 | Vapor | 10 | 12/04/20 09:43 | 12/04/20 15:00 |
| SVM-8-15 | 0L02033-53 | Vapor | 10 | 12/04/20 09:43 | 12/04/20 15:00 |
| SVM-16-7 | 0L02033-54 | Vapor | 10 | 12/04/20 10:10 | 12/04/20 15:00 |
| SVM-16-16 | 0L02033-55 | Vapor | 10 | 12/04/20 10:10 | 12/04/20 15:00 |
| SVM-16-22 | 0L02033-56 | Vapor | 10 | 12/04/20 10:10 | 12/04/20 15:00 |
| <u>TO-15 (Mid Level)</u> | | | | | |
| SVM-23-5 | 0L02033-01 | Vapor | 10 | 12/02/20 08:46 | 12/02/20 15:00 |
| SVM-23-14.5 | 0L02033-02 | Vapor | 10 | 12/02/20 08:48 | 12/02/20 15:00 |
| SVM-22-5 | 0L02033-03 | Vapor | 10 | 12/02/20 09:18 | 12/02/20 15:00 |
| SVM-22-14.5 | 0L02033-04 | Vapor | 10 | 12/02/20 09:18 | 12/02/20 15:00 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Sample ID | Laboratory ID | Matrix | TAT | Date Sampled | Date Received |
|----------------|---------------|--------|-----|----------------|----------------|
| SVM-21-5 | 0L02033-05 | Vapor | 10 | 12/02/20 09:41 | 12/02/20 15:00 |
| SVM-21-14.5 | 0L02033-06 | Vapor | 10 | 12/02/20 09:41 | 12/02/20 15:00 |
| SVM-17-5 | 0L02033-07 | Vapor | 10 | 12/02/20 10:08 | 12/02/20 15:00 |
| SVM-17-14.5 | 0L02033-08 | Vapor | 10 | 12/02/20 10:08 | 12/02/20 15:00 |
| SVM-20-5 | 0L02033-09 | Vapor | 10 | 12/02/20 11:00 | 12/02/20 15:00 |
| SVM-20-14.5 | 0L02033-10 | Vapor | 10 | 12/02/20 11:00 | 12/02/20 15:00 |
| SVM-18-5 | 0L02033-11 | Vapor | 10 | 12/02/20 11:38 | 12/02/20 15:00 |
| SVM-18-14.5 | 0L02033-12 | Vapor | 10 | 12/02/20 11:38 | 12/02/20 15:00 |
| SVM-19-5 | 0L02033-13 | Vapor | 10 | 12/02/20 12:06 | 12/02/20 15:00 |
| SVM-109-5 | 0L02033-14 | Vapor | 10 | 12/02/20 12:40 | 12/02/20 15:00 |
| SVM-109-10 | 0L02033-15 | Vapor | 10 | 12/02/20 12:40 | 12/02/20 15:00 |
| Ambient Air | 0L02033-16 | Vapor | 10 | 12/02/20 13:00 | 12/02/20 15:00 |
| SVM-14R-5 | 0L02033-17 | Vapor | 10 | 12/02/20 13:20 | 12/02/20 15:00 |
| SVM-14R-16 | 0L02033-18 | Vapor | 10 | 12/02/20 13:24 | 12/02/20 15:00 |
| SVM-14R-16 DUP | 0L02033-19 | Vapor | 10 | 12/02/20 13:24 | 12/02/20 15:00 |
| SVM-14R-22 | 0L02033-20 | Vapor | 10 | 12/02/20 13:20 | 12/02/20 15:00 |
| SVM-13-7 | 0L02033-21 | Vapor | 10 | 12/03/20 08:14 | 12/03/20 15:00 |
| SVM-13-15 | 0L02033-22 | Vapor | 10 | 12/03/20 08:14 | 12/03/20 15:00 |
| SVM-13-22 | 0L02033-23 | Vapor | 10 | 12/03/20 08:14 | 12/03/20 15:00 |
| SVM-11-7 | 0L02033-24 | Vapor | 10 | 12/03/20 08:50 | 12/03/20 15:00 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Sample ID | Laboratory ID | Matrix | TAT | Date Sampled | Date Received |
|--------------|---------------|--------|-----|----------------|----------------|
| SVM-11-15 | 0L02033-25 | Vapor | 10 | 12/03/20 08:50 | 12/03/20 15:00 |
| SVM-11-22 | 0L02033-26 | Vapor | 10 | 12/03/20 08:50 | 12/03/20 15:00 |
| SVM-12-7 | 0L02033-27 | Vapor | 10 | 12/03/20 10:05 | 12/03/20 15:00 |
| SVM-12-15 | 0L02033-28 | Vapor | 10 | 12/03/20 09:46 | 12/03/20 15:00 |
| SVM-12-22 | 0L02033-29 | Vapor | 10 | 12/03/20 09:40 | 12/03/20 15:00 |
| SVM-1-5 | 0L02033-30 | Vapor | 10 | 12/03/20 11:08 | 12/03/20 15:00 |
| SVM-1-15 | 0L02033-31 | Vapor | 10 | 12/03/20 11:08 | 12/03/20 15:00 |
| SVM-2-5 | 0L02033-32 | Vapor | 10 | 12/03/20 11:21 | 12/03/20 15:00 |
| SVM-15-7 | 0L02033-33 | Vapor | 10 | 12/03/20 11:49 | 12/03/20 15:00 |
| SVM-15-15 | 0L02033-34 | Vapor | 10 | 12/03/20 11:49 | 12/03/20 15:00 |
| SVM-15-22 | 0L02033-35 | Vapor | 10 | 12/03/20 11:49 | 12/03/20 15:00 |
| SVM-6-7 | 0L02033-36 | Vapor | 10 | 12/03/20 12:04 | 12/03/20 15:00 |
| SVM-6-13 | 0L02033-37 | Vapor | 10 | 12/03/20 12:04 | 12/03/20 15:00 |
| SVM-7-7 | 0L02033-38 | Vapor | 10 | 12/03/20 12:22 | 12/03/20 15:00 |
| SVM-7-7 DUP | 0L02033-39 | Vapor | 10 | 12/03/20 12:22 | 12/03/20 15:00 |
| SVM-7-13 | 0L02033-40 | Vapor | 10 | 12/03/20 12:22 | 12/03/20 15:00 |
| Ambient Air | 0L02033-41 | Vapor | 10 | 12/03/20 12:10 | 12/03/20 15:00 |
| SVM-10-5 | 0L02033-42 | Vapor | 10 | 12/03/20 12:38 | 12/03/20 15:00 |
| SVM-25-5 | 0L02033-43 | Vapor | 10 | 12/04/20 07:43 | 12/04/20 15:00 |
| SVM-25-5 DUP | 0L02033-44 | Vapor | 10 | 12/04/20 07:43 | 12/04/20 15:00 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Sample ID | Laboratory ID | Matrix | TAT | Date Sampled | Date Received |
|-----------|---------------|--------|-----|----------------|----------------|
| SVM-25-10 | 0L02033-45 | Vapor | 10 | 12/04/20 07:41 | 12/04/20 15:00 |
| SVM-24-10 | 0L02033-46 | Vapor | 10 | 12/04/20 08:13 | 12/04/20 15:00 |
| SVM-24-5 | 0L02033-47 | Vapor | 10 | 12/04/20 08:13 | 12/04/20 15:00 |
| SVM-3-5 | 0L02033-48 | Vapor | 10 | 12/04/20 08:52 | 12/04/20 15:00 |
| SVM-3-15 | 0L02033-49 | Vapor | 10 | 12/04/20 08:52 | 12/04/20 15:00 |
| SVM-5-5 | 0L02033-50 | Vapor | 10 | 12/04/20 09:20 | 12/04/20 15:00 |
| SVM-5-15 | 0L02033-51 | Vapor | 10 | 12/04/20 09:20 | 12/04/20 15:00 |
| SVM-8-5 | 0L02033-52 | Vapor | 10 | 12/04/20 09:43 | 12/04/20 15:00 |
| SVM-8-15 | 0L02033-53 | Vapor | 10 | 12/04/20 09:43 | 12/04/20 15:00 |
| SVM-16-7 | 0L02033-54 | Vapor | 10 | 12/04/20 10:10 | 12/04/20 15:00 |
| SVM-16-16 | 0L02033-55 | Vapor | 10 | 12/04/20 10:10 | 12/04/20 15:00 |
| SVM-16-22 | 0L02033-56 | Vapor | 10 | 12/04/20 10:10 | 12/04/20 15:00 |

TO-3

| | | | | | |
|-------------|------------|-------|----|----------------|----------------|
| SVM-23-5 | 0L02033-01 | Vapor | 10 | 12/02/20 08:46 | 12/02/20 15:00 |
| SVM-23-14.5 | 0L02033-02 | Vapor | 10 | 12/02/20 08:48 | 12/02/20 15:00 |
| SVM-22-5 | 0L02033-03 | Vapor | 10 | 12/02/20 09:18 | 12/02/20 15:00 |
| SVM-22-14.5 | 0L02033-04 | Vapor | 10 | 12/02/20 09:18 | 12/02/20 15:00 |
| SVM-21-5 | 0L02033-05 | Vapor | 10 | 12/02/20 09:41 | 12/02/20 15:00 |
| SVM-21-14.5 | 0L02033-06 | Vapor | 10 | 12/02/20 09:41 | 12/02/20 15:00 |
| SVM-17-5 | 0L02033-07 | Vapor | 10 | 12/02/20 10:08 | 12/02/20 15:00 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Sample ID | Laboratory ID | Matrix | TAT | Date Sampled | Date Received |
|----------------|---------------|--------|-----|----------------|----------------|
| SVM-17-14.5 | 0L02033-08 | Vapor | 10 | 12/02/20 10:08 | 12/02/20 15:00 |
| SVM-20-5 | 0L02033-09 | Vapor | 10 | 12/02/20 11:00 | 12/02/20 15:00 |
| SVM-20-14.5 | 0L02033-10 | Vapor | 10 | 12/02/20 11:00 | 12/02/20 15:00 |
| SVM-18-5 | 0L02033-11 | Vapor | 10 | 12/02/20 11:38 | 12/02/20 15:00 |
| SVM-18-14.5 | 0L02033-12 | Vapor | 10 | 12/02/20 11:38 | 12/02/20 15:00 |
| SVM-19-5 | 0L02033-13 | Vapor | 10 | 12/02/20 12:06 | 12/02/20 15:00 |
| SVM-109-5 | 0L02033-14 | Vapor | 10 | 12/02/20 12:40 | 12/02/20 15:00 |
| SVM-109-10 | 0L02033-15 | Vapor | 10 | 12/02/20 12:40 | 12/02/20 15:00 |
| Ambient Air | 0L02033-16 | Vapor | 10 | 12/02/20 13:00 | 12/02/20 15:00 |
| SVM-14R-5 | 0L02033-17 | Vapor | 10 | 12/02/20 13:20 | 12/02/20 15:00 |
| SVM-14R-16 | 0L02033-18 | Vapor | 10 | 12/02/20 13:24 | 12/02/20 15:00 |
| SVM-14R-16 DUP | 0L02033-19 | Vapor | 10 | 12/02/20 13:24 | 12/02/20 15:00 |
| SVM-14R-22 | 0L02033-20 | Vapor | 10 | 12/02/20 13:20 | 12/02/20 15:00 |
| SVM-13-7 | 0L02033-21 | Vapor | 10 | 12/03/20 08:14 | 12/03/20 15:00 |
| SVM-13-15 | 0L02033-22 | Vapor | 10 | 12/03/20 08:14 | 12/03/20 15:00 |
| SVM-13-22 | 0L02033-23 | Vapor | 10 | 12/03/20 08:14 | 12/03/20 15:00 |
| SVM-11-7 | 0L02033-24 | Vapor | 10 | 12/03/20 08:50 | 12/03/20 15:00 |
| SVM-11-15 | 0L02033-25 | Vapor | 10 | 12/03/20 08:50 | 12/03/20 15:00 |
| SVM-11-22 | 0L02033-26 | Vapor | 10 | 12/03/20 08:50 | 12/03/20 15:00 |
| SVM-12-7 | 0L02033-27 | Vapor | 10 | 12/03/20 10:05 | 12/03/20 15:00 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Sample ID | Laboratory ID | Matrix | TAT | Date Sampled | Date Received |
|--------------|---------------|--------|-----|----------------|----------------|
| SVM-12-15 | 0L02033-28 | Vapor | 10 | 12/03/20 09:46 | 12/03/20 15:00 |
| SVM-12-22 | 0L02033-29 | Vapor | 10 | 12/03/20 09:40 | 12/03/20 15:00 |
| SVM-1-5 | 0L02033-30 | Vapor | 10 | 12/03/20 11:08 | 12/03/20 15:00 |
| SVM-1-15 | 0L02033-31 | Vapor | 10 | 12/03/20 11:08 | 12/03/20 15:00 |
| SVM-2-5 | 0L02033-32 | Vapor | 10 | 12/03/20 11:21 | 12/03/20 15:00 |
| SVM-15-7 | 0L02033-33 | Vapor | 10 | 12/03/20 11:49 | 12/03/20 15:00 |
| SVM-15-15 | 0L02033-34 | Vapor | 10 | 12/03/20 11:49 | 12/03/20 15:00 |
| SVM-15-22 | 0L02033-35 | Vapor | 10 | 12/03/20 11:49 | 12/03/20 15:00 |
| SVM-6-7 | 0L02033-36 | Vapor | 10 | 12/03/20 12:04 | 12/03/20 15:00 |
| SVM-6-13 | 0L02033-37 | Vapor | 10 | 12/03/20 12:04 | 12/03/20 15:00 |
| SVM-7-7 | 0L02033-38 | Vapor | 10 | 12/03/20 12:22 | 12/03/20 15:00 |
| SVM-7-7 DUP | 0L02033-39 | Vapor | 10 | 12/03/20 12:22 | 12/03/20 15:00 |
| SVM-7-13 | 0L02033-40 | Vapor | 10 | 12/03/20 12:22 | 12/03/20 15:00 |
| Ambient Air | 0L02033-41 | Vapor | 10 | 12/03/20 12:10 | 12/03/20 15:00 |
| SVM-10-5 | 0L02033-42 | Vapor | 10 | 12/03/20 12:38 | 12/03/20 15:00 |
| SVM-25-5 | 0L02033-43 | Vapor | 10 | 12/04/20 07:43 | 12/04/20 15:00 |
| SVM-25-5 DUP | 0L02033-44 | Vapor | 10 | 12/04/20 07:43 | 12/04/20 15:00 |
| SVM-25-10 | 0L02033-45 | Vapor | 10 | 12/04/20 07:41 | 12/04/20 15:00 |
| SVM-24-10 | 0L02033-46 | Vapor | 10 | 12/04/20 08:13 | 12/04/20 15:00 |
| SVM-24-5 | 0L02033-47 | Vapor | 10 | 12/04/20 08:13 | 12/04/20 15:00 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Sample ID | Laboratory ID | Matrix | TAT | Date Sampled | Date Received |
|-----------|---------------|--------|-----|----------------|----------------|
| SVM-3-5 | 0L02033-48 | Vapor | 10 | 12/04/20 08:52 | 12/04/20 15:00 |
| SVM-3-15 | 0L02033-49 | Vapor | 10 | 12/04/20 08:52 | 12/04/20 15:00 |
| SVM-5-5 | 0L02033-50 | Vapor | 10 | 12/04/20 09:20 | 12/04/20 15:00 |
| SVM-5-15 | 0L02033-51 | Vapor | 10 | 12/04/20 09:20 | 12/04/20 15:00 |
| SVM-8-5 | 0L02033-52 | Vapor | 10 | 12/04/20 09:43 | 12/04/20 15:00 |
| SVM-8-15 | 0L02033-53 | Vapor | 10 | 12/04/20 09:43 | 12/04/20 15:00 |
| SVM-16-7 | 0L02033-54 | Vapor | 10 | 12/04/20 10:10 | 12/04/20 15:00 |
| SVM-16-16 | 0L02033-55 | Vapor | 10 | 12/04/20 10:10 | 12/04/20 15:00 |
| SVM-16-22 | 0L02033-56 | Vapor | 10 | 12/04/20 10:10 | 12/04/20 15:00 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

ANALYTICAL DATA SUMMARY

| Analyte | Sample Name | Result | MRL | Units | Dilution | Prepared | Analyzed | Method |
|---------------------------|-------------|-------------|------|-------------|----------|----------|----------|-------------|
| Fixed Gases by TCD | | | | | | | | |
| Oxygen | SVM-23-5 | 20 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Oxygen | SVM-23-14.5 | 21 | 0.10 | % by Volume | 1 | 12/11/20 | 12/11/20 | ASTM D1946M |
| Oxygen | SVM-22-5 | 21 | 0.10 | % by Volume | 1 | 12/11/20 | 12/11/20 | ASTM D1946M |
| Oxygen | SVM-22-14.5 | 21 | 0.10 | % by Volume | 1 | 12/11/20 | 12/11/20 | ASTM D1946M |
| Oxygen | SVM-21-5 | 22 | 0.20 | % by Volume | 2 | 12/11/20 | 12/11/20 | ASTM D1946M |
| Carbon Dioxide | SVM-21-5 | 0.58 | 0.10 | % by Volume | 1 | 12/11/20 | 12/11/20 | ASTM D1946M |
| Oxygen | SVM-21-14.5 | 21 | 0.10 | % by Volume | 1 | 12/11/20 | 12/11/20 | ASTM D1946M |
| Carbon Dioxide | SVM-21-14.5 | 0.53 | 0.10 | % by Volume | 1 | 12/11/20 | 12/11/20 | ASTM D1946M |
| Oxygen | SVM-17-5 | 22 | 0.10 | % by Volume | 1 | 12/11/20 | 12/11/20 | ASTM D1946M |
| Oxygen | SVM-17-14.5 | 21 | 0.10 | % by Volume | 1 | 12/11/20 | 12/11/20 | ASTM D1946M |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

ANALYTICAL DATA SUMMARY

| Analyte | Sample Name | Result | MRL | Units | Dilution | Prepared | Analyzed | Method |
|----------------|-------------|--------|------|-------------|----------|----------|----------|-------------|
| Oxygen | SVM-20-5 | 19 | 0.10 | % by Volume | 1 | 12/11/20 | 12/11/20 | ASTM D1946M |
| Carbon Dioxide | SVM-20-5 | 1.1 | 0.10 | % by Volume | 1 | 12/11/20 | 12/11/20 | ASTM D1946M |
| Oxygen | SVM-20-14.5 | 15 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Carbon Dioxide | SVM-20-14.5 | 2.8 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Oxygen | SVM-18-5 | 18 | 0.10 | % by Volume | 1 | 12/17/20 | 12/17/20 | ASTM D1946M |
| Carbon Dioxide | SVM-18-5 | 1.9 | 0.10 | % by Volume | 1 | 12/17/20 | 12/17/20 | ASTM D1946M |
| Oxygen | SVM-18-14.5 | 21 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Oxygen | SVM-19-5 | 21 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Oxygen | SVM-109-5 | 21 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Oxygen | SVM-109-10 | 21 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Oxygen | SVM-14R-5 | 15 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

ANALYTICAL DATA SUMMARY

| Analyte | Sample Name | Result | MRL | Units | Dilution | Prepared | Analyzed | Method |
|----------------|----------------|--------|------|-------------|----------|----------|----------|-------------|
| Carbon Dioxide | SVM-14R-5 | 3.3 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Oxygen | SVM-14R-16 | 13 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Carbon Dioxide | SVM-14R-16 | 2.9 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Oxygen | SVM-14R-16 DUP | 10 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Carbon Dioxide | SVM-14R-16 DUP | 4.3 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Oxygen | SVM-14R-22 | 3.8 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Carbon Dioxide | SVM-14R-22 | 6.0 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Oxygen | SVM-13-7 | 20 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Oxygen | SVM-13-15 | 20 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Oxygen | SVM-13-22 | 16 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Carbon Dioxide | SVM-13-22 | 1.4 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |

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**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

ANALYTICAL DATA SUMMARY

| Analyte | Sample Name | Result | MRL | Units | Dilution | Prepared | Analyzed | Method |
|----------------|-------------|--------|------|-------------|----------|----------|----------|-------------|
| Oxygen | SVM-11-7 | 20 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Carbon Dioxide | SVM-11-7 | 0.87 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Oxygen | SVM-11-15 | 18 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Carbon Dioxide | SVM-11-15 | 0.94 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Oxygen | SVM-11-22 | 12 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Carbon Dioxide | SVM-11-22 | 4.5 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Oxygen | SVM-12-7 | 20 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Carbon Dioxide | SVM-12-7 | 0.54 | 0.10 | % by Volume | 1 | 12/08/20 | 12/08/20 | ASTM D1946M |
| Oxygen | SVM-12-15 | 18 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Carbon Dioxide | SVM-12-15 | 2.2 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Oxygen | SVM-12-22 | 11 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |

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LABORATORY ANALYSIS RESULTS

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Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

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Date Received: 12/02/20
Date Reported: 01/12/21

ANALYTICAL DATA SUMMARY

| Analyte | Sample Name | Result | MRL | Units | Dilution | Prepared | Analyzed | Method |
|----------------|-------------|--------|------|-------------|----------|----------|----------|-------------|
| Carbon Dioxide | SVM-12-22 | 6.2 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Oxygen | SVM-1-5 | 20 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Oxygen | SVM-1-15 | 19 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Carbon Dioxide | SVM-1-15 | 1.1 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Oxygen | SVM-2-5 | 19 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Carbon Dioxide | SVM-2-5 | 1.1 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Oxygen | SVM-15-7 | 20 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Carbon Dioxide | SVM-15-7 | 0.34 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Oxygen | SVM-15-15 | 21 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Carbon Dioxide | SVM-15-15 | 0.42 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Oxygen | SVM-15-22 | 20 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |

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LABORATORY ANALYSIS RESULTS

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Project No: 693142
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Date Received: 12/02/20
Date Reported: 01/12/21

ANALYTICAL DATA SUMMARY

| Analyte | Sample Name | Result | MRL | Units | Dilution | Prepared | Analyzed | Method |
|----------------|-------------|--------|------|-------------|----------|----------|----------|-------------|
| Carbon Dioxide | SVM-15-22 | 0.64 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Oxygen | SVM-6-7 | 21 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Oxygen | SVM-6-13 | 20 | 0.10 | % by Volume | 1 | 12/09/20 | 12/09/20 | ASTM D1946M |
| Oxygen | SVM-7-7 | 19 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Carbon Dioxide | SVM-7-7 | 0.90 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Oxygen | SVM-7-7 DUP | 19 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Carbon Dioxide | SVM-7-7 DUP | 0.94 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Oxygen | SVM-7-13 | 17 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Carbon Dioxide | SVM-7-13 | 1.1 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Oxygen | SVM-10-5 | 9.0 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Carbon Dioxide | SVM-10-5 | 5.6 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |

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LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

ANALYTICAL DATA SUMMARY

| Analyte | Sample Name | Result | MRL | Units | Dilution | Prepared | Analyzed | Method |
|----------------|--------------|--------|------|-------------|----------|----------|----------|-------------|
| Oxygen | SVM-25-5 | 17 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Carbon Dioxide | SVM-25-5 | 3.1 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Oxygen | SVM-25-5 DUP | 17 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Carbon Dioxide | SVM-25-5 DUP | 3.2 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Oxygen | SVM-25-10 | 15 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Carbon Dioxide | SVM-25-10 | 3.7 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Oxygen | SVM-24-10 | 19 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Carbon Dioxide | SVM-24-10 | 2.7 | 0.10 | % by Volume | 1 | 12/14/20 | 12/14/20 | ASTM D1946M |
| Oxygen | SVM-24-5 | 21 | 0.10 | % by Volume | 1 | 12/15/20 | 12/15/20 | ASTM D1946M |
| Carbon Dioxide | SVM-24-5 | 0.86 | 0.10 | % by Volume | 1 | 12/15/20 | 12/15/20 | ASTM D1946M |
| Oxygen | SVM-3-5 | 19 | 0.10 | % by Volume | 1 | 12/15/20 | 12/15/20 | ASTM D1946M |

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Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

ANALYTICAL DATA SUMMARY

| Analyte | Sample Name | Result | MRL | Units | Dilution | Prepared | Analyzed | Method |
|----------------|-------------|-------------|------|-------------|----------|----------|----------|-------------|
| Carbon Dioxide | SVM-3-5 | 0.80 | 0.10 | % by Volume | 1 | 12/15/20 | 12/15/20 | ASTM D1946M |
| Oxygen | SVM-3-15 | 15 | 0.10 | % by Volume | 1 | 12/15/20 | 12/15/20 | ASTM D1946M |
| Carbon Dioxide | SVM-3-15 | 1.3 | 0.10 | % by Volume | 1 | 12/15/20 | 12/15/20 | ASTM D1946M |
| Oxygen | SVM-5-5 | 17 | 0.10 | % by Volume | 1 | 12/15/20 | 12/15/20 | ASTM D1946M |
| Oxygen | SVM-5-15 | 13 | 0.10 | % by Volume | 1 | 12/15/20 | 12/15/20 | ASTM D1946M |
| Oxygen | SVM-8-5 | 18 | 0.10 | % by Volume | 1 | 12/15/20 | 12/15/20 | ASTM D1946M |
| Oxygen | SVM-8-15 | 13 | 0.10 | % by Volume | 1 | 12/17/20 | 12/17/20 | ASTM D1946M |
| Carbon Dioxide | SVM-8-15 | 1.1 | 0.10 | % by Volume | 1 | 12/17/20 | 12/17/20 | ASTM D1946M |
| Oxygen | SVM-16-7 | 7.7 | 0.10 | % by Volume | 1 | 12/15/20 | 12/15/20 | ASTM D1946M |
| Carbon Dioxide | SVM-16-7 | 5.8 | 0.10 | % by Volume | 1 | 12/15/20 | 12/15/20 | ASTM D1946M |
| Oxygen | SVM-16-16 | 17 | 0.10 | % by Volume | 1 | 12/17/20 | 12/17/20 | ASTM D1946M |

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**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

ANALYTICAL DATA SUMMARY

| Analyte | Sample Name | Result | MRL | Units | Dilution | Prepared | Analyzed | Method |
|----------------|-------------|-------------|------|-------------|----------|----------|----------|-------------|
| Carbon Dioxide | SVM-16-16 | 0.90 | 0.10 | % by Volume | 1 | 12/17/20 | 12/17/20 | ASTM D1946M |
| Methane | SVM-16-22 | 3.0 | 0.10 | % by Volume | 1 | 12/17/20 | 12/17/20 | ASTM D1946M |
| Oxygen | SVM-16-22 | 2.9 | 0.10 | % by Volume | 1 | 12/17/20 | 12/17/20 | ASTM D1946M |
| Carbon Dioxide | SVM-16-22 | 14 | 0.20 | % by Volume | 2 | 12/17/20 | 12/17/20 | ASTM D1946M |

VOCs by EPA TO-3

| | | | | | | | | |
|-------------------------------|-----------|-------------|------|------|-----|----------|----------|------|
| Gasoline Range Organics (GRO) | SVM-16-22 | 9200 | 2400 | ug/L | 120 | 01/06/21 | 01/06/21 | TO-3 |
|-------------------------------|-----------|-------------|------|------|-----|----------|----------|------|

VOCs by GCMS EPA TO-15 (Mid Level)

| | | | | | | | | |
|---------------------------|----------------|----------------|--------|------|---|----------|----------|-------|
| Tetrachloroethylene (PCE) | SVM-23-5 | 0.038 | 0.010 | ug/L | 1 | 12/16/20 | 12/16/20 | TO-15 |
| 2,2,4-Trimethylpentane | SVM-23-5 | 0.035 | 0.020 | ug/L | 1 | 12/16/20 | 12/16/20 | TO-15 |
| Tetrachloroethylene (PCE) | SVM-21-5 | 0.10 | 0.010 | ug/L | 1 | 12/16/20 | 12/17/20 | TO-15 |
| Trichloroethylene (TCE) | SVM-21-5 | 0.074 | 0.020 | ug/L | 1 | 12/16/20 | 12/17/20 | TO-15 |
| Tetrachloroethylene (PCE) | SVM-14R-5 | 0.069 | 0.010 | ug/L | 1 | 12/17/20 | 12/17/20 | TO-15 |
| Trichloroethylene (TCE) | SVM-14R-5 | 0.060 | 0.020 | ug/L | 1 | 12/17/20 | 12/17/20 | TO-15 |
| Chloroform | SVM-14R-16 | 0.026 | 0.020 | ug/L | 1 | 12/17/20 | 12/17/20 | TO-15 |
| Chloroform | SVM-14R-16 DUP | 0.025 | 0.020 | ug/L | 1 | 12/17/20 | 12/17/20 | TO-15 |
| Acetone | SVM-14R-22 | 0.029 | 0.020 | ug/L | 1 | 12/17/20 | 12/17/20 | TO-15 |
| Benzene | SVM-14R-22 | 0.0081 | 0.0030 | ug/L | 1 | 12/17/20 | 12/17/20 | TO-15 |
| Propylene | SVM-14R-22 | 0.067 E | 0.020 | ug/L | 1 | 12/17/20 | 12/17/20 | TO-15 |
| Tetrachloroethylene (PCE) | SVM-14R-22 | 0.024 | 0.010 | ug/L | 1 | 12/17/20 | 12/17/20 | TO-15 |
| Trichloroethylene (TCE) | SVM-14R-22 | 0.054 | 0.020 | ug/L | 1 | 12/17/20 | 12/17/20 | TO-15 |
| Tetrachloroethylene (PCE) | SVM-11-15 | 0.014 | 0.010 | ug/L | 1 | 12/18/20 | 12/18/20 | TO-15 |

Stuart Sigman
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LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

ANALYTICAL DATA SUMMARY

| Analyte | Sample Name | Result | MRL | Units | Dilution | Prepared | Analyzed | Method |
|---------------------------|-------------|---------|--------|-------|----------|----------|----------|--------|
| Chloroform | SVM-11-22 | 0.020 | 0.020 | ug/L | 1 | 12/18/20 | 12/18/20 | TO-15 |
| Tetrachloroethylene (PCE) | SVM-11-22 | 0.025 | 0.010 | ug/L | 1 | 12/18/20 | 12/18/20 | TO-15 |
| Ethanol | SVM-12-7 | 0.029 | 0.020 | ug/L | 1 | 12/18/20 | 12/18/20 | TO-15 |
| Tetrachloroethylene (PCE) | SVM-12-22 | 0.012 | 0.010 | ug/L | 1 | 12/18/20 | 12/18/20 | TO-15 |
| Tetrachloroethylene (PCE) | SVM-1-5 | 0.022 | 0.010 | ug/L | 1 | 12/18/20 | 12/18/20 | TO-15 |
| Tetrachloroethylene (PCE) | SVM-1-15 | 0.067 | 0.010 | ug/L | 1 | 12/18/20 | 12/18/20 | TO-15 |
| Trichloroethylene (TCE) | SVM-1-15 | 0.031 | 0.020 | ug/L | 1 | 12/18/20 | 12/18/20 | TO-15 |
| Naphthalene | SVM-15-7 | 0.0032 | 0.0030 | ug/L | 1 | 12/18/20 | 12/18/20 | TO-15 |
| Ethanol | SVM-15-15 | 0.088 E | 0.020 | ug/L | 1 | 12/18/20 | 12/19/20 | TO-15 |
| Tetrachloroethylene (PCE) | SVM-15-15 | 0.033 | 0.010 | ug/L | 1 | 12/18/20 | 12/19/20 | TO-15 |
| Trichloroethylene (TCE) | SVM-15-15 | 0.023 | 0.020 | ug/L | 1 | 12/18/20 | 12/19/20 | TO-15 |
| Ethanol | SVM-15-22 | 0.027 | 0.020 | ug/L | 1 | 12/18/20 | 12/19/20 | TO-15 |
| Tetrachloroethylene (PCE) | SVM-15-22 | 0.082 | 0.010 | ug/L | 1 | 12/18/20 | 12/19/20 | TO-15 |
| Chloroform | SVM-25-5 | 0.027 | 0.020 | ug/L | 1 | 12/28/20 | 12/28/20 | TO-15 |
| Bromodichloromethane | SVM-25-10 | 0.063 | 0.020 | ug/L | 1 | 12/28/20 | 12/28/20 | TO-15 |
| Chloroform | SVM-25-10 | 0.091 | 0.020 | ug/L | 1 | 12/28/20 | 12/28/20 | TO-15 |
| Tetrachloroethylene (PCE) | SVM-24-5 | 0.014 | 0.010 | ug/L | 1 | 12/28/20 | 12/29/20 | TO-15 |
| Tetrachloroethylene (PCE) | SVM-8-15 | 0.011 | 0.010 | ug/L | 1 | 01/04/21 | 01/04/21 | TO-15 |
| 2,2,4-Trimethylpentane | SVM-16-7 | 0.029 | 0.020 | ug/L | 1 | 01/04/21 | 01/04/21 | TO-15 |
| 2,2,4-Trimethylpentane | SVM-16-16 | 0.032 | 0.020 | ug/L | 1 | 01/04/21 | 01/05/21 | TO-15 |
| 2,2,4-Trimethylpentane | SVM-16-22 | 900 | 240 | ug/L | 12000 | 01/06/20 | 01/06/21 | TO-15 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

| | | | |
|----------------------|--------------------------------|-----------------------|----------|
| Client: | CH2M Hill, Inc. | AA Project No: | MB187336 |
| Project No: | 693142 | Date Received: | 12/02/20 |
| Project Name: | KMEP Norwalk Biosparge Startup | Date Reported: | 01/12/21 |
| Method: | VOCs by EPA TO-3 | Units: | ug/L |

| | | | | | |
|-------------------------|------------|-------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/16/20 | 12/16/20 | 12/16/20 | 12/16/20 | |
| Date Analyzed: | 12/16/20 | 12/16/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | OL02033-01 | OL02033-02 | OL02033-03 | OL02033-04 | |
| Client ID No: | SVM-23-5 | SVM-23-14.5 | SVM-22-5 | SVM-22-14.5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-3 (TO-3)

| | | | | | |
|-------------------------------|-----|-----|-----|-----|----|
| Gasoline Range Organics (GRO) | <20 | <20 | <20 | <20 | 20 |
|-------------------------------|-----|-----|-----|-----|----|

Surrogates

| | | | | | |
|----------------------|-----|-----|-----|-----|------------------------------|
| 4-Bromofluorobenzene | 95% | 92% | 88% | 87% | <u>%REC Limits</u> 70-130 |
|----------------------|-----|-----|-----|-----|------------------------------|

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by EPA TO-3

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|-------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/16/20 | 12/16/20 | 12/16/20 | 12/16/20 | |
| Date Analyzed: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-05 | 0L02033-06 | 0L02033-07 | 0L02033-08 | |
| Client ID No: | SVM-21-5 | SVM-21-14.5 | SVM-17-5 | SVM-17-14.5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-3 (TO-3)

| | | | | | |
|-------------------------------|-----|-----|-----|-----|----|
| Gasoline Range Organics (GRO) | <20 | <20 | <20 | <20 | 20 |
|-------------------------------|-----|-----|-----|-----|----|

Surrogates

| | | | | | |
|----------------------|-----|-----|-----|-----|-------------------------------------|
| 4-Bromofluorobenzene | 91% | 88% | 87% | 87% | <u>%REC Limits</u> 70-130 |
|----------------------|-----|-----|-----|-----|-------------------------------------|

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by EPA TO-3

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|-------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/16/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| Date Analyzed: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-09 | 0L02033-10 | 0L02033-11 | 0L02033-12 | |
| Client ID No: | SVM-20-5 | SVM-20-14.5 | SVM-18-5 | SVM-18-14.5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-3 (TO-3)

| | | | | | |
|-------------------------------|-----|-----|-----|-----|----|
| Gasoline Range Organics (GRO) | <20 | <20 | <20 | <20 | 20 |
|-------------------------------|-----|-----|-----|-----|----|

Surrogates

| | | | | | |
|----------------------|-----|-----|-----|-----|-------------------------------------|
| 4-Bromofluorobenzene | 88% | 92% | 89% | 87% | <u>%REC Limits</u> 70-130 |
|----------------------|-----|-----|-----|-----|-------------------------------------|

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by EPA TO-3

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| Date Analyzed: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-13 | 0L02033-14 | 0L02033-15 | 0L02033-16 | |
| Client ID No: | SVM-19-5 | SVM-109-5 | SVM-109-10 | Ambient Air | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-3 (TO-3)

| | | | | | |
|-------------------------------|-----|-----|-----|-----|----|
| Gasoline Range Organics (GRO) | <20 | <20 | <20 | <20 | 20 |
|-------------------------------|-----|-----|-----|-----|----|

Surrogates

| | | | | | |
|----------------------|-----|-----|-----|-----|------------------------------|
| 4-Bromofluorobenzene | 87% | 87% | 91% | 90% | %REC Limits 70-130 |
|----------------------|-----|-----|-----|-----|------------------------------|

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by EPA TO-3

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|--------------|------------|-----|
| Date Sampled: | 12/02/2020 | 12/02/2020 | 12/02/2020 | 12/02/2020 | |
| Date Prepared: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| Date Analyzed: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-17 | 0L02033-18 | 0L02033-19 | 0L02033-20 | |
| Client ID No: | SVM-14R-5 | SVM-14R-16 | SVM-14R-16 | SVM-14R-22 | |
| Matrix: | Vapor | Vapor | DUP Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-3 (TO-3)

| | | | | | |
|-------------------------------|-----|-----|-----|-----|----|
| Gasoline Range Organics (GRO) | <20 | <20 | <20 | <20 | 20 |
|-------------------------------|-----|-----|-----|-----|----|

Surrogates

| | | | | | |
|----------------------|-----|-----|-----|-----|------------------------------|
| 4-Bromofluorobenzene | 89% | 89% | 90% | 94% | %REC Limits 70-130 |
|----------------------|-----|-----|-----|-----|------------------------------|

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by EPA TO-3

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| Date Analyzed: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| AA ID No: | 0L02033-21 | 0L02033-22 | 0L02033-23 | 0L02033-24 | |
| Client ID No: | SVM-13-7 | SVM-13-15 | SVM-13-22 | SVM-11-7 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-3 (TO-3)

| | | | | | |
|-------------------------------|-----|-----|-----|-----|----|
| Gasoline Range Organics (GRO) | <20 | <20 | <20 | <20 | 20 |
|-------------------------------|-----|-----|-----|-----|----|

Surrogates

| | | | | | |
|----------------------|-----|-----|-----|-----|------------------------------|
| 4-Bromofluorobenzene | 87% | 89% | 91% | 90% | %REC Limits 70-130 |
|----------------------|-----|-----|-----|-----|------------------------------|

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by EPA TO-3

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| Date Analyzed: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| AA ID No: | 0L02033-25 | 0L02033-26 | 0L02033-27 | 0L02033-28 | |
| Client ID No: | SVM-11-15 | SVM-11-22 | SVM-12-7 | SVM-12-15 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-3 (TO-3)

| | | | | | |
|-------------------------------|-----|-----|-----|-----|----|
| Gasoline Range Organics (GRO) | <20 | <20 | <20 | <20 | 20 |
|-------------------------------|-----|-----|-----|-----|----|

Surrogates

| | | | | | <u>%REC Limits</u> |
|----------------------|-----|-----|-----|-----|--------------------|
| 4-Bromofluorobenzene | 92% | 92% | 95% | 99% | 70-130 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by EPA TO-3

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| Date Analyzed: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| AA ID No: | 0L02033-29 | 0L02033-30 | 0L02033-31 | 0L02033-32 | |
| Client ID No: | SVM-12-22 | SVM-1-5 | SVM-1-15 | SVM-2-5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-3 (TO-3)

| | | | | | |
|-------------------------------|-----|-----|-----|-----|----|
| Gasoline Range Organics (GRO) | <20 | <20 | <20 | <20 | 20 |
|-------------------------------|-----|-----|-----|-----|----|

Surrogates

| | | | | | |
|----------------------|-----|-----|-----|-----|------------------------------|
| 4-Bromofluorobenzene | 89% | 97% | 89% | 90% | <u>%REC Limits</u> 70-130 |
|----------------------|-----|-----|-----|-----|------------------------------|

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by EPA TO-3

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| Date Analyzed: | 12/18/20 | 12/19/20 | 12/19/20 | 12/19/20 | |
| AA ID No: | 0L02033-33 | 0L02033-34 | 0L02033-35 | 0L02033-36 | |
| Client ID No: | SVM-15-7 | SVM-15-15 | SVM-15-22 | SVM-6-7 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-3 (TO-3)

| | | | | | |
|-------------------------------|-----|-----|-----|-----|----|
| Gasoline Range Organics (GRO) | <20 | <20 | <20 | <20 | 20 |
|-------------------------------|-----|-----|-----|-----|----|

Surrogates

| | | | | | |
|----------------------|-----|-----|------|-----|------------------------------|
| 4-Bromofluorobenzene | 98% | 91% | 101% | 87% | %REC Limits 70-130 |
|----------------------|-----|-----|------|-----|------------------------------|

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by EPA TO-3

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|-------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/18/20 | 12/18/20 | 12/28/20 | 12/28/20 | |
| Date Analyzed: | 12/19/20 | 12/19/20 | 12/28/20 | 12/28/20 | |
| AA ID No: | OL02033-37 | OL02033-38 | OL02033-39 | OL02033-40 | |
| Client ID No: | SVM-6-13 | SVM-7-7 | SVM-7-7 DUP | SVM-7-13 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-3 (TO-3)

| | | | | | |
|-------------------------------|-----|-----|-----|-----|----|
| Gasoline Range Organics (GRO) | <20 | <20 | <20 | <20 | 20 |
|-------------------------------|-----|-----|-----|-----|----|

Surrogates

| | | | | | |
|----------------------|-----|-----|-----|-----|------------------------------|
| 4-Bromofluorobenzene | 96% | 93% | 99% | 97% | %REC Limits 70-130 |
|----------------------|-----|-----|-----|-----|------------------------------|

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by EPA TO-3

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|-------------|------------|------------|--------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 12/28/20 | 12/28/20 | 12/28/20 | 12/28/20 | |
| Date Analyzed: | 12/28/20 | 12/28/20 | 12/28/20 | 12/28/20 | |
| AA ID No: | 0L02033-41 | 0L02033-42 | 0L02033-43 | 0L02033-44 | |
| Client ID No: | Ambient Air | SVM-10-5 | SVM-25-5 | SVM-25-5 DUP | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-3 (TO-3)

| | | | | | |
|-------------------------------|-----|-----|-----|-----|----|
| Gasoline Range Organics (GRO) | <20 | <20 | <20 | <20 | 20 |
|-------------------------------|-----|-----|-----|-----|----|

Surrogates

| | | | | | |
|----------------------|-----|-----|-----|-----|------------------------------|
| 4-Bromofluorobenzene | 94% | 94% | 94% | 92% | <u>%REC Limits</u> 70-130 |
|----------------------|-----|-----|-----|-----|------------------------------|

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by EPA TO-3

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/04/20 | 12/04/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 12/28/20 | 12/28/20 | 12/28/20 | 12/28/20 | |
| Date Analyzed: | 12/28/20 | 12/28/20 | 12/29/20 | 12/29/20 | |
| AA ID No: | 0L02033-45 | 0L02033-46 | 0L02033-47 | 0L02033-48 | |
| Client ID No: | SVM-25-10 | SVM-24-10 | SVM-24-5 | SVM-3-5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-3 (TO-3)

| | | | | | |
|-------------------------------|-----|-----|-----|-----|----|
| Gasoline Range Organics (GRO) | <20 | <20 | <20 | <20 | 20 |
|-------------------------------|-----|-----|-----|-----|----|

Surrogates

| | | | | | |
|----------------------|-----|-----|-----|-----|-------------------------------------|
| 4-Bromofluorobenzene | 92% | 95% | 90% | 93% | <u>%REC Limits</u> 70-130 |
|----------------------|-----|-----|-----|-----|-------------------------------------|

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by EPA TO-3

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/04/20 | 12/04/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 01/04/21 | 01/04/21 | 01/04/21 | 01/04/21 | |
| Date Analyzed: | 01/04/21 | 01/04/21 | 01/04/21 | 01/04/21 | |
| AA ID No: | 0L02033-49 | 0L02033-50 | 0L02033-51 | 0L02033-52 | |
| Client ID No: | SVM-3-15 | SVM-5-5 | SVM-5-15 | SVM-8-5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-3 (TO-3)

| | | | | | |
|-------------------------------|---------|---------|---------|---------|----|
| Gasoline Range Organics (GRO) | <20 [4] | <20 [4] | <20 [4] | <20 [4] | 20 |
|-------------------------------|---------|---------|---------|---------|----|

Surrogates

| | | | | | |
|----------------------|----------|----------|----------|----------|-------------------------------------|
| 4-Bromofluorobenzene | 108% [4] | 109% [4] | 113% [4] | 112% [4] | <u>%REC Limits</u> 70-130 |
|----------------------|----------|----------|----------|----------|-------------------------------------|

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by EPA TO-3

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/04/20 | 12/04/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 01/04/21 | 01/04/21 | 01/04/21 | 01/06/21 | |
| Date Analyzed: | 01/04/21 | 01/04/21 | 01/05/21 | 01/06/21 | |
| AA ID No: | 0L02033-53 | 0L02033-54 | 0L02033-55 | 0L02033-56 | |
| Client ID No: | SVM-8-15 | SVM-16-7 | SVM-16-16 | SVM-16-22 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 120 | MRL |

TO-3 (TO-3)

| | | | | | |
|-------------------------------|---------|---------|---------|-----------------|----|
| Gasoline Range Organics (GRO) | <20 [4] | <20 [4] | <20 [4] | 9200 [4] | 20 |
|-------------------------------|---------|---------|---------|-----------------|----|

Surrogates

| | | | | | |
|----------------------|----------|----------|----------|----------|-------------------------------------|
| 4-Bromofluorobenzene | 109% [4] | 125% [4] | 118% [4] | 123% [4] | <u>%REC Limits</u> 70-130 |
|----------------------|----------|----------|----------|----------|-------------------------------------|

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|-------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/16/20 | 12/16/20 | 12/16/20 | 12/16/20 | |
| Date Analyzed: | 12/16/20 | 12/16/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-01 | 0L02033-02 | 0L02033-03 | 0L02033-04 | |
| Client ID No: | SVM-23-5 | SVM-23-14.5 | SVM-22-5 | SVM-22-14.5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15)

| | | | | | |
|-------------------------------|---------|---------|---------|---------|--------|
| Acetone | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Allyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Benzene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Benzyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromodichloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromoform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromomethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Butadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Butanone (MEK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Butyl Alcohol (TBA) | <20 | <20 | <20 | <20 | 20 |
| Carbon Disulfide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Carbon Tetrachloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Cyclohexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dibromochloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dibromoethane (EDB) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorodifluoromethane (R12) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1-Dichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloroethane (EDC) | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 |
| cis-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|-------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/16/20 | 12/16/20 | 12/16/20 | 12/16/20 | |
| Date Analyzed: | 12/16/20 | 12/16/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-01 | 0L02033-02 | 0L02033-03 | 0L02033-04 | |
| Client ID No: | SVM-23-5 | SVM-23-14.5 | SVM-22-5 | SVM-22-14.5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--------------------------------|--------------|---------|---------|---------|--------|
| 1,1-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| cis-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorotetrafluoroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Diisopropyl ether (DIPE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dioxane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethanol | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl Acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Ethyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Heptane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Hexachlorobutadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Hexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Hexanone (MBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropanol (IPA) | <0.20 | <0.20 | <0.20 | <0.20 | 0.20 |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Methylene Chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Naphthalene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Propylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Styrene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2,2-Tetrachloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Tetrachloroethylene (PCE) | 0.038 | <0.010 | <0.010 | <0.010 | 0.010 |
| Tetrahydrofuran (THF) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|-------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/16/20 | 12/16/20 | 12/16/20 | 12/16/20 | |
| Date Analyzed: | 12/16/20 | 12/16/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-01 | 0L02033-02 | 0L02033-03 | 0L02033-04 | |
| Client ID No: | SVM-23-5 | SVM-23-14.5 | SVM-22-5 | SVM-22-14.5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--|--------------|--------|--------|--------|-------|
| Toluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,1-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichloroethylene (TCE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichlorofluoromethane (R11) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3,5-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2,2,4-Trimethylpentane | 0.035 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl bromide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| o-Xylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| m,p-Xylenes | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,3-Trichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| sec-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Propylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Isopropyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

| | | | | | |
|--------------------------|------|------|------|------|---------------------------|
| <u>Surrogates</u> | | | | | <u>%REC Limits</u> |
| 4-Bromofluorobenzene | 108% | 105% | 101% | 100% | 70-130 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|-------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/16/20 | 12/16/20 | 12/16/20 | 12/16/20 | |
| Date Analyzed: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-05 | 0L02033-06 | 0L02033-07 | 0L02033-08 | |
| Client ID No: | SVM-21-5 | SVM-21-14.5 | SVM-17-5 | SVM-17-14.5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15)

| | | | | | |
|-------------------------------|---------|---------|---------|---------|--------|
| Acetone | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Allyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Benzene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Benzyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromodichloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromoform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromomethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Butadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Butanone (MEK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Butyl Alcohol (TBA) | <20 | <20 | <20 | <20 | 20 |
| Carbon Disulfide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Carbon Tetrachloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Cyclohexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dibromochloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dibromoethane (EDB) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorodifluoromethane (R12) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1-Dichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloroethane (EDC) | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 |
| cis-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|-------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/16/20 | 12/16/20 | 12/16/20 | 12/16/20 | |
| Date Analyzed: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-05 | 0L02033-06 | 0L02033-07 | 0L02033-08 | |
| Client ID No: | SVM-21-5 | SVM-21-14.5 | SVM-17-5 | SVM-17-14.5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--------------------------------|-------------|---------|---------|---------|--------|
| 1,1-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| cis-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorotetrafluoroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Diisopropyl ether (DIPE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dioxane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethanol | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl Acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Ethyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Heptane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Hexachlorobutadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Hexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Hexanone (MBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropanol (IPA) | <0.20 | <0.20 | <0.20 | <0.20 | 0.20 |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Methylene Chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Naphthalene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Propylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Styrene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2,2-Tetrachloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Tetrachloroethylene (PCE) | 0.10 | <0.010 | <0.010 | <0.010 | 0.010 |
| Tetrahydrofuran (THF) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc. **AA Project No:** MB187336
Project No: 693142 **Date Received:** 12/02/20
Project Name: KMEP Norwalk Biosparge Startup **Date Reported:** 01/12/21
Method: VOCs by GCMS EPA TO-15 (Mid Level) **Units:** ug/L

| | | | | | |
|-------------------------|------------|-------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/16/20 | 12/16/20 | 12/16/20 | 12/16/20 | |
| Date Analyzed: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-05 | 0L02033-06 | 0L02033-07 | 0L02033-08 | |
| Client ID No: | SVM-21-5 | SVM-21-14.5 | SVM-17-5 | SVM-17-14.5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--|--------------|--------|--------|--------|-------|
| Toluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,1-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichloroethylene (TCE) | 0.074 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichlorofluoromethane (R11) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3,5-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2,2,4-Trimethylpentane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl bromide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| o-Xylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| m,p-Xylenes | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,3-Trichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| sec-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Propylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Isopropyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

| | | | | | |
|----------------------|------|------|-----|------|--------------------|
| Surrogates | | | | | %REC Limits |
| 4-Bromofluorobenzene | 104% | 101% | 99% | 100% | 70-130 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|-------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/16/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| Date Analyzed: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-09 | 0L02033-10 | 0L02033-11 | 0L02033-12 | |
| Client ID No: | SVM-20-5 | SVM-20-14.5 | SVM-18-5 | SVM-18-14.5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15)

| | | | | | |
|-------------------------------|---------|---------|---------|---------|--------|
| Acetone | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Allyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Benzene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Benzyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromodichloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromoform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromomethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Butadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Butanone (MEK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Butyl Alcohol (TBA) | <20 | <20 | <20 | <20 | 20 |
| Carbon Disulfide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Carbon Tetrachloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Cyclohexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dibromochloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dibromoethane (EDB) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorodifluoromethane (R12) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1-Dichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloroethane (EDC) | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 |
| cis-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|-------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/16/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| Date Analyzed: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-09 | 0L02033-10 | 0L02033-11 | 0L02033-12 | |
| Client ID No: | SVM-20-5 | SVM-20-14.5 | SVM-18-5 | SVM-18-14.5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--------------------------------|---------|---------|---------|---------|--------|
| 1,1-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| cis-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorotetrafluoroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Diisopropyl ether (DIPE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dioxane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethanol | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl Acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Ethyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Heptane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Hexachlorobutadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Hexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Hexanone (MBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropanol (IPA) | <0.20 | <0.20 | <0.20 | <0.20 | 0.20 |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Methylene Chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Naphthalene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Propylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Styrene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2,2-Tetrachloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Tetrachloroethylene (PCE) | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 |
| Tetrahydrofuran (THF) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

| | | | |
|----------------------|------------------------------------|-----------------------|----------|
| Client: | CH2M Hill, Inc. | AA Project No: | MB187336 |
| Project No: | 693142 | Date Received: | 12/02/20 |
| Project Name: | KMEP Norwalk Biosparge Startup | Date Reported: | 01/12/21 |
| Method: | VOCs by GCMS EPA TO-15 (Mid Level) | Units: | ug/L |

| | | | | | |
|-------------------------|------------|-------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/16/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| Date Analyzed: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-09 | 0L02033-10 | 0L02033-11 | 0L02033-12 | |
| Client ID No: | SVM-20-5 | SVM-20-14.5 | SVM-18-5 | SVM-18-14.5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--|--------|--------|--------|--------|-------|
| Toluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,1-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichloroethylene (TCE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichlorofluoromethane (R11) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3,5-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2,2,4-Trimethylpentane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl bromide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| o-Xylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| m,p-Xylenes | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,3-Trichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| sec-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Propylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Isopropyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

| | | | | | |
|--------------------------|------|------|------|------|---------------------------|
| <u>Surrogates</u> | | | | | <u>%REC Limits</u> |
| 4-Bromofluorobenzene | 101% | 106% | 102% | 100% | 70-130 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| Date Analyzed: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-13 | 0L02033-14 | 0L02033-15 | 0L02033-16 | |
| Client ID No: | SVM-19-5 | SVM-109-5 | SVM-109-10 | Ambient Air | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15)

| | | | | | |
|-------------------------------|---------|---------|---------|---------|--------|
| Acetone | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Allyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Benzene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Benzyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromodichloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromoform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromomethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Butadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Butanone (MEK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Butyl Alcohol (TBA) | <20 | <20 | <20 | <20 | 20 |
| Carbon Disulfide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Carbon Tetrachloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Cyclohexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dibromochloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dibromoethane (EDB) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorodifluoromethane (R12) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1-Dichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloroethane (EDC) | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 |
| cis-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| Date Analyzed: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-13 | 0L02033-14 | 0L02033-15 | 0L02033-16 | |
| Client ID No: | SVM-19-5 | SVM-109-5 | SVM-109-10 | Ambient Air | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--------------------------------|---------|---------|---------|---------|--------|
| 1,1-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| cis-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorotetrafluoroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Diisopropyl ether (DIPE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dioxane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethanol | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl Acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Ethyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Heptane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Hexachlorobutadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Hexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Hexanone (MBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropanol (IPA) | <0.20 | <0.20 | <0.20 | <0.20 | 0.20 |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Methylene Chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Naphthalene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Propylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Styrene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2,2-Tetrachloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Tetrachloroethylene (PCE) | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 |
| Tetrahydrofuran (THF) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

| | | | |
|----------------------|------------------------------------|-----------------------|----------|
| Client: | CH2M Hill, Inc. | AA Project No: | MB187336 |
| Project No: | 693142 | Date Received: | 12/02/20 |
| Project Name: | KMEP Norwalk Biosparge Startup | Date Reported: | 01/12/21 |
| Method: | VOCs by GCMS EPA TO-15 (Mid Level) | Units: | ug/L |

| | | | | | |
|-------------------------|------------|------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| Date Analyzed: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-13 | 0L02033-14 | 0L02033-15 | 0L02033-16 | |
| Client ID No: | SVM-19-5 | SVM-109-5 | SVM-109-10 | Ambient Air | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--|--------|--------|--------|--------|-------|
| Toluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,1-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichloroethylene (TCE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichlorofluoromethane (R11) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3,5-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2,2,4-Trimethylpentane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl bromide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| o-Xylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| m,p-Xylenes | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,3-Trichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| sec-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Propylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Isopropyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

| | | | | | |
|--------------------------|------|------|------|------|---------------------------|
| <u>Surrogates</u> | | | | | <u>%REC Limits</u> |
| 4-Bromofluorobenzene | 100% | 100% | 104% | 104% | 70-130 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

| | | | |
|----------------------|------------------------------------|-----------------------|----------|
| Client: | CH2M Hill, Inc. | AA Project No: | MB187336 |
| Project No: | 693142 | Date Received: | 12/02/20 |
| Project Name: | KMEP Norwalk Biosparge Startup | Date Reported: | 01/12/21 |
| Method: | VOCs by GCMS EPA TO-15 (Mid Level) | Units: | ug/L |

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/02/2020 | 12/02/2020 | 12/02/2020 | 12/02/2020 | |
| Date Prepared: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| Date Analyzed: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-17 | 0L02033-18 | 0L02033-19 | 0L02033-20 | |
| Client ID No: | SVM-14R-5 | SVM-14R-16 | SVM-14R-16 | SVM-14R-22 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15)

| | | | | | |
|-------------------------------|---------|--------------|--------------|---------------|--------|
| Acetone | <0.020 | <0.020 | <0.020 | 0.029 | 0.020 |
| Allyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Benzene | <0.0030 | <0.0030 | <0.0030 | 0.0081 | 0.0030 |
| Benzyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromodichloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromoform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromomethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Butadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Butanone (MEK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Butyl Alcohol (TBA) | <20 | <20 | <20 | <20 | 20 |
| Carbon Disulfide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Carbon Tetrachloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroform | <0.020 | 0.026 | 0.025 | <0.020 | 0.020 |
| Chloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Cyclohexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dibromochloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dibromoethane (EDB) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorodifluoromethane (R12) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1-Dichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloroethane (EDC) | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/02/2020 | 12/02/2020 | 12/02/2020 | 12/02/2020 | |
| Date Prepared: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| Date Analyzed: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-17 | 0L02033-18 | 0L02033-19 | 0L02033-20 | |
| Client ID No: | SVM-14R-5 | SVM-14R-16 | SVM-14R-16 | SVM-14R-22 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--------------------------------|--------------|---------|---------|------------------|--------|
| cis-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| cis-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorotetrafluoroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Diisopropyl ether (DIPE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dioxane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethanol | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl Acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Ethyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Heptane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Hexachlorobutadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Hexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Hexanone (MBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropanol (IPA) | <0.20 | <0.20 | <0.20 | <0.20 | 0.20 |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Methylene Chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Naphthalene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Propylene | <0.020 | <0.020 | <0.020 | 0.067 [3] | 0.020 |
| Styrene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2,2-Tetrachloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Tetrachloroethylene (PCE) | 0.069 | <0.010 | <0.010 | 0.024 | 0.010 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

| | | | |
|----------------------|------------------------------------|-----------------------|----------|
| Client: | CH2M Hill, Inc. | AA Project No: | MB187336 |
| Project No: | 693142 | Date Received: | 12/02/20 |
| Project Name: | KMEP Norwalk Biosparge Startup | Date Reported: | 01/12/21 |
| Method: | VOCs by GCMS EPA TO-15 (Mid Level) | Units: | ug/L |

| | | | | |
|-------------------------|------------|------------|------------|------------|
| Date Sampled: | 12/02/2020 | 12/02/2020 | 12/02/2020 | 12/02/2020 |
| Date Prepared: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 |
| Date Analyzed: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 |
| AA ID No: | 0L02033-17 | 0L02033-18 | 0L02033-19 | 0L02033-20 |
| Client ID No: | SVM-14R-5 | SVM-14R-16 | SVM-14R-16 | SVM-14R-22 |
| Matrix: | Vapor | Vapor | Vapor | Vapor |
| Dilution Factor: | 1 | 1 | 1 | 1 |
| | | | DUP | |
| | | | | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--|--------------|--------|--------|--------------|-------|
| Tetrahydrofuran (THF) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Toluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,1-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichloroethylene (TCE) | 0.060 | <0.020 | <0.020 | 0.054 | 0.020 |
| Trichlorofluoromethane (R11) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3,5-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2,2,4-Trimethylpentane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl bromide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| o-Xylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| m,p-Xylenes | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,3-Trichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| sec-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Propylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Isopropyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

| | | | | | |
|----------------------|------|------|------|------|--------------------|
| Surrogates | | | | | %REC Limits |
| 4-Bromofluorobenzene | 102% | 102% | 103% | 104% | 70-130 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| Date Analyzed: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| AA ID No: | 0L02033-21 | 0L02033-22 | 0L02033-23 | 0L02033-24 | |
| Client ID No: | SVM-13-7 | SVM-13-15 | SVM-13-22 | SVM-11-7 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15)

| | | | | | |
|-------------------------------|---------|---------|---------|---------|--------|
| Acetone | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Allyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Benzene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Benzyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromodichloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromoform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromomethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Butadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Butanone (MEK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Butyl Alcohol (TBA) | <20 | <20 | <20 | <20 | 20 |
| Carbon Disulfide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Carbon Tetrachloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Cyclohexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dibromochloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dibromoethane (EDB) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorodifluoromethane (R12) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1-Dichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloroethane (EDC) | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 |
| cis-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| Date Analyzed: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| AA ID No: | 0L02033-21 | 0L02033-22 | 0L02033-23 | 0L02033-24 | |
| Client ID No: | SVM-13-7 | SVM-13-15 | SVM-13-22 | SVM-11-7 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--------------------------------|---------|---------|---------|---------|--------|
| 1,1-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| cis-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorotetrafluoroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Diisopropyl ether (DIPE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dioxane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethanol | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl Acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Ethyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Heptane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Hexachlorobutadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Hexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Hexanone (MBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropanol (IPA) | <0.20 | <0.20 | <0.20 | <0.20 | 0.20 |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Methylene Chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Naphthalene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Propylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Styrene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2,2-Tetrachloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Tetrachloroethylene (PCE) | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 |
| Tetrahydrofuran (THF) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

| | | | |
|----------------------|------------------------------------|-----------------------|----------|
| Client: | CH2M Hill, Inc. | AA Project No: | MB187336 |
| Project No: | 693142 | Date Received: | 12/02/20 |
| Project Name: | KMEP Norwalk Biosparge Startup | Date Reported: | 01/12/21 |
| Method: | VOCs by GCMS EPA TO-15 (Mid Level) | Units: | ug/L |

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/17/20 | 12/17/20 | 12/17/20 | 12/17/20 | |
| Date Analyzed: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| AA ID No: | 0L02033-21 | 0L02033-22 | 0L02033-23 | 0L02033-24 | |
| Client ID No: | SVM-13-7 | SVM-13-15 | SVM-13-22 | SVM-11-7 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--|--------|--------|--------|--------|-------|
| Toluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,1-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichloroethylene (TCE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichlorofluoromethane (R11) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3,5-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2,2,4-Trimethylpentane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl bromide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| o-Xylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| m,p-Xylenes | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,3-Trichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| sec-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Propylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Isopropyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

| | | | | | |
|----------------------|-----|------|------|------|--------------------|
| Surrogates | | | | | %REC Limits |
| 4-Bromofluorobenzene | 98% | 103% | 104% | 104% | 70-130 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| Date Analyzed: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| AA ID No: | 0L02033-25 | 0L02033-26 | 0L02033-27 | 0L02033-28 | |
| Client ID No: | SVM-11-15 | SVM-11-22 | SVM-12-7 | SVM-12-15 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15)

| | | | | | |
|-------------------------------|---------|--------------|---------|---------|--------|
| Acetone | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Allyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Benzene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Benzyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromodichloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromoform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromomethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Butadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Butanone (MEK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Butyl Alcohol (TBA) | <20 | <20 | <20 | <20 | 20 |
| Carbon Disulfide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Carbon Tetrachloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroform | <0.020 | 0.020 | <0.020 | <0.020 | 0.020 |
| Chloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Cyclohexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dibromochloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dibromoethane (EDB) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorodifluoromethane (R12) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1-Dichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloroethane (EDC) | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 |
| cis-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| Date Analyzed: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| AA ID No: | 0L02033-25 | 0L02033-26 | 0L02033-27 | 0L02033-28 | |
| Client ID No: | SVM-11-15 | SVM-11-22 | SVM-12-7 | SVM-12-15 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--------------------------------|--------------|--------------|--------------|---------|--------|
| 1,1-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| cis-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorotetrafluoroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Diisopropyl ether (DIPE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dioxane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethanol | <0.020 | <0.020 | 0.029 | <0.020 | 0.020 |
| Ethyl Acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Ethyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Heptane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Hexachlorobutadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Hexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Hexanone (MBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropanol (IPA) | <0.20 | <0.20 | <0.20 | <0.20 | 0.20 |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Methylene Chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Naphthalene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Propylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Styrene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2,2-Tetrachloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Tetrachloroethylene (PCE) | 0.014 | 0.025 | <0.010 | <0.010 | 0.010 |
| Tetrahydrofuran (THF) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| Date Analyzed: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| AA ID No: | 0L02033-25 | 0L02033-26 | 0L02033-27 | 0L02033-28 | |
| Client ID No: | SVM-11-15 | SVM-11-22 | SVM-12-7 | SVM-12-15 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--|--------|--------|--------|--------|-------|
| Toluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,1-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichloroethylene (TCE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichlorofluoromethane (R11) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3,5-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2,2,4-Trimethylpentane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl bromide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| o-Xylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| m,p-Xylenes | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,3-Trichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| sec-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Propylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Isopropyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

| | | | | | |
|----------------------|------|------|------|------|--------------------|
| Surrogates | | | | | %REC Limits |
| 4-Bromofluorobenzene | 104% | 106% | 109% | 113% | 70-130 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| Date Analyzed: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| AA ID No: | 0L02033-29 | 0L02033-30 | 0L02033-31 | 0L02033-32 | |
| Client ID No: | SVM-12-22 | SVM-1-5 | SVM-1-15 | SVM-2-5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15)

| | | | | | |
|-------------------------------|---------|---------|---------|---------|--------|
| Acetone | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Allyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Benzene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Benzyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromodichloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromoform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromomethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Butadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Butanone (MEK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Butyl Alcohol (TBA) | <20 | <20 | <20 | <20 | 20 |
| Carbon Disulfide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Carbon Tetrachloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Cyclohexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dibromochloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dibromoethane (EDB) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorodifluoromethane (R12) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1-Dichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloroethane (EDC) | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 |
| cis-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| Date Analyzed: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| AA ID No: | 0L02033-29 | 0L02033-30 | 0L02033-31 | 0L02033-32 | |
| Client ID No: | SVM-12-22 | SVM-1-5 | SVM-1-15 | SVM-2-5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--------------------------------|--------------|--------------|--------------|---------|--------|
| 1,1-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| cis-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorotetrafluoroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Diisopropyl ether (DIPE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dioxane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethanol | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl Acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Ethyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Heptane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Hexachlorobutadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Hexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Hexanone (MBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropanol (IPA) | <0.20 | <0.20 | <0.20 | <0.20 | 0.20 |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Methylene Chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Naphthalene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Propylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Styrene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2,2-Tetrachloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Tetrachloroethylene (PCE) | 0.012 | 0.022 | 0.067 | <0.010 | 0.010 |
| Tetrahydrofuran (THF) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

| | | | |
|----------------------|------------------------------------|-----------------------|----------|
| Client: | CH2M Hill, Inc. | AA Project No: | MB187336 |
| Project No: | 693142 | Date Received: | 12/02/20 |
| Project Name: | KMEP Norwalk Biosparge Startup | Date Reported: | 01/12/21 |
| Method: | VOCs by GCMS EPA TO-15 (Mid Level) | Units: | ug/L |

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| Date Analyzed: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| AA ID No: | 0L02033-29 | 0L02033-30 | 0L02033-31 | 0L02033-32 | |
| Client ID No: | SVM-12-22 | SVM-1-5 | SVM-1-15 | SVM-2-5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--|--------|--------|--------------|--------|-------|
| Toluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,1-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichloroethylene (TCE) | <0.020 | <0.020 | 0.031 | <0.020 | 0.020 |
| Trichlorofluoromethane (R11) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3,5-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2,2,4-Trimethylpentane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl bromide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| o-Xylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| m,p-Xylenes | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,3-Trichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| sec-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Propylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Isopropyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

| | | | | | |
|--------------------------|------|------|------|------|---------------------------|
| <u>Surrogates</u> | | | | | <u>%REC Limits</u> |
| 4-Bromofluorobenzene | 101% | 111% | 102% | 103% | 70-130 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| Date Analyzed: | 12/18/20 | 12/19/20 | 12/19/20 | 12/19/20 | |
| AA ID No: | 0L02033-33 | 0L02033-34 | 0L02033-35 | 0L02033-36 | |
| Client ID No: | SVM-15-7 | SVM-15-15 | SVM-15-22 | SVM-6-7 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15)

| | | | | | |
|-------------------------------|---------|---------|---------|---------|--------|
| Acetone | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Allyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Benzene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Benzyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromodichloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromoform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromomethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Butadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Butanone (MEK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Butyl Alcohol (TBA) | <20 | <20 | <20 | <20 | 20 |
| Carbon Disulfide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Carbon Tetrachloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Cyclohexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dibromochloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dibromoethane (EDB) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorodifluoromethane (R12) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1-Dichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloroethane (EDC) | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 |
| cis-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| Date Analyzed: | 12/18/20 | 12/19/20 | 12/19/20 | 12/19/20 | |
| AA ID No: | 0L02033-33 | 0L02033-34 | 0L02033-35 | 0L02033-36 | |
| Client ID No: | SVM-15-7 | SVM-15-15 | SVM-15-22 | SVM-6-7 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--------------------------------|---------------|------------------|--------------|---------|--------|
| 1,1-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| cis-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorotetrafluoroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Diisopropyl ether (DIPE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dioxane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethanol | <0.020 | 0.088 [3] | 0.027 | <0.020 | 0.020 |
| Ethyl Acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Ethyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Heptane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Hexachlorobutadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Hexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Hexanone (MBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropanol (IPA) | <0.20 | <0.20 | <0.20 | <0.20 | 0.20 |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Methylene Chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Naphthalene | 0.0032 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Propylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Styrene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2,2-Tetrachloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Tetrachloroethylene (PCE) | <0.010 | 0.033 | 0.082 | <0.010 | 0.010 |
| Tetrahydrofuran (THF) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/18/20 | 12/18/20 | 12/18/20 | 12/18/20 | |
| Date Analyzed: | 12/18/20 | 12/19/20 | 12/19/20 | 12/19/20 | |
| AA ID No: | 0L02033-33 | 0L02033-34 | 0L02033-35 | 0L02033-36 | |
| Client ID No: | SVM-15-7 | SVM-15-15 | SVM-15-22 | SVM-6-7 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--|--------|--------------|--------|--------|-------|
| Toluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,1-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichloroethylene (TCE) | <0.020 | 0.023 | <0.020 | <0.020 | 0.020 |
| Trichlorofluoromethane (R11) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3,5-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2,2,4-Trimethylpentane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl bromide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| o-Xylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| m,p-Xylenes | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,3-Trichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| sec-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Propylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Isopropyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

| | | | | | |
|----------------------|------|------|------|------|--------------------|
| Surrogates | | | | | %REC Limits |
| 4-Bromofluorobenzene | 112% | 104% | 116% | 100% | 70-130 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|-------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/18/20 | 12/18/20 | 12/28/20 | 12/28/20 | |
| Date Analyzed: | 12/19/20 | 12/19/20 | 12/28/20 | 12/28/20 | |
| AA ID No: | 0L02033-37 | 0L02033-38 | 0L02033-39 | 0L02033-40 | |
| Client ID No: | SVM-6-13 | SVM-7-7 | SVM-7-7 DUP | SVM-7-13 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15)

| | | | | | |
|-------------------------------|---------|---------|---------|---------|--------|
| Acetone | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Allyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Benzene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Benzyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromodichloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromoform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromomethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Butadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Butanone (MEK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Butyl Alcohol (TBA) | <20 | <20 | <20 | <20 | 20 |
| Carbon Disulfide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Carbon Tetrachloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Cyclohexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dibromochloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dibromoethane (EDB) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorodifluoromethane (R12) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1-Dichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloroethane (EDC) | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 |
| cis-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|-------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/18/20 | 12/18/20 | 12/28/20 | 12/28/20 | |
| Date Analyzed: | 12/19/20 | 12/19/20 | 12/28/20 | 12/28/20 | |
| AA ID No: | 0L02033-37 | 0L02033-38 | 0L02033-39 | 0L02033-40 | |
| Client ID No: | SVM-6-13 | SVM-7-7 | SVM-7-7 DUP | SVM-7-13 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--------------------------------|---------|---------|---------|---------|--------|
| 1,1-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| cis-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorotetrafluoroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Diisopropyl ether (DIPE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dioxane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethanol | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl Acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Ethyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Heptane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Hexachlorobutadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Hexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Hexanone (MBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropanol (IPA) | <0.20 | <0.20 | <0.20 | <0.20 | 0.20 |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Methylene Chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Naphthalene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Propylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Styrene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2,2-Tetrachloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Tetrachloroethylene (PCE) | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 |
| Tetrahydrofuran (THF) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|-------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/18/20 | 12/18/20 | 12/28/20 | 12/28/20 | |
| Date Analyzed: | 12/19/20 | 12/19/20 | 12/28/20 | 12/28/20 | |
| AA ID No: | OL02033-37 | OL02033-38 | OL02033-39 | OL02033-40 | |
| Client ID No: | SVM-6-13 | SVM-7-7 | SVM-7-7 DUP | SVM-7-13 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--|--------|--------|--------|--------|-------|
| Toluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,1-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichloroethylene (TCE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichlorofluoromethane (R11) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3,5-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2,2,4-Trimethylpentane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl bromide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| o-Xylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| m,p-Xylenes | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,3-Trichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| sec-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Propylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Isopropyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

| | | | | | |
|----------------------|------|------|------|------|--------------------|
| Surrogates | | | | | %REC Limits |
| 4-Bromofluorobenzene | 110% | 107% | 120% | 119% | 70-130 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|-------------|------------|------------|--------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 12/28/20 | 12/28/20 | 12/28/20 | 12/28/20 | |
| Date Analyzed: | 12/28/20 | 12/28/20 | 12/28/20 | 12/28/20 | |
| AA ID No: | 0L02033-41 | 0L02033-42 | 0L02033-43 | 0L02033-44 | |
| Client ID No: | Ambient Air | SVM-10-5 | SVM-25-5 | SVM-25-5 DUP | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15)

| | | | | | |
|-------------------------------|---------|---------|--------------|---------|--------|
| Acetone | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Allyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Benzene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Benzyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromodichloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromoform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromomethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Butadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Butanone (MEK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Butyl Alcohol (TBA) | <20 | <20 | <20 | <20 | 20 |
| Carbon Disulfide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Carbon Tetrachloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroform | <0.020 | <0.020 | 0.027 | <0.020 | 0.020 |
| Chloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Cyclohexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dibromochloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dibromoethane (EDB) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorodifluoromethane (R12) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1-Dichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloroethane (EDC) | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 |
| cis-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|-------------|------------|------------|--------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 12/28/20 | 12/28/20 | 12/28/20 | 12/28/20 | |
| Date Analyzed: | 12/28/20 | 12/28/20 | 12/28/20 | 12/28/20 | |
| AA ID No: | 0L02033-41 | 0L02033-42 | 0L02033-43 | 0L02033-44 | |
| Client ID No: | Ambient Air | SVM-10-5 | SVM-25-5 | SVM-25-5 DUP | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--------------------------------|---------|---------|---------|---------|--------|
| 1,1-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| cis-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorotetrafluoroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Diisopropyl ether (DIPE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dioxane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethanol | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl Acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Ethyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Heptane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Hexachlorobutadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Hexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Hexanone (MBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropanol (IPA) | <0.20 | <0.20 | <0.20 | <0.20 | 0.20 |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Methylene Chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Naphthalene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Propylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Styrene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2,2-Tetrachloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Tetrachloroethylene (PCE) | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 |
| Tetrahydrofuran (THF) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

| | | | |
|----------------------|------------------------------------|-----------------------|----------|
| Client: | CH2M Hill, Inc. | AA Project No: | MB187336 |
| Project No: | 693142 | Date Received: | 12/02/20 |
| Project Name: | KMEP Norwalk Biosparge Startup | Date Reported: | 01/12/21 |
| Method: | VOCs by GCMS EPA TO-15 (Mid Level) | Units: | ug/L |

| | | | | | |
|-------------------------|-------------|------------|------------|--------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 12/28/20 | 12/28/20 | 12/28/20 | 12/28/20 | |
| Date Analyzed: | 12/28/20 | 12/28/20 | 12/28/20 | 12/28/20 | |
| AA ID No: | 0L02033-41 | 0L02033-42 | 0L02033-43 | 0L02033-44 | |
| Client ID No: | Ambient Air | SVM-10-5 | SVM-25-5 | SVM-25-5 DUP | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--|--------|--------|--------|--------|-------|
| Toluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,1-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichloroethylene (TCE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichlorofluoromethane (R11) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3,5-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2,2,4-Trimethylpentane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl bromide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| o-Xylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| m,p-Xylenes | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,3-Trichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| sec-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Propylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Isopropyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

| | | | | | |
|--------------------------|------|------|------|------|---------------------------|
| <u>Surrogates</u> | | | | | <u>%REC Limits</u> |
| 4-Bromofluorobenzene | 111% | 106% | 117% | 104% | 70-130 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/04/20 | 12/04/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 12/28/20 | 12/28/20 | 12/28/20 | 12/28/20 | |
| Date Analyzed: | 12/28/20 | 12/28/20 | 12/29/20 | 12/29/20 | |
| AA ID No: | 0L02033-45 | 0L02033-46 | 0L02033-47 | 0L02033-48 | |
| Client ID No: | SVM-25-10 | SVM-24-10 | SVM-24-5 | SVM-3-5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15)

| | | | | | |
|-------------------------------|--------------|---------|---------|---------|--------|
| Acetone | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Allyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Benzene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Benzyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromodichloromethane | 0.063 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromoform | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Bromomethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Butadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Butanone (MEK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| tert-Butyl Alcohol (TBA) | <20 | <20 | <20 | <20 | 20 |
| Carbon Disulfide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Carbon Tetrachloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloroform | 0.091 | <0.020 | <0.020 | <0.020 | 0.020 |
| Chloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Cyclohexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dibromochloromethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dibromoethane (EDB) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorodifluoromethane (R12) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1-Dichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloroethane (EDC) | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 |
| cis-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/04/20 | 12/04/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 12/28/20 | 12/28/20 | 12/28/20 | 12/28/20 | |
| Date Analyzed: | 12/28/20 | 12/28/20 | 12/29/20 | 12/29/20 | |
| AA ID No: | 0L02033-45 | 0L02033-46 | 0L02033-47 | 0L02033-48 | |
| Client ID No: | SVM-25-10 | SVM-24-10 | SVM-24-5 | SVM-3-5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--------------------------------|---------|---------|--------------|---------|--------|
| 1,1-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,2-Dichloroethylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2-Dichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| trans-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| cis-1,3-Dichloropropylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Dichlorotetrafluoroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Diisopropyl ether (DIPE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,4-Dioxane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethanol | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl Acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Ethyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Heptane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Hexachlorobutadiene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Hexane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2-Hexanone (MBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropanol (IPA) | <0.20 | <0.20 | <0.20 | <0.20 | 0.20 |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Methylene Chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Naphthalene | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 |
| Propylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Styrene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2,2-Tetrachloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Tetrachloroethylene (PCE) | <0.010 | <0.010 | 0.014 | <0.010 | 0.010 |
| Tetrahydrofuran (THF) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/04/20 | 12/04/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 12/28/20 | 12/28/20 | 12/28/20 | 12/28/20 | |
| Date Analyzed: | 12/28/20 | 12/28/20 | 12/29/20 | 12/29/20 | |
| AA ID No: | 0L02033-45 | 0L02033-46 | 0L02033-47 | 0L02033-48 | |
| Client ID No: | SVM-25-10 | SVM-24-10 | SVM-24-5 | SVM-3-5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--|--------|--------|--------|--------|-------|
| Toluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trichlorobenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,1-Trichloroethane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichloroethylene (TCE) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Trichlorofluoromethane (R11) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,3,5-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,4-Trimethylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 2,2,4-Trimethylpentane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl acetate | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl bromide | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Vinyl chloride | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| o-Xylene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| m,p-Xylenes | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 1,2,3-Trichloropropane | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| sec-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| Isopropylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Propylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| 4-Isopropyltoluene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |
| n-Butylbenzene | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 |

Surrogates

| | | | | | |
|----------------------|------|------|------|------|------------------------------|
| 4-Bromofluorobenzene | 103% | 111% | 115% | 116% | %REC Limits 70-130 |
|----------------------|------|------|------|------|------------------------------|

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/04/20 | 12/04/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 01/04/21 | 01/04/21 | 01/04/21 | 01/04/21 | |
| Date Analyzed: | 01/04/21 | 01/04/21 | 01/04/21 | 01/04/21 | |
| AA ID No: | 0L02033-49 | 0L02033-50 | 0L02033-51 | 0L02033-52 | |
| Client ID No: | SVM-3-15 | SVM-5-5 | SVM-5-15 | SVM-8-5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15)

| | | | | | |
|-------------------------------|-------------|-------------|-------------|-------------|--------|
| Acetone | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Allyl chloride | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| tert-Amyl-Methyl Ether (TAME) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Benzene | <0.0030 [4] | <0.0030 [4] | <0.0030 [4] | <0.0030 [4] | 0.0030 |
| Benzyl chloride | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Bromodichloromethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Bromoform | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Bromomethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 1,3-Butadiene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 2-Butanone (MEK) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| tert-Butyl Alcohol (TBA) | <20 [4] | <20 [4] | <20 [4] | <20 [4] | 20 |
| Carbon Disulfide | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Carbon Tetrachloride | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Chlorobenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Chloroethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Chloroform | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Chloromethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Cyclohexane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Dibromochloromethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 1,2-Dibromoethane (EDB) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 1,2-Dichlorobenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 1,3-Dichlorobenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 1,4-Dichlorobenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Dichlorodifluoromethane (R12) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 1,1-Dichloroethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 1,2-Dichloroethane (EDC) | <0.0040 [4] | <0.0040 [4] | <0.0040 [4] | <0.0040 [4] | 0.0040 |
| cis-1,2-Dichloroethylene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/04/20 | 12/04/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 01/04/21 | 01/04/21 | 01/04/21 | 01/04/21 | |
| Date Analyzed: | 01/04/21 | 01/04/21 | 01/04/21 | 01/04/21 | |
| AA ID No: | 0L02033-49 | 0L02033-50 | 0L02033-51 | 0L02033-52 | |
| Client ID No: | SVM-3-15 | SVM-5-5 | SVM-5-15 | SVM-8-5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--------------------------------|-------------|-------------|-------------|-------------|--------|
| 1,1-Dichloroethylene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| trans-1,2-Dichloroethylene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 1,2-Dichloropropane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| trans-1,3-Dichloropropylene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| cis-1,3-Dichloropropylene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Dichlorotetrafluoroethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Diisopropyl ether (DIPE) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 1,4-Dioxane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Ethanol | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Ethyl Acetate | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Ethylbenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 4-Ethyltoluene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Heptane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Hexachlorobutadiene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| n-Hexane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 2-Hexanone (MBK) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Isopropanol (IPA) | <0.20 [4] | <0.20 [4] | <0.20 [4] | <0.20 [4] | 0.20 |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Methylene Chloride | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 4-Methyl-2-pentanone (MIBK) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Naphthalene | <0.0030 [4] | <0.0030 [4] | <0.0030 [4] | <0.0030 [4] | 0.0030 |
| Propylene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Styrene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 1,1,2,2-Tetrachloroethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Tetrachloroethylene (PCE) | <0.010 [4] | <0.010 [4] | <0.010 [4] | <0.010 [4] | 0.010 |
| Tetrahydrofuran (THF) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/04/20 | 12/04/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 01/04/21 | 01/04/21 | 01/04/21 | 01/04/21 | |
| Date Analyzed: | 01/04/21 | 01/04/21 | 01/04/21 | 01/04/21 | |
| AA ID No: | 0L02033-49 | 0L02033-50 | 0L02033-51 | 0L02033-52 | |
| Client ID No: | SVM-3-15 | SVM-5-5 | SVM-5-15 | SVM-8-5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--|------------|------------|------------|------------|-------|
| Toluene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 1,2,4-Trichlorobenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 1,1,2-Trichloroethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 1,1,1-Trichloroethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Trichloroethylene (TCE) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Trichlorofluoromethane (R11) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 1,3,5-Trimethylbenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 1,2,4-Trimethylbenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 2,2,4-Trimethylpentane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Vinyl acetate | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Vinyl bromide | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Vinyl chloride | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| o-Xylene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| m,p-Xylenes | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 1,2,3-Trichloropropane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| sec-Butylbenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| Isopropylbenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| n-Propylbenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| 4-Isopropyltoluene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |
| n-Butylbenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <0.020 [4] | 0.020 |

Surrogates

| | | | | | |
|----------------------|----------|----------|----------|----------|------------------------------|
| 4-Bromofluorobenzene | 111% [4] | 112% [4] | 115% [4] | 113% [4] | %REC Limits 70-130 |
|----------------------|----------|----------|----------|----------|------------------------------|

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/04/20 | 12/04/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 01/04/21 | 01/04/21 | 01/04/21 | 01/06/20 | |
| Date Analyzed: | 01/04/21 | 01/04/21 | 01/05/21 | 01/06/21 | |
| AA ID No: | 0L02033-53 | 0L02033-54 | 0L02033-55 | 0L02033-56 | |
| Client ID No: | SVM-8-15 | SVM-16-7 | SVM-16-16 | SVM-16-22 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 12000 | MRL |

TO-15 (Mid Level) (TO-15)

| | | | | | |
|-------------------------------|-------------|-------------|-------------|-------------|--------|
| Acetone | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Allyl chloride | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| tert-Amyl-Methyl Ether (TAME) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Benzene | <0.0030 [4] | <0.0030 [4] | <0.0030 [4] | <36 [4] | 0.0030 |
| Benzyl chloride | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Bromodichloromethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Bromoform | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Bromomethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 1,3-Butadiene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 2-Butanone (MEK) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| tert-Butyl Alcohol (TBA) | <20 [4] | <20 [4] | <20 [4] | <240000 [4] | 20 |
| Carbon Disulfide | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Carbon Tetrachloride | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Chlorobenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Chloroethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Chloroform | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Chloromethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Cyclohexane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Dibromochloromethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 1,2-Dibromoethane (EDB) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 1,2-Dichlorobenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 1,3-Dichlorobenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 1,4-Dichlorobenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Dichlorodifluoromethane (R12) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 1,1-Dichloroethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 1,2-Dichloroethane (EDC) | <0.0040 [4] | <0.0040 [4] | <0.0040 [4] | <48 [4] | 0.0040 |
| cis-1,2-Dichloroethylene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/04/20 | 12/04/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 01/04/21 | 01/04/21 | 01/04/21 | 01/06/20 | |
| Date Analyzed: | 01/04/21 | 01/04/21 | 01/05/21 | 01/06/21 | |
| AA ID No: | 0L02033-53 | 0L02033-54 | 0L02033-55 | 0L02033-56 | |
| Client ID No: | SVM-8-15 | SVM-16-7 | SVM-16-16 | SVM-16-22 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 12000 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--------------------------------|------------------|-------------|-------------|-----------|--------|
| 1,1-Dichloroethylene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| trans-1,2-Dichloroethylene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 1,2-Dichloropropane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| trans-1,3-Dichloropropylene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| cis-1,3-Dichloropropylene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Dichlorotetrafluoroethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Diisopropyl ether (DIPE) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 1,4-Dioxane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Ethanol | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Ethyl Acetate | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Ethylbenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 4-Ethyltoluene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Heptane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Hexachlorobutadiene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| n-Hexane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 2-Hexanone (MBK) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Isopropanol (IPA) | <0.20 [4] | <0.20 [4] | <0.20 [4] | <2400 [4] | 0.20 |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Methylene Chloride | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 4-Methyl-2-pentanone (MIBK) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Naphthalene | <0.0030 [4] | <0.0030 [4] | <0.0030 [4] | <36 [4] | 0.0030 |
| Propylene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Styrene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 1,1,2,2-Tetrachloroethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Tetrachloroethylene (PCE) | 0.011 [4] | <0.010 [4] | <0.010 [4] | <120 [4] | 0.010 |
| Tetrahydrofuran (THF) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15 (Mid Level)

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: ug/L

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/04/20 | 12/04/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 01/04/21 | 01/04/21 | 01/04/21 | 01/06/20 | |
| Date Analyzed: | 01/04/21 | 01/04/21 | 01/05/21 | 01/06/21 | |
| AA ID No: | 0L02033-53 | 0L02033-54 | 0L02033-55 | 0L02033-56 | |
| Client ID No: | SVM-8-15 | SVM-16-7 | SVM-16-16 | SVM-16-22 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 12000 | MRL |

TO-15 (Mid Level) (TO-15) (continued)

| | | | | | |
|--|------------|------------------|------------------|----------------|-------|
| Toluene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 1,2,4-Trichlorobenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 1,1,2-Trichloroethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 1,1,1-Trichloroethane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Trichloroethylene (TCE) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Trichlorofluoromethane (R11) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 1,3,5-Trimethylbenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 1,2,4-Trimethylbenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 2,2,4-Trimethylpentane | <0.020 [4] | 0.029 [4] | 0.032 [4] | 900 [4] | 0.020 |
| Vinyl acetate | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Vinyl bromide | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Vinyl chloride | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| o-Xylene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| m,p-Xylenes | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 1,2,3-Trichloropropane | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| sec-Butylbenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| Isopropylbenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| n-Propylbenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| 4-Isopropyltoluene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |
| n-Butylbenzene | <0.020 [4] | <0.020 [4] | <0.020 [4] | <240 [4] | 0.020 |

| | | | | | |
|----------------------|----------|----------|----------|----------|--------------------|
| Surrogates | | | | | %REC Limits |
| 4-Bromofluorobenzene | 112% [4] | 128% [4] | 120% [4] | 118% [4] | 70-130 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: Fixed Gases by TCD

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: % by Volume

| | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
|-------------------------|------------|-------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/14/20 | 12/11/20 | 12/11/20 | 12/11/20 | |
| Date Analyzed: | 12/14/20 | 12/11/20 | 12/11/20 | 12/11/20 | |
| AA ID No: | OL02033-01 | OL02033-02 | OL02033-03 | OL02033-04 | |
| Client ID No: | SVM-23-5 | SVM-23-14.5 | SVM-22-5 | SVM-22-14.5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

Fixed Gases (ASTM D1946M)

| | | | | | |
|----------------|-----------|-----------|-----------|-----------|------|
| Methane | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 |
| Oxygen | 20 | 21 | 21 | 21 | 0.10 |
| Carbon Dioxide | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: Fixed Gases by TCD

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: % by Volume

| | | | | | |
|-------------------------|------------|-------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/11/20 | 12/11/20 | 12/11/20 | 12/11/20 | |
| Date Analyzed: | 12/11/20 | 12/11/20 | 12/11/20 | 12/11/20 | |
| AA ID No: | 0L02033-05 | 0L02033-06 | 0L02033-07 | 0L02033-08 | |
| Client ID No: | SVM-21-5 | SVM-21-14.5 | SVM-17-5 | SVM-17-14.5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

Fixed Gases (ASTM D1946M)

| | | | | | |
|----------------|-------------|-------------|-----------|-----------|------|
| Methane | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 |
| Oxygen | 22 | 21 | 22 | 21 | 0.10 |
| Carbon Dioxide | 0.58 | 0.53 | <0.10 | <0.10 | 0.10 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: Fixed Gases by TCD

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: % by Volume

| | | | | | |
|-------------------------|------------|-------------|------------|-------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/11/20 | 12/14/20 | 12/17/20 | 12/14/20 | |
| Date Analyzed: | 12/11/20 | 12/14/20 | 12/17/20 | 12/14/20 | |
| AA ID No: | 0L02033-09 | 0L02033-10 | 0L02033-11 | 0L02033-12 | |
| Client ID No: | SVM-20-5 | SVM-20-14.5 | SVM-18-5 | SVM-18-14.5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

Fixed Gases (ASTM D1946M)

| | | | | | |
|----------------|------------|------------|------------|-----------|------|
| Methane | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 |
| Oxygen | 19 | 15 | 18 | 21 | 0.10 |
| Carbon Dioxide | 1.1 | 2.8 | 1.9 | <0.10 | 0.10 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: Fixed Gases by TCD

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: % by Volume

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/02/20 | 12/02/20 | 12/02/20 | 12/02/20 | |
| Date Prepared: | 12/09/20 | 12/09/20 | 12/09/20 | 12/08/20 | |
| Date Analyzed: | 12/09/20 | 12/09/20 | 12/09/20 | 12/08/20 | |
| AA ID No: | 0L02033-13 | 0L02033-14 | 0L02033-15 | 0L02033-17 | |
| Client ID No: | SVM-19-5 | SVM-109-5 | SVM-109-10 | SVM-14R-5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

Fixed Gases (ASTM D1946M)

| | | | | | |
|----------------|-----------|-----------|-----------|------------|------|
| Methane | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 |
| Oxygen | 21 | 21 | 21 | 15 | 0.10 |
| Carbon Dioxide | <0.10 | <0.10 | <0.10 | 3.3 | 0.10 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: Fixed Gases by TCD

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: % by Volume

| | | | | | |
|-------------------------|------------|-------------------|------------|------------|-----|
| Date Sampled: | 12/02/2020 | 12/02/2020 | 12/02/2020 | 12/03/2020 | |
| Date Prepared: | 12/08/20 | 12/08/20 | 12/08/20 | 12/08/20 | |
| Date Analyzed: | 12/08/20 | 12/08/20 | 12/08/20 | 12/08/20 | |
| AA ID No: | 0L02033-18 | 0L02033-19 | 0L02033-20 | 0L02033-21 | |
| Client ID No: | SVM-14R-16 | SVM-14R-16 DUP | SVM-14R-22 | SVM-13-7 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

Fixed Gases (ASTM D1946M)

| | | | | | |
|----------------|------------|------------|------------|-----------|------|
| Methane | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 |
| Oxygen | 13 | 10 | 3.8 | 20 | 0.10 |
| Carbon Dioxide | 2.9 | 4.3 | 6.0 | <0.10 | 0.10 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

| | | | |
|----------------------|--------------------------------|-----------------------|-------------|
| Client: | CH2M Hill, Inc. | AA Project No: | MB187336 |
| Project No: | 693142 | Date Received: | 12/02/20 |
| Project Name: | KMEP Norwalk Biosparge Startup | Date Reported: | 01/12/21 |
| Method: | Fixed Gases by TCD | Units: | % by Volume |

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/08/20 | 12/08/20 | 12/08/20 | 12/08/20 | |
| Date Analyzed: | 12/08/20 | 12/08/20 | 12/08/20 | 12/08/20 | |
| AA ID No: | 0L02033-22 | 0L02033-23 | 0L02033-24 | 0L02033-25 | |
| Client ID No: | SVM-13-15 | SVM-13-22 | SVM-11-7 | SVM-11-15 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

Fixed Gases (ASTM D1946M)

| | | | | | |
|----------------|-----------|------------|-------------|-------------|------|
| Methane | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 |
| Oxygen | 20 | 16 | 20 | 18 | 0.10 |
| Carbon Dioxide | <0.10 | 1.4 | 0.87 | 0.94 | 0.10 |

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LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: Fixed Gases by TCD

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: % by Volume

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/08/20 | 12/08/20 | 12/09/20 | 12/09/20 | |
| Date Analyzed: | 12/08/20 | 12/08/20 | 12/09/20 | 12/09/20 | |
| AA ID No: | 0L02033-26 | 0L02033-27 | 0L02033-28 | 0L02033-29 | |
| Client ID No: | SVM-11-22 | SVM-12-7 | SVM-12-15 | SVM-12-22 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

Fixed Gases (ASTM D1946M)

| | | | | | |
|----------------|------------|-------------|------------|------------|------|
| Methane | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 |
| Oxygen | 12 | 20 | 18 | 11 | 0.10 |
| Carbon Dioxide | 4.5 | 0.54 | 2.2 | 6.2 | 0.10 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: Fixed Gases by TCD

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: % by Volume

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/09/20 | 12/09/20 | 12/09/20 | 12/09/20 | |
| Date Analyzed: | 12/09/20 | 12/09/20 | 12/09/20 | 12/09/20 | |
| AA ID No: | 0L02033-30 | 0L02033-31 | 0L02033-32 | 0L02033-33 | |
| Client ID No: | SVM-1-5 | SVM-1-15 | SVM-2-5 | SVM-15-7 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

Fixed Gases (ASTM D1946M)

| | | | | | |
|----------------|-----------|------------|------------|-------------|------|
| Methane | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 |
| Oxygen | 20 | 19 | 19 | 20 | 0.10 |
| Carbon Dioxide | <0.10 | 1.1 | 1.1 | 0.34 | 0.10 |

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LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: Fixed Gases by TCD

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: % by Volume

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/09/20 | 12/09/20 | 12/09/20 | 12/09/20 | |
| Date Analyzed: | 12/09/20 | 12/09/20 | 12/09/20 | 12/09/20 | |
| AA ID No: | 0L02033-34 | 0L02033-35 | 0L02033-36 | 0L02033-37 | |
| Client ID No: | SVM-15-15 | SVM-15-22 | SVM-6-7 | SVM-6-13 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

Fixed Gases (ASTM D1946M)

| | | | | | |
|----------------|-------------|-------------|-----------|-----------|------|
| Methane | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 |
| Oxygen | 21 | 20 | 21 | 20 | 0.10 |
| Carbon Dioxide | 0.42 | 0.64 | <0.10 | <0.10 | 0.10 |

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LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: Fixed Gases by TCD

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: % by Volume

| | | | | | |
|-------------------------|------------|-------------|------------|------------|-----|
| Date Sampled: | 12/03/20 | 12/03/20 | 12/03/20 | 12/03/20 | |
| Date Prepared: | 12/14/20 | 12/14/20 | 12/14/20 | 12/14/20 | |
| Date Analyzed: | 12/14/20 | 12/14/20 | 12/14/20 | 12/14/20 | |
| AA ID No: | OL02033-38 | OL02033-39 | OL02033-40 | OL02033-42 | |
| Client ID No: | SVM-7-7 | SVM-7-7 DUP | SVM-7-13 | SVM-10-5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

Fixed Gases (ASTM D1946M)

| | | | | | |
|----------------|-------------|-------------|------------|------------|------|
| Methane | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 |
| Oxygen | 19 | 19 | 17 | 9.0 | 0.10 |
| Carbon Dioxide | 0.90 | 0.94 | 1.1 | 5.6 | 0.10 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: Fixed Gases by TCD

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: % by Volume

| | | | | | |
|-------------------------|------------|--------------|------------|------------|-----|
| Date Sampled: | 12/04/20 | 12/04/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 12/14/20 | 12/14/20 | 12/14/20 | 12/14/20 | |
| Date Analyzed: | 12/14/20 | 12/14/20 | 12/14/20 | 12/14/20 | |
| AA ID No: | 0L02033-43 | 0L02033-44 | 0L02033-45 | 0L02033-46 | |
| Client ID No: | SVM-25-5 | SVM-25-5 DUP | SVM-25-10 | SVM-24-10 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

Fixed Gases (ASTM D1946M)

| | | | | | |
|----------------|------------|------------|------------|------------|------|
| Methane | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 |
| Oxygen | 17 | 17 | 15 | 19 | 0.10 |
| Carbon Dioxide | 3.1 | 3.2 | 3.7 | 2.7 | 0.10 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: Fixed Gases by TCD

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: % by Volume

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/04/20 | 12/04/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 12/15/20 | 12/15/20 | 12/15/20 | 12/15/20 | |
| Date Analyzed: | 12/15/20 | 12/15/20 | 12/15/20 | 12/15/20 | |
| AA ID No: | 0L02033-47 | 0L02033-48 | 0L02033-49 | 0L02033-50 | |
| Client ID No: | SVM-24-5 | SVM-3-5 | SVM-3-15 | SVM-5-5 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

Fixed Gases (ASTM D1946M)

| | | | | | |
|----------------|-------------|-------------|------------|-----------|------|
| Methane | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 |
| Oxygen | 21 | 19 | 15 | 17 | 0.10 |
| Carbon Dioxide | 0.86 | 0.80 | 1.3 | <0.10 | 0.10 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: Fixed Gases by TCD

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: % by Volume

| | | | | | |
|-------------------------|------------|------------|------------|------------|-----|
| Date Sampled: | 12/04/20 | 12/04/20 | 12/04/20 | 12/04/20 | |
| Date Prepared: | 12/15/20 | 12/15/20 | 12/17/20 | 12/15/20 | |
| Date Analyzed: | 12/15/20 | 12/15/20 | 12/17/20 | 12/15/20 | |
| AA ID No: | 0L02033-51 | 0L02033-52 | 0L02033-53 | 0L02033-54 | |
| Client ID No: | SVM-5-15 | SVM-8-5 | SVM-8-15 | SVM-16-7 | |
| Matrix: | Vapor | Vapor | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | 1 | 1 | MRL |

Fixed Gases (ASTM D1946M)

| | | | | | |
|----------------|-----------|-----------|------------|------------|------|
| Methane | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 |
| Oxygen | 13 | 18 | 13 | 7.7 | 0.10 |
| Carbon Dioxide | <0.10 | <0.10 | 1.1 | 5.8 | 0.10 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup
Method: Fixed Gases by TCD

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21
Units: % by Volume

| | | | |
|-------------------------|------------|------------|-----|
| Date Sampled: | 12/04/20 | 12/04/20 | |
| Date Prepared: | 12/17/20 | 12/17/20 | |
| Date Analyzed: | 12/17/20 | 12/17/20 | |
| AA ID No: | 0L02033-55 | 0L02033-56 | |
| Client ID No: | SVM-16-16 | SVM-16-22 | |
| Matrix: | Vapor | Vapor | |
| Dilution Factor: | 1 | 1 | MRL |

Fixed Gases (ASTM D1946M)

| | | | |
|----------------|-------------|------------|------|
| Methane | <0.10 | 3.0 | 0.10 |
| Oxygen | 17 | 2.9 | 0.10 |
| Carbon Dioxide | 0.90 | 14 | 0.10 |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC %REC | Limits | RPD | RPD Limit | Notes |
|---|---------------|-----------------|-------------|---------------------------------------|---------------|---------------|--------|-----|-----------|-------|
| VOCs by EPA TO-3 - Quality Control | | | | | | | | | | |
| <i>Batch B1A0623 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B1A0623-BLK1) | | | | Prepared & Analyzed: 12/16/20 | | | | | | |
| Gasoline Range Organics (GRO) | <20 | 20 | ug/L | | | | | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0313</i> | | <i>ug/L</i> | <i>0.0358</i> | <i>87.6</i> | <i>70-130</i> | | | | |
| LCS (B1A0623-BS1) | | | | Prepared: 12/16/20 Analyzed: 12/17/20 | | | | | | |
| Gasoline Range Organics (GRO) | 1.04 | 20 | ug/L | 0.818 | 127 | 70-130 | | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0314</i> | | <i>ug/L</i> | <i>0.0358</i> | <i>87.8</i> | <i>70-130</i> | | | | |
| LCS Dup (B1A0623-BSD1) | | | | Prepared: 12/16/20 Analyzed: 12/17/20 | | | | | | |
| Gasoline Range Organics (GRO) | 1.07 | 20 | ug/L | 0.818 | 131 | 70-130 | 3.22 | 30 | | QL-03 |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0324</i> | | <i>ug/L</i> | <i>0.0358</i> | <i>90.4</i> | <i>70-130</i> | | | | |
| <i>Batch B1A0624 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B1A0624-BLK1) | | | | Prepared & Analyzed: 12/17/20 | | | | | | |
| Gasoline Range Organics (GRO) | <20 | 20 | ug/L | | | | | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0316</i> | | <i>ug/L</i> | <i>0.0358</i> | <i>88.4</i> | <i>70-130</i> | | | | |
| LCS (B1A0624-BS1) | | | | Prepared & Analyzed: 12/17/20 | | | | | | |
| Gasoline Range Organics (GRO) | 1.06 | 20 | ug/L | 0.818 | 130 | 70-130 | | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0318</i> | | <i>ug/L</i> | <i>0.0358</i> | <i>88.8</i> | <i>70-130</i> | | | | |
| LCS Dup (B1A0624-BSD1) | | | | Prepared: 12/17/20 Analyzed: 12/18/20 | | | | | | |
| Gasoline Range Organics (GRO) | 1.06 | 20 | ug/L | 0.818 | 130 | 70-130 | 0.0231 | 30 | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0329</i> | | <i>ug/L</i> | <i>0.0358</i> | <i>91.8</i> | <i>70-130</i> | | | | |
| <i>Batch B1A0625 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B1A0625-BLK1) | | | | Prepared & Analyzed: 12/18/20 | | | | | | |
| Gasoline Range Organics (GRO) | <20 | 20 | ug/L | | | | | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0321</i> | | <i>ug/L</i> | <i>0.0358</i> | <i>89.8</i> | <i>70-130</i> | | | | |
| LCS (B1A0625-BS1) | | | | Prepared: 12/18/20 Analyzed: 12/19/20 | | | | | | |
| Gasoline Range Organics (GRO) | 1.15 | 20 | ug/L | 0.818 | 140 | 70-130 | | | | QL-06 |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0313</i> | | <i>ug/L</i> | <i>0.0358</i> | <i>87.6</i> | <i>70-130</i> | | | | |
| LCS Dup (B1A0625-BSD1) | | | | Prepared: 12/18/20 Analyzed: 12/19/20 | | | | | | |
| Gasoline Range Organics (GRO) | 1.09 | 20 | ug/L | 0.818 | 134 | 70-130 | 4.86 | 30 | | QL-06 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|--------------|-----------------|-------|---------------------------------------|---------------|------|-------------|------|-----------|-------|
| VOCs by EPA TO-3 - Quality Control | | | | | | | | | | |
| <i>Batch B1A0625 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| LCS Dup (B1A0625-BSD1) Continued | | | | Prepared: 12/18/20 Analyzed: 12/19/20 | | | | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.0324 | | ug/L | 0.0358 | | 90.4 | 70-130 | | | |
| <i>Batch B1A0626 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B1A0626-BLK1) | | | | Prepared & Analyzed: 12/28/20 | | | | | | |
| Gasoline Range Organics (GRO) | <20 | 20 | ug/L | | | | | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.145 | | ug/L | 0.143 | | 101 | 70-130 | | | |
| LCS (B1A0626-BS1) | | | | Prepared: 12/28/20 Analyzed: 12/29/20 | | | | | | |
| Gasoline Range Organics (GRO) | 0.754 | 20 | ug/L | 0.818 | | 92.1 | 70-130 | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.144 | | ug/L | 0.143 | | 101 | 70-130 | | | |
| LCS Dup (B1A0626-BSD1) | | | | Prepared: 12/28/20 Analyzed: 12/29/20 | | | | | | |
| Gasoline Range Organics (GRO) | 0.782 | 20 | ug/L | 0.818 | | 95.6 | 70-130 | 3.65 | 30 | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.149 | | ug/L | 0.143 | | 104 | 70-130 | | | |
| <i>Batch B1A0627 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B1A0627-BLK1) | | | | Prepared & Analyzed: 01/04/21 | | | | | | |
| Gasoline Range Organics (GRO) | <20 | 20 | ug/L | | | | | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.0341 | | ug/L | 0.0358 | | 95.4 | 70-130 | | | |
| LCS (B1A0627-BS1) | | | | Prepared: 01/04/21 Analyzed: 01/05/21 | | | | | | |
| Gasoline Range Organics (GRO) | 0.573 | 20 | ug/L | 0.818 | | 70.1 | 70-130 | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.0449 | | ug/L | 0.0358 | | 125 | 70-130 | | | |
| LCS Dup (B1A0627-BSD1) | | | | Prepared: 01/04/21 Analyzed: 01/05/21 | | | | | | |
| Gasoline Range Organics (GRO) | 0.536 | 20 | ug/L | 0.818 | | 65.5 | 70-130 | 6.79 | 30 | QL-03 |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.0441 | | ug/L | 0.0358 | | 123 | 70-130 | | | |
| <i>Batch B1A0628 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B1A0628-BLK1) | | | | Prepared & Analyzed: 01/06/21 | | | | | | |
| Gasoline Range Organics (GRO) | <20 | 20 | ug/L | | | | | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.0385 | | ug/L | 0.0358 | | 108 | 70-130 | | | |
| LCS (B1A0628-BS1) | | | | Prepared: 01/06/21 Analyzed: 01/07/21 | | | | | | |
| Gasoline Range Organics (GRO) | 0.979 | 20 | ug/L | 0.818 | | 120 | 70-130 | | | |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---------------|-----------------|-------------|---------------------------------------|---------------|---------------|-------------|-----|-----------|-------|
| VOCs by EPA TO-3 - Quality Control | | | | | | | | | | |
| <i>Batch B1A0628 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| LCS (B1A0628-BS1) Continued | | | | | | | | | | |
| | | | | Prepared: 01/06/21 Analyzed: 01/07/21 | | | | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0404</i> | | <i>ug/L</i> | <i>0.0358</i> | <i>113</i> | <i>70-130</i> | | | | |
| LCS Dup (B1A0628-BSD1) | | | | | | | | | | |
| | | | | Prepared: 01/06/21 Analyzed: 01/07/21 | | | | | | |
| Gasoline Range Organics (GRO) | 0.972 | 20 | ug/L | 0.818 | 119 | 70-130 | 0.738 | 30 | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0391</i> | | <i>ug/L</i> | <i>0.0358</i> | <i>109</i> | <i>70-130</i> | | | | |

VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control

*Batch B0L1814 - *** DEFAULT PREP ****

Blank (B0L1814-BLK1)

Prepared & Analyzed: 12/17/20

| | | | |
|-------------------------------|---------|--------|------|
| Acetone | <0.020 | 0.020 | ug/L |
| Allyl chloride | <0.020 | 0.020 | ug/L |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | 0.020 | ug/L |
| Benzene | <0.0030 | 0.0030 | ug/L |
| Benzyl chloride | <0.020 | 0.020 | ug/L |
| Bromodichloromethane | <0.020 | 0.020 | ug/L |
| Bromoform | <0.020 | 0.020 | ug/L |
| Bromomethane | <0.020 | 0.020 | ug/L |
| 1,3-Butadiene | <0.020 | 0.020 | ug/L |
| 2-Butanone (MEK) | <0.020 | 0.020 | ug/L |
| tert-Butyl Alcohol (TBA) | <20 | 20 | ug/L |
| Carbon Disulfide | <0.020 | 0.020 | ug/L |
| Carbon Tetrachloride | <0.020 | 0.020 | ug/L |
| Chlorobenzene | <0.020 | 0.020 | ug/L |
| Chloroethane | <0.020 | 0.020 | ug/L |
| Chloroform | <0.020 | 0.020 | ug/L |
| Chloromethane | <0.020 | 0.020 | ug/L |
| Cyclohexane | <0.020 | 0.020 | ug/L |
| Dibromochloromethane | <0.020 | 0.020 | ug/L |
| 1,2-Dibromoethane (EDB) | <0.020 | 0.020 | ug/L |
| 1,2-Dichlorobenzene | <0.020 | 0.020 | ug/L |
| 1,3-Dichlorobenzene | <0.020 | 0.020 | ug/L |
| 1,4-Dichlorobenzene | <0.020 | 0.020 | ug/L |
| Dichlorodifluoromethane (R12) | <0.020 | 0.020 | ug/L |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC %REC | Limits RPD | RPD Limit | Notes |
|---|---------|-----------------|-------|-------------|-------------------------------|-----------|------------|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | |
| <i>Batch B0L1814 - *** DEFAULT PREP ***</i> | | | | | | | | | |
| Blank (B0L1814-BLK1) Continued | | | | | Prepared & Analyzed: 12/17/20 | | | | |
| 1,1-Dichloroethane | <0.020 | 0.020 | ug/L | | | | | | |
| 1,2-Dichloroethane (EDC) | <0.0040 | 0.0040 | ug/L | | | | | | |
| cis-1,2-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | |
| 1,1-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | |
| trans-1,2-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | |
| 1,2-Dichloropropane | <0.020 | 0.020 | ug/L | | | | | | |
| trans-1,3-Dichloropropylene | <0.020 | 0.020 | ug/L | | | | | | |
| cis-1,3-Dichloropropylene | <0.020 | 0.020 | ug/L | | | | | | |
| Dichlorotetrafluoroethane | <0.020 | 0.020 | ug/L | | | | | | |
| Diisopropyl ether (DIPE) | <0.020 | 0.020 | ug/L | | | | | | |
| 1,4-Dioxane | <0.020 | 0.020 | ug/L | | | | | | |
| Ethanol | <0.020 | 0.020 | ug/L | | | | | | |
| Ethyl Acetate | <0.020 | 0.020 | ug/L | | | | | | |
| Ethylbenzene | <0.020 | 0.020 | ug/L | | | | | | |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | 0.020 | ug/L | | | | | | |
| 4-Ethyltoluene | <0.020 | 0.020 | ug/L | | | | | | |
| Heptane | <0.020 | 0.020 | ug/L | | | | | | |
| Hexachlorobutadiene | <0.020 | 0.020 | ug/L | | | | | | |
| n-Hexane | <0.020 | 0.020 | ug/L | | | | | | |
| 2-Hexanone (MBK) | <0.020 | 0.020 | ug/L | | | | | | |
| Isopropanol (IPA) | <0.20 | 0.20 | ug/L | | | | | | |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | 0.020 | ug/L | | | | | | |
| Methylene Chloride | <0.020 | 0.020 | ug/L | | | | | | |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | 0.020 | ug/L | | | | | | |
| Naphthalene | <0.0030 | 0.0030 | ug/L | | | | | | |
| Propylene | <0.020 | 0.020 | ug/L | | | | | | |
| Styrene | <0.020 | 0.020 | ug/L | | | | | | |
| 1,1,2,2-Tetrachloroethane | <0.020 | 0.020 | ug/L | | | | | | |
| Tetrachloroethylene (PCE) | <0.010 | 0.010 | ug/L | | | | | | |
| Tetrahydrofuran (THF) | <0.020 | 0.020 | ug/L | | | | | | |
| Toluene | <0.020 | 0.020 | ug/L | | | | | | |
| 1,2,4-Trichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | |

Stuart Sigman
 Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control

Batch B0L1814 - *** DEFAULT PREP ***

Blank (B0L1814-BLK1) Continued

Prepared & Analyzed: 12/17/20

| | | | |
|--|--------|-------|------|
| 1,1,2-Trichloroethane | <0.020 | 0.020 | ug/L |
| 1,1,1-Trichloroethane | <0.020 | 0.020 | ug/L |
| Trichloroethylene (TCE) | <0.020 | 0.020 | ug/L |
| Trichlorofluoromethane (R11) | <0.020 | 0.020 | ug/L |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | 0.020 | ug/L |
| 1,3,5-Trimethylbenzene | <0.020 | 0.020 | ug/L |
| 1,2,4-Trimethylbenzene | <0.020 | 0.020 | ug/L |
| 2,2,4-Trimethylpentane | <0.020 | 0.020 | ug/L |
| Vinyl acetate | <0.020 | 0.020 | ug/L |
| Vinyl bromide | <0.020 | 0.020 | ug/L |
| Vinyl chloride | <0.020 | 0.020 | ug/L |
| o-Xylene | <0.020 | 0.020 | ug/L |
| m,p-Xylenes | <0.020 | 0.020 | ug/L |
| 1,2,3-Trichloropropane | <0.020 | 0.020 | ug/L |
| sec-Butylbenzene | <0.020 | 0.020 | ug/L |
| Isopropylbenzene | <0.020 | 0.020 | ug/L |
| n-Propylbenzene | <0.020 | 0.020 | ug/L |
| 4-Isopropyltoluene | <0.020 | 0.020 | ug/L |
| n-Butylbenzene | <0.020 | 0.020 | ug/L |

Surrogate: 4-Bromofluorobenzene 0.145 ug/L

0.143 102 70-130

LCS (B0L1814-BS1)

Prepared & Analyzed: 12/17/20

| | | | | | | | |
|----------------------|---------------|--------|------|--------|------|--------|----------|
| Acetone | 0.0224 | 0.020 | ug/L | 0.0238 | 94.2 | 70-130 | 30 |
| Benzene | 0.0344 | 0.0030 | ug/L | 0.0319 | 108 | 70-130 | 30 |
| Benzyl chloride | 0.0304 | 0.020 | ug/L | 0.0445 | 68.3 | 70-130 | 30 QL-07 |
| Bromodichloromethane | 0.0692 | 0.020 | ug/L | 0.0670 | 103 | 70-130 | 30 |
| Bromoform | 0.0901 | 0.020 | ug/L | 0.103 | 87.2 | 70-130 | 30 |
| Bromomethane | 0.0421 | 0.020 | ug/L | 0.0388 | 108 | 70-130 | 30 |
| 2-Butanone (MEK) | 0.0291 | 0.020 | ug/L | 0.0295 | 98.5 | 70-130 | 30 |
| Carbon Disulfide | 0.0326 | 0.020 | ug/L | 0.0311 | 105 | 70-130 | 30 |
| Carbon Tetrachloride | 0.0665 | 0.020 | ug/L | 0.0629 | 106 | 70-130 | 30 |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
 Project No: 693142
 Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
 Date Received: 12/02/20
 Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control

Batch B0L1814 - *** DEFAULT PREP ***

LCS (B0L1814-BS1) Continued

Prepared & Analyzed: 12/17/20

| | | | | | | | | |
|-------------------------------|--------|--------|------|--------|------|--------|----|-------|
| Chlorobenzene | 0.0506 | 0.020 | ug/L | 0.0460 | 110 | 70-130 | 30 | |
| Chloroethane | 0.0281 | 0.020 | ug/L | 0.0264 | 107 | 70-130 | 30 | |
| Chloroform | 0.0529 | 0.020 | ug/L | 0.0488 | 108 | 70-130 | 30 | |
| Chloromethane | 0.0233 | 0.020 | ug/L | 0.0207 | 113 | 70-130 | 30 | |
| Dibromochloromethane | 0.0827 | 0.020 | ug/L | 0.0852 | 97.1 | 70-130 | 30 | |
| 1,2-Dibromoethane (EDB) | 0.0854 | 0.020 | ug/L | 0.0768 | 111 | 70-130 | 30 | |
| 1,2-Dichlorobenzene | 0.0726 | 0.020 | ug/L | 0.0601 | 121 | 70-130 | 30 | |
| 1,3-Dichlorobenzene | 0.0721 | 0.020 | ug/L | 0.0601 | 120 | 70-130 | 30 | |
| 1,4-Dichlorobenzene | 0.0727 | 0.020 | ug/L | 0.0601 | 121 | 70-130 | 30 | |
| Dichlorodifluoromethane (R12) | 0.0436 | 0.020 | ug/L | 0.0495 | 88.1 | 70-130 | 30 | |
| 1,1-Dichloroethane | 0.0441 | 0.020 | ug/L | 0.0405 | 109 | 70-130 | 30 | |
| 1,2-Dichloroethane (EDC) | 0.0421 | 0.0040 | ug/L | 0.0405 | 104 | 70-130 | 30 | |
| cis-1,2-Dichloroethylene | 0.0424 | 0.020 | ug/L | 0.0396 | 107 | 70-130 | 30 | |
| 1,1-Dichloroethylene | 0.0462 | 0.020 | ug/L | 0.0396 | 116 | 70-130 | 30 | |
| trans-1,2-Dichloroethylene | 0.0419 | 0.020 | ug/L | 0.0396 | 106 | 70-130 | 30 | |
| 1,2-Dichloropropane | 0.0492 | 0.020 | ug/L | 0.0462 | 106 | 70-130 | 30 | |
| trans-1,3-Dichloropropylene | 0.0484 | 0.020 | ug/L | 0.0454 | 107 | 70-130 | 30 | |
| cis-1,3-Dichloropropylene | 0.0493 | 0.020 | ug/L | 0.0454 | 109 | 70-130 | 30 | |
| Dichlorotetrafluoroethane | 0.0635 | 0.020 | ug/L | 0.0699 | 90.8 | 70-130 | 30 | |
| Ethylbenzene | 0.0496 | 0.020 | ug/L | 0.0434 | 114 | 70-130 | 30 | |
| 4-Ethyltoluene | 0.0424 | 0.020 | ug/L | 0.0492 | 86.2 | 70-130 | 30 | |
| Hexachlorobutadiene | 0.152 | 0.020 | ug/L | 0.107 | 142 | 70-130 | 30 | QL-06 |
| 2-Hexanone (MBK) | 0.0363 | 0.020 | ug/L | 0.0410 | 88.5 | 70-130 | 30 | |
| Isopropanol (IPA) | 0.0215 | 0.20 | ug/L | 0.0216 | 99.4 | 70-130 | 30 | |
| Methylene Chloride | 0.0347 | 0.020 | ug/L | 0.0347 | 100 | 70-130 | 30 | |
| 4-Methyl-2-pentanone (MIBK) | 0.0399 | 0.020 | ug/L | 0.0410 | 97.4 | 70-130 | 30 | |
| Styrene | 0.0478 | 0.020 | ug/L | 0.0426 | 112 | 70-130 | 30 | |
| 1,1,2,2-Tetrachloroethane | 0.0765 | 0.020 | ug/L | 0.0687 | 111 | 70-130 | 30 | |
| Tetrachloroethylene (PCE) | 0.0763 | 0.010 | ug/L | 0.0679 | 112 | 70-130 | 30 | |
| Toluene | 0.0411 | 0.020 | ug/L | 0.0377 | 109 | 70-130 | 30 | |
| 1,2,4-Trichlorobenzene | 0.0996 | 0.020 | ug/L | 0.0742 | 134 | 70-130 | 30 | QL-02 |
| 1,1,2-Trichloroethane | 0.0587 | 0.020 | ug/L | 0.0546 | 108 | 70-130 | 30 | |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control

Batch B0L1814 - *** DEFAULT PREP ***

LCS (B0L1814-BS1) Continued

Prepared & Analyzed: 12/17/20

| | | | | | | | | | |
|--|--------|-------|------|--------|-----|--------|----|--|--|
| 1,1,1-Trichloroethane | 0.0569 | 0.020 | ug/L | 0.0546 | 104 | 70-130 | 30 | | |
| Trichloroethylene (TCE) | 0.0585 | 0.020 | ug/L | 0.0537 | 109 | 70-130 | 30 | | |
| Trichlorofluoromethane (R11) | 0.0579 | 0.020 | ug/L | 0.0562 | 103 | 70-130 | 30 | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | 0.0774 | 0.020 | ug/L | 0.0766 | 101 | 70-130 | 30 | | |
| 1,3,5-Trimethylbenzene | 0.0642 | 0.020 | ug/L | 0.0492 | 130 | 70-130 | 30 | | |
| 1,2,4-Trimethylbenzene | 0.0609 | 0.020 | ug/L | 0.0492 | 124 | 70-130 | 30 | | |
| Vinyl acetate | 0.0297 | 0.020 | ug/L | 0.0296 | 100 | 70-130 | 30 | | |
| Vinyl chloride | 0.0286 | 0.020 | ug/L | 0.0256 | 112 | 70-130 | 30 | | |
| o-Xylene | 0.0493 | 0.020 | ug/L | 0.0434 | 114 | 70-130 | 30 | | |
| m,p-Xylenes | 0.104 | 0.020 | ug/L | 0.0868 | 119 | 70-130 | 30 | | |
| 1,2,3-Trichloropropane | 0.0633 | 0.020 | ug/L | 0.0603 | 105 | 70-130 | 30 | | |
| sec-Butylbenzene | 0.0588 | 0.020 | ug/L | 0.0549 | 107 | 70-130 | 30 | | |
| Isopropylbenzene | 0.0518 | 0.020 | ug/L | 0.0492 | 105 | 70-130 | 30 | | |
| n-Propylbenzene | 0.0521 | 0.020 | ug/L | 0.0492 | 106 | 70-130 | 30 | | |
| 4-Isopropyltoluene | 0.0595 | 0.020 | ug/L | 0.0549 | 108 | 70-130 | 30 | | |

Surrogate: 4-Bromofluorobenzene 0.143 ug/L

0.143 99.8 70-130

LCS Dup (B0L1814-BSD1)

Prepared: 12/17/20 Analyzed: 12/18/20

| | | | | | | | | | |
|----------------------|--------|--------|------|--------|------|--------|-------|----|-------|
| Acetone | 0.0234 | 0.020 | ug/L | 0.0238 | 98.5 | 70-130 | 4.46 | 30 | |
| Benzene | 0.0349 | 0.0030 | ug/L | 0.0319 | 109 | 70-130 | 1.38 | 30 | |
| Benzyl chloride | 0.0304 | 0.020 | ug/L | 0.0445 | 68.3 | 70-130 | 0.00 | 30 | QL-07 |
| Bromodichloromethane | 0.0696 | 0.020 | ug/L | 0.0670 | 104 | 70-130 | 0.676 | 30 | |
| Bromoform | 0.0898 | 0.020 | ug/L | 0.103 | 86.9 | 70-130 | 0.345 | 30 | |
| Bromomethane | 0.0417 | 0.020 | ug/L | 0.0388 | 107 | 70-130 | 1.02 | 30 | |
| 2-Butanone (MEK) | 0.0303 | 0.020 | ug/L | 0.0295 | 103 | 70-130 | 4.17 | 30 | |
| Carbon Disulfide | 0.0331 | 0.020 | ug/L | 0.0311 | 106 | 70-130 | 1.33 | 30 | |
| Carbon Tetrachloride | 0.0672 | 0.020 | ug/L | 0.0629 | 107 | 70-130 | 1.04 | 30 | |
| Chlorobenzene | 0.0515 | 0.020 | ug/L | 0.0460 | 112 | 70-130 | 1.62 | 30 | |
| Chloroethane | 0.0295 | 0.020 | ug/L | 0.0264 | 112 | 70-130 | 4.67 | 30 | |
| Chloroform | 0.0519 | 0.020 | ug/L | 0.0488 | 106 | 70-130 | 1.86 | 30 | |
| Chloromethane | 0.0249 | 0.020 | ug/L | 0.0207 | 121 | 70-130 | 6.51 | 30 | |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control

Batch B0L1814 - *** DEFAULT PREP ***

LCS Dup (B0L1814-BSD1) Continued

Prepared: 12/17/20 Analyzed: 12/18/20

| | | | | | | | | | | |
|-------------------------------|--------|--------|------|--------|--|------|--------|-------|----|-------|
| Dibromochloromethane | 0.0824 | 0.020 | ug/L | 0.0852 | | 96.7 | 70-130 | 0.413 | 30 | |
| 1,2-Dibromoethane (EDB) | 0.0847 | 0.020 | ug/L | 0.0768 | | 110 | 70-130 | 0.903 | 30 | |
| 1,2-Dichlorobenzene | 0.0719 | 0.020 | ug/L | 0.0601 | | 120 | 70-130 | 0.998 | 30 | |
| 1,3-Dichlorobenzene | 0.0753 | 0.020 | ug/L | 0.0601 | | 125 | 70-130 | 4.24 | 30 | |
| 1,4-Dichlorobenzene | 0.0720 | 0.020 | ug/L | 0.0601 | | 120 | 70-130 | 0.998 | 30 | |
| Dichlorodifluoromethane (R12) | 0.0456 | 0.020 | ug/L | 0.0495 | | 92.3 | 70-130 | 4.66 | 30 | |
| 1,1-Dichloroethane | 0.0440 | 0.020 | ug/L | 0.0405 | | 109 | 70-130 | 0.276 | 30 | |
| 1,2-Dichloroethane (EDC) | 0.0425 | 0.0040 | ug/L | 0.0405 | | 105 | 70-130 | 0.956 | 30 | |
| cis-1,2-Dichloroethylene | 0.0427 | 0.020 | ug/L | 0.0396 | | 108 | 70-130 | 0.652 | 30 | |
| 1,1-Dichloroethylene | 0.0447 | 0.020 | ug/L | 0.0396 | | 113 | 70-130 | 3.23 | 30 | |
| trans-1,2-Dichloroethylene | 0.0427 | 0.020 | ug/L | 0.0396 | | 108 | 70-130 | 1.97 | 30 | |
| 1,2-Dichloropropane | 0.0504 | 0.020 | ug/L | 0.0462 | | 109 | 70-130 | 2.51 | 30 | |
| trans-1,3-Dichloropropylene | 0.0490 | 0.020 | ug/L | 0.0454 | | 108 | 70-130 | 1.21 | 30 | |
| cis-1,3-Dichloropropylene | 0.0504 | 0.020 | ug/L | 0.0454 | | 111 | 70-130 | 2.28 | 30 | |
| Dichlorotetrafluoroethane | 0.0689 | 0.020 | ug/L | 0.0699 | | 98.5 | 70-130 | 8.14 | 30 | |
| Ethylbenzene | 0.0501 | 0.020 | ug/L | 0.0434 | | 115 | 70-130 | 0.871 | 30 | |
| 4-Ethyltoluene | 0.0421 | 0.020 | ug/L | 0.0492 | | 85.6 | 70-130 | 0.698 | 30 | |
| Hexachlorobutadiene | 0.146 | 0.020 | ug/L | 0.107 | | 137 | 70-130 | 3.94 | 30 | QL-06 |
| 2-Hexanone (MBK) | 0.0374 | 0.020 | ug/L | 0.0410 | | 91.2 | 70-130 | 3.00 | 30 | |
| Isopropanol (IPA) | 0.0227 | 0.20 | ug/L | 0.0216 | | 105 | 70-130 | 5.56 | 30 | |
| Methylene Chloride | 0.0364 | 0.020 | ug/L | 0.0347 | | 105 | 70-130 | 4.78 | 30 | |
| 4-Methyl-2-pentanone (MIBK) | 0.0409 | 0.020 | ug/L | 0.0410 | | 99.8 | 70-130 | 2.43 | 30 | |
| Styrene | 0.0482 | 0.020 | ug/L | 0.0426 | | 113 | 70-130 | 0.976 | 30 | |
| 1,1,2,2-Tetrachloroethane | 0.0785 | 0.020 | ug/L | 0.0687 | | 114 | 70-130 | 2.57 | 30 | |
| Tetrachloroethylene (PCE) | 0.0737 | 0.010 | ug/L | 0.0679 | | 109 | 70-130 | 3.44 | 30 | |
| Toluene | 0.0418 | 0.020 | ug/L | 0.0377 | | 111 | 70-130 | 1.64 | 30 | |
| 1,2,4-Trichlorobenzene | 0.0886 | 0.020 | ug/L | 0.0742 | | 119 | 70-130 | 11.7 | 30 | |
| 1,1,2-Trichloroethane | 0.0587 | 0.020 | ug/L | 0.0546 | | 108 | 70-130 | 0.00 | 30 | |
| 1,1,1-Trichloroethane | 0.0580 | 0.020 | ug/L | 0.0546 | | 106 | 70-130 | 1.90 | 30 | |
| Trichloroethylene (TCE) | 0.0577 | 0.020 | ug/L | 0.0537 | | 107 | 70-130 | 1.48 | 30 | |
| Trichlorofluoromethane (R11) | 0.0596 | 0.020 | ug/L | 0.0562 | | 106 | 70-130 | 2.77 | 30 | |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control

Batch B0L1814 - *** DEFAULT PREP ***

LCS Dup (B0L1814-BSD1) Continued

Prepared: 12/17/20 Analyzed: 12/18/20

| | | | | | | | | | | |
|--|--------|-------|------|--------|--|-----|--------|-------|----|--|
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | 0.0792 | 0.020 | ug/L | 0.0766 | | 103 | 70-130 | 2.35 | 30 | |
| 1,3,5-Trimethylbenzene | 0.0640 | 0.020 | ug/L | 0.0492 | | 130 | 70-130 | 0.230 | 30 | |
| 1,2,4-Trimethylbenzene | 0.0602 | 0.020 | ug/L | 0.0492 | | 122 | 70-130 | 1.06 | 30 | |
| Vinyl acetate | 0.0306 | 0.020 | ug/L | 0.0296 | | 104 | 70-130 | 3.15 | 30 | |
| Vinyl chloride | 0.0297 | 0.020 | ug/L | 0.0256 | | 116 | 70-130 | 3.69 | 30 | |
| o-Xylene | 0.0502 | 0.020 | ug/L | 0.0434 | | 116 | 70-130 | 1.75 | 30 | |
| m,p-Xylenes | 0.0979 | 0.020 | ug/L | 0.0868 | | 113 | 70-130 | 5.69 | 30 | |
| 1,2,3-Trichloropropane | 0.0621 | 0.020 | ug/L | 0.0603 | | 103 | 70-130 | 1.92 | 30 | |
| sec-Butylbenzene | 0.0600 | 0.020 | ug/L | 0.0549 | | 109 | 70-130 | 1.94 | 30 | |
| Isopropylbenzene | 0.0521 | 0.020 | ug/L | 0.0492 | | 106 | 70-130 | 0.568 | 30 | |
| n-Propylbenzene | 0.0526 | 0.020 | ug/L | 0.0492 | | 107 | 70-130 | 0.939 | 30 | |
| 4-Isopropyltoluene | 0.0588 | 0.020 | ug/L | 0.0549 | | 107 | 70-130 | 1.21 | 30 | |

Surrogate: 4-Bromofluorobenzene 0.146

ug/L 0.143 102 70-130

Batch B1A0618 - *** DEFAULT PREP ***

Blank (B1A0618-BLK1)

Prepared & Analyzed: 12/16/20

| | | | | | | | | | | |
|-------------------------------|---------|--------|------|--|--|--|--|--|--|--|
| Acetone | <0.020 | 0.020 | ug/L | | | | | | | |
| Allyl chloride | <0.020 | 0.020 | ug/L | | | | | | | |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | 0.020 | ug/L | | | | | | | |
| Benzene | <0.0030 | 0.0030 | ug/L | | | | | | | |
| Benzyl chloride | <0.020 | 0.020 | ug/L | | | | | | | |
| Bromodichloromethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Bromoform | <0.020 | 0.020 | ug/L | | | | | | | |
| Bromomethane | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,3-Butadiene | <0.020 | 0.020 | ug/L | | | | | | | |
| 2-Butanone (MEK) | <0.020 | 0.020 | ug/L | | | | | | | |
| tert-Butyl Alcohol (TBA) | <20 | 20 | ug/L | | | | | | | |
| Carbon Disulfide | <0.020 | 0.020 | ug/L | | | | | | | |
| Carbon Tetrachloride | <0.020 | 0.020 | ug/L | | | | | | | |
| Chlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| Chloroethane | <0.020 | 0.020 | ug/L | | | | | | | |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC %REC | Limits RPD | RPD Limit | Notes |
|---|---------|-----------------|-------|-------------|-------------------------------|-----------|------------|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | |
| <i>Batch B1A0618 - *** DEFAULT PREP ***</i> | | | | | | | | | |
| Blank (B1A0618-BLK1) Continued | | | | | Prepared & Analyzed: 12/16/20 | | | | |
| Chloroform | <0.020 | 0.020 | ug/L | | | | | | |
| Chloromethane | <0.020 | 0.020 | ug/L | | | | | | |
| Cyclohexane | <0.020 | 0.020 | ug/L | | | | | | |
| Dibromochloromethane | <0.020 | 0.020 | ug/L | | | | | | |
| 1,2-Dibromoethane (EDB) | <0.020 | 0.020 | ug/L | | | | | | |
| 1,2-Dichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | |
| 1,3-Dichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | |
| 1,4-Dichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | |
| Dichlorodifluoromethane (R12) | <0.020 | 0.020 | ug/L | | | | | | |
| 1,1-Dichloroethane | <0.020 | 0.020 | ug/L | | | | | | |
| 1,2-Dichloroethane (EDC) | <0.0040 | 0.0040 | ug/L | | | | | | |
| cis-1,2-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | |
| 1,1-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | |
| trans-1,2-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | |
| 1,2-Dichloropropane | <0.020 | 0.020 | ug/L | | | | | | |
| trans-1,3-Dichloropropylene | <0.020 | 0.020 | ug/L | | | | | | |
| cis-1,3-Dichloropropylene | <0.020 | 0.020 | ug/L | | | | | | |
| Dichlorotetrafluoroethane | <0.020 | 0.020 | ug/L | | | | | | |
| Diisopropyl ether (DIPE) | <0.020 | 0.020 | ug/L | | | | | | |
| 1,4-Dioxane | <0.020 | 0.020 | ug/L | | | | | | |
| Ethanol | <0.020 | 0.020 | ug/L | | | | | | |
| Ethyl Acetate | <0.020 | 0.020 | ug/L | | | | | | |
| Ethylbenzene | <0.020 | 0.020 | ug/L | | | | | | |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | 0.020 | ug/L | | | | | | |
| 4-Ethyltoluene | <0.020 | 0.020 | ug/L | | | | | | |
| Heptane | <0.020 | 0.020 | ug/L | | | | | | |
| Hexachlorobutadiene | <0.020 | 0.020 | ug/L | | | | | | |
| n-Hexane | <0.020 | 0.020 | ug/L | | | | | | |
| 2-Hexanone (MBK) | <0.020 | 0.020 | ug/L | | | | | | |
| Isopropanol (IPA) | <0.20 | 0.20 | ug/L | | | | | | |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | 0.020 | ug/L | | | | | | |
| Methylene Chloride | <0.020 | 0.020 | ug/L | | | | | | |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|--------------|-----------------|-------------|--------------|-------------------------------|------------|---------------|-----|-----------|---------------------------------------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A0618 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B1A0618-BLK1) Continued | | | | | Prepared & Analyzed: 12/16/20 | | | | | |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | 0.020 | ug/L | | | | | | | |
| Naphthalene | <0.0030 | 0.0030 | ug/L | | | | | | | |
| Propylene | <0.020 | 0.020 | ug/L | | | | | | | |
| Styrene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1,2,2-Tetrachloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Tetrachloroethylene (PCE) | <0.010 | 0.010 | ug/L | | | | | | | |
| Tetrahydrofuran (THF) | <0.020 | 0.020 | ug/L | | | | | | | |
| Toluene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2,4-Trichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1,2-Trichloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1,1-Trichloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Trichloroethylene (TCE) | <0.020 | 0.020 | ug/L | | | | | | | |
| Trichlorofluoromethane (R11) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,3,5-Trimethylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2,4-Trimethylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 2,2,4-Trimethylpentane | <0.020 | 0.020 | ug/L | | | | | | | |
| Vinyl acetate | <0.020 | 0.020 | ug/L | | | | | | | |
| Vinyl bromide | <0.020 | 0.020 | ug/L | | | | | | | |
| Vinyl chloride | <0.020 | 0.020 | ug/L | | | | | | | |
| o-Xylene | <0.020 | 0.020 | ug/L | | | | | | | |
| m,p-Xylenes | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2,3-Trichloropropane | <0.020 | 0.020 | ug/L | | | | | | | |
| sec-Butylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| Isopropylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| n-Propylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 4-Isopropyltoluene | <0.020 | 0.020 | ug/L | | | | | | | |
| n-Butylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.144</i> | | <i>ug/L</i> | <i>0.143</i> | | <i>101</i> | <i>70-130</i> | | | |
| LCS (B1A0618-BS1) | | | | | | | | | | Prepared: 12/16/20 Analyzed: 12/17/20 |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| Batch B1A0618 - *** DEFAULT PREP *** | | | | | | | | | | |
| LCS (B1A0618-BS1) Continued | | | | | | | | | | |
| Prepared: 12/16/20 Analyzed: 12/17/20 | | | | | | | | | | |
| Acetone | 0.0208 | 0.020 | ug/L | 0.0238 | | 87.4 | 70-130 | | 30 | |
| Benzene | 0.0315 | 0.0030 | ug/L | 0.0319 | | 98.7 | 70-130 | | 30 | |
| Benzyl chloride | 0.0288 | 0.020 | ug/L | 0.0445 | | 64.7 | 70-130 | | 30 | QL-07 |
| Bromodichloromethane | 0.0656 | 0.020 | ug/L | 0.0670 | | 97.9 | 70-130 | | 30 | |
| Bromoform | 0.0903 | 0.020 | ug/L | 0.103 | | 87.4 | 70-130 | | 30 | |
| Bromomethane | 0.0384 | 0.020 | ug/L | 0.0388 | | 99.0 | 70-130 | | 30 | |
| 2-Butanone (MEK) | 0.0264 | 0.020 | ug/L | 0.0295 | | 89.6 | 70-130 | | 30 | |
| Carbon Disulfide | 0.0310 | 0.020 | ug/L | 0.0311 | | 99.6 | 70-130 | | 30 | |
| Carbon Tetrachloride | 0.0644 | 0.020 | ug/L | 0.0629 | | 102 | 70-130 | | 30 | |
| Chlorobenzene | 0.0496 | 0.020 | ug/L | 0.0460 | | 108 | 70-130 | | 30 | |
| Chloroethane | 0.0261 | 0.020 | ug/L | 0.0264 | | 98.8 | 70-130 | | 30 | |
| Chloroform | 0.0499 | 0.020 | ug/L | 0.0488 | | 102 | 70-130 | | 30 | |
| Chloromethane | 0.0210 | 0.020 | ug/L | 0.0207 | | 102 | 70-130 | | 30 | |
| Dibromochloromethane | 0.0780 | 0.020 | ug/L | 0.0852 | | 91.6 | 70-130 | | 30 | |
| 1,2-Dibromoethane (EDB) | 0.0808 | 0.020 | ug/L | 0.0768 | | 105 | 70-130 | | 30 | |
| 1,2-Dichlorobenzene | 0.0710 | 0.020 | ug/L | 0.0601 | | 118 | 70-130 | | 30 | |
| 1,3-Dichlorobenzene | 0.0694 | 0.020 | ug/L | 0.0601 | | 115 | 70-130 | | 30 | |
| 1,4-Dichlorobenzene | 0.0710 | 0.020 | ug/L | 0.0601 | | 118 | 70-130 | | 30 | |
| Dichlorodifluoromethane (R12) | 0.0418 | 0.020 | ug/L | 0.0495 | | 84.6 | 70-130 | | 30 | |
| 1,1-Dichloroethane | 0.0410 | 0.020 | ug/L | 0.0405 | | 101 | 70-130 | | 30 | |
| 1,2-Dichloroethane (EDC) | 0.0403 | 0.0040 | ug/L | 0.0405 | | 99.5 | 70-130 | | 30 | |
| cis-1,2-Dichloroethylene | 0.0377 | 0.020 | ug/L | 0.0396 | | 95.1 | 70-130 | | 30 | |
| 1,1-Dichloroethylene | 0.0404 | 0.020 | ug/L | 0.0396 | | 102 | 70-130 | | 30 | |
| trans-1,2-Dichloroethylene | 0.0378 | 0.020 | ug/L | 0.0396 | | 95.4 | 70-130 | | 30 | |
| 1,2-Dichloropropane | 0.0465 | 0.020 | ug/L | 0.0462 | | 101 | 70-130 | | 30 | |
| trans-1,3-Dichloropropylene | 0.0437 | 0.020 | ug/L | 0.0454 | | 96.2 | 70-130 | | 30 | |
| cis-1,3-Dichloropropylene | 0.0448 | 0.020 | ug/L | 0.0454 | | 98.8 | 70-130 | | 30 | |
| Dichlorotetrafluoroethane | 0.0649 | 0.020 | ug/L | 0.0699 | | 92.8 | 70-130 | | 30 | |
| Ethylbenzene | 0.0469 | 0.020 | ug/L | 0.0434 | | 108 | 70-130 | | 30 | |
| 4-Ethyltoluene | 0.0420 | 0.020 | ug/L | 0.0492 | | 85.5 | 70-130 | | 30 | |
| Hexachlorobutadiene | 0.152 | 0.020 | ug/L | 0.107 | | 142 | 70-130 | | 30 | QL-06 |
| 2-Hexanone (MBK) | 0.0333 | 0.020 | ug/L | 0.0410 | | 81.4 | 70-130 | | 30 | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|--------|-----------------|-------|-------------|---------------------------------------|------|-------------|------|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| Batch B1A0618 - *** DEFAULT PREP *** | | | | | | | | | | |
| LCS (B1A0618-BS1) Continued | | | | | | | | | | |
| | | | | | Prepared: 12/16/20 Analyzed: 12/17/20 | | | | | |
| Isopropanol (IPA) | 0.0191 | 0.20 | ug/L | 0.0216 | | 88.1 | 70-130 | | 30 | |
| Methylene Chloride | 0.0335 | 0.020 | ug/L | 0.0347 | | 96.4 | 70-130 | | 30 | |
| 4-Methyl-2-pentanone (MIBK) | 0.0368 | 0.020 | ug/L | 0.0410 | | 89.8 | 70-130 | | 30 | |
| Styrene | 0.0460 | 0.020 | ug/L | 0.0426 | | 108 | 70-130 | | 30 | |
| 1,1,2,2-Tetrachloroethane | 0.0769 | 0.020 | ug/L | 0.0687 | | 112 | 70-130 | | 30 | |
| Tetrachloroethylene (PCE) | 0.0716 | 0.010 | ug/L | 0.0679 | | 106 | 70-130 | | 30 | |
| Toluene | 0.0380 | 0.020 | ug/L | 0.0377 | | 101 | 70-130 | | 30 | |
| 1,2,4-Trichlorobenzene | 0.0866 | 0.020 | ug/L | 0.0742 | | 117 | 70-130 | | 30 | |
| 1,1,2-Trichloroethane | 0.0565 | 0.020 | ug/L | 0.0546 | | 104 | 70-130 | | 30 | |
| 1,1,1-Trichloroethane | 0.0551 | 0.020 | ug/L | 0.0546 | | 101 | 70-130 | | 30 | |
| Trichloroethylene (TCE) | 0.0557 | 0.020 | ug/L | 0.0537 | | 104 | 70-130 | | 30 | |
| Trichlorofluoromethane (R11) | 0.0571 | 0.020 | ug/L | 0.0562 | | 102 | 70-130 | | 30 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | 0.0780 | 0.020 | ug/L | 0.0766 | | 102 | 70-130 | | 30 | |
| 1,3,5-Trimethylbenzene | 0.0610 | 0.020 | ug/L | 0.0492 | | 124 | 70-130 | | 30 | |
| 1,2,4-Trimethylbenzene | 0.0581 | 0.020 | ug/L | 0.0492 | | 118 | 70-130 | | 30 | |
| Vinyl acetate | 0.0268 | 0.020 | ug/L | 0.0296 | | 90.5 | 70-130 | | 30 | |
| Vinyl chloride | 0.0263 | 0.020 | ug/L | 0.0256 | | 103 | 70-130 | | 30 | |
| o-Xylene | 0.0470 | 0.020 | ug/L | 0.0434 | | 108 | 70-130 | | 30 | |
| m,p-Xylenes | 0.0949 | 0.020 | ug/L | 0.0868 | | 109 | 70-130 | | 30 | |
| 1,2,3-Trichloropropane | 0.0615 | 0.020 | ug/L | 0.0603 | | 102 | 70-130 | | 30 | |
| sec-Butylbenzene | 0.0565 | 0.020 | ug/L | 0.0549 | | 103 | 70-130 | | 30 | |
| Isopropylbenzene | 0.0485 | 0.020 | ug/L | 0.0492 | | 98.7 | 70-130 | | 30 | |
| n-Propylbenzene | 0.0490 | 0.020 | ug/L | 0.0492 | | 99.6 | 70-130 | | 30 | |
| 4-Isopropyltoluene | 0.0560 | 0.020 | ug/L | 0.0549 | | 102 | 70-130 | | 30 | |
| Surrogate: 4-Bromofluorobenzene | 0.141 | | ug/L | 0.143 | | 98.2 | 70-130 | | | |
| LCS Dup (B1A0618-BSD1) | | | | | | | | | | |
| | | | | | Prepared: 12/16/20 Analyzed: 12/17/20 | | | | | |
| Acetone | 0.0216 | 0.020 | ug/L | 0.0238 | | 90.9 | 70-130 | 3.93 | 30 | |
| Benzene | 0.0327 | 0.0030 | ug/L | 0.0319 | | 102 | 70-130 | 3.68 | 30 | |
| Benzyl chloride | 0.0297 | 0.020 | ug/L | 0.0445 | | 66.7 | 70-130 | 3.19 | 30 | QL-07 |
| Bromodichloromethane | 0.0681 | 0.020 | ug/L | 0.0670 | | 102 | 70-130 | 3.71 | 30 | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|--------|-----------------|-------|-------------|---------------------------------------|--------|-------------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A0618 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| LCS Dup (B1A0618-BSD1) Continued | | | | | | | | | | |
| | | | | | Prepared: 12/16/20 Analyzed: 12/17/20 | | | | | |
| Bromoform | 0.0928 | 0.020 | ug/L | 0.103 | 89.8 | 70-130 | 2.71 | 30 | | |
| Bromomethane | 0.0410 | 0.020 | ug/L | 0.0388 | 106 | 70-130 | 6.36 | 30 | | |
| 2-Butanone (MEK) | 0.0275 | 0.020 | ug/L | 0.0295 | 93.4 | 70-130 | 4.15 | 30 | | |
| Carbon Disulfide | 0.0321 | 0.020 | ug/L | 0.0311 | 103 | 70-130 | 3.55 | 30 | | |
| Carbon Tetrachloride | 0.0674 | 0.020 | ug/L | 0.0629 | 107 | 70-130 | 4.68 | 30 | | |
| Chlorobenzene | 0.0514 | 0.020 | ug/L | 0.0460 | 112 | 70-130 | 3.55 | 30 | | |
| Chloroethane | 0.0273 | 0.020 | ug/L | 0.0264 | 104 | 70-130 | 4.65 | 30 | | |
| Chloroform | 0.0509 | 0.020 | ug/L | 0.0488 | 104 | 70-130 | 2.04 | 30 | | |
| Chloromethane | 0.0221 | 0.020 | ug/L | 0.0207 | 107 | 70-130 | 5.17 | 30 | | |
| Dibromochloromethane | 0.0823 | 0.020 | ug/L | 0.0852 | 96.6 | 70-130 | 5.31 | 30 | | |
| 1,2-Dibromoethane (EDB) | 0.0837 | 0.020 | ug/L | 0.0768 | 109 | 70-130 | 3.64 | 30 | | |
| 1,2-Dichlorobenzene | 0.0723 | 0.020 | ug/L | 0.0601 | 120 | 70-130 | 1.85 | 30 | | |
| 1,3-Dichlorobenzene | 0.0742 | 0.020 | ug/L | 0.0601 | 123 | 70-130 | 6.70 | 30 | | |
| 1,4-Dichlorobenzene | 0.0709 | 0.020 | ug/L | 0.0601 | 118 | 70-130 | 0.170 | 30 | | |
| Dichlorodifluoromethane (R12) | 0.0442 | 0.020 | ug/L | 0.0495 | 89.3 | 70-130 | 5.41 | 30 | | |
| 1,1-Dichloroethane | 0.0421 | 0.020 | ug/L | 0.0405 | 104 | 70-130 | 2.73 | 30 | | |
| 1,2-Dichloroethane (EDC) | 0.0428 | 0.0040 | ug/L | 0.0405 | 106 | 70-130 | 6.04 | 30 | | |
| cis-1,2-Dichloroethylene | 0.0401 | 0.020 | ug/L | 0.0396 | 101 | 70-130 | 6.21 | 30 | | |
| 1,1-Dichloroethylene | 0.0419 | 0.020 | ug/L | 0.0396 | 106 | 70-130 | 3.76 | 30 | | |
| trans-1,2-Dichloroethylene | 0.0398 | 0.020 | ug/L | 0.0396 | 100 | 70-130 | 5.21 | 30 | | |
| 1,2-Dichloropropane | 0.0488 | 0.020 | ug/L | 0.0462 | 106 | 70-130 | 4.85 | 30 | | |
| trans-1,3-Dichloropropylene | 0.0453 | 0.020 | ug/L | 0.0454 | 99.9 | 70-130 | 3.77 | 30 | | |
| cis-1,3-Dichloropropylene | 0.0475 | 0.020 | ug/L | 0.0454 | 105 | 70-130 | 5.70 | 30 | | |
| Dichlorotetrafluoroethane | 0.0588 | 0.020 | ug/L | 0.0699 | 84.1 | 70-130 | 9.84 | 30 | | |
| Ethylbenzene | 0.0488 | 0.020 | ug/L | 0.0434 | 112 | 70-130 | 3.81 | 30 | | |
| 4-Ethyltoluene | 0.0431 | 0.020 | ug/L | 0.0492 | 87.6 | 70-130 | 2.43 | 30 | | |
| Hexachlorobutadiene | 0.154 | 0.020 | ug/L | 0.107 | 144 | 70-130 | 1.33 | 30 | QL-06 | |
| 2-Hexanone (MBK) | 0.0341 | 0.020 | ug/L | 0.0410 | 83.2 | 70-130 | 2.19 | 30 | | |
| Isopropanol (IPA) | 0.0200 | 0.20 | ug/L | 0.0216 | 92.4 | 70-130 | 4.79 | 30 | | |
| Methylene Chloride | 0.0332 | 0.020 | ug/L | 0.0347 | 95.6 | 70-130 | 0.833 | 30 | | |
| 4-Methyl-2-pentanone (MIBK) | 0.0383 | 0.020 | ug/L | 0.0410 | 93.6 | 70-130 | 4.14 | 30 | | |
| Styrene | 0.0476 | 0.020 | ug/L | 0.0426 | 112 | 70-130 | 3.37 | 30 | | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control

Batch B1A0618 - *** DEFAULT PREP ***

LCS Dup (B1A0618-BSD1) Continued

Prepared: 12/16/20 Analyzed: 12/17/20

| | | | | | | | | | | |
|--|---------------|-------|------|--------|--|------|--------|------|----|--|
| 1,1,2,2-Tetrachloroethane | 0.0787 | 0.020 | ug/L | 0.0687 | | 115 | 70-130 | 2.38 | 30 | |
| Tetrachloroethylene (PCE) | 0.0753 | 0.010 | ug/L | 0.0679 | | 111 | 70-130 | 5.08 | 30 | |
| Toluene | 0.0395 | 0.020 | ug/L | 0.0377 | | 105 | 70-130 | 3.89 | 30 | |
| 1,2,4-Trichlorobenzene | 0.0915 | 0.020 | ug/L | 0.0742 | | 123 | 70-130 | 5.50 | 30 | |
| 1,1,2-Trichloroethane | 0.0587 | 0.020 | ug/L | 0.0546 | | 108 | 70-130 | 3.79 | 30 | |
| 1,1,1-Trichloroethane | 0.0575 | 0.020 | ug/L | 0.0546 | | 105 | 70-130 | 4.17 | 30 | |
| Trichloroethylene (TCE) | 0.0580 | 0.020 | ug/L | 0.0537 | | 108 | 70-130 | 3.97 | 30 | |
| Trichlorofluoromethane (R11) | 0.0593 | 0.020 | ug/L | 0.0562 | | 106 | 70-130 | 3.77 | 30 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | 0.0812 | 0.020 | ug/L | 0.0766 | | 106 | 70-130 | 4.04 | 30 | |
| 1,3,5-Trimethylbenzene | 0.0625 | 0.020 | ug/L | 0.0492 | | 127 | 70-130 | 2.55 | 30 | |
| 1,2,4-Trimethylbenzene | 0.0587 | 0.020 | ug/L | 0.0492 | | 120 | 70-130 | 1.09 | 30 | |
| Vinyl acetate | 0.0281 | 0.020 | ug/L | 0.0296 | | 95.0 | 70-130 | 4.88 | 30 | |
| Vinyl chloride | 0.0270 | 0.020 | ug/L | 0.0256 | | 106 | 70-130 | 2.78 | 30 | |
| o-Xylene | 0.0490 | 0.020 | ug/L | 0.0434 | | 113 | 70-130 | 4.07 | 30 | |
| m,p-Xylenes | 0.0988 | 0.020 | ug/L | 0.0868 | | 114 | 70-130 | 4.03 | 30 | |
| 1,2,3-Trichloropropane | 0.0636 | 0.020 | ug/L | 0.0603 | | 105 | 70-130 | 3.28 | 30 | |
| sec-Butylbenzene | 0.0587 | 0.020 | ug/L | 0.0549 | | 107 | 70-130 | 3.72 | 30 | |
| Isopropylbenzene | 0.0511 | 0.020 | ug/L | 0.0492 | | 104 | 70-130 | 5.23 | 30 | |
| n-Propylbenzene | 0.0509 | 0.020 | ug/L | 0.0492 | | 104 | 70-130 | 3.94 | 30 | |
| 4-Isopropyltoluene | 0.0581 | 0.020 | ug/L | 0.0549 | | 106 | 70-130 | 3.56 | 30 | |

Surrogate: 4-Bromofluorobenzene 0.140 ug/L 0.143 97.7 70-130

Batch B1A0619 - *** DEFAULT PREP ***

Blank (B1A0619-BLK1)

Prepared & Analyzed: 12/18/20

| | | | | | | | | | | |
|-------------------------------|---------|--------|------|--|--|--|--|--|--|--|
| Acetone | <0.020 | 0.020 | ug/L | | | | | | | |
| Allyl chloride | <0.020 | 0.020 | ug/L | | | | | | | |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | 0.020 | ug/L | | | | | | | |
| Benzene | <0.0030 | 0.0030 | ug/L | | | | | | | |
| Benzyl chloride | <0.020 | 0.020 | ug/L | | | | | | | |
| Bromodichloromethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Bromoform | <0.020 | 0.020 | ug/L | | | | | | | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC %REC | Limit | RPD | RPD Limit | Notes |
|---|---------|-----------------|-------|-------------|---------------|-----------|-------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A0619 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B1A0619-BLK1) Continued | | | | | | | | | | |
| Prepared & Analyzed: 12/18/20 | | | | | | | | | | |
| Bromomethane | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,3-Butadiene | <0.020 | 0.020 | ug/L | | | | | | | |
| 2-Butanone (MEK) | <0.020 | 0.020 | ug/L | | | | | | | |
| tert-Butyl Alcohol (TBA) | <20 | 20 | ug/L | | | | | | | |
| Carbon Disulfide | <0.020 | 0.020 | ug/L | | | | | | | |
| Carbon Tetrachloride | <0.020 | 0.020 | ug/L | | | | | | | |
| Chlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| Chloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Chloroform | <0.020 | 0.020 | ug/L | | | | | | | |
| Chloromethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Cyclohexane | <0.020 | 0.020 | ug/L | | | | | | | |
| Dibromochloromethane | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2-Dibromoethane (EDB) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2-Dichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,3-Dichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,4-Dichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| Dichlorodifluoromethane (R12) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1-Dichloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2-Dichloroethane (EDC) | <0.0040 | 0.0040 | ug/L | | | | | | | |
| cis-1,2-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | | |
| trans-1,2-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2-Dichloropropane | <0.020 | 0.020 | ug/L | | | | | | | |
| trans-1,3-Dichloropropylene | <0.020 | 0.020 | ug/L | | | | | | | |
| cis-1,3-Dichloropropylene | <0.020 | 0.020 | ug/L | | | | | | | |
| Dichlorotetrafluoroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Diisopropyl ether (DIPE) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,4-Dioxane | <0.020 | 0.020 | ug/L | | | | | | | |
| Ethanol | <0.020 | 0.020 | ug/L | | | | | | | |
| Ethyl Acetate | <0.020 | 0.020 | ug/L | | | | | | | |
| Ethylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | 0.020 | ug/L | | | | | | | |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC %REC | Limits | RPD | RPD Limit | Notes |
|---|---------|-----------------|-------|-------------|---------------|-----------|--------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A0619 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B1A0619-BLK1) Continued | | | | | | | | | | |
| Prepared & Analyzed: 12/18/20 | | | | | | | | | | |
| 4-Ethyltoluene | <0.020 | 0.020 | ug/L | | | | | | | |
| Heptane | <0.020 | 0.020 | ug/L | | | | | | | |
| Hexachlorobutadiene | <0.020 | 0.020 | ug/L | | | | | | | |
| n-Hexane | <0.020 | 0.020 | ug/L | | | | | | | |
| 2-Hexanone (MBK) | <0.020 | 0.020 | ug/L | | | | | | | |
| Isopropanol (IPA) | <0.20 | 0.20 | ug/L | | | | | | | |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | 0.020 | ug/L | | | | | | | |
| Methylene Chloride | <0.020 | 0.020 | ug/L | | | | | | | |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | 0.020 | ug/L | | | | | | | |
| Naphthalene | <0.0030 | 0.0030 | ug/L | | | | | | | |
| Propylene | <0.020 | 0.020 | ug/L | | | | | | | |
| Styrene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1,2,2-Tetrachloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Tetrachloroethylene (PCE) | <0.010 | 0.010 | ug/L | | | | | | | |
| Tetrahydrofuran (THF) | <0.020 | 0.020 | ug/L | | | | | | | |
| Toluene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2,4-Trichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1,2-Trichloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1,1-Trichloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Trichloroethylene (TCE) | <0.020 | 0.020 | ug/L | | | | | | | |
| Trichlorofluoromethane (R11) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,3,5-Trimethylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2,4-Trimethylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 2,2,4-Trimethylpentane | <0.020 | 0.020 | ug/L | | | | | | | |
| Vinyl acetate | <0.020 | 0.020 | ug/L | | | | | | | |
| Vinyl bromide | <0.020 | 0.020 | ug/L | | | | | | | |
| Vinyl chloride | <0.020 | 0.020 | ug/L | | | | | | | |
| o-Xylene | <0.020 | 0.020 | ug/L | | | | | | | |
| m,p-Xylenes | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2,3-Trichloropropane | <0.020 | 0.020 | ug/L | | | | | | | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---------------|-----------------|-------------|---------------|---------------|------------|---------------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A0619 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B1A0619-BLK1) Continued | | | | | | | | | | |
| Prepared & Analyzed: 12/18/20 | | | | | | | | | | |
| sec-Butylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| Isopropylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| n-Propylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 4-Isopropyltoluene | <0.020 | 0.020 | ug/L | | | | | | | |
| n-Butylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0368</i> | | <i>ug/L</i> | <i>0.0358</i> | | <i>103</i> | <i>70-130</i> | | | |
| LCS (B1A0619-BS1) | | | | | | | | | | |
| Prepared: 12/18/20 Analyzed: 12/19/20 | | | | | | | | | | |
| Acetone | 0.0255 | 0.020 | ug/L | 0.0238 | | 107 | 70-130 | | 30 | |
| Benzene | 0.0357 | 0.0030 | ug/L | 0.0319 | | 112 | 70-130 | | 30 | |
| Benzyl chloride | 0.0303 | 0.020 | ug/L | 0.0445 | | 68.0 | 70-130 | | 30 | QL-07 |
| Bromodichloromethane | 0.0731 | 0.020 | ug/L | 0.0670 | | 109 | 70-130 | | 30 | |
| Bromoform | 0.0915 | 0.020 | ug/L | 0.103 | | 88.5 | 70-130 | | 30 | |
| Bromomethane | 0.0462 | 0.020 | ug/L | 0.0388 | | 119 | 70-130 | | 30 | |
| 2-Butanone (MEK) | 0.0312 | 0.020 | ug/L | 0.0295 | | 106 | 70-130 | | 30 | |
| Carbon Disulfide | 0.0344 | 0.020 | ug/L | 0.0311 | | 110 | 70-130 | | 30 | |
| Carbon Tetrachloride | 0.0694 | 0.020 | ug/L | 0.0629 | | 110 | 70-130 | | 30 | |
| Chlorobenzene | 0.0523 | 0.020 | ug/L | 0.0460 | | 114 | 70-130 | | 30 | |
| Chloroethane | 0.0318 | 0.020 | ug/L | 0.0264 | | 120 | 70-130 | | 30 | |
| Chloroform | 0.0548 | 0.020 | ug/L | 0.0488 | | 112 | 70-130 | | 30 | |
| Chloromethane | 0.0241 | 0.020 | ug/L | 0.0207 | | 116 | 70-130 | | 30 | |
| Dibromochloromethane | 0.0841 | 0.020 | ug/L | 0.0852 | | 98.7 | 70-130 | | 30 | |
| 1,2-Dibromoethane (EDB) | 0.0874 | 0.020 | ug/L | 0.0768 | | 114 | 70-130 | | 30 | |
| 1,2-Dichlorobenzene | 0.0729 | 0.020 | ug/L | 0.0601 | | 121 | 70-130 | | 30 | |
| 1,3-Dichlorobenzene | 0.0735 | 0.020 | ug/L | 0.0601 | | 122 | 70-130 | | 30 | |
| 1,4-Dichlorobenzene | 0.0705 | 0.020 | ug/L | 0.0601 | | 117 | 70-130 | | 30 | |
| Dichlorodifluoromethane (R12) | 0.0556 | 0.020 | ug/L | 0.0495 | | 112 | 70-130 | | 30 | |
| 1,1-Dichloroethane | 0.0457 | 0.020 | ug/L | 0.0405 | | 113 | 70-130 | | 30 | |
| 1,2-Dichloroethane (EDC) | 0.0449 | 0.0040 | ug/L | 0.0405 | | 111 | 70-130 | | 30 | |
| cis-1,2-Dichloroethylene | 0.0444 | 0.020 | ug/L | 0.0396 | | 112 | 70-130 | | 30 | |
| 1,1-Dichloroethylene | 0.0494 | 0.020 | ug/L | 0.0396 | | 125 | 70-130 | | 30 | |
| trans-1,2-Dichloroethylene | 0.0447 | 0.020 | ug/L | 0.0396 | | 113 | 70-130 | | 30 | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---------------|-----------------|-------|-------------|---------------------------------------|------|-------------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A0619 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| LCS (B1A0619-BS1) Continued | | | | | | | | | | |
| | | | | | Prepared: 12/18/20 Analyzed: 12/19/20 | | | | | |
| 1,2-Dichloropropane | 0.0512 | 0.020 | ug/L | 0.0462 | | 111 | 70-130 | | 30 | |
| trans-1,3-Dichloropropylene | 0.0496 | 0.020 | ug/L | 0.0454 | | 109 | 70-130 | | 30 | |
| cis-1,3-Dichloropropylene | 0.0508 | 0.020 | ug/L | 0.0454 | | 112 | 70-130 | | 30 | |
| Dichlorotetrafluoroethane | 0.0870 | 0.020 | ug/L | 0.0699 | | 124 | 70-130 | | 30 | |
| Ethylbenzene | 0.0501 | 0.020 | ug/L | 0.0434 | | 115 | 70-130 | | 30 | |
| 4-Ethyltoluene | 0.0441 | 0.020 | ug/L | 0.0492 | | 89.8 | 70-130 | | 30 | |
| Hexachlorobutadiene | 0.160 | 0.020 | ug/L | 0.107 | | 150 | 70-130 | | 30 | QL-06 |
| 2-Hexanone (MBK) | 0.0373 | 0.020 | ug/L | 0.0410 | | 91.1 | 70-130 | | 30 | |
| Isopropanol (IPA) | 0.0242 | 0.20 | ug/L | 0.0216 | | 112 | 70-130 | | 30 | |
| Methylene Chloride | 0.0371 | 0.020 | ug/L | 0.0347 | | 107 | 70-130 | | 30 | |
| 4-Methyl-2-pentanone (MIBK) | 0.0410 | 0.020 | ug/L | 0.0410 | | 100 | 70-130 | | 30 | |
| Styrene | 0.0470 | 0.020 | ug/L | 0.0426 | | 110 | 70-130 | | 30 | |
| 1,1,2,2-Tetrachloroethane | 0.0791 | 0.020 | ug/L | 0.0687 | | 115 | 70-130 | | 30 | |
| Tetrachloroethylene (PCE) | 0.0750 | 0.010 | ug/L | 0.0679 | | 111 | 70-130 | | 30 | |
| Toluene | 0.0422 | 0.020 | ug/L | 0.0377 | | 112 | 70-130 | | 30 | |
| 1,2,4-Trichlorobenzene | 0.0907 | 0.020 | ug/L | 0.0742 | | 122 | 70-130 | | 30 | |
| 1,1,2-Trichloroethane | 0.0596 | 0.020 | ug/L | 0.0546 | | 109 | 70-130 | | 30 | |
| 1,1,1-Trichloroethane | 0.0610 | 0.020 | ug/L | 0.0546 | | 112 | 70-130 | | 30 | |
| Trichloroethylene (TCE) | 0.0596 | 0.020 | ug/L | 0.0537 | | 111 | 70-130 | | 30 | |
| Trichlorofluoromethane (R11) | 0.0658 | 0.020 | ug/L | 0.0562 | | 117 | 70-130 | | 30 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | 0.0849 | 0.020 | ug/L | 0.0766 | | 111 | 70-130 | | 30 | |
| 1,3,5-Trimethylbenzene | 0.0644 | 0.020 | ug/L | 0.0492 | | 131 | 70-130 | | 30 | QL-02 |
| 1,2,4-Trimethylbenzene | 0.0604 | 0.020 | ug/L | 0.0492 | | 123 | 70-130 | | 30 | |
| Vinyl acetate | 0.0314 | 0.020 | ug/L | 0.0296 | | 106 | 70-130 | | 30 | |
| Vinyl chloride | 0.0315 | 0.020 | ug/L | 0.0256 | | 123 | 70-130 | | 30 | |
| o-Xylene | 0.0515 | 0.020 | ug/L | 0.0434 | | 118 | 70-130 | | 30 | |
| m,p-Xylenes | 0.107 | 0.020 | ug/L | 0.0868 | | 123 | 70-130 | | 30 | |
| 1,2,3-Trichloropropane | 0.0605 | 0.020 | ug/L | 0.0603 | | 100 | 70-130 | | 30 | |
| sec-Butylbenzene | 0.0595 | 0.020 | ug/L | 0.0549 | | 108 | 70-130 | | 30 | |
| Isopropylbenzene | 0.0506 | 0.020 | ug/L | 0.0492 | | 103 | 70-130 | | 30 | |
| n-Propylbenzene | 0.0517 | 0.020 | ug/L | 0.0492 | | 105 | 70-130 | | 30 | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---------------|-----------------|-------------|---------------------------------------|---------------|---------------|-------------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A0619 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| LCS (B1A0619-BS1) Continued | | | | Prepared: 12/18/20 Analyzed: 12/19/20 | | | | | | |
| 4-Isopropyltoluene | 0.0600 | 0.020 | ug/L | 0.0549 | 109 | 70-130 | | 30 | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.145</i> | | <i>ug/L</i> | <i>0.143</i> | <i>101</i> | <i>70-130</i> | | | | |
| LCS Dup (B1A0619-BSD1) | | | | Prepared: 12/18/20 Analyzed: 12/19/20 | | | | | | |
| Acetone | 0.0252 | 0.020 | ug/L | 0.0238 | 106 | 70-130 | 1.03 | 30 | | |
| Benzene | 0.0350 | 0.0030 | ug/L | 0.0319 | 110 | 70-130 | 1.81 | 30 | | |
| Benzyl chloride | 0.0297 | 0.020 | ug/L | 0.0445 | 66.6 | 70-130 | 2.07 | 30 | | QL-07 |
| Bromodichloromethane | 0.0702 | 0.020 | ug/L | 0.0670 | 105 | 70-130 | 4.02 | 30 | | |
| Bromoform | 0.0927 | 0.020 | ug/L | 0.103 | 89.7 | 70-130 | 1.35 | 30 | | |
| Bromomethane | 0.0455 | 0.020 | ug/L | 0.0388 | 117 | 70-130 | 1.35 | 30 | | |
| 2-Butanone (MEK) | 0.0298 | 0.020 | ug/L | 0.0295 | 101 | 70-130 | 4.54 | 30 | | |
| Carbon Disulfide | 0.0336 | 0.020 | ug/L | 0.0311 | 108 | 70-130 | 2.38 | 30 | | |
| Carbon Tetrachloride | 0.0683 | 0.020 | ug/L | 0.0629 | 108 | 70-130 | 1.65 | 30 | | |
| Chlorobenzene | 0.0514 | 0.020 | ug/L | 0.0460 | 112 | 70-130 | 1.77 | 30 | | |
| Chloroethane | 0.0311 | 0.020 | ug/L | 0.0264 | 118 | 70-130 | 2.01 | 30 | | |
| Chloroform | 0.0530 | 0.020 | ug/L | 0.0488 | 109 | 70-130 | 3.35 | 30 | | |
| Chloromethane | 0.0256 | 0.020 | ug/L | 0.0207 | 124 | 70-130 | 6.40 | 30 | | |
| Dibromochloromethane | 0.0829 | 0.020 | ug/L | 0.0852 | 97.3 | 70-130 | 1.43 | 30 | | |
| 1,2-Dibromoethane (EDB) | 0.0856 | 0.020 | ug/L | 0.0768 | 111 | 70-130 | 2.13 | 30 | | |
| 1,2-Dichlorobenzene | 0.0712 | 0.020 | ug/L | 0.0601 | 118 | 70-130 | 2.34 | 30 | | |
| 1,3-Dichlorobenzene | 0.0750 | 0.020 | ug/L | 0.0601 | 125 | 70-130 | 2.02 | 30 | | |
| 1,4-Dichlorobenzene | 0.0685 | 0.020 | ug/L | 0.0601 | 114 | 70-130 | 2.94 | 30 | | |
| Dichlorodifluoromethane (R12) | 0.0560 | 0.020 | ug/L | 0.0495 | 113 | 70-130 | 0.620 | 30 | | |
| 1,1-Dichloroethane | 0.0455 | 0.020 | ug/L | 0.0405 | 112 | 70-130 | 0.532 | 30 | | |
| 1,2-Dichloroethane (EDC) | 0.0435 | 0.0040 | ug/L | 0.0405 | 107 | 70-130 | 3.21 | 30 | | |
| cis-1,2-Dichloroethylene | 0.0433 | 0.020 | ug/L | 0.0396 | 109 | 70-130 | 2.44 | 30 | | |
| 1,1-Dichloroethylene | 0.0493 | 0.020 | ug/L | 0.0396 | 124 | 70-130 | 0.161 | 30 | | |
| trans-1,2-Dichloroethylene | 0.0435 | 0.020 | ug/L | 0.0396 | 110 | 70-130 | 2.88 | 30 | | |
| 1,2-Dichloropropane | 0.0500 | 0.020 | ug/L | 0.0462 | 108 | 70-130 | 2.56 | 30 | | |
| trans-1,3-Dichloropropylene | 0.0493 | 0.020 | ug/L | 0.0454 | 109 | 70-130 | 0.459 | 30 | | |
| cis-1,3-Dichloropropylene | 0.0492 | 0.020 | ug/L | 0.0454 | 108 | 70-130 | 3.09 | 30 | | |
| Dichlorotetrafluoroethane | 0.0874 | 0.020 | ug/L | 0.0699 | 125 | 70-130 | 0.401 | 30 | | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|--------|-----------------|-------|-------------|---------------------------------------|--------|-------------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| Batch B1A0619 - *** DEFAULT PREP *** | | | | | | | | | | |
| LCS Dup (B1A0619-BSD1) Continued | | | | | | | | | | |
| | | | | | Prepared: 12/18/20 Analyzed: 12/19/20 | | | | | |
| Ethylbenzene | 0.0494 | 0.020 | ug/L | 0.0434 | 114 | 70-130 | 1.48 | 30 | | |
| 4-Ethyltoluene | 0.0433 | 0.020 | ug/L | 0.0492 | 88.0 | 70-130 | 2.02 | 30 | | |
| Hexachlorobutadiene | 0.155 | 0.020 | ug/L | 0.107 | 146 | 70-130 | 2.64 | 30 | | QL-06 |
| 2-Hexanone (MBK) | 0.0367 | 0.020 | ug/L | 0.0410 | 89.7 | 70-130 | 1.55 | 30 | | |
| Isopropanol (IPA) | 0.0240 | 0.20 | ug/L | 0.0216 | 111 | 70-130 | 0.714 | 30 | | |
| Methylene Chloride | 0.0370 | 0.020 | ug/L | 0.0347 | 107 | 70-130 | 0.0938 | 30 | | |
| 4-Methyl-2-pentanone (MIBK) | 0.0410 | 0.020 | ug/L | 0.0410 | 100 | 70-130 | 0.200 | 30 | | |
| Styrene | 0.0463 | 0.020 | ug/L | 0.0426 | 109 | 70-130 | 1.55 | 30 | | |
| 1,1,2,2-Tetrachloroethane | 0.0774 | 0.020 | ug/L | 0.0687 | 113 | 70-130 | 2.19 | 30 | | |
| Tetrachloroethylene (PCE) | 0.0756 | 0.010 | ug/L | 0.0679 | 111 | 70-130 | 0.721 | 30 | | |
| Toluene | 0.0409 | 0.020 | ug/L | 0.0377 | 108 | 70-130 | 3.27 | 30 | | |
| 1,2,4-Trichlorobenzene | 0.0877 | 0.020 | ug/L | 0.0742 | 118 | 70-130 | 3.33 | 30 | | |
| 1,1,2-Trichloroethane | 0.0600 | 0.020 | ug/L | 0.0546 | 110 | 70-130 | 0.638 | 30 | | |
| 1,1,1-Trichloroethane | 0.0595 | 0.020 | ug/L | 0.0546 | 109 | 70-130 | 2.44 | 30 | | |
| Trichloroethylene (TCE) | 0.0590 | 0.020 | ug/L | 0.0537 | 110 | 70-130 | 0.997 | 30 | | |
| Trichlorofluoromethane (R11) | 0.0662 | 0.020 | ug/L | 0.0562 | 118 | 70-130 | 0.595 | 30 | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | 0.0845 | 0.020 | ug/L | 0.0766 | 110 | 70-130 | 0.452 | 30 | | |
| 1,3,5-Trimethylbenzene | 0.0623 | 0.020 | ug/L | 0.0492 | 127 | 70-130 | 3.33 | 30 | | |
| 1,2,4-Trimethylbenzene | 0.0600 | 0.020 | ug/L | 0.0492 | 122 | 70-130 | 0.735 | 30 | | |
| Vinyl acetate | 0.0305 | 0.020 | ug/L | 0.0296 | 103 | 70-130 | 3.19 | 30 | | |
| Vinyl chloride | 0.0308 | 0.020 | ug/L | 0.0256 | 120 | 70-130 | 2.38 | 30 | | |
| o-Xylene | 0.0501 | 0.020 | ug/L | 0.0434 | 115 | 70-130 | 2.74 | 30 | | |
| m,p-Xylenes | 0.105 | 0.020 | ug/L | 0.0868 | 121 | 70-130 | 1.89 | 30 | | |
| 1,2,3-Trichloropropane | 0.0596 | 0.020 | ug/L | 0.0603 | 98.8 | 70-130 | 1.61 | 30 | | |
| sec-Butylbenzene | 0.0570 | 0.020 | ug/L | 0.0549 | 104 | 70-130 | 4.24 | 30 | | |
| Isopropylbenzene | 0.0488 | 0.020 | ug/L | 0.0492 | 99.2 | 70-130 | 3.66 | 30 | | |
| n-Propylbenzene | 0.0499 | 0.020 | ug/L | 0.0492 | 102 | 70-130 | 3.39 | 30 | | |
| 4-Isopropyltoluene | 0.0574 | 0.020 | ug/L | 0.0549 | 104 | 70-130 | 4.49 | 30 | | |
| Surrogate: 4-Bromofluorobenzene | 0.144 | | ug/L | 0.143 | 100 | 70-130 | | | | |
| Batch B1A0620 - *** DEFAULT PREP *** | | | | | | | | | | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC %REC | Limit | RPD | RPD Limit | Notes |
|---|---------|-----------------|-------|-------------|---------------|-----------|-------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A0620 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B1A0620-BLK1) | | | | | | | | | | |
| Prepared & Analyzed: 01/04/21 | | | | | | | | | | |
| Acetone | <0.020 | 0.020 | ug/L | | | | | | | |
| Allyl chloride | <0.020 | 0.020 | ug/L | | | | | | | |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | 0.020 | ug/L | | | | | | | |
| Benzene | <0.0030 | 0.0030 | ug/L | | | | | | | |
| Benzyl chloride | <0.020 | 0.020 | ug/L | | | | | | | |
| Bromodichloromethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Bromoform | <0.020 | 0.020 | ug/L | | | | | | | |
| Bromomethane | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,3-Butadiene | <0.020 | 0.020 | ug/L | | | | | | | |
| 2-Butanone (MEK) | <0.020 | 0.020 | ug/L | | | | | | | |
| tert-Butyl Alcohol (TBA) | <20 | 20 | ug/L | | | | | | | |
| Carbon Disulfide | <0.020 | 0.020 | ug/L | | | | | | | |
| Carbon Tetrachloride | <0.020 | 0.020 | ug/L | | | | | | | |
| Chlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| Chloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Chloroform | <0.020 | 0.020 | ug/L | | | | | | | |
| Chloromethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Cyclohexane | <0.020 | 0.020 | ug/L | | | | | | | |
| Dibromochloromethane | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2-Dibromoethane (EDB) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2-Dichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,3-Dichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,4-Dichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| Dichlorodifluoromethane (R12) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1-Dichloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2-Dichloroethane (EDC) | <0.0040 | 0.0040 | ug/L | | | | | | | |
| cis-1,2-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | | |
| trans-1,2-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2-Dichloropropane | <0.020 | 0.020 | ug/L | | | | | | | |
| trans-1,3-Dichloropropylene | <0.020 | 0.020 | ug/L | | | | | | | |
| cis-1,3-Dichloropropylene | <0.020 | 0.020 | ug/L | | | | | | | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC %REC | Limit | RPD | RPD Limit | Notes |
|---|---------|-----------------|-------|-------------|---------------|-----------|-------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A0620 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B1A0620-BLK1) Continued | | | | | | | | | | |
| Prepared & Analyzed: 01/04/21 | | | | | | | | | | |
| Dichlorotetrafluoroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Diisopropyl ether (DIPE) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,4-Dioxane | <0.020 | 0.020 | ug/L | | | | | | | |
| Ethanol | <0.020 | 0.020 | ug/L | | | | | | | |
| Ethyl Acetate | <0.020 | 0.020 | ug/L | | | | | | | |
| Ethylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | 0.020 | ug/L | | | | | | | |
| 4-Ethyltoluene | <0.020 | 0.020 | ug/L | | | | | | | |
| Heptane | <0.020 | 0.020 | ug/L | | | | | | | |
| Hexachlorobutadiene | <0.020 | 0.020 | ug/L | | | | | | | |
| n-Hexane | <0.020 | 0.020 | ug/L | | | | | | | |
| 2-Hexanone (MBK) | <0.020 | 0.020 | ug/L | | | | | | | |
| Isopropanol (IPA) | <0.20 | 0.20 | ug/L | | | | | | | |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | 0.020 | ug/L | | | | | | | |
| Methylene Chloride | <0.020 | 0.020 | ug/L | | | | | | | |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | 0.020 | ug/L | | | | | | | |
| Naphthalene | <0.0030 | 0.0030 | ug/L | | | | | | | |
| Propylene | <0.020 | 0.020 | ug/L | | | | | | | |
| Styrene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1,2,2-Tetrachloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Tetrachloroethylene (PCE) | <0.010 | 0.010 | ug/L | | | | | | | |
| Tetrahydrofuran (THF) | <0.020 | 0.020 | ug/L | | | | | | | |
| Toluene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2,4-Trichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1,2-Trichloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1,1-Trichloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Trichloroethylene (TCE) | <0.020 | 0.020 | ug/L | | | | | | | |
| Trichlorofluoromethane (R11) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,3,5-Trimethylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2,4-Trimethylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---------------|-----------------|-------------|--------------|---------------|-------------|---------------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| Batch B1A0620 - *** DEFAULT PREP *** | | | | | | | | | | |
| Blank (B1A0620-BLK1) Continued | | | | | | | | | | |
| Prepared & Analyzed: 01/04/21 | | | | | | | | | | |
| 2,2,4-Trimethylpentane | <0.020 | 0.020 | ug/L | | | | | | | |
| Vinyl acetate | <0.020 | 0.020 | ug/L | | | | | | | |
| Vinyl bromide | <0.020 | 0.020 | ug/L | | | | | | | |
| Vinyl chloride | <0.020 | 0.020 | ug/L | | | | | | | |
| o-Xylene | <0.020 | 0.020 | ug/L | | | | | | | |
| m,p-Xylenes | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2,3-Trichloropropane | <0.020 | 0.020 | ug/L | | | | | | | |
| sec-Butylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| Isopropylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| n-Propylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 4-Isopropyltoluene | <0.020 | 0.020 | ug/L | | | | | | | |
| n-Butylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.138</i> | | <i>ug/L</i> | <i>0.143</i> | | <i>96.2</i> | <i>70-130</i> | | | |
| LCS (B1A0620-BS1) | | | | | | | | | | |
| Prepared & Analyzed: 01/04/21 | | | | | | | | | | |
| Acetone | 0.0253 | 0.020 | ug/L | 0.0238 | | 107 | 70-130 | | 30 | |
| Benzene | 0.0370 | 0.0030 | ug/L | 0.0319 | | 116 | 70-130 | | 30 | |
| Benzyl chloride | 0.0330 | 0.020 | ug/L | 0.0445 | | 74.1 | 70-130 | | 30 | |
| Bromodichloromethane | 0.0876 | 0.020 | ug/L | 0.0670 | | 131 | 70-130 | | 30 | QL-06 |
| Bromoform | 0.0905 | 0.020 | ug/L | 0.103 | | 87.5 | 70-130 | | 30 | |
| Bromomethane | 0.0368 | 0.020 | ug/L | 0.0388 | | 94.7 | 70-130 | | 30 | |
| 2-Butanone (MEK) | 0.0316 | 0.020 | ug/L | 0.0295 | | 107 | 70-130 | | 30 | |
| Carbon Disulfide | 0.0354 | 0.020 | ug/L | 0.0311 | | 114 | 70-130 | | 30 | |
| Carbon Tetrachloride | 0.0974 | 0.020 | ug/L | 0.0629 | | 155 | 70-130 | | 30 | QL-06 |
| Chlorobenzene | 0.0490 | 0.020 | ug/L | 0.0460 | | 106 | 70-130 | | 30 | |
| Chloroethane | 0.0246 | 0.020 | ug/L | 0.0264 | | 93.3 | 70-130 | | 30 | |
| Chloroform | 0.0647 | 0.020 | ug/L | 0.0488 | | 132 | 70-130 | | 30 | QL-02 |
| Chloromethane | 0.0221 | 0.020 | ug/L | 0.0207 | | 107 | 70-130 | | 30 | |
| Dibromochloromethane | 0.100 | 0.020 | ug/L | 0.0852 | | 118 | 70-130 | | 30 | |
| 1,2-Dibromoethane (EDB) | 0.0941 | 0.020 | ug/L | 0.0768 | | 122 | 70-130 | | 30 | |
| 1,2-Dichlorobenzene | 0.0551 | 0.020 | ug/L | 0.0601 | | 91.7 | 70-130 | | 30 | |
| 1,3-Dichlorobenzene | 0.0567 | 0.020 | ug/L | 0.0601 | | 94.3 | 70-130 | | 30 | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---------------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A0620 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| LCS (B1A0620-BS1) Continued | | | | | | | | | | |
| Prepared & Analyzed: 01/04/21 | | | | | | | | | | |
| 1,4-Dichlorobenzene | 0.0543 | 0.020 | ug/L | 0.0601 | | 90.3 | 70-130 | | 30 | |
| Dichlorodifluoromethane (R12) | 0.0815 | 0.020 | ug/L | 0.0495 | | 165 | 70-130 | | 30 | QL-06 |
| 1,1-Dichloroethane | 0.0494 | 0.020 | ug/L | 0.0405 | | 122 | 70-130 | | 30 | |
| 1,2-Dichloroethane (EDC) | 0.0557 | 0.0040 | ug/L | 0.0405 | | 138 | 70-130 | | 30 | QL-06 |
| cis-1,2-Dichloroethylene | 0.0551 | 0.020 | ug/L | 0.0396 | | 139 | 70-130 | | 30 | QL-02 |
| 1,1-Dichloroethylene | 0.0566 | 0.020 | ug/L | 0.0396 | | 143 | 70-130 | | 30 | QL-02 |
| trans-1,2-Dichloroethylene | 0.0513 | 0.020 | ug/L | 0.0396 | | 130 | 70-130 | | 30 | |
| 1,2-Dichloropropane | 0.0572 | 0.020 | ug/L | 0.0462 | | 124 | 70-130 | | 30 | |
| trans-1,3-Dichloropropylene | 0.0566 | 0.020 | ug/L | 0.0454 | | 125 | 70-130 | | 30 | |
| cis-1,3-Dichloropropylene | 0.0595 | 0.020 | ug/L | 0.0454 | | 131 | 70-130 | | 30 | QL-06 |
| Dichlorotetrafluoroethane | 0.0844 | 0.020 | ug/L | 0.0699 | | 121 | 70-130 | | 30 | |
| Ethylbenzene | 0.0509 | 0.020 | ug/L | 0.0434 | | 117 | 70-130 | | 30 | |
| 4-Ethyltoluene | 0.0393 | 0.020 | ug/L | 0.0492 | | 79.9 | 70-130 | | 30 | |
| Hexachlorobutadiene | 0.0908 | 0.020 | ug/L | 0.107 | | 85.1 | 70-130 | | 30 | |
| 2-Hexanone (MBK) | 0.0462 | 0.020 | ug/L | 0.0410 | | 113 | 70-130 | | 30 | |
| Isopropanol (IPA) | 0.0279 | 0.20 | ug/L | 0.0216 | | 129 | 70-130 | | 30 | |
| Methylene Chloride | 0.0357 | 0.020 | ug/L | 0.0347 | | 103 | 70-130 | | 30 | |
| 4-Methyl-2-pentanone (MIBK) | 0.0533 | 0.020 | ug/L | 0.0410 | | 130 | 70-130 | | 30 | |
| Styrene | 0.0426 | 0.020 | ug/L | 0.0426 | | 100 | 70-130 | | 30 | |
| 1,1,2,2-Tetrachloroethane | 0.0726 | 0.020 | ug/L | 0.0687 | | 106 | 70-130 | | 30 | |
| Tetrachloroethylene (PCE) | 0.0859 | 0.010 | ug/L | 0.0679 | | 127 | 70-130 | | 30 | |
| Toluene | 0.0491 | 0.020 | ug/L | 0.0377 | | 130 | 70-130 | | 30 | |
| 1,2,4-Trichlorobenzene | 0.0572 | 0.020 | ug/L | 0.0742 | | 77.1 | 70-130 | | 30 | |
| 1,1,2-Trichloroethane | 0.0667 | 0.020 | ug/L | 0.0546 | | 122 | 70-130 | | 30 | |
| 1,1,1-Trichloroethane | 0.0827 | 0.020 | ug/L | 0.0546 | | 152 | 70-130 | | 30 | QL-06 |
| Trichloroethylene (TCE) | 0.0657 | 0.020 | ug/L | 0.0537 | | 122 | 70-130 | | 30 | |
| Trichlorofluoromethane (R11) | 0.0880 | 0.020 | ug/L | 0.0562 | | 157 | 70-130 | | 30 | QL-06 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | 0.101 | 0.020 | ug/L | 0.0766 | | 132 | 70-130 | | 30 | QL-02 |
| 1,3,5-Trimethylbenzene | 0.0590 | 0.020 | ug/L | 0.0492 | | 120 | 70-130 | | 30 | |
| 1,2,4-Trimethylbenzene | 0.0570 | 0.020 | ug/L | 0.0492 | | 116 | 70-130 | | 30 | |
| Vinyl acetate | 0.0330 | 0.020 | ug/L | 0.0296 | | 111 | 70-130 | | 30 | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|--------------|-----------------|-------------|--------------|---------------|------------|---------------|-------|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A0620 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| LCS (B1A0620-BS1) Continued | | | | | | | | | | |
| Prepared & Analyzed: 01/04/21 | | | | | | | | | | |
| Vinyl chloride | 0.0246 | 0.020 | ug/L | 0.0256 | | 96.1 | 70-130 | | 30 | |
| o-Xylene | 0.0514 | 0.020 | ug/L | 0.0434 | | 118 | 70-130 | | 30 | |
| m,p-Xylenes | 0.0938 | 0.020 | ug/L | 0.0868 | | 108 | 70-130 | | 30 | |
| 1,2,3-Trichloropropane | 0.0434 | 0.020 | ug/L | 0.0603 | | 71.9 | 70-130 | | 30 | |
| sec-Butylbenzene | 0.0405 | 0.020 | ug/L | 0.0549 | | 73.7 | 70-130 | | 30 | |
| Isopropylbenzene | 0.0407 | 0.020 | ug/L | 0.0492 | | 82.8 | 70-130 | | 30 | |
| n-Propylbenzene | 0.0385 | 0.020 | ug/L | 0.0492 | | 78.3 | 70-130 | | 30 | |
| 4-Isopropyltoluene | 0.0386 | 0.020 | ug/L | 0.0549 | | 70.4 | 70-130 | | 30 | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.151</i> | | <i>ug/L</i> | <i>0.143</i> | | <i>106</i> | <i>70-130</i> | | | |
| LCS Dup (B1A0620-BSD1) | | | | | | | | | | |
| Prepared & Analyzed: 01/04/21 | | | | | | | | | | |
| Acetone | 0.0257 | 0.020 | ug/L | 0.0238 | | 108 | 70-130 | 1.58 | 30 | |
| Benzene | 0.0363 | 0.0030 | ug/L | 0.0319 | | 114 | 70-130 | 1.74 | 30 | |
| Benzyl chloride | 0.0340 | 0.020 | ug/L | 0.0445 | | 76.3 | 70-130 | 2.94 | 30 | |
| Bromodichloromethane | 0.0915 | 0.020 | ug/L | 0.0670 | | 137 | 70-130 | 4.41 | 30 | QL-06 |
| Bromoform | 0.0937 | 0.020 | ug/L | 0.103 | | 90.6 | 70-130 | 3.48 | 30 | |
| Bromomethane | 0.0319 | 0.020 | ug/L | 0.0388 | | 82.2 | 70-130 | 14.1 | 30 | |
| 2-Butanone (MEK) | 0.0301 | 0.020 | ug/L | 0.0295 | | 102 | 70-130 | 4.78 | 30 | |
| Carbon Disulfide | 0.0320 | 0.020 | ug/L | 0.0311 | | 103 | 70-130 | 10.1 | 30 | |
| Carbon Tetrachloride | 0.0998 | 0.020 | ug/L | 0.0629 | | 159 | 70-130 | 2.43 | 30 | QL-06 |
| Chlorobenzene | 0.0502 | 0.020 | ug/L | 0.0460 | | 109 | 70-130 | 2.41 | 30 | |
| Chloroethane | 0.0217 | 0.020 | ug/L | 0.0264 | | 82.3 | 70-130 | 12.5 | 30 | |
| Chloroform | 0.0630 | 0.020 | ug/L | 0.0488 | | 129 | 70-130 | 2.60 | 30 | |
| Chloromethane | 0.0192 | 0.020 | ug/L | 0.0207 | | 93.2 | 70-130 | 13.9 | 30 | |
| Dibromochloromethane | 0.104 | 0.020 | ug/L | 0.0852 | | 122 | 70-130 | 3.43 | 30 | |
| 1,2-Dibromoethane (EDB) | 0.102 | 0.020 | ug/L | 0.0768 | | 133 | 70-130 | 7.92 | 30 | QL-03 |
| 1,2-Dichlorobenzene | 0.0594 | 0.020 | ug/L | 0.0601 | | 98.8 | 70-130 | 7.45 | 30 | |
| 1,3-Dichlorobenzene | 0.0547 | 0.020 | ug/L | 0.0601 | | 90.9 | 70-130 | 3.67 | 30 | |
| 1,4-Dichlorobenzene | 0.0575 | 0.020 | ug/L | 0.0601 | | 95.7 | 70-130 | 5.81 | 30 | |
| Dichlorodifluoromethane (R12) | 0.0659 | 0.020 | ug/L | 0.0495 | | 133 | 70-130 | 21.2 | 30 | QL-06 |
| 1,1-Dichloroethane | 0.0499 | 0.020 | ug/L | 0.0405 | | 123 | 70-130 | 0.979 | 30 | |
| 1,2-Dichloroethane (EDC) | 0.0569 | 0.0040 | ug/L | 0.0405 | | 140 | 70-130 | 2.09 | 30 | QL-06 |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|--------|-----------------|-------|-------------|---------------|--------|-------------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A0620 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| LCS Dup (B1A0620-BSD1) Continued | | | | | | | | | | |
| Prepared & Analyzed: 01/04/21 | | | | | | | | | | |
| cis-1,2-Dichloroethylene | 0.0514 | 0.020 | ug/L | 0.0396 | 130 | 70-130 | 6.93 | 30 | | |
| 1,1-Dichloroethylene | 0.0515 | 0.020 | ug/L | 0.0396 | 130 | 70-130 | 9.39 | 30 | | |
| trans-1,2-Dichloroethylene | 0.0479 | 0.020 | ug/L | 0.0396 | 121 | 70-130 | 6.95 | 30 | | |
| 1,2-Dichloropropane | 0.0586 | 0.020 | ug/L | 0.0462 | 127 | 70-130 | 2.55 | 30 | | |
| trans-1,3-Dichloropropylene | 0.0604 | 0.020 | ug/L | 0.0454 | 133 | 70-130 | 6.36 | 30 | | QL-03 |
| cis-1,3-Dichloropropylene | 0.0606 | 0.020 | ug/L | 0.0454 | 134 | 70-130 | 1.97 | 30 | | QL-06 |
| Dichlorotetrafluoroethane | 0.0760 | 0.020 | ug/L | 0.0699 | 109 | 70-130 | 10.5 | 30 | | |
| Ethylbenzene | 0.0523 | 0.020 | ug/L | 0.0434 | 120 | 70-130 | 2.69 | 30 | | |
| 4-Ethyltoluene | 0.0410 | 0.020 | ug/L | 0.0492 | 83.5 | 70-130 | 4.41 | 30 | | |
| Hexachlorobutadiene | 0.0948 | 0.020 | ug/L | 0.107 | 88.9 | 70-130 | 4.37 | 30 | | |
| 2-Hexanone (MBK) | 0.0517 | 0.020 | ug/L | 0.0410 | 126 | 70-130 | 11.4 | 30 | | |
| Isopropanol (IPA) | 0.0261 | 0.20 | ug/L | 0.0216 | 120 | 70-130 | 7.01 | 30 | | |
| Methylene Chloride | 0.0325 | 0.020 | ug/L | 0.0347 | 93.6 | 70-130 | 9.37 | 30 | | |
| 4-Methyl-2-pentanone (MIBK) | 0.0549 | 0.020 | ug/L | 0.0410 | 134 | 70-130 | 2.80 | 30 | | QL-03 |
| Styrene | 0.0444 | 0.020 | ug/L | 0.0426 | 104 | 70-130 | 4.21 | 30 | | |
| 1,1,2,2-Tetrachloroethane | 0.0732 | 0.020 | ug/L | 0.0687 | 107 | 70-130 | 0.753 | 30 | | |
| Tetrachloroethylene (PCE) | 0.0889 | 0.010 | ug/L | 0.0679 | 131 | 70-130 | 3.42 | 30 | | QL-03 |
| Toluene | 0.0509 | 0.020 | ug/L | 0.0377 | 135 | 70-130 | 3.62 | 30 | | QL-03 |
| 1,2,4-Trichlorobenzene | 0.0627 | 0.020 | ug/L | 0.0742 | 84.5 | 70-130 | 9.16 | 30 | | |
| 1,1,2-Trichloroethane | 0.0665 | 0.020 | ug/L | 0.0546 | 122 | 70-130 | 0.328 | 30 | | |
| 1,1,1-Trichloroethane | 0.0781 | 0.020 | ug/L | 0.0546 | 143 | 70-130 | 5.63 | 30 | | QL-06 |
| Trichloroethylene (TCE) | 0.0651 | 0.020 | ug/L | 0.0537 | 121 | 70-130 | 0.904 | 30 | | |
| Trichlorofluoromethane (R11) | 0.0837 | 0.020 | ug/L | 0.0562 | 149 | 70-130 | 5.10 | 30 | | QL-06 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | 0.0940 | 0.020 | ug/L | 0.0766 | 123 | 70-130 | 7.53 | 30 | | |
| 1,3,5-Trimethylbenzene | 0.0593 | 0.020 | ug/L | 0.0492 | 121 | 70-130 | 0.498 | 30 | | |
| 1,2,4-Trimethylbenzene | 0.0593 | 0.020 | ug/L | 0.0492 | 121 | 70-130 | 3.89 | 30 | | |
| Vinyl acetate | 0.0319 | 0.020 | ug/L | 0.0296 | 108 | 70-130 | 3.37 | 30 | | |
| Vinyl chloride | 0.0214 | 0.020 | ug/L | 0.0256 | 83.7 | 70-130 | 13.8 | 30 | | |
| o-Xylene | 0.0518 | 0.020 | ug/L | 0.0434 | 119 | 70-130 | 0.757 | 30 | | |
| m,p-Xylenes | 0.0966 | 0.020 | ug/L | 0.0868 | 111 | 70-130 | 2.96 | 30 | | |
| 1,2,3-Trichloropropane | 0.0455 | 0.020 | ug/L | 0.0603 | 75.5 | 70-130 | 4.88 | 30 | | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---------------|-----------------|-------------|--------------|-------------------------------|---------------|-------------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A0620 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| LCS Dup (B1A0620-BSD1) Continued | | | | | Prepared & Analyzed: 01/04/21 | | | | | |
| sec-Butylbenzene | 0.0414 | 0.020 | ug/L | 0.0549 | 75.5 | 70-130 | 2.41 | 30 | | |
| Isopropylbenzene | 0.0414 | 0.020 | ug/L | 0.0492 | 84.2 | 70-130 | 1.68 | 30 | | |
| n-Propylbenzene | 0.0396 | 0.020 | ug/L | 0.0492 | 80.5 | 70-130 | 2.77 | 30 | | |
| 4-Isopropyltoluene | 0.0408 | 0.020 | ug/L | 0.0549 | 74.4 | 70-130 | 5.52 | 30 | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.156</i> | | <i>ug/L</i> | <i>0.143</i> | <i>109</i> | <i>70-130</i> | | | | |
| <i>Batch B1A0621 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B1A0621-BLK1) | | | | | Prepared & Analyzed: 12/28/20 | | | | | |
| Acetone | <0.020 | 0.020 | ug/L | | | | | | | |
| Allyl chloride | <0.020 | 0.020 | ug/L | | | | | | | |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | 0.020 | ug/L | | | | | | | |
| Benzene | <0.0030 | 0.0030 | ug/L | | | | | | | |
| Benzyl chloride | <0.020 | 0.020 | ug/L | | | | | | | |
| Bromodichloromethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Bromoform | <0.020 | 0.020 | ug/L | | | | | | | |
| Bromomethane | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,3-Butadiene | <0.020 | 0.020 | ug/L | | | | | | | |
| 2-Butanone (MEK) | <0.020 | 0.020 | ug/L | | | | | | | |
| tert-Butyl Alcohol (TBA) | <20 | 20 | ug/L | | | | | | | |
| Carbon Disulfide | <0.020 | 0.020 | ug/L | | | | | | | |
| Carbon Tetrachloride | <0.020 | 0.020 | ug/L | | | | | | | |
| Chlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| Chloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Chloroform | <0.020 | 0.020 | ug/L | | | | | | | |
| Chloromethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Cyclohexane | <0.020 | 0.020 | ug/L | | | | | | | |
| Dibromochloromethane | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2-Dibromoethane (EDB) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2-Dichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,3-Dichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,4-Dichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| Dichlorodifluoromethane (R12) | <0.020 | 0.020 | ug/L | | | | | | | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC %REC | Limit | RPD | RPD Limit | Notes |
|---|---------|-----------------|-------|-------------|---------------|-----------|-------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A0621 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B1A0621-BLK1) Continued | | | | | | | | | | |
| Prepared & Analyzed: 12/28/20 | | | | | | | | | | |
| 1,1-Dichloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2-Dichloroethane (EDC) | <0.0040 | 0.0040 | ug/L | | | | | | | |
| cis-1,2-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | | |
| trans-1,2-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2-Dichloropropane | <0.020 | 0.020 | ug/L | | | | | | | |
| trans-1,3-Dichloropropylene | <0.020 | 0.020 | ug/L | | | | | | | |
| cis-1,3-Dichloropropylene | <0.020 | 0.020 | ug/L | | | | | | | |
| Dichlorotetrafluoroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Diisopropyl ether (DIPE) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,4-Dioxane | <0.020 | 0.020 | ug/L | | | | | | | |
| Ethanol | <0.020 | 0.020 | ug/L | | | | | | | |
| Ethyl Acetate | <0.020 | 0.020 | ug/L | | | | | | | |
| Ethylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | 0.020 | ug/L | | | | | | | |
| 4-Ethyltoluene | <0.020 | 0.020 | ug/L | | | | | | | |
| Heptane | <0.020 | 0.020 | ug/L | | | | | | | |
| Hexachlorobutadiene | <0.020 | 0.020 | ug/L | | | | | | | |
| n-Hexane | <0.020 | 0.020 | ug/L | | | | | | | |
| 2-Hexanone (MBK) | <0.020 | 0.020 | ug/L | | | | | | | |
| Isopropanol (IPA) | <0.20 | 0.20 | ug/L | | | | | | | |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | 0.020 | ug/L | | | | | | | |
| Methylene Chloride | <0.020 | 0.020 | ug/L | | | | | | | |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | 0.020 | ug/L | | | | | | | |
| Naphthalene | <0.0030 | 0.0030 | ug/L | | | | | | | |
| Propylene | <0.020 | 0.020 | ug/L | | | | | | | |
| Styrene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1,2,2-Tetrachloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Tetrachloroethylene (PCE) | <0.010 | 0.010 | ug/L | | | | | | | |
| Tetrahydrofuran (THF) | <0.020 | 0.020 | ug/L | | | | | | | |
| Toluene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2,4-Trichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---------------|-----------------|-------------|---------------|---------------------------------------|------------|---------------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A0621 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B1A0621-BLK1) Continued | | | | | Prepared & Analyzed: 12/28/20 | | | | | |
| 1,1,2-Trichloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1,1-Trichloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Trichloroethylene (TCE) | <0.020 | 0.020 | ug/L | | | | | | | |
| Trichlorofluoromethane (R11) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,3,5-Trimethylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2,4-Trimethylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 2,2,4-Trimethylpentane | <0.020 | 0.020 | ug/L | | | | | | | |
| Vinyl acetate | <0.020 | 0.020 | ug/L | | | | | | | |
| Vinyl bromide | <0.020 | 0.020 | ug/L | | | | | | | |
| Vinyl chloride | <0.020 | 0.020 | ug/L | | | | | | | |
| o-Xylene | <0.020 | 0.020 | ug/L | | | | | | | |
| m,p-Xylenes | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2,3-Trichloropropane | <0.020 | 0.020 | ug/L | | | | | | | |
| sec-Butylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| Isopropylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| n-Propylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 4-Isopropyltoluene | <0.020 | 0.020 | ug/L | | | | | | | |
| n-Butylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0366</i> | | <i>ug/L</i> | <i>0.0358</i> | | <i>102</i> | <i>70-130</i> | | | |
| LCS (B1A0621-BS1) | | | | | Prepared: 12/28/20 Analyzed: 12/29/20 | | | | | |
| Acetone | 0.0237 | 0.020 | ug/L | 0.0238 | | 99.9 | 70-130 | | 30 | |
| Benzene | 0.0403 | 0.0030 | ug/L | 0.0319 | | 126 | 70-130 | | 30 | |
| Benzyl chloride | 0.0259 | 0.020 | ug/L | 0.0445 | | 58.3 | 70-130 | | 30 | *** |
| Bromodichloromethane | 0.0989 | 0.020 | ug/L | 0.0670 | | 148 | 70-130 | | 30 | ** |
| Bromoform | 0.0804 | 0.020 | ug/L | 0.103 | | 77.8 | 70-130 | | 30 | |
| Bromomethane | 0.0349 | 0.020 | ug/L | 0.0388 | | 90.0 | 70-130 | | 30 | |
| 2-Butanone (MEK) | 0.0301 | 0.020 | ug/L | 0.0295 | | 102 | 70-130 | | 30 | |
| Carbon Disulfide | 0.0317 | 0.020 | ug/L | 0.0311 | | 102 | 70-130 | | 30 | |
| Carbon Tetrachloride | 0.0988 | 0.020 | ug/L | 0.0629 | | 157 | 70-130 | | 30 | ** |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| Batch B1A0621 - *** DEFAULT PREP *** | | | | | | | | | | |
| LCS (B1A0621-BS1) Continued | | | | | | | | | | |
| Prepared: 12/28/20 Analyzed: 12/29/20 | | | | | | | | | | |
| Chlorobenzene | 0.0446 | 0.020 | ug/L | 0.0460 | | 96.9 | 70-130 | | 30 | |
| Chloroethane | 0.0221 | 0.020 | ug/L | 0.0264 | | 83.8 | 70-130 | | 30 | |
| Chloroform | 0.0720 | 0.020 | ug/L | 0.0488 | | 147 | 70-130 | | 30 | ** |
| Chloromethane | 0.0188 | 0.020 | ug/L | 0.0207 | | 91.0 | 70-130 | | 30 | |
| Dibromochloromethane | 0.0965 | 0.020 | ug/L | 0.0852 | | 113 | 70-130 | | 30 | |
| 1,2-Dibromoethane (EDB) | 0.0897 | 0.020 | ug/L | 0.0768 | | 117 | 70-130 | | 30 | |
| 1,2-Dichlorobenzene | 0.0490 | 0.020 | ug/L | 0.0601 | | 81.5 | 70-130 | | 30 | |
| 1,3-Dichlorobenzene | 0.0500 | 0.020 | ug/L | 0.0601 | | 83.1 | 70-130 | | 30 | |
| 1,4-Dichlorobenzene | 0.0517 | 0.020 | ug/L | 0.0601 | | 86.0 | 70-130 | | 30 | |
| Dichlorodifluoromethane (R12) | 0.0754 | 0.020 | ug/L | 0.0495 | | 152 | 70-130 | | 30 | ** |
| 1,1-Dichloroethane | 0.0529 | 0.020 | ug/L | 0.0405 | | 131 | 70-130 | | 30 | ** |
| 1,2-Dichloroethane (EDC) | 0.0656 | 0.0040 | ug/L | 0.0405 | | 162 | 70-130 | | 30 | ** |
| cis-1,2-Dichloroethylene | 0.0557 | 0.020 | ug/L | 0.0396 | | 140 | 70-130 | | 30 | ** |
| 1,1-Dichloroethylene | 0.0545 | 0.020 | ug/L | 0.0396 | | 137 | 70-130 | | 30 | ** |
| trans-1,2-Dichloroethylene | 0.0510 | 0.020 | ug/L | 0.0396 | | 129 | 70-130 | | 30 | |
| 1,2-Dichloropropane | 0.0555 | 0.020 | ug/L | 0.0462 | | 120 | 70-130 | | 30 | |
| trans-1,3-Dichloropropylene | 0.0508 | 0.020 | ug/L | 0.0454 | | 112 | 70-130 | | 30 | |
| cis-1,3-Dichloropropylene | 0.0558 | 0.020 | ug/L | 0.0454 | | 123 | 70-130 | | 30 | |
| Dichlorotetrafluoroethane | 0.0840 | 0.020 | ug/L | 0.0699 | | 120 | 70-130 | | 30 | |
| Ethylbenzene | 0.0465 | 0.020 | ug/L | 0.0434 | | 107 | 70-130 | | 30 | |
| 4-Ethyltoluene | 0.0381 | 0.020 | ug/L | 0.0492 | | 77.6 | 70-130 | | 30 | |
| Hexachlorobutadiene | 0.0859 | 0.020 | ug/L | 0.107 | | 80.5 | 70-130 | | 30 | |
| 2-Hexanone (MBK) | 0.0462 | 0.020 | ug/L | 0.0410 | | 113 | 70-130 | | 30 | |
| Isopropanol (IPA) | 0.0250 | 0.20 | ug/L | 0.0216 | | 116 | 70-130 | | 30 | |
| Methylene Chloride | 0.0349 | 0.020 | ug/L | 0.0347 | | 100 | 70-130 | | 30 | |
| 4-Methyl-2-pentanone (MIBK) | 0.0519 | 0.020 | ug/L | 0.0410 | | 127 | 70-130 | | 30 | |
| Styrene | 0.0376 | 0.020 | ug/L | 0.0426 | | 88.2 | 70-130 | | 30 | |
| 1,1,2,2-Tetrachloroethane | 0.0656 | 0.020 | ug/L | 0.0687 | | 95.5 | 70-130 | | 30 | |
| Tetrachloroethylene (PCE) | 0.0928 | 0.010 | ug/L | 0.0679 | | 137 | 70-130 | | 30 | ** |
| Toluene | 0.0442 | 0.020 | ug/L | 0.0377 | | 117 | 70-130 | | 30 | |
| 1,2,4-Trichlorobenzene | 0.0450 | 0.020 | ug/L | 0.0742 | | 60.7 | 70-130 | | 30 | *** |
| 1,1,2-Trichloroethane | 0.0568 | 0.020 | ug/L | 0.0546 | | 104 | 70-130 | | 30 | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control

Batch B1A0621 - *** DEFAULT PREP ***

LCS (B1A0621-BS1) Continued

Prepared: 12/28/20 Analyzed: 12/29/20

| | | | | | | | | |
|--|---------------|-------|------|--------|------|--------|----|-------|
| 1,1,1-Trichloroethane | 0.0875 | 0.020 | ug/L | 0.0546 | 160 | 70-130 | 30 | ** |
| Trichloroethylene (TCE) | 0.0672 | 0.020 | ug/L | 0.0537 | 125 | 70-130 | 30 | |
| Trichlorofluoromethane (R11) | 0.0826 | 0.020 | ug/L | 0.0562 | 147 | 70-130 | 30 | ** |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | 0.106 | 0.020 | ug/L | 0.0766 | 139 | 70-130 | 30 | ** |
| 1,3,5-Trimethylbenzene | 0.0569 | 0.020 | ug/L | 0.0492 | 116 | 70-130 | 30 | |
| 1,2,4-Trimethylbenzene | 0.0521 | 0.020 | ug/L | 0.0492 | 106 | 70-130 | 30 | |
| Vinyl acetate | 0.0331 | 0.020 | ug/L | 0.0296 | 112 | 70-130 | 30 | |
| Vinyl chloride | 0.0223 | 0.020 | ug/L | 0.0256 | 87.1 | 70-130 | 30 | |
| o-Xylene | 0.0492 | 0.020 | ug/L | 0.0434 | 113 | 70-130 | 30 | |
| m,p-Xylenes | 0.0894 | 0.020 | ug/L | 0.0868 | 103 | 70-130 | 30 | |
| 1,2,3-Trichloropropane | 0.0367 | 0.020 | ug/L | 0.0603 | 60.9 | 70-130 | 30 | *** |
| sec-Butylbenzene | 0.0357 | 0.020 | ug/L | 0.0549 | 65.1 | 70-130 | 30 | *** |
| Isopropylbenzene | 0.0355 | 0.020 | ug/L | 0.0492 | 72.3 | 70-130 | 30 | |
| n-Propylbenzene | 0.0338 | 0.020 | ug/L | 0.0492 | 68.7 | 70-130 | 30 | *** |
| 4-Isopropyltoluene | 0.0344 | 0.020 | ug/L | 0.0549 | 62.7 | 70-130 | 30 | QL-02 |

Surrogate: 4-Bromofluorobenzene 0.177

ug/L 0.143 123 70-130

Batch B1A1118 - *** DEFAULT PREP ***

Blank (B1A1118-BLK1)

Prepared: 01/06/20 Analyzed: 01/06/21

| | | | | | | | | |
|-------------------------------|---------|--------|------|--|--|--|--|--|
| Acetone | <0.020 | 0.020 | ug/L | | | | | |
| Allyl chloride | <0.020 | 0.020 | ug/L | | | | | |
| tert-Amyl-Methyl Ether (TAME) | <0.020 | 0.020 | ug/L | | | | | |
| Benzene | <0.0030 | 0.0030 | ug/L | | | | | |
| Benzyl chloride | <0.020 | 0.020 | ug/L | | | | | |
| Bromodichloromethane | <0.020 | 0.020 | ug/L | | | | | |
| Bromoform | <0.020 | 0.020 | ug/L | | | | | |
| Bromomethane | <0.020 | 0.020 | ug/L | | | | | |
| 1,3-Butadiene | <0.020 | 0.020 | ug/L | | | | | |
| 2-Butanone (MEK) | <0.020 | 0.020 | ug/L | | | | | |
| tert-Butyl Alcohol (TBA) | <20 | 20 | ug/L | | | | | |
| Carbon Disulfide | <0.020 | 0.020 | ug/L | | | | | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC %REC | Limit | RPD | RPD Limit | Notes |
|---|---------|-----------------|-------|-------------|---------------|-----------|-------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A1118 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B1A1118-BLK1) Continued | | | | | | | | | | |
| Prepared: 01/06/20 Analyzed: 01/06/21 | | | | | | | | | | |
| Carbon Tetrachloride | <0.020 | 0.020 | ug/L | | | | | | | |
| Chlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| Chloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Chloroform | <0.020 | 0.020 | ug/L | | | | | | | |
| Chloromethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Cyclohexane | <0.020 | 0.020 | ug/L | | | | | | | |
| Dibromochloromethane | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2-Dibromoethane (EDB) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2-Dichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,3-Dichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,4-Dichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| Dichlorodifluoromethane (R12) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1-Dichloroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2-Dichloroethane (EDC) | <0.0040 | 0.0040 | ug/L | | | | | | | |
| cis-1,2-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,1-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | | |
| trans-1,2-Dichloroethylene | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,2-Dichloropropane | <0.020 | 0.020 | ug/L | | | | | | | |
| trans-1,3-Dichloropropylene | <0.020 | 0.020 | ug/L | | | | | | | |
| cis-1,3-Dichloropropylene | <0.020 | 0.020 | ug/L | | | | | | | |
| Dichlorotetrafluoroethane | <0.020 | 0.020 | ug/L | | | | | | | |
| Diisopropyl ether (DIPE) | <0.020 | 0.020 | ug/L | | | | | | | |
| 1,4-Dioxane | <0.020 | 0.020 | ug/L | | | | | | | |
| Ethanol | <0.020 | 0.020 | ug/L | | | | | | | |
| Ethyl Acetate | <0.020 | 0.020 | ug/L | | | | | | | |
| Ethylbenzene | <0.020 | 0.020 | ug/L | | | | | | | |
| Ethyl-tert-Butyl Ether (ETBE) | <0.020 | 0.020 | ug/L | | | | | | | |
| 4-Ethyltoluene | <0.020 | 0.020 | ug/L | | | | | | | |
| Heptane | <0.020 | 0.020 | ug/L | | | | | | | |
| Hexachlorobutadiene | <0.020 | 0.020 | ug/L | | | | | | | |
| n-Hexane | <0.020 | 0.020 | ug/L | | | | | | | |
| 2-Hexanone (MBK) | <0.020 | 0.020 | ug/L | | | | | | | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC %REC | Limits RPD | RPD Limit | Notes |
|---|---------|-----------------|-------|-------------|---------------------------------------|-----------|------------|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | |
| <i>Batch B1A1118 - *** DEFAULT PREP ***</i> | | | | | | | | | |
| Blank (B1A1118-BLK1) Continued | | | | | Prepared: 01/06/20 Analyzed: 01/06/21 | | | | |
| Isopropanol (IPA) | <0.20 | 0.20 | ug/L | | | | | | |
| Methyl-tert-Butyl Ether (MTBE) | <0.020 | 0.020 | ug/L | | | | | | |
| Methylene Chloride | <0.020 | 0.020 | ug/L | | | | | | |
| 4-Methyl-2-pentanone (MIBK) | <0.020 | 0.020 | ug/L | | | | | | |
| Naphthalene | <0.0030 | 0.0030 | ug/L | | | | | | |
| Propylene | <0.020 | 0.020 | ug/L | | | | | | |
| Styrene | <0.020 | 0.020 | ug/L | | | | | | |
| 1,1,2,2-Tetrachloroethane | <0.020 | 0.020 | ug/L | | | | | | |
| Tetrachloroethylene (PCE) | <0.010 | 0.010 | ug/L | | | | | | |
| Tetrahydrofuran (THF) | <0.020 | 0.020 | ug/L | | | | | | |
| Toluene | <0.020 | 0.020 | ug/L | | | | | | |
| 1,2,4-Trichlorobenzene | <0.020 | 0.020 | ug/L | | | | | | |
| 1,1,2-Trichloroethane | <0.020 | 0.020 | ug/L | | | | | | |
| 1,1,1-Trichloroethane | <0.020 | 0.020 | ug/L | | | | | | |
| Trichloroethylene (TCE) | <0.020 | 0.020 | ug/L | | | | | | |
| Trichlorofluoromethane (R11) | <0.020 | 0.020 | ug/L | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | <0.020 | 0.020 | ug/L | | | | | | |
| 1,3,5-Trimethylbenzene | <0.020 | 0.020 | ug/L | | | | | | |
| 1,2,4-Trimethylbenzene | <0.020 | 0.020 | ug/L | | | | | | |
| 2,2,4-Trimethylpentane | <0.020 | 0.020 | ug/L | | | | | | |
| Vinyl acetate | <0.020 | 0.020 | ug/L | | | | | | |
| Vinyl bromide | <0.020 | 0.020 | ug/L | | | | | | |
| Vinyl chloride | <0.020 | 0.020 | ug/L | | | | | | |
| o-Xylene | <0.020 | 0.020 | ug/L | | | | | | |
| m,p-Xylenes | <0.020 | 0.020 | ug/L | | | | | | |
| 1,2,3-Trichloropropane | <0.020 | 0.020 | ug/L | | | | | | |
| sec-Butylbenzene | <0.020 | 0.020 | ug/L | | | | | | |
| Isopropylbenzene | <0.020 | 0.020 | ug/L | | | | | | |
| n-Propylbenzene | <0.020 | 0.020 | ug/L | | | | | | |
| 4-Isopropyltoluene | <0.020 | 0.020 | ug/L | | | | | | |
| n-Butylbenzene | <0.020 | 0.020 | ug/L | | | | | | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---------------|-----------------|-------------|---------------|---------------|------------|---------------|-----|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A1118 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B1A1118-BLK1) Continued | | | | | | | | | | |
| Prepared: 01/06/20 Analyzed: 01/06/21 | | | | | | | | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0387</i> | | <i>ug/L</i> | <i>0.0358</i> | | <i>108</i> | <i>70-130</i> | | | |
| LCS (B1A1118-BS1) | | | | | | | | | | |
| Prepared: 01/06/20 Analyzed: 01/07/21 | | | | | | | | | | |
| Acetone | 0.0242 | 0.020 | ug/L | 0.0238 | | 102 | 70-130 | | 30 | |
| Benzene | 0.0341 | 0.0030 | ug/L | 0.0319 | | 107 | 70-130 | | 30 | |
| Benzyl chloride | 0.0295 | 0.020 | ug/L | 0.0445 | | 66.2 | 70-130 | | 30 | QL-07 |
| Bromodichloromethane | 0.0689 | 0.020 | ug/L | 0.0670 | | 103 | 70-130 | | 30 | |
| Bromoform | 0.0648 | 0.020 | ug/L | 0.103 | | 62.7 | 70-130 | | 30 | QL-07 |
| Bromomethane | 0.0325 | 0.020 | ug/L | 0.0388 | | 83.6 | 70-130 | | 30 | |
| 2-Butanone (MEK) | 0.0299 | 0.020 | ug/L | 0.0295 | | 101 | 70-130 | | 30 | |
| Carbon Disulfide | 0.0310 | 0.020 | ug/L | 0.0311 | | 99.4 | 70-130 | | 30 | |
| Carbon Tetrachloride | 0.0698 | 0.020 | ug/L | 0.0629 | | 111 | 70-130 | | 30 | |
| Chlorobenzene | 0.0383 | 0.020 | ug/L | 0.0460 | | 83.3 | 70-130 | | 30 | |
| Chloroethane | 0.0236 | 0.020 | ug/L | 0.0264 | | 89.4 | 70-130 | | 30 | |
| Chloroform | 0.0526 | 0.020 | ug/L | 0.0488 | | 108 | 70-130 | | 30 | |
| Chloromethane | 0.0190 | 0.020 | ug/L | 0.0207 | | 92.0 | 70-130 | | 30 | |
| Dibromochloromethane | 0.0722 | 0.020 | ug/L | 0.0852 | | 84.8 | 70-130 | | 30 | |
| 1,2-Dibromoethane (EDB) | 0.0705 | 0.020 | ug/L | 0.0768 | | 91.8 | 70-130 | | 30 | |
| 1,2-Dichlorobenzene | 0.0425 | 0.020 | ug/L | 0.0601 | | 70.7 | 70-130 | | 30 | |
| 1,3-Dichlorobenzene | 0.0414 | 0.020 | ug/L | 0.0601 | | 68.9 | 70-130 | | 30 | QL-07 |
| 1,4-Dichlorobenzene | 0.0421 | 0.020 | ug/L | 0.0601 | | 70.0 | 70-130 | | 30 | |
| Dichlorodifluoromethane (R12) | 0.0378 | 0.020 | ug/L | 0.0495 | | 76.5 | 70-130 | | 30 | |
| 1,1-Dichloroethane | 0.0461 | 0.020 | ug/L | 0.0405 | | 114 | 70-130 | | 30 | |
| 1,2-Dichloroethane (EDC) | 0.0421 | 0.0040 | ug/L | 0.0405 | | 104 | 70-130 | | 30 | |
| cis-1,2-Dichloroethylene | 0.0446 | 0.020 | ug/L | 0.0396 | | 112 | 70-130 | | 30 | |
| 1,1-Dichloroethylene | 0.0457 | 0.020 | ug/L | 0.0396 | | 115 | 70-130 | | 30 | |
| trans-1,2-Dichloroethylene | 0.0419 | 0.020 | ug/L | 0.0396 | | 106 | 70-130 | | 30 | |
| 1,2-Dichloropropane | 0.0472 | 0.020 | ug/L | 0.0462 | | 102 | 70-130 | | 30 | |
| trans-1,3-Dichloropropylene | 0.0424 | 0.020 | ug/L | 0.0454 | | 93.4 | 70-130 | | 30 | |
| cis-1,3-Dichloropropylene | 0.0445 | 0.020 | ug/L | 0.0454 | | 98.1 | 70-130 | | 30 | |
| Dichlorotetrafluoroethane | 0.0720 | 0.020 | ug/L | 0.0699 | | 103 | 70-130 | | 30 | |
| Ethylbenzene | 0.0429 | 0.020 | ug/L | 0.0434 | | 98.7 | 70-130 | | 30 | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|--------------|-----------------|-------------|--------------|---------------------------------------|---------------|-------------|------|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A1118 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| LCS (B1A1118-BS1) Continued | | | | | | | | | | |
| | | | | | Prepared: 01/06/20 Analyzed: 01/07/21 | | | | | |
| 4-Ethyltoluene | 0.0351 | 0.020 | ug/L | 0.0492 | 71.3 | 70-130 | | 30 | | |
| Hexachlorobutadiene | 0.0667 | 0.020 | ug/L | 0.107 | 62.5 | 70-130 | | 30 | | QL-07 |
| 2-Hexanone (MBK) | 0.0406 | 0.020 | ug/L | 0.0410 | 99.0 | 70-130 | | 30 | | |
| Isopropanol (IPA) | 0.0258 | 0.20 | ug/L | 0.0216 | 119 | 70-130 | | 30 | | |
| Methylene Chloride | 0.0355 | 0.020 | ug/L | 0.0347 | 102 | 70-130 | | 30 | | |
| 4-Methyl-2-pentanone (MIBK) | 0.0481 | 0.020 | ug/L | 0.0410 | 117 | 70-130 | | 30 | | |
| Styrene | 0.0349 | 0.020 | ug/L | 0.0426 | 82.0 | 70-130 | | 30 | | |
| 1,1,2,2-Tetrachloroethane | 0.0588 | 0.020 | ug/L | 0.0687 | 85.7 | 70-130 | | 30 | | |
| Tetrachloroethylene (PCE) | 0.0691 | 0.010 | ug/L | 0.0679 | 102 | 70-130 | | 30 | | |
| Toluene | 0.0384 | 0.020 | ug/L | 0.0377 | 102 | 70-130 | | 30 | | |
| 1,2,4-Trichlorobenzene | 0.0243 | 0.020 | ug/L | 0.0742 | 32.8 | 70-130 | | 30 | | QL-07 |
| 1,1,2-Trichloroethane | 0.0482 | 0.020 | ug/L | 0.0546 | 88.4 | 70-130 | | 30 | | |
| 1,1,1-Trichloroethane | 0.0626 | 0.020 | ug/L | 0.0546 | 115 | 70-130 | | 30 | | |
| Trichloroethylene (TCE) | 0.0534 | 0.020 | ug/L | 0.0537 | 99.4 | 70-130 | | 30 | | |
| Trichlorofluoromethane (R11) | 0.0660 | 0.020 | ug/L | 0.0562 | 118 | 70-130 | | 30 | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | 0.0864 | 0.020 | ug/L | 0.0766 | 113 | 70-130 | | 30 | | |
| 1,3,5-Trimethylbenzene | 0.0527 | 0.020 | ug/L | 0.0492 | 107 | 70-130 | | 30 | | |
| 1,2,4-Trimethylbenzene | 0.0474 | 0.020 | ug/L | 0.0492 | 96.5 | 70-130 | | 30 | | |
| Vinyl acetate | 0.0295 | 0.020 | ug/L | 0.0296 | 99.9 | 70-130 | | 30 | | |
| Vinyl chloride | 0.0221 | 0.020 | ug/L | 0.0256 | 86.4 | 70-130 | | 30 | | |
| o-Xylene | 0.0432 | 0.020 | ug/L | 0.0434 | 99.4 | 70-130 | | 30 | | |
| m,p-Xylenes | 0.0855 | 0.020 | ug/L | 0.0868 | 98.4 | 70-130 | | 30 | | |
| 1,2,3-Trichloropropane | 0.0323 | 0.020 | ug/L | 0.0603 | 53.5 | 70-130 | | 30 | | QL-07 |
| sec-Butylbenzene | 0.0458 | 0.020 | ug/L | 0.0549 | 83.4 | 70-130 | | 30 | | |
| Isopropylbenzene | 0.0317 | 0.020 | ug/L | 0.0492 | 64.5 | 70-130 | | 30 | | QL-07 |
| n-Propylbenzene | 0.0300 | 0.020 | ug/L | 0.0492 | 61.1 | 70-130 | | 30 | | QL-07 |
| 4-Isopropyltoluene | 0.0311 | 0.020 | ug/L | 0.0549 | 56.7 | 70-130 | | 30 | | QL-07 |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.156</i> | | <i>ug/L</i> | <i>0.143</i> | <i>109</i> | <i>70-130</i> | | | | |
| LCS Dup (B1A1118-BSD1) | | | | | | | | | | |
| | | | | | Prepared: 01/06/20 Analyzed: 01/07/21 | | | | | |
| Acetone | 0.0235 | 0.020 | ug/L | 0.0238 | 98.9 | 70-130 | | 2.99 | 30 | |

Stuart Sigman
Project Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|--------|-----------------|-------|-------------|---------------|------|-------------|--------|-----------|-------|
| VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control | | | | | | | | | | |
| <i>Batch B1A1118 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| LCS Dup (B1A1118-BSD1) Continued | | | | | | | | | | |
| Prepared: 01/06/20 Analyzed: 01/07/21 | | | | | | | | | | |
| Benzene | 0.0325 | 0.0030 | ug/L | 0.0319 | | 102 | 70-130 | 4.80 | 30 | |
| Benzyl chloride | 0.0221 | 0.020 | ug/L | 0.0445 | | 49.7 | 70-130 | 28.5 | 30 | QL-07 |
| Bromodichloromethane | 0.0689 | 0.020 | ug/L | 0.0670 | | 103 | 70-130 | 0.0972 | 30 | |
| Bromoform | 0.0661 | 0.020 | ug/L | 0.103 | | 63.9 | 70-130 | 1.90 | 30 | QL-07 |
| Bromomethane | 0.0339 | 0.020 | ug/L | 0.0388 | | 87.4 | 70-130 | 4.44 | 30 | |
| 2-Butanone (MEK) | 0.0298 | 0.020 | ug/L | 0.0295 | | 101 | 70-130 | 0.297 | 30 | |
| Carbon Disulfide | 0.0298 | 0.020 | ug/L | 0.0311 | | 95.6 | 70-130 | 3.90 | 30 | |
| Carbon Tetrachloride | 0.0718 | 0.020 | ug/L | 0.0629 | | 114 | 70-130 | 2.84 | 30 | |
| Chlorobenzene | 0.0376 | 0.020 | ug/L | 0.0460 | | 81.6 | 70-130 | 2.06 | 30 | |
| Chloroethane | 0.0232 | 0.020 | ug/L | 0.0264 | | 88.0 | 70-130 | 1.58 | 30 | |
| Chloroform | 0.0502 | 0.020 | ug/L | 0.0488 | | 103 | 70-130 | 4.56 | 30 | |
| Chloromethane | 0.0188 | 0.020 | ug/L | 0.0207 | | 90.9 | 70-130 | 1.20 | 30 | |
| Dibromochloromethane | 0.0739 | 0.020 | ug/L | 0.0852 | | 86.8 | 70-130 | 2.33 | 30 | |
| 1,2-Dibromoethane (EDB) | 0.0688 | 0.020 | ug/L | 0.0768 | | 89.5 | 70-130 | 2.54 | 30 | |
| 1,2-Dichlorobenzene | 0.0450 | 0.020 | ug/L | 0.0601 | | 74.8 | 70-130 | 5.64 | 30 | |
| 1,3-Dichlorobenzene | 0.0394 | 0.020 | ug/L | 0.0601 | | 65.5 | 70-130 | 5.06 | 30 | QL-07 |
| 1,4-Dichlorobenzene | 0.0404 | 0.020 | ug/L | 0.0601 | | 67.2 | 70-130 | 4.08 | 30 | QL-03 |
| Dichlorodifluoromethane (R12) | 0.0466 | 0.020 | ug/L | 0.0495 | | 94.2 | 70-130 | 20.7 | 30 | |
| 1,1-Dichloroethane | 0.0444 | 0.020 | ug/L | 0.0405 | | 110 | 70-130 | 3.58 | 30 | |
| 1,2-Dichloroethane (EDC) | 0.0409 | 0.0040 | ug/L | 0.0405 | | 101 | 70-130 | 2.93 | 30 | |
| cis-1,2-Dichloroethylene | 0.0449 | 0.020 | ug/L | 0.0396 | | 113 | 70-130 | 0.798 | 30 | |
| 1,1-Dichloroethylene | 0.0462 | 0.020 | ug/L | 0.0396 | | 116 | 70-130 | 1.12 | 30 | |
| trans-1,2-Dichloroethylene | 0.0420 | 0.020 | ug/L | 0.0396 | | 106 | 70-130 | 0.189 | 30 | |
| 1,2-Dichloropropane | 0.0455 | 0.020 | ug/L | 0.0462 | | 98.5 | 70-130 | 3.59 | 30 | |
| trans-1,3-Dichloropropylene | 0.0407 | 0.020 | ug/L | 0.0454 | | 89.6 | 70-130 | 4.15 | 30 | |
| cis-1,3-Dichloropropylene | 0.0436 | 0.020 | ug/L | 0.0454 | | 96.1 | 70-130 | 2.06 | 30 | |
| Dichlorotetrafluoroethane | 0.0740 | 0.020 | ug/L | 0.0699 | | 106 | 70-130 | 2.68 | 30 | |
| Ethylbenzene | 0.0422 | 0.020 | ug/L | 0.0434 | | 97.2 | 70-130 | 1.53 | 30 | |
| 4-Ethyltoluene | 0.0334 | 0.020 | ug/L | 0.0492 | | 68.0 | 70-130 | 4.74 | 30 | QL-03 |
| Hexachlorobutadiene | 0.0641 | 0.020 | ug/L | 0.107 | | 60.1 | 70-130 | 3.92 | 30 | QL-07 |
| 2-Hexanone (MBK) | 0.0391 | 0.020 | ug/L | 0.0410 | | 95.5 | 70-130 | 3.60 | 30 | |
| Isopropanol (IPA) | 0.0254 | 0.20 | ug/L | 0.0216 | | 118 | 70-130 | 1.34 | 30 | |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

VOCs by GCMS EPA TO-15 (Mid Level) - Quality Control

Batch B1A1118 - *** DEFAULT PREP ***

LCS Dup (B1A1118-BSD1) Continued

Prepared: 01/06/20 Analyzed: 01/07/21

| | | | | | | | | | |
|--|--------|-------|------|--------|------|--------|-------|----|-------|
| Methylene Chloride | 0.0346 | 0.020 | ug/L | 0.0347 | 99.6 | 70-130 | 2.67 | 30 | |
| 4-Methyl-2-pentanone (MIBK) | 0.0449 | 0.020 | ug/L | 0.0410 | 110 | 70-130 | 6.78 | 30 | |
| Styrene | 0.0344 | 0.020 | ug/L | 0.0426 | 80.8 | 70-130 | 1.47 | 30 | |
| 1,1,2,2-Tetrachloroethane | 0.0584 | 0.020 | ug/L | 0.0687 | 85.0 | 70-130 | 0.820 | 30 | |
| Tetrachloroethylene (PCE) | 0.0658 | 0.010 | ug/L | 0.0679 | 97.0 | 70-130 | 4.93 | 30 | |
| Toluene | 0.0378 | 0.020 | ug/L | 0.0377 | 100 | 70-130 | 1.58 | 30 | |
| 1,2,4-Trichlorobenzene | 0.0267 | 0.020 | ug/L | 0.0742 | 36.0 | 70-130 | 9.30 | 30 | QL-07 |
| 1,1,2-Trichloroethane | 0.0481 | 0.020 | ug/L | 0.0546 | 88.1 | 70-130 | 0.340 | 30 | |
| 1,1,1-Trichloroethane | 0.0609 | 0.020 | ug/L | 0.0546 | 112 | 70-130 | 2.83 | 30 | |
| Trichloroethylene (TCE) | 0.0533 | 0.020 | ug/L | 0.0537 | 99.1 | 70-130 | 0.302 | 30 | |
| Trichlorofluoromethane (R11) | 0.0666 | 0.020 | ug/L | 0.0562 | 118 | 70-130 | 0.847 | 30 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (R113) | 0.0852 | 0.020 | ug/L | 0.0766 | 111 | 70-130 | 1.43 | 30 | |
| 1,3,5-Trimethylbenzene | 0.0521 | 0.020 | ug/L | 0.0492 | 106 | 70-130 | 1.31 | 30 | |
| 1,2,4-Trimethylbenzene | 0.0472 | 0.020 | ug/L | 0.0492 | 96.0 | 70-130 | 0.519 | 30 | |
| Vinyl acetate | 0.0289 | 0.020 | ug/L | 0.0296 | 97.7 | 70-130 | 2.17 | 30 | |
| Vinyl chloride | 0.0218 | 0.020 | ug/L | 0.0256 | 85.2 | 70-130 | 1.40 | 30 | |
| o-Xylene | 0.0448 | 0.020 | ug/L | 0.0434 | 103 | 70-130 | 3.75 | 30 | |
| m,p-Xylenes | 0.0858 | 0.020 | ug/L | 0.0868 | 98.8 | 70-130 | 0.355 | 30 | |
| 1,2,3-Trichloropropane | 0.0325 | 0.020 | ug/L | 0.0603 | 53.9 | 70-130 | 0.745 | 30 | QL-07 |
| sec-Butylbenzene | 0.0437 | 0.020 | ug/L | 0.0549 | 79.6 | 70-130 | 4.66 | 30 | |
| Isopropylbenzene | 0.0321 | 0.020 | ug/L | 0.0492 | 65.2 | 70-130 | 1.08 | 30 | QL-07 |
| n-Propylbenzene | 0.0299 | 0.020 | ug/L | 0.0492 | 60.8 | 70-130 | 0.492 | 30 | QL-07 |
| 4-Isopropyltoluene | 0.0306 | 0.020 | ug/L | 0.0549 | 55.7 | 70-130 | 1.78 | 30 | QL-07 |
| Surrogate: 4-Bromofluorobenzene | 0.163 | | ug/L | 0.143 | 114 | 70-130 | | | |

Fixed Gases by TCD - Quality Control

Batch B0L0822 - *** DEFAULT PREP ***

Blank (B0L0822-BLK1)

Prepared & Analyzed: 12/08/20

| | | | |
|---------|-------|------|-------------|
| Methane | <0.10 | 0.10 | % by Volume |
|---------|-------|------|-------------|

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|-----------------|-----------------|-------------|-------------|---------------|------|-------------|-------|-----------|-------|
| Fixed Gases by TCD - Quality Control | | | | | | | | | | |
| <i>Batch B0L0822 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B0L0822-BLK1) Continued Prepared & Analyzed: 12/08/20 | | | | | | | | | | |
| Oxygen | <0.10 | 0.10 | % by Volume | | | | | | | |
| Carbon Dioxide | <0.10 | 0.10 | % by Volume | | | | | | | |
| LCS (B0L0822-BS1) Prepared & Analyzed: 12/08/20 | | | | | | | | | | |
| Methane | 2.42 | 0.10 | % by Volume | 2.25 | | 108 | 70-130 | | | |
| Oxygen | 2.13 | 0.10 | % by Volume | 2.00 | | 106 | 70-130 | | | |
| Carbon Dioxide | 6.39 | 0.10 | % by Volume | 7.50 | | 85.2 | 70-130 | | | |
| LCS Dup (B0L0822-BSD1) Prepared & Analyzed: 12/08/20 | | | | | | | | | | |
| Methane | 2.34 | 0.10 | % by Volume | 2.25 | | 104 | 70-130 | 3.19 | 30 | |
| Oxygen | 2.09 | 0.10 | % by Volume | 2.00 | | 104 | 70-130 | 1.90 | 30 | |
| Carbon Dioxide | 6.40 | 0.10 | % by Volume | 7.50 | | 85.4 | 70-130 | 0.188 | 30 | |
| Duplicate (B0L0822-DUP1) Source: 0L02033-19 Prepared & Analyzed: 12/08/20 | | | | | | | | | | |
| Methane | <0.10 | 0.10 | % by Volume | | <0.10 | | | | 30 | |
| Oxygen | 10.1 | 0.10 | % by Volume | | 10.2 | | | 1.59 | 30 | |
| Carbon Dioxide | 4.44 | 0.10 | % by Volume | | 4.27 | | | 3.97 | 30 | |
| <i>Batch B0L0914 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B0L0914-BLK1) Prepared & Analyzed: 12/09/20 | | | | | | | | | | |
| Methane | <0.10 | 0.10 | % by Volume | | | | | | | |
| Oxygen | 0.115 | 0.10 | % by Volume | | | | | | | |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|-----------------|-----------------|-------------|-------------|---------------|------|-------------|-------|-----------|-------|
| Fixed Gases by TCD - Quality Control | | | | | | | | | | |
| <i>Batch B0L0914 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B0L0914-BLK1) Continued Prepared & Analyzed: 12/09/20 | | | | | | | | | | |
| Carbon Dioxide | <0.10 | 0.10 | % by Volume | | | | | | | |
| LCS (B0L0914-BS1) Prepared & Analyzed: 12/09/20 | | | | | | | | | | |
| Methane | 2.47 | 0.10 | % by Volume | 2.25 | | 110 | 70-130 | | | |
| Oxygen | 2.12 | 0.10 | % by Volume | 2.00 | | 106 | 70-130 | | | |
| Carbon Dioxide | 6.34 | 0.10 | % by Volume | 7.50 | | 84.5 | 70-130 | | | |
| LCS Dup (B0L0914-BSD1) Prepared & Analyzed: 12/09/20 | | | | | | | | | | |
| Methane | 2.26 | 0.10 | % by Volume | 2.25 | | 100 | 70-130 | 9.13 | 30 | |
| Oxygen | 2.06 | 0.10 | % by Volume | 2.00 | | 103 | 70-130 | 2.96 | 30 | |
| Carbon Dioxide | 6.32 | 0.10 | % by Volume | 7.50 | | 84.2 | 70-130 | 0.300 | 30 | |
| Duplicate (B0L0914-DUP1) Source: 0L02033-15 Prepared & Analyzed: 12/09/20 | | | | | | | | | | |
| Methane | <0.10 | 0.10 | % by Volume | | <0.10 | | | | 30 | |
| Oxygen | 21.0 | 0.10 | % by Volume | | 20.7 | | | 1.19 | 30 | |
| Carbon Dioxide | <0.10 | 0.10 | % by Volume | | <0.10 | | | | 30 | |
| <i>Batch B0L1112 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B0L1112-BLK1) Prepared & Analyzed: 12/11/20 | | | | | | | | | | |
| Methane | <0.10 | 0.10 | % by Volume | | | | | | | |
| Oxygen | <0.10 | 0.10 | % by Volume | | | | | | | |
| Carbon Dioxide | <0.10 | 0.10 | % by Volume | | | | | | | |
| LCS (B0L1112-BS1) Prepared & Analyzed: 12/11/20 | | | | | | | | | | |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|--------|-----------------|-------------|-------------|---------------|------|-------------|-------|-----------|-------|
| Fixed Gases by TCD - Quality Control | | | | | | | | | | |
| <i>Batch B0L1112 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Methane | 2.25 | 0.10 | % by Volume | 2.25 | | 100 | 70-130 | | | |
| Oxygen | 2.28 | 0.10 | % by Volume | 2.00 | | 114 | 70-130 | | | |
| Carbon Dioxide | 6.80 | 0.10 | % by Volume | 7.50 | | 90.6 | 70-130 | | | |
| LCS Dup (B0L1112-BSD1) Prepared & Analyzed: 12/11/20 | | | | | | | | | | |
| Methane | 2.54 | 0.10 | % by Volume | 2.25 | | 113 | 70-130 | 12.0 | 30 | |
| Oxygen | 2.25 | 0.10 | % by Volume | 2.00 | | 112 | 70-130 | 1.72 | 30 | |
| Carbon Dioxide | 6.84 | 0.10 | % by Volume | 7.50 | | 91.2 | 70-130 | 0.631 | 30 | |
| Duplicate (B0L1112-DUP1) Source: 0L02033-04 Prepared & Analyzed: 12/11/20 | | | | | | | | | | |
| Methane | <0.10 | 0.10 | % by Volume | | <0.10 | | | | 30 | |
| Oxygen | 21.2 | 0.10 | % by Volume | | 21.4 | | | 1.14 | 30 | |
| Carbon Dioxide | 0.476 | 0.10 | % by Volume | | <0.10 | | | | 30 | |
| <i>Batch B0L1420 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B0L1420-BLK1) Prepared & Analyzed: 12/14/20 | | | | | | | | | | |
| Methane | <0.10 | 0.10 | % by Volume | | | | | | | |
| Oxygen | 0.773 | 0.10 | % by Volume | | | | | | | |
| Carbon Dioxide | <0.10 | 0.10 | % by Volume | | | | | | | |
| LCS (B0L1420-BS1) Prepared & Analyzed: 12/14/20 | | | | | | | | | | |
| Methane | 2.23 | 0.10 | % by Volume | 2.25 | | 99.1 | 70-130 | | | |
| Oxygen | 2.09 | 0.10 | % by Volume | 2.00 | | 104 | 70-130 | | | |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|--------|-----------------|-------------|-------------|--|------|-------------|------|-----------|-------|
| Fixed Gases by TCD - Quality Control | | | | | | | | | | |
| <i>Batch B0L1420 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| LCS (B0L1420-BS1) Continued | | | | | Prepared & Analyzed: 12/14/20 | | | | | |
| Carbon Dioxide | 6.18 | 0.10 | % by Volume | 7.50 | | 82.5 | 70-130 | | | |
| LCS Dup (B0L1420-BSD1) | | | | | Prepared & Analyzed: 12/14/20 | | | | | |
| Methane | 2.87 | 0.10 | % by Volume | 2.25 | | 128 | 70-130 | 25.2 | 30 | |
| Oxygen | 2.44 | 0.10 | % by Volume | 2.00 | | 122 | 70-130 | 15.6 | 30 | |
| Carbon Dioxide | 7.14 | 0.10 | % by Volume | 7.50 | | 95.3 | 70-130 | 14.4 | 30 | |
| Duplicate (B0L1420-DUP1) | | | | | Source: 0L02033-10 Prepared & Analyzed: 12/14/20 | | | | | |
| Methane | <0.10 | 0.10 | % by Volume | | <0.10 | | | | 30 | |
| Oxygen | 15.6 | 0.10 | % by Volume | | 14.9 | | | 4.73 | 30 | |
| Carbon Dioxide | 2.48 | 0.10 | % by Volume | | 2.81 | | | 12.6 | 30 | |
| <i>Batch B0L1515 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B0L1515-BLK1) | | | | | Prepared & Analyzed: 12/15/20 | | | | | |
| Methane | <0.10 | 0.10 | % by Volume | | | | | | | |
| Oxygen | <0.10 | 0.10 | % by Volume | | | | | | | |
| Carbon Dioxide | <0.10 | 0.10 | % by Volume | | | | | | | |
| LCS (B0L1515-BS1) | | | | | Prepared & Analyzed: 12/15/20 | | | | | |
| Methane | 2.42 | 0.10 | % by Volume | 2.25 | | 108 | 70-130 | | | |
| Oxygen | 2.25 | 0.10 | % by Volume | 2.00 | | 113 | 70-130 | | | |
| Carbon Dioxide | 6.80 | 0.10 | % by Volume | 7.50 | | 90.7 | 70-130 | | | |
| LCS Dup (B0L1515-BSD1) | | | | | Prepared & Analyzed: 12/15/20 | | | | | |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|--|--------|-----------------|-------------|-------------|---------------|------|-------------|--------|-----------|-------|
| Fixed Gases by TCD - Quality Control | | | | | | | | | | |
| <i>Batch B0L1515 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Methane | 2.35 | 0.10 | % by Volume | 2.25 | | 104 | 70-130 | 3.31 | 30 | |
| Oxygen | 2.12 | 0.10 | % by Volume | 2.00 | | 106 | 70-130 | 5.94 | 30 | |
| Carbon Dioxide | 6.58 | 0.10 | % by Volume | 7.50 | | 87.8 | 70-130 | 3.23 | 30 | |
| Duplicate (B0L1515-DUP1) Source: 0L02033-47 Prepared & Analyzed: 12/15/20 | | | | | | | | | | |
| Methane | <0.10 | 0.10 | % by Volume | | <0.10 | | | | 30 | |
| Oxygen | 20.8 | 0.10 | % by Volume | | 20.8 | | | 0.0912 | 30 | |
| Carbon Dioxide | 0.886 | 0.10 | % by Volume | | 0.860 | | | 2.98 | 30 | |
| <i>Batch B0L1727 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| Blank (B0L1727-BLK1) Prepared & Analyzed: 12/17/20 | | | | | | | | | | |
| Methane | <0.10 | 0.10 | % by Volume | | | | | | | |
| Oxygen | <0.10 | 0.10 | % by Volume | | | | | | | |
| Carbon Dioxide | <0.10 | 0.10 | % by Volume | | | | | | | |
| LCS (B0L1727-BS1) Prepared & Analyzed: 12/17/20 | | | | | | | | | | |
| Methane | 2.34 | 0.10 | % by Volume | 2.25 | | 104 | 70-130 | | | |
| Oxygen | 2.15 | 0.10 | % by Volume | 2.00 | | 108 | 70-130 | | | |
| Carbon Dioxide | 6.54 | 0.10 | % by Volume | 7.50 | | 87.2 | 70-130 | | | |
| LCS Dup (B0L1727-BSD1) Prepared & Analyzed: 12/17/20 | | | | | | | | | | |
| Methane | 2.40 | 0.10 | % by Volume | 2.25 | | 107 | 70-130 | 2.45 | 30 | |
| Oxygen | 2.20 | 0.10 | % by Volume | 2.00 | | 110 | 70-130 | 2.21 | 30 | |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|--------|-----------------|-------------|-------------|---------------|------|-------------|-------|-----------|-------|
| Fixed Gases by TCD - Quality Control | | | | | | | | | | |
| <i>Batch B0L1727 - *** DEFAULT PREP ***</i> | | | | | | | | | | |
| LCS Dup (B0L1727-BSD1) Continued | | | | | | | | | | |
| Prepared & Analyzed: 12/17/20 | | | | | | | | | | |
| Carbon Dioxide | 6.69 | 0.10 | % by Volume | 7.50 | | 89.1 | 70-130 | 2.21 | 30 | |
| Duplicate (B0L1727-DUP1) | | | | | | | | | | |
| Source: 0L16026-01 Prepared & Analyzed: 12/17/20 | | | | | | | | | | |
| Methane | <0.10 | 0.10 | % by Volume | | | | | | 30 | |
| Oxygen | 19.4 | 0.10 | % by Volume | | 19.4 | | | 0.397 | 30 | |
| Carbon Dioxide | 1.18 | 0.10 | % by Volume | | 1.14 | | | 3.71 | 30 | |

Stuart Sigman
Project Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 693142
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187336
Date Received: 12/02/20
Date Reported: 01/12/21

Special Notes

- [1] = ** : The recovery for this analyte is marginally above the upper control limit, therefore the reported concentration for this analyte may be biased high.
- [2] = *** : The recovery for this analyte is marginally below the lower control limit, therefore the reported concentration for this analyte may be biased low.
- [3] = E : The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
- [4] = O-04 : This sample was analyzed outside the EPA recommended holding time.
- [5] = QL-02 : The recovery for this analyte is outside of the acceptance control limits for the LCS. The data was validated based on the acceptable recovery for this analyte in the LCSD.
- [6] = QL-03 : The recovery for this analyte is outside of the acceptance control limits for the LCSD. The data was validated based on the acceptable recovery for this analyte in the LCS.
- [7] = QL-06 : The recovery for this analyte in the LCS and LCSD is marginally above the upper control limit, therefore the reported concentration for this analyte may be biased high.
- [8] = QL-07 : The recovery for this analyte in the LCS and LCSD is marginally below the lower control limit, therefore the reported concentration for this analyte may be biased low.

A handwritten signature in black ink, appearing to read 'Stuart Sigman'.

Stuart Sigman
Project Manager



AMERICAN ANALYTICS CHAIN-OF-CUSTODY RECORD

9765 ETON AVE., CHATSWORTH, CA 91311

Tel: 818-998-5547 FAX: 818-998-7258

A.A. COC No.: 21708

70058310

Page 1 of 2

| | | |
|------------------------------|---|----------------------------------|
| Client: <u>Jacobs</u> | Project Name / No.: <u>Normal</u> | Sampler's Name: <u>Jan Kodym</u> |
| Project Manager: <u>Nels</u> | Site Address: <u>15036 Norwalk Blvd</u> | Sampler's Signature: |
| Phone: | City: <u>Normal</u> | P.O. No.: |
| Fax: | State & Zip: <u>CA</u> | Quote No.: |

TAT Turnaround Codes **

- ① = Same Day Rush
- ② = 24 Hour Rush
- ③ = 48 Hour Rush
- ④ = 72 Hour Rush
- ⑤ = 5 Day Rush
- X = 10 Working Days (Standard TAT)

ANALYSIS REQUESTED (Test Name)

| Client I.D. | A.A. I.D. | Date | Time | Sample Matrix | No. of Cont | Please enter the TAT Turnaround Codes ** below | | | | | | | | | | Special Instructions | | |
|-------------|-----------|---------|------|---------------|-------------|--|-----|------------|--|--|--|--|--|--|--|----------------------|--|--|
| | | | | | | TO18 | TO3 | Fixed Cont | | | | | | | | | | |
| SUM-23-5 | 0202033-1 | 12/2/20 | 846 | Smc | 1 | X | X | | | | | | | | | | | |
| SUM-23-14.5 | -2 | | 848 | | | X | X | | | | | | | | | | | |
| SUM-22-5 | -3 | | 918 | | | X | X | | | | | | | | | | | |
| SUM-22-14.5 | -4 | | 918 | | | X | X | | | | | | | | | | | |
| SUM-21-5 | -5 | | 941 | | | X | X | | | | | | | | | | | |
| SUM-21-14.5 | -6 | | 941 | | | X | X | | | | | | | | | | | |
| SUM-17-5 | -7 | | 1008 | | | X | X | | | | | | | | | | | |
| SUM-17-14.5 | -8 | | 1008 | | | X | X | | | | | | | | | | | |
| SUM-20-5 | -9 | | 1100 | | | X | X | | | | | | | | | | | |
| SUM-20-14.5 | -10 | | 1100 | | | X | X | | | | | | | | | | | |
| SUM-18-5 | -11 | | 1135 | | | X | X | | | | | | | | | | | |
| SUM-18-14.5 | -12 | | 1135 | | | X | X | | | | | | | | | | | |
| SUM-19-5 | -13 | | 1206 | | | X | X | | | | | | | | | | | |
| SUM-109-5 | -14 | | 1240 | | | X | X | | | | | | | | | | | |
| SUM-109-10 | -15 | | 1240 | | | X | X | | | | | | | | | | | |

| | | | | |
|--|-----------------|--------------|------------|-------------|
| <p>For Laboratory Use</p> <p>12/3/20 Time 16:18</p> <p>10</p> | Relinquished by | Date 12/2/20 | Time 15:00 | Received by |
| | Relinquished by | Date | Time | Received by |
| | Relinquished by | Date | Time | Received by |

A.A. Project No.: 113187396/0202033

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AMERICAN ANALYTICS CHAIN-OF-CUSTODY RECORD

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Tel: 818-998-5547 FAX: 818-998-7258

A.A. COC No.: 21309
 70058311
 Page 2 of 2

Client: Jacobs Project Name / No.: Norwalk SSPP Sampler's Name: Jan K
 Project Manager: Weils Site Address: 15036 Norwalk Blvd Sampler's Signature: [Signature]
 Phone: City: Norwalk P.O. No.:
 Fax: State & Zip: CA Quote No.:

TAT Turnaround Codes **

- ① = Same Day Rush
- ② = 24 Hour Rush
- ③ = 48 Hour Rush
- ④ = 72 Hour Rush
- ⑤ = 5 Day Rush
- X = 10 Working Days (Standard TAT)

ANALYSIS REQUESTED (Test Name)

| | | | | | | | | | | | | | | | | | | | |
|--|------|----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| TO15 | TO-3 | Fixed GM | | | | | | | | | | | | | | | | | |
| Please enter the TAT Turnaround Codes ** below | | | | | | | | | | | | | | | | | | | |

Special Instructions

| Client I.D. | A.A. I.D. | Date | Time | Sample Matrix | No. of Cont | Please enter the TAT Turnaround Codes ** below | | | | | | | | | | | | | Special Instructions | |
|---------------|------------|---------|------|---------------|-------------|--|---|--|--|--|--|--|--|--|--|--|--|--|----------------------|--|
| Ambien-Air | 0202033-16 | 12/2/20 | 1300 | Surf | 1 | X | X | | | | | | | | | | | | | |
| Surf-14R-9 | -17 | | 1320 | | 1 | | | | | | | | | | | | | | | |
| Surf-14R-16 | -18 | | 1324 | | 1 | | | | | | | | | | | | | | | |
| Surf-14R-16dp | -19 | | 1324 | | 1 | | | | | | | | | | | | | | | |
| Surf-14R-22 | -20 | | 1320 | | 1 | X | X | | | | | | | | | | | | | |

| | |
|--|---|
| For Laboratory Use Date: <u>12/3/20</u> Time: <u>16:18</u> Date: <u>10/20/20</u> Time: <u>[Signature]</u> | Relinquished by <u>[Signature]</u> Date: <u>12/2/20</u> Time: <u>15:00</u> Received by <u>[Signature]</u> |
| | Relinquished by _____ Date: _____ Time: _____ Received by _____ |
| | Relinquished by _____ Date: _____ Time: _____ Received by _____ |

A.A. Project No.: MB18738/0202033

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Tel: 818-998-5547 FAX: 818-998-7258

A.A. COC No.: 21710

70058312

Page 1 of 2

| | | |
|-------------------------------|--|--------------------------------------|
| Client: <u>Jacobs</u> | Project Name / No.: <u>Norwalk 59 RP</u> | Sampler's Name: <u>Don Rodriguez</u> |
| Project Manager: <u>Neils</u> | Site Address: <u>15036 Norwalk blw</u> | Sampler's Signature: |
| Phone: | City: <u>Norwalk</u> | P.O. No.: |
| Fax: | State & Zip: <u>CA</u> | Quote No.: |

TAT Turnaround Codes **

- ① = Same Day Rush
- ② = 24 Hour Rush
- ③ = 48 Hour Rush
- ④ = 72 Hour Rush
- ⑤ = 5 Day Rush
- X = 10 Working Days (Standard TAT)

ANALYSIS REQUESTED (Test Name)

| | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| TAT | S/R | TAT | S/R | TAT | S/R | TAT | S/R | TAT | S/R | TAT | S/R | TAT | S/R |
| X | X | X | | | | | | | | | | | |

Special Instructions

| Client I.D. | A.A. I.D. | Date | Time | Sample Matrix | No. of Cont | Please enter the TAT Turnaround Codes ** below | | | | | | | | | | Special Instructions | | |
|-------------|------------|---------|------|---------------|-------------|--|---|---|--|--|--|--|--|--|--|----------------------|--|--|
| SVM-13-7 | 0202033-21 | 12/3/20 | 814 | Surf | 1 | X | X | X | | | | | | | | | | |
| SVM 13-15 | -22 | | 814 | | | | | | | | | | | | | | | |
| SVM 13-22 | -23 | | 814 | | | | | | | | | | | | | | | |
| SVM-11-7 | -24 | | 850 | | | | | | | | | | | | | | | |
| SVM-11-15 | -25 | | 850 | | | | | | | | | | | | | | | |
| SVM-11-22 | -26 | | 850 | | | | | | | | | | | | | | | |
| SVM-12-7 | -27 | | 1005 | | | | | | | | | | | | | | | |
| SVM-12-15 | -28 | | 946 | | | | | | | | | | | | | | | |
| SVM-12-22 | -29 | | 940 | | | | | | | | | | | | | | | |
| SVM-1-5 | -30 | | 1108 | | | | | | | | | | | | | | | |
| SVM-1-15 | -31 | | 1104 | | | | | | | | | | | | | | | |
| SVM-2-5 | -32 | | 1121 | | | | | | | | | | | | | | | |
| SVM-15-7 | -33 | | 1149 | | | | | | | | | | | | | | | |
| SVM 15-15 | -34 | | 1149 | | | | | | | | | | | | | | | |
| SVM 15-22 | -35 | | 1149 | | | | | | | | | | | | | | | |

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|--|------------------|---------------|------------|--------------|
| <p>For Laboratory Use</p> <p>DATE: 12/3/20 TIME: 1530</p> <p>10 [Signature]</p> | Relinquished by: | Date: 12/3/20 | Time: 1530 | Received by: |
| | Relinquished by: | Date: | Time: | Received by: |
| | Relinquished by: | Date: | Time: | Received by: |

A.A. Project No.: MB187336/0202033

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A.A. COC No.: 21711

70058309

Page 2 of 2

| | | |
|-------------------------------|---|----------------------|
| Client: <u>Jacobs</u> | Project Name / No.: <u>Norwalk SSP</u> | Sampler's Name: |
| Project Manager: <u>Neils</u> | Site Address: <u>15036 Norwalk Blvd</u> | Sampler's Signature: |
| Phone: | City: <u>Norwalk</u> | P.O. No.: |
| Fax: | State & Zip: <u>CA</u> | Quote No.: |

TAT Turnaround Codes **

ANALYSIS REQUESTED (Test Name)

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- ③ = 48 Hour Rush
- ④ = 72 Hour Rush
- ⑤ = 5 Day Rush
- X = 10 Working Days (Standard TAT)

1015
10.3
Final Copy

Special Instructions

| Client I.D. | A.A. I.D. | Date | Time | Sample Matrix | No. of Cont | Please enter the TAT Turnaround Codes ** below | | | | | | | | | | Special Instructions | | | | |
|--------------------|-------------------|----------------|-------------|---------------|-------------|--|---|---|---|---|---|--|--|--|--|----------------------|--|--|--|--|
| | | | | | | ① | ② | ③ | ④ | ⑤ | X | | | | | | | | | |
| <u>SWM-6-8</u> | <u>0102033-36</u> | <u>12/3/20</u> | <u>1204</u> | <u>Soil</u> | <u>1</u> | X | X | X | | | | | | | | | | | | |
| <u>SWM-6-13</u> | <u>-37</u> | | <u>1204</u> | | <u>1</u> | X | X | X | | | | | | | | | | | | |
| <u>SWM-7-8</u> | <u>-38</u> | | <u>1222</u> | | <u>1</u> | X | X | X | | | | | | | | | | | | |
| <u>SWM-7-7DWP</u> | <u>-39</u> | | <u>1222</u> | | <u>1</u> | X | X | X | | | | | | | | | | | | |
| <u>SWM-7-13</u> | <u>-40</u> | | <u>1222</u> | | <u>1</u> | X | X | X | | | | | | | | | | | | |
| <u>Ambient A.R</u> | <u>-41</u> | | <u>1210</u> | | <u>1</u> | X | X | X | | | | | | | | | | | | |
| <u>SW-10-5</u> | <u>-42</u> | | <u>1238</u> | | <u>1</u> | X | X | X | | | | | | | | | | | | |

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|---|-----------------|--------------------|----------------|--------------|--------------------|
| <p>For Laboratory Use</p> <p><u>12/3/20 15:30</u></p> <p><u>10</u></p> <p><u>MO 187385/0202033</u></p> | Relinquished by | Date | Time | Received by | |
| | | <u>[Signature]</u> | <u>12/3/20</u> | <u>15:00</u> | <u>[Signature]</u> |
| | | Relinquished by | Date | Time | Received by |
| | Relinquished by | Date | Time | Received by | |

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A.A. COC No.: 21724

20200904

Page 1 of 1

| | | |
|-------------------------------|---|---|
| Client: <u>Jacobs</u> | Project Name / No.: <u>Norwalk SSPP</u> | Sampler's Name: <u>Jan Perdy</u> |
| Project Manager: <u>Nelis</u> | Site Address: <u>15036 Norwalk</u> | Sampler's Signature: <u>[Signature]</u> |
| Phone: | City: <u>Norwalk</u> | P.O. No.: |
| Fax: | State & Zip: <u>CA</u> | Quote No.: |

TAT Turnaround Codes **

- ① = Same Day Rush
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- ④ = 72 Hour Rush
- ⑤ = 5 Day Rush
- X = 10 Working Days (Standard TAT)

ANALYSIS REQUESTED (Test Name)

| Client I.D. | A.A. I.D. | Date | Time | Sample Matrix | No. of Cont | Please enter the TAT Turnaround Codes ** below | | | | | | | | | | Special Instructions | |
|------------------------|----------------|---------|-----------------|---------------|-------------|--|-----|-----------|--|--|--|--|--|--|--|----------------------|-------------------------|
| | | | | | | T015 | T03 | Fixed gas | | | | | | | | | |
| SUM-25-5 | 0202033-43 | 12/4/20 | 748 | Smca | 1 | X | X | X | | | | | | | | | |
| SUM-25-5 Dup | -44 | | 743 | | | | | | | | | | | | | | |
| SUM-25-10 | -45 | | 741 | | | | | | | | | | | | | | |
| SUM-24-10 | -46 | | 813 | | | | | | | | | | | | | | |
| SUM-24-5 | -47 | | 813 | | | | | | | | | | | | | | |
| SUM-3-5 | -48 | | 852 | | | | | | | | | | | | | | |
| SUM-3-15 | -49 | | 852 | | | | | | | | | | | | | | |
| SUM-5-5 | -50 | | 920 | | | | | | | | | | | | | | |
| SUM-5-15 | -51 | | 920 | | | | | | | | | | | | | | |
| SUM-8-5 | -52 | | 943 | | | | | | | | | | | | | | |
| SUM-8-15 | -53 | | 943 | | | | | | | | | | | | | | |
| SUM-16-7 | -54 | | 1010 | | | | | | | | | | | | | | |
| SUM-16-16 | -55 | | 1010 | | | | | | | | | | | | | | |
| SUM-16-22 | -56 | | 1010 | | | | | | | | | | | | | | |
| AMBIENT AIR | -57 | | 1000 | | | | | | | | | | | | | | * No sample compromised |

| | | | | | |
|--|-----------------|------|---------|-------------|-------------|
| <p>For Laboratory Use</p> <p>REVIEWED</p> <p>Date: 12/4/20 Time: 15131</p> <p>By: [Signature]</p> | Relinquished by | Date | Time | Received by | |
| | | | 12/3/20 | 15108 | [Signature] |
| | | | | | |
| | Relinquished by | Date | Time | Received by | |
| | Relinquished by | Date | Time | Received by | |

A.A. Project No.: MB187386/0102033

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Appendix B
Phase I Natural Source Zone Depletion Preliminary Results –
Technical Memorandum

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| | | | |
|------------------|--|---------------------|--|
| Subject | Natural Source Zone Depletion Preliminary Results, SFPP Norwalk Pump Station, Norwalk, California | Project Name | SFPP Norwalk Pump Station, Norwalk, California |
| Attention | Ryan Koch/Kinder Morgan, Inc. | | |
| From | Lindsay Reynolds/Jacobs Wyatt Nolan/Jacobs Trevre Andrews/Jacobs | | |
| Date | October 29, 2020 | | |
| Copies to | Eric Davis/Jacobs | | |

This technical memorandum provides an update on the current natural source zone depletion (NSZD) evaluation at the SFPP, L.P. (SFPP) Norwalk Pump Station, located at 15306 Norwalk Boulevard, Norwalk, California (the site). The overall goal of this project is to evaluate the rate of NSZD under ambient conditions.

1. Introduction

As part of this effort, active remedies at the site were transitioned from their current operation to a configuration that allowed the assessment of NSZD rates under ambient conditions. Specifically, this involved a temporary suspension of hydraulic control and recovery (i.e., groundwater pump and treat), soil vapor extraction (SVE), and biosparging in the south-central area, as recommended in the *Biosparging Effectiveness Evaluation and Recommendations – South-Central Area* (Jacobs, 2019).

2. Objectives

NSZD processes occur in the subsurface and are often capable of contaminant reduction rates of active remedies. This site provides opportunities to evaluate NSZD rates under the following conditions:

1. South-central area following nearly 3 years of treatment with horizontal biosparging.
2. Southeastern area prior to the startup of the recently installed horizontal biosparging system.
3. Southeastern area following the operation of the recently installed horizontal biosparging system.
4. Evaluation of two ¹⁴C (a radioactive isotope of carbon) sampling methodologies to determine the most viable technique for the future of site-specific NSZD work. Not all sampling methodologies are effective in each area of the site, in particular, determination of NSZD rates in the south-central offsite area where a majority of the surface is covered by structures requires the use of soil vapor probes rather than surface flux meters to determine NSZD rates.

3. Methodology

Petroleum hydrocarbon constituents in light nonaqueous phase liquid (LNAPL) undergo a variety of degradation processes, including volatilization, dissolution, and biodegradation (Kostecki and Calabrese, 1989; NRC, 1993; Johnson et al., 2006). NSZD is a term used to describe the collective, naturally occurring processes of dissolution, volatilization, and biodegradation in the subsurface that act to degrade LNAPL and convert petroleum hydrocarbon constituents to innocuous aqueous and gaseous by-products. These processes physically degrade the LNAPL by mass transfer of chemical components to the aqueous phase where they are biologically broken down to benign end products such as carbon dioxide (CO₂). CO₂ subsequently transports into and through the vadose zone and can be measured at the ground surface as CO₂ efflux.

NSZD rates were evaluated using three technologies at the site:

- LI-COR CO₂ efflux measurements
- E-Flux CO₂ traps
- Field precipitation of ¹⁴BaCO₃

E-Flux CO₂ traps and ¹⁴BaCO₃ samples utilize the radioisotope ¹⁴C to allow for the apportionment of petroleum-degradation-derived CO₂ from LI-COR CO₂ measured efflux.

3.1 LI-COR CO₂ Efflux Measurements

The NSZD field investigation was conducted between April 16 and 23, 2020, and May 5 and 7, 2020. Soil CO₂ efflux was measured using the LI-COR Biosciences Inc. (LI-COR) 870 and Smart Chamber dynamic closed chamber (DCC) assembly. A LI-COR survey involves embedding shallow soil collars into the ground surface at various locations across the site. Using an infrared CO₂ gas analyzer (IRGA) and chamber unit, the LI-COR DCC methodology directly measures the concentrations of CO₂ emitted into a vented, ground-surface-mounted chamber over a short time. The LI-COR DCC system involves the collection of large amounts of discrete, time series CO₂ concentration data ultimately allowing for the calculation of CO₂ efflux and a stoichiometrically back-calculated NSZD rate. Using the automated IRGA and intermittent chamber closure, the system measures the change in chamber CO₂ concentration over a set time from each location. A summary of all LI-COR CO₂ measurement locations, dates, and atmospheric conditions is presented in Table 1.

After the field survey, the raw data were tabulated, and the concentration versus time curve fit was optimized for each observation. Following curve fit optimization, the method detection limit was calculated using field blank values, the data were validated removing outliers and poor-quality data, and nondetect values were assigned, where appropriate.

3.2 E-Flux CO₂ Traps

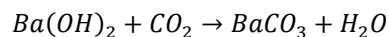
The CO₂ traps used in this study were designed by Colorado State University and were made commercially available by E-Flux. The E-Flux traps are designed for longer-term, in situ monitoring of CO₂ efflux. The E-Flux trap assembly consists of three parts: an approximately 6-inch length of 4-inch inside-diameter polyvinyl chloride (PVC) receiver pipe with basal metal angle anchors, a short PVC E-Flux trap equipped

with a moisture-resistant media (SODASORB) that adsorbs CO₂, and a 6-inch (15-centimeter)-diameter protective rain cover. The receiver pipe is installed in the shallow ground surface and soil is compacted to pre-existing conditions inside and outside the pipe to allow soil vapor to pass up through the pipe in approximately undisturbed conditions (E-Flux, 2019).

The E-Flux trap is a flow-through methodology intended to capture and sorb CO₂ as it migrates upward through the receiver pipe. The E-Flux trap contains two sorbent pucks; the upper sorbent is used to scrub atmospheric CO₂ and prevent it from migrating into the lower sorbent puck. The lower sorbent is used to capture the CO₂ solely emitted from the underlying subsurface. The upper sorbent puck is discarded at the laboratory after verifying that atmospheric CO₂ did not break through the upper puck, and the lower puck is analyzed to estimate the efflux. Unlike the LI-COR system, no pumping or field measurements are required. Over a pre-established period of time, on the order of 2 to 3 weeks, the E-Flux trap passively allows soil vapor to move through and sorbs the CO₂ mass. Analogous to a trip blank used for a groundwater volatile organic compound (VOC) sampling program, a separate E-Flux trap accompanies the samples and remains capped, containerized, and onsite for the duration of deployment. Upon termination of the deployment period, the sorbent E-Flux traps are sent back to the E-Flux laboratory for CO₂ and ¹⁴C analysis.

3.3 Field Precipitation of ¹⁴BaCO₃

The BaCO₃ radiocarbon sampling method was developed by the University of Ottawa in 2019. This method uses compact, commercially available sampling equipment and laboratory-prepared sample containers. The sample containers are 4.5-milliliter (mL) exetainers with a butyl septum cap and hold approximately 0.5 mL of a barium hydroxide solution. Sampling produces a precipitated mineral, witherite (BaCO₃) for later analysis of radiocarbon isotopic signatures. The precipitate is the product of the reaction between a barium hydroxide (Ba(OH)₂) solution housed in the sampling container and the CO₂ from the subsurface soil gas.



Soil gas is drawn from soil probes manufactured by AMS Inc. (American Falls, Idaho). Soil probes are installed to a depth of approximately 12 inches below the ground surface with a rubber mallet. The top of the soil probe is fitted with a 3/16-inch adapter manufactured by AMS Inc., that is connected to 3/16-inch inner diameter flexible tubing. Bev-A-Line tubing is used because it is impermeable to CO₂, which prevents atmospheric CO₂ sample contamination. Tubing is connected to a three-way gas lock to direct air flow during the sampling procedure. The other two ports on the gas lock are connected to a 60-mL syringe and a 3-inch-long, 22-gauge needle. The needle is used to pierce the sample container septum and the gas lock is turned to allow the soil gas to be pushed out through the needle and into the barium hydroxide solution. Each sample container has soil CO₂ added to it twice, 24 hours apart.

Samples are shipped to the University of Ottawa's A.E. Lalonde Accelerator Mass Spectrometer Laboratory for analysis and subsequent reporting.

Mineralogical samples were shipped to the University of Ottawa A.E. Lalonde Laboratory for analysis by Accelerator Mass Spectrometry (AMS) for ¹⁴C fraction. ¹⁴C signatures were measured using a

3-millivolt (mV) accelerator mass spectrometer and were corrected using laboratory standard blank and modern standards.

The NSZD monitoring program performed at the site between April 16 and 23, 2020, and May 5 and 7, 2020, included monitoring of 50 LI-COR locations plus 5 replicates, E-Flux trap sampling at 8 locations, and ¹⁴C radiocarbon sampling at 14 locations plus 1 duplicate.

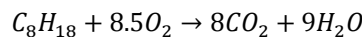
4. Results

4.1 CO₂ Efflux Survey

CO₂ efflux survey locations were selected throughout the site in varying levels of previously identified groundwater impacts or measured LNAPL (Figure 1). Furthermore, the survey locations were selected to encompass both the south-central and southeastern areas of the site. The south-central area of the site represents NSZD rates following nearly 3 years of treatment with horizontal biosparging. The southeastern area of the site represents NSZD rates prior to the startup of the recently installed horizontal biosparging system.

NSZD rates are often reported in many different units. Laboratory and field data are typically reported in micromoles per square meter per second (μmol/m²/s). Typically, hydrocarbon mass degraded per unit area per unit time is more relevant to remedial progress. To convert from field units to a unit mass of hydrocarbon at a site, a representative hydrocarbon molecule must be selected. Octane was selected as the representative hydrocarbon molecule for the site because the majority of the hydrocarbons released were in the gasoline range.

Once the measured CO₂ efflux is corrected to reflect the component that is attributable to hydrocarbon degradation, the rate can be stoichiometrically converted to the LNAPL degradation/loss occurring via NSZD (Davidson et al., 2002; Molins et al., 2010; Sihota et al., 2011a, 2011b, 2013). To estimate the mass of hydrocarbon degraded from CO₂ efflux, a representative hydrocarbon compound is assumed by reviewing historical soil and groundwater impacts. The microbially mediated oxidation reaction can be approximated as follows, with the molecular formula C₈H₁₈:



Using isotopically corrected CO₂ efflux values and a representative hydrocarbon, efflux rates measured in μmol/m²/sec can be converted to the rate of NSZD in units of gallons per acre per year (gal/acre/year).

$$R_{NSZD} = Efflux_{Fossil\ Fuel} * \frac{1\ mol}{1 \times 10^6\ \mu mol} * \frac{1\ mol\ C_8H_{18}}{8\ mol\ CO_2} * \frac{114.23\ g\ C_8H_{18}}{1\ mol\ C_8H_{18}} * \frac{86400\ sec}{1\ day} * \frac{365\ day}{1\ year}$$

$$* \frac{1\ ml\ C_8H_{18}}{0.702\ gC_8H_{18}} * \frac{1\ L}{1000\ mL} * \frac{1\ gallon}{3.785\ L} * \frac{1\ m^2}{0.000247\ acre}$$

$$R_{NSZD} = \frac{gallon}{acre\ year}$$

Using this methodology, it can be determined that NSZD rates attributed to the biodegradation of octane can be calculated with a conversion factor of 624.

$$R_{NSZD} = Efflux_{Fossil\ Fuel} * 624$$

This conversion results in approximately 1 $\mu\text{mol}/\text{m}^2/\text{s}$ at this site being equivalent to 624 gallons of octane per acre per year.

CO_2 rates are calculated using either exponential or linear regression methods to fit the observed dataset. Typically, the fitting method that best matches the data trend is used. In most cases, exponential fitting best matches the data. However, using exponential efflux calculations can overestimate CO_2 respiration, as there is not necessarily enough carbon substrate to warrant the calculated rates (Tracy, 2015). Based on this, the data were fit using linear regression methods; the results of the regression are included in Table 1.

4.2 NSZD Quality Control Results

To assess the variability in LI-COR measurements at immediately adjacent locations during the May 2020 survey, five replicate LI-COR collars (NW-08D, NW-27D, NW-38D, NW-43D, and NW-48D) were installed during the CO_2 efflux event. The difference in total CO_2 efflux between the parent and duplicate collars ranged from 0.06 $\mu\text{mol}/\text{m}^2/\text{s}$ (NW-27/NW-27D) to 2.51 $\mu\text{mol}/\text{m}^2/\text{s}$ (NW-48/NW-48D) (Table 2). The relative percent difference (RPD) ranged from 6 percent (NW-27/NW-27D) to 40 percent (NW-38/NW-38D).

Standards for soil gas efflux sample variability have not been established to date. An RPD of 30 percent is generally considered acceptable for environmental samples such as soil. The higher difference observed for the parent and duplicate pair for NW-48 is likely attributable to naturally occurring heterogeneities within the shallow subsurface that affect soil gas flow. Therefore, the associated results from NW-08, NW-38, and NW-48 should be considered less reliable, but still relevant estimates because of low field duplicate precision.

4.3 E-Flux Traps

E-Flux traps for the collection of the radiocarbon signature of carbon dioxide ($^{14}\text{CO}_2$) were installed throughout the site complementary to LI-COR collars as a part of the NSZD survey (Figure 1).

Standard quality control procedure for the use of E-Flux traps involves the use of a field blank set up to be stored onsite during trap deployment and subsequent analysis alongside deployed field traps. The field blank stored on the site in this survey was measured to have 0.68 fraction modern carbon (FmC), which was used to correct analyzed ^{14}C values from all other traps. The data are presented in Table 1.

4.4 $^{14}\text{BaCO}_3$ Sampling

Soil probes for $^{14}\text{BaCO}_3$ sample collection of the radiocarbon signature of carbon dioxide ($^{14}\text{CO}_2$) were installed throughout the site complementary to LI-COR collars as a part of the NSZD survey (Figure 1).

$^{14}\text{CO}_2$ measured at the site ranged from 0.62 FmC (NW-40) to 0.99 FmC (NW-53). The ^{14}C results are summarized in Table 1.

¹⁴C Quality Control Results

One duplicate ¹⁴CO₂ sample was collected at NW-10 during the NSZD survey to assess the variability in ¹⁴CO₂ measurements at immediately adjacent locations during the April 2020 survey. The sample did not yield adequate sample volumes to be analyzed by the laboratory.

4.5 Comparison of ¹⁴CO₂ Sampling Techniques

Four locations were chosen to conduct a side by side comparison of both the E-Flux trap and ¹⁴BaCO₃ sampling techniques. Comparative data are presented in Table 3.

Standards for soil gas efflux sample variability have not been established to date. An RPD of 30 percent is generally considered acceptable for environmental samples such as soil.

5. Discussion

Overall hydrocarbon degradation rates calculated at the site (Table 1) vary between approximately 11 (NW-31) and 489 (NW-50) gal/acre/year, which confirms natural biodegradation of hydrocarbon constituents is occurring at various rates around the site.

Using the corrected ¹⁴C fossil fuel fraction (modern carbon vs. hydrocarbon) allows for a more accurate and refined estimate of subsurface hydrocarbon degradation rates versus solely using LI-COR efflux results. These annual estimates assume that NSZD rates, which are in part driven by subsurface temperatures, remain constant throughout the year, or that the rates measured in mid- to late-spring are representative of the annual mean.

The hydrocarbon degradation rate measured varies primarily due to the proximity of hydrocarbon constituents to a given measurement, but also due to variability in degradation rates and the volatile gas migration capability through heterogeneities in the vadose zone at each location. For the purposes of this study, it is assumed that the NSZD rates at different locations are mainly driven by the primary factor — proximity to hydrocarbon constituents.

Figure 1 shows the measured NSZD rate (gal/acre/year) for each sample location. The southeastern area of the site shows that the higher the dissolved-phase concentrations, the higher the likelihood that residual LNAPL is present and degrading near those concentrations. Based on a comparison of NSZD rates and spatial distribution of the dissolved phase, areas of residual LNAPL that are likely present and degrading, and location of the historically operated horizontal biosparging equipment, the following observations can be made:

- The highest NSZD rates (approximately 500 gal/acre/year) correspond to the areas adjacent to residual LNAPL that has not been treated with biosparging remediation (i.e., the southeastern area).
- The lowest NSZD rates (approximately 11 gal/acre/year) correspond to the area where horizontal biosparging equipment was historically operated (i.e., the south-central onsite area).
- Measurable NSZD rates are present in all areas of detected dissolved-phase concentrations.

- The total NSZD rate for the south-central onsite area illustrated on Figure 1 is 900 gallons/year.
- The total NSZD rate for the southeastern area illustrated on Figure 1 is 500 gallons/year.

The comparative analysis of E-Flux trap and $^{14}\text{BaCO}_3$ sampling techniques for the analysis of the ^{14}C signature of CO_2 efflux showed that both methods produce comparable results. Going forward, $^{14}\text{BaCO}_3$ sampling techniques will be used at the site as they allow collection of NSZD data in the south-central offsite areas where surface flux meters would not be effective and $^{14}\text{BaCO}_3$ sampling techniques allow the collection of a higher density of samples across the site.

6. Conclusions

As part of this effort, active remedies at the site were transitioned from their current operation to a configuration that allowed the assessment of the NSZD rates under ambient conditions. Specifically, this involved a temporary suspension of hydraulic control and recovery (i.e., groundwater pump and treat), SVE, and biosparging in the south-central area, as recommended in the *Biosparging Effectiveness Evaluation and Recommendations – South-Central Area* (Jacobs, 2019).

This NSZD evaluation sought to evaluate NSZD processes occurring in the subsurface with consideration of historical and future horizontal biosparging operations. NSZD rates observed confirm that NSZD can be measured at this site and that significant rates (up to approximately 1,400 gal/acre/year) of biodegradation are occurring in the subsurface. Reduced NSZD rates were observed in the south-central onsite area, which has undergone biosparging operations. Higher rates of NSZD were observed in the southeastern area, which has not undergone biosparging operations.

This study also sought to evaluate two methods for sampling the ^{14}C signature of CO_2 efflux. Results of this study show both methods produce comparable technical results that will allow the continued use of ^{14}C barium carbonate sampling to correct NSZD rates at the site, in particular in the south-central offsite areas where NSZD rates must be measured using vapor probes due to the degree of ground cover.

7. References

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Tables

Table 1. Summary of Sitewide NSZD Measurements, May 2020

SFPP Norwalk Pump Station, Norwalk, California

| Location | Date | Pressure (kPa) | Temperature (°F) | Total CO ₂ Efflux (μmol/m ² /s) | Closest ¹⁴ C Sample | Normalized ¹⁴ C | ¹⁴ C Fossil Fuel Fraction | ¹⁴ C Corrected CO ₂ Efflux (μmol/m ² /s) | Estimated Hydrocarbon Degradation (g/m ² /day) | Estimated Hydrocarbon Degraded (gallon/acre/year) |
|---------------------------|-----------|----------------|------------------|---|--------------------------------|----------------------------|--------------------------------------|---|---|---|
| South-Central Area | | | | | | | | | | |
| NW-01 | 06-May-20 | 101.3 | 95.2 | 1.75 | NW-03 | 0.90 | 0.10 | 0.1672 | 0.2059 | 104 |
| NW-02 | 06-May-20 | 101.3 | 90.3 | 0.81 | NW-03 | 0.90 | 0.10 | 0.0775 | 0.0954 | 48 |
| NW-03 | 06-May-20 | 101.3 | 91.8 | 3.64 | NW-03 | 0.90 | 0.10 | 0.3470 | 0.4272 | 216 |
| NW-04 | 06-May-20 | 101.3 | 90.9 | 1.41 | NW-03 | 0.90 | 0.10 | 0.1344 | 0.1655 | 84 |
| NW-05 | 06-May-20 | 101.3 | 90.3 | 1.11 | NW-10 | 0.88 | 0.12 | 0.1375 | 0.1693 | 86 |
| NW-06 | 06-May-20 | 101.3 | 87.0 | 1.36 | NW-12 | 0.94 | 0.06 | 0.0807 | 0.0993 | 50 |
| NW-07 | 06-May-20 | 101.3 | 90.8 | 1.00 | NW-12 | 0.94 | 0.06 | 0.0596 | 0.0734 | 37 |
| NW-08 | 06-May-20 | 101.3 | 85.9 | 2.85 | NW-18 | 0.89 | 0.11 | 0.3196 | 0.3934 | 199 |
| NW-08D | 06-May-20 | 101.3 | 85.1 | 2.03 | NW-18 | 0.89 | 0.11 | 0.2276 | 0.2802 | 142 |
| NW-09 | 06-May-20 | 101.3 | 89.6 | 2.10 | NW-18 | 0.89 | 0.11 | 0.2347 | 0.2889 | 146 |
| NW-10 | 06-May-20 | 101.3 | 90.6 | 2.91 | NW-10 | 0.88 | 0.12 | 0.3611 | 0.4446 | 225 |
| NW-11 | 06-May-20 | 101.3 | 91.3 | 0.32 | NW-10 | 0.88 | 0.12 | 0.0398 | 0.0490 | 25 |
| NW-12 | 06-May-20 | 101.3 | 71.2 | 0.91 | NW-12 | 0.94 | 0.06 | 0.0541 | 0.0666 | 34 |
| NW-13 | 06-May-20 | 101.3 | 95.1 | 0.67 | NW-12 | 0.94 | 0.06 | 0.0400 | 0.0492 | 25 |
| NW-14 | 06-May-20 | 101.3 | 93.9 | 0.98 | NW-15 | 0.77 | 0.23 | 0.2212 | 0.2723 | 138 |
| NW-15 | 06-May-20 | 101.3 | 92.4 | 0.52 | NW-15 | 0.77 | 0.23 | 0.1177 | 0.1449 | 73 |
| NW-16 | 06-May-20 | 101.3 | 68.9 | 3.56 | NW-26 | 0.92 | 0.08 | 0.2903 | 0.3574 | 181 |
| NW-17 | 06-May-20 | 101.3 | 74.4 | 0.96 | NW-26 | 0.92 | 0.08 | 0.0784 | 0.0966 | 49 |
| NW-18 | 06-May-20 | 101.3 | 87.0 | 2.28 | NW-18 | 0.89 | 0.11 | 0.2557 | 0.3149 | 160 |
| NW-19 | 06-May-20 | 101.3 | 86.0 | 1.13 | NW-10 | 0.88 | 0.12 | 0.1406 | 0.1731 | 88 |
| NW-20 | 06-May-20 | 101.3 | 85.8 | 1.83 | NW-21 | 0.94 | 0.06 | 0.1022 | 0.1259 | 64 |
| NW-21 | 06-May-20 | 101.3 | 96.0 | 1.42 | NW-21 | 0.94 | 0.06 | 0.0793 | 0.0976 | 49 |
| NW-22 | 06-May-20 | 101.2 | 98.8 | 0.41 | NW-21 | 0.94 | 0.06 | 0.0229 | 0.0281 | 14 |
| NW-23 | 06-May-20 | 101.2 | 97.6 | 0.50 | NW-33 | 0.89 | 0.11 | 0.0557 | 0.0686 | 35 |
| NW-24 | 06-May-20 | 101.2 | 96.6 | 1.24 | NW-15 | 0.77 | 0.23 | 0.2801 | 0.3449 | 175 |
| NW-25 | 06-May-20 | 101.3 | 76.3 | 1.95 | NW-26 | 0.92 | 0.08 | 0.1588 | 0.1955 | 99 |
| NW-26 | 06-May-20 | 101.3 | 76.9 | 3.80 | NW-26 | 0.92 | 0.08 | 0.3095 | 0.3810 | 193 |
| NW-27 | 06-May-20 | 101.3 | 83.3 | 1.10 | NW-26 | 0.92 | 0.08 | 0.0898 | 0.1106 | 56 |
| NW-27D | 06-May-20 | 101.3 | 81.5 | 1.04 | NW-26 | 0.92 | 0.08 | 0.0849 | 0.1045 | 53 |
| NW-28 | 06-May-20 | 101.3 | 83.5 | 2.90 | NW-28 | 0.87 | 0.13 | 0.3903 | 0.4805 | 243 |
| NW-29 | 06-May-20 | 101.3 | 82.1 | 0.41 | NW-26 | 0.92 | 0.08 | 0.0332 | 0.0408 | 21 |
| NW-30 | 06-May-20 | 101.3 | 98.7 | 0.91 | NW-30 | 0.96 | 0.04 | 0.0336 | 0.0414 | 21 |
| NW-31 | 06-May-20 | 101.3 | 99.5 | 0.47 | NW-30 | 0.96 | 0.04 | 0.0174 | 0.0215 | 11 |
| NW-32 | 06-May-20 | 101.3 | 99.2 | 0.69 | NW-33 | 0.89 | 0.11 | 0.0766 | 0.0943 | 48 |
| NW-33 | 06-May-20 | 101.2 | 97.9 | 1.26 | NW-33 | 0.89 | 0.11 | 0.1409 | 0.1734 | 88 |
| NW-34 | 07-May-20 | 101.2 | 99.7 | 0.90 | NW-34 | 0.95 | 0.05 | 0.0445 | 0.0548 | 28 |
| NW-35 | 06-May-20 | 101.2 | 99.1 | 1.20 | NW-36 | 0.67 | 0.33 | 0.3954 | 0.4868 | 247 |
| NW-36 | 06-May-20 | 101.2 | 98.4 | 1.50 | NW-36 | 0.67 | 0.33 | 0.4966 | 0.6114 | 310 |
| NW-37 | 06-May-20 | 101.2 | 100.9 | 0.87 | NW-36 | 0.67 | 0.33 | 0.2892 | 0.3561 | 180 |

Table 1. Summary of Sitewide NSZD Measurements, May 2020

SFPP Norwalk Pump Station, Norwalk, California

| Location | Date | Pressure (kPa) | Temperature (°F) | Total CO ₂ Efflux (μmol/m ² /s) | Closest ¹⁴ C Sample | Normalized ¹⁴ C | ¹⁴ C Fossil Fuel Fraction | ¹⁴ C Corrected CO ₂ Efflux (μmol/m ² /s) | Estimated Hydrocarbon Degradation (g/m ² /day) | Estimated Hydrocarbon Degraded (gallon/acre/year) |
|--------------------------|-----------|----------------|------------------|---|--------------------------------|----------------------------|--------------------------------------|---|---|---|
| NW-38 | 06-May-20 | 101.2 | 99.4 | 1.46 | NW-36 | 0.67 | 0.33 | 0.4816 | 0.5929 | 300 |
| NW-38D | 06-May-20 | 101.2 | 99.7 | 0.97 | NW-36 | 0.67 | 0.33 | 0.3222 | 0.3967 | 201 |
| NW-39 | 06-May-20 | 101.1 | 100.6 | 0.87 | NW-36 | 0.67 | 0.33 | 0.2876 | 0.3541 | 179 |
| Southeastern Area | | | | | | | | | | |
| NW-40 | 05-May-20 | 101.5 | 72.8 | 1.11 | NW-40 | 0.59 | 0.41 | 0.4584 | 0.5644 | 286 |
| NW-41 | 05-May-20 | 101.5 | 73.2 | 1.15 | NW-40 | 0.59 | 0.41 | 0.4744 | 0.5841 | 296 |
| NW-42 | 05-May-20 | 101.5 | 71.4 | 1.03 | NW-40 | 0.59 | 0.41 | 0.4222 | 0.5198 | 263 |
| NW-43 | 05-May-20 | 101.5 | 69.2 | 1.55 | NW-55 | 0.89 | 0.11 | 0.1679 | 0.2067 | 105 |
| NW-43D | 05-May-20 | 101.5 | 69.4 | 1.80 | NW-55 | 0.89 | 0.11 | 0.1955 | 0.2407 | 122 |
| NW-44 | 05-May-20 | 101.5 | 68.0 | 0.89 | NW-55 | 0.89 | 0.11 | 0.0969 | 0.1193 | 60 |
| NW-45 | 05-May-20 | 101.5 | 76.3 | 4.45 | NW-46 | 0.94 | 0.06 | 0.2852 | 0.3511 | 178 |
| NW-46 | 05-May-20 | 101.5 | 72.2 | 2.10 | NW-46 | 0.94 | 0.06 | 0.1346 | 0.1657 | 84 |
| NW-47 | 05-May-20 | 101.5 | 84.1 | 1.80 | NW-40 | 0.59 | 0.41 | 0.7393 | 0.9102 | 461 |
| NW-48 | 05-May-20 | 101.5 | 79.9 | 5.52 | NW-46 | 0.94 | 0.06 | 0.3533 | 0.4350 | 220 |
| NW-48D | 05-May-20 | 101.5 | 85.0 | 8.03 | NW-46 | 0.94 | 0.06 | 0.5140 | 0.6328 | 321 |
| NW-49 | 05-May-20 | 101.5 | 87.8 | 5.17 | NW-46 | 0.94 | 0.06 | 0.3311 | 0.4077 | 207 |
| NW-50 | 05-May-20 | 101.5 | 83.0 | 7.24 | NW-55 | 0.89 | 0.11 | 0.7841 | 0.9654 | 489 |
| NW-51 | 05-May-20 | 101.5 | 87.9 | 9.15 | NW-51 | 0.96 | 0.04 | 0.3492 | 0.4299 | 218 |
| NW-52 | 05-May-20 | 101.5 | 85.1 | 11.43 | NW-51 | 0.96 | 0.04 | 0.4361 | 0.5370 | 272 |
| NW-53 | 05-May-20 | 101.5 | 89.5 | 10.32 | NW-53 | 0.97 | 0.03 | 0.3564 | 0.4388 | 222 |
| NW-54 | 05-May-20 | 101.5 | 89.4 | 8.12 | NW-53 | 0.97 | 0.03 | 0.2807 | 0.3456 | 175 |
| NW-55 | 05-May-20 | 101.5 | 80.0 | 5.06 | NW-55 | 0.89 | 0.11 | 0.5486 | 0.6754 | 342 |

Notes:

Octane (C₈H₁₈) was used as the representative hydrocarbon.

NSZD results represent order of magnitude values and may vary from reporting period to reporting period as additional site information is added and analytical methods are refined; however, the overall conclusions drawn from the NSZD results do not change the remedial implications except when noted.

°F = degrees Fahrenheit

μmol/m²/s = micromoles per square meter per second

¹⁴C = radiocarbon

g/m²/d = grams per square meter per day

kPa = kilo Pascals

Table 2. Quality Assurance and Quality Control of LI-COR Total CO₂ Efflux*SFPP Norwalk Pump Station, Norwalk, California*

| Location | Parent CO ₂ Efflux (μmol/m ² /s) | Replicate CO ₂ Efflux (μmol/m ² /s) | Difference in Efflux (μmol/m ² /s) | RPD |
|----------|--|---|---|-----|
| NW-08 | 2.85 | 2.03 | 0.82 | 34% |
| NW-27 | 1.10 | 1.04 | 0.06 | 6% |
| NW-38 | 1.46 | 0.97 | 0.48 | 40% |
| NW-43 | 1.55 | 1.80 | 0.25 | 15% |
| NW-48 | 5.52 | 8.03 | 2.51 | 37% |

Notes:

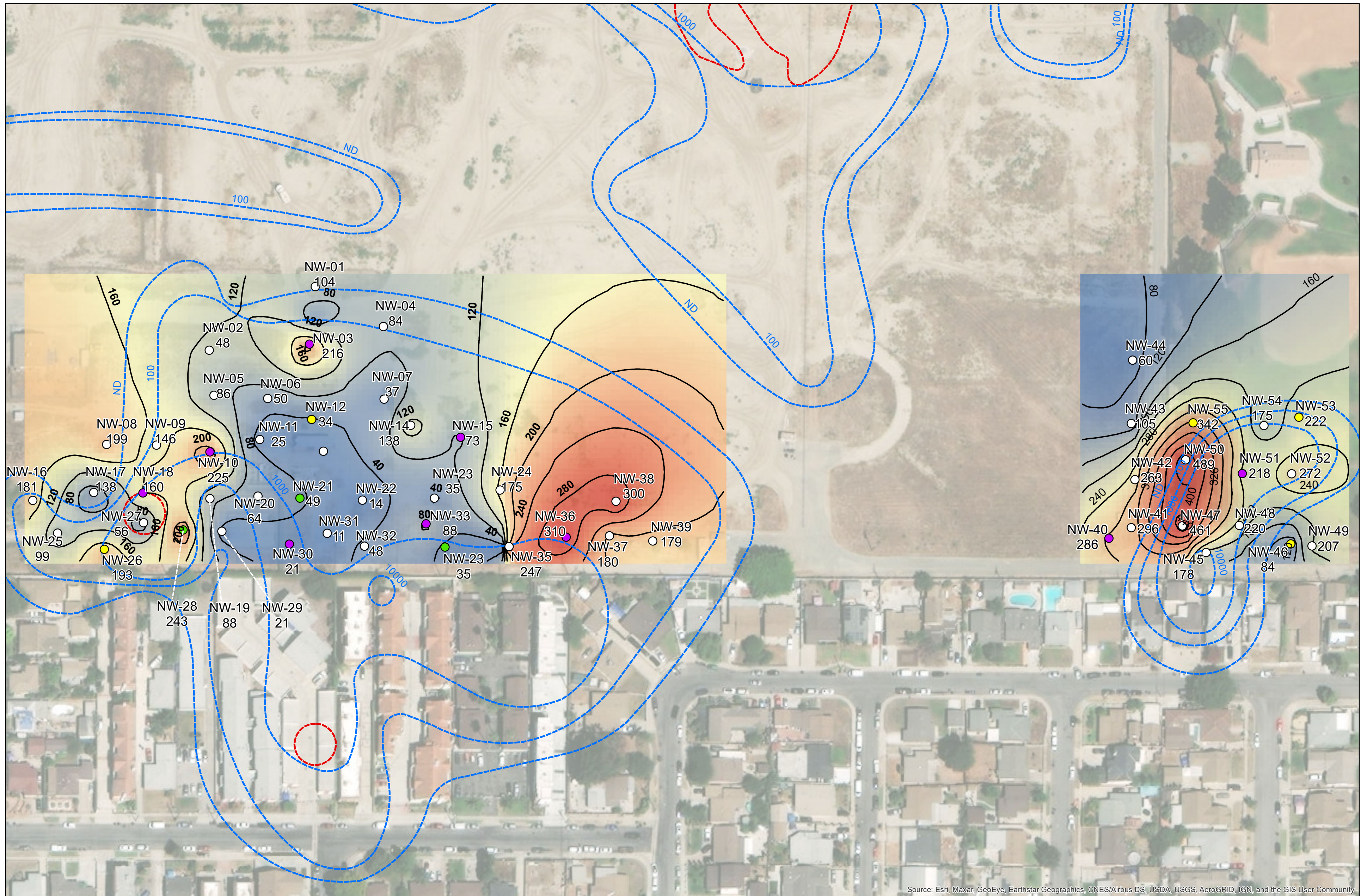
RPD = relative percent difference = $|Parent-Replicate|/((Parent + Replicate)/2)$ μmol/m²/s = micromole per meter squared per second**Table 3. Comparative Results of E-Flux Trap and ¹⁴BaCO₃ Sampling Techniques***SFPP Norwalk Pump Station, Norwalk, California*

| Location | E-Flux Trap | ¹⁴ BaCO ₃ Sample | RPD |
|----------|-------------|--|------|
| NW-26 | 0.92 | 0.92 | 0.3% |
| NW-46 | 0.95 | 0.94 | 1.0% |
| NW-53 | 0.97 | 0.97 | 0.1% |
| NW-55 | 0.95 | 0.89 | 6.3% |

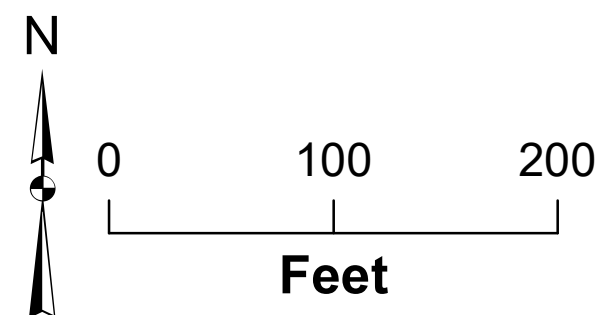
Notes:

RPD = relative percent difference = $|Parent-Replicate|/((Parent + Replicate)/2)$ μmol/m²/s = micromole per meter squared per second

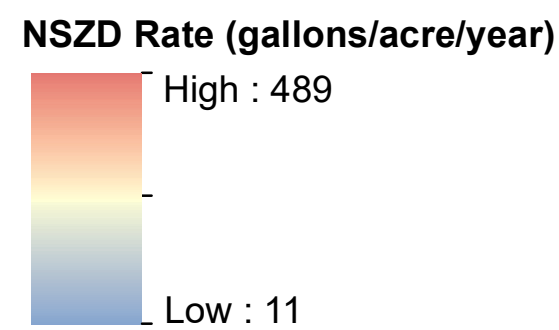
Figure



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Legend**
- LICOR Only
 - BaCO₃
 - Both ¹⁴C Methods
 - E-Flux
 - 50 gallons/acre/year Contour



- ▭ Inferred May 2020 Groundwater TPH Concentrations
- ▭ Inferred May 2020 extent of LNAPL

Figure 1. Measured NSZD Rates May 2020
 SFPP Norwalk Pump Station
 Natural Source Zone Depletion
 Technical Memorandum

Appendix C

Statistical Analysis

Table C-1. Total Gasoline Range Petroleum Hydrocarbons (TPH-g) in Groundwater – Gasoline Range – Statistical Summary
SFPP Norwalk Pump Station, Norwalk, California

| Well | Location | Whole Dataset | | 2020 % NDs | LAST RESULT DATE | LAST RESULT | HISTORICAL HIGH RESULT DATE | HISTORICAL HIGH RESULT | DIFFERENCE |
|---------------|-----------------------|---------------|-------|------------|------------------|-------------|-----------------------------|------------------------|------------|
| | | NumObs | % NDs | | | | | | |
| gmw-o-7* | South-Central/Offsite | 1 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-24* | South-Central | 2 | 0% | N/A | 10/13/2011 | 58000 | 4/29/2011 | 70000 | 17% |
| gmw-o-11* | South-Central/Offsite | 2 | 50% | 100% | 8/20/2020 | 100 | 10/4/2010 | 10000 | 99% |
| gwr-3 | South-Central | 3 | 33% | N/A | 10/13/2011 | 20000 | 4/13/2011 | 25000 | 20% |
| mw-sf-10 | South-Central | 3 | 0% | N/A | 10/13/2011 | 18000 | 4/14/2011 | 31000 | 42% |
| mw-sf-12 | South-Central | 3 | 0% | N/A | 10/13/2011 | 110000 | 10/13/2011 | 110000 | 0% |
| mw-sf-2 | South-Central | 3 | 0% | N/A | 10/13/2011 | 72000 | 10/5/2010 | 110000 | 35% |
| pz-7a | Southeastern | 3 | 0% | N/A | 10/10/2003 | 240 | 6/13/2003 | 340 | 29% |
| pz-7b | Southeastern | 3 | 0% | N/A | 10/10/2003 | 90 | 6/13/2003 | 98 | 8% |
| pz-9a | Southeastern | 3 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-9b | Southeastern | 3 | 67% | N/A | 10/10/2003 | 50 | 6/13/2003 | 75 | 33% |
| gmw-22 | South-Central | 4 | 0% | N/A | 10/18/2012 | 32000 | 4/20/2012 | 46000 | 30% |
| mw-sf-3 | South-Central | 4 | 25% | N/A | 11/3/2015 | 280000 | 11/3/2015 | 280000 | 0% |
| pz-6 | South-Central | 4 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-8a | Southeastern | 4 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-8b | Southeastern | 4 | 50% | N/A | 12/6/2006 | 50 | 10/10/2003 | 310 | 84% |
| gmw-29 | South-Central | 5 | 0% | N/A | 7/8/2004 | 45000 | 7/8/2004 | 45000 | 0% |
| mw-11 | South-Central | 5 | 80% | N/A | 4/19/2012 | 220 | 4/10/2002 | 300 | 27% |
| mw-sf-11 | South-Central | 5 | 0% | N/A | 10/18/2012 | 77000 | 10/18/2012 | 77000 | 0% |
| gmw-23 | South-Central | 6 | 0% | N/A | 11/1/2019 | 130 | 4/23/2015 | 37000 | 100% |
| mw-o-1 | South-Central/Offsite | 6 | 17% | 100% | 8/20/2020 | 50 | 10/8/2010 | 32000 | 100% |
| mw-sf-16 | South-Central | 6 | 0% | N/A | 10/27/2015 | 3000 | 10/31/2014 | 100000 | 97% |
| mw-sf-5 | South-Central | 6 | 50% | N/A | 10/27/2015 | 270 | 4/13/2011 | 570 | 53% |
| gmw-14r | South-Central | 7 | 100% | 100% | N/A | N/A | N/A | N/A | N/A |
| gmw-30 | South-Central | 7 | 29% | 100% | 5/11/2020 | 100 | 4/15/2016 | 14000 | 99% |
| gmw-o-12 | South-Central/Offsite | 7 | 0% | N/A | 10/11/2013 | 30000 | 4/12/2013 | 34000 | 12% |
| gmw-sf-10 | Southeastern | 7 | 71% | N/A | 10/17/2012 | 50 | 10/10/2003 | 100 | 50% |
| gwr-1r | South-Central | 7 | 100% | 100% | N/A | N/A | N/A | N/A | N/A |
| mw-15r | South-Central | 7 | 57% | 0% | 5/11/2020 | 78 | 4/19/2017 | 100 | 22% |
| gmw-10 | South-Central | 8 | 0% | N/A | 10/28/2015 | 27000 | 10/28/2015 | 27000 | 0% |
| gmw-sf-9 | Southeastern | 8 | 88% | N/A | 10/17/2012 | 50 | 10/12/2011 | 100 | 50% |
| mw-sf-14 | South-Central | 8 | 13% | N/A | 4/15/2016 | 370 | 10/27/2015 | 270000 | 100% |
| mw-o-2 | South-Central/Offsite | 10 | 10% | 0% | 8/20/2020 | 8100 | 10/11/2013 | 43000 | 81% |
| gmw-25 | South-Central | 11 | 18% | 0% | 5/11/2020 | 56 | 10/13/2011 | 20000 | 100% |
| gmw-9 | South-Central | 11 | 45% | 100% | 5/11/2020 | 50 | 10/13/2011 | 61000 | 100% |
| mw-sf-13 | South-Central | 11 | 55% | 100% | 5/12/2020 | 100 | 10/14/2011 | 42000 | 100% |
| mw-sf-15 | South-Central | 11 | 18% | 100% | 5/11/2020 | 100 | 10/14/2011 | 35000 | 100% |
| mw-sf-6 | South-Central | 11 | 36% | 100% | 5/11/2020 | 200 | 10/8/2010 | 59000 | 100% |
| gmw-o-23 | South-Central/Offsite | 12 | 33% | 100% | 8/20/2020 | 100 | 10/8/2010 | 120000 | 100% |
| gmw-o-20 | South-Central/Offsite | 13 | 0% | 0% | 8/20/2020 | 610 | 4/20/2012 | 48000 | 99% |
| gmw-o-21 | South-Central/Offsite | 15 | 13% | 50% | 8/20/2020 | 7300 | 10/8/2010 | 66000 | 89% |
| pz-2 | South-Central | 15 | 33% | 100% | 5/11/2020 | 50 | 4/13/2016 | 2300 | 98% |
| hl-4 | South-Central | 16 | 6% | N/A | 11/3/2004 | 200 | 5/7/1999 | 2800 | 93% |
| gmw-o-24 | Southeastern | 17 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-sf-9 | South-Central | 18 | 11% | N/A | 4/14/2016 | 2300 | 3/11/2003 | 24000 | 90% |
| gmw-2 | South-Central | 19 | 84% | N/A | 5/26/2010 | 50 | 5/7/1999 | 500 | 90% |
| gmw-28 | South-Central | 20 | 20% | 100% | 5/7/2020 | 50 | 7/8/2004 | 46000 | 100% |
| gmw-o-6 | South-Central/Offsite | 20 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-18 (mid) | South-Central | 20 | 60% | 100% | 5/11/2020 | 50 | 4/13/2011 | 4100 | 99% |
| gmw-o-8 | South-Central/Offsite | 21 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-15 | South-Central | 22 | 36% | N/A | 10/31/2014 | 590 | 4/10/2002 | 59000 | 99% |
| gmw-26 | South-Central | 24 | 54% | 100% | 5/11/2020 | 50 | 11/19/1999 | 6700 | 99% |
| mw-sf-4 | South-Central | 24 | 29% | 100% | 5/12/2020 | 50 | 10/8/2003 | 40000 | 100% |
| gwr-1 | South-Central | 28 | 11% | N/A | 10/30/2014 | 100 | 5/6/2005 | 16000 | 99% |
| hl-3 | South-Central | 28 | 89% | 100% | 5/7/2020 | 50 | 5/10/2001 | 300 | 83% |
| mw-21 (mid) | South-Central | 30 | 80% | 100% | 5/7/2020 | 50 | 5/7/1999 | 500 | 90% |
| pw-1 | South-Central | 30 | 97% | N/A | 11/7/2019 | 100 | 5/6/1999 | 500 | 80% |
| gmw-14 | South-Central | 31 | 68% | N/A | 10/30/2014 | 100 | 11/14/2007 | 1500 | 93% |
| gmw-o-4 (mid) | South-Central/Offsite | 31 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-10 | South-Central | 31 | 68% | N/A | 4/14/2016 | 200 | 4/22/2004 | 11000 | 98% |
| pw-2 | South-Central | 33 | 91% | N/A | 4/17/2008 | 50 | 2/3/1999 | 500 | 90% |
| mw-14 | South-Central | 35 | 83% | N/A | 4/19/2017 | 100 | 3/23/2007 | 670 | 85% |
| mw-9 | South-Central | 35 | 17% | 100% | 5/8/2020 | 50 | 5/26/1998 | 4700 | 99% |

Table C-1. Total Gasoline Range Petroleum Hydrocarbons (TPH-g) in Groundwater – Gasoline Range – Statistical Summary
SFPP Norwalk Pump Station, Norwalk, California

| Well | Location | Whole Dataset | | 2020 % NDs | LAST RESULT DATE | LAST RESULT | HISTORICAL HIGH RESULT DATE | HISTORICAL HIGH RESULT | DIFFERENCE |
|-------------|-----------------------|---------------|-------|------------|------------------|-------------|-----------------------------|------------------------|------------|
| | | NumObs | % NDs | | | | | | |
| gmw-o-17 | Southeastern | 37 | 100% | 100% | N/A | N/A | N/A | N/A | N/A |
| gmw-27 | South-Central | 38 | 24% | N/A | 10/30/2014 | 100 | 11/3/2004 | 21000 | 100% |
| gmw-o-15 | Southeastern | 40 | 0% | 0% | 5/8/2020 | 9200 | 4/14/2016 | 370000 | 98% |
| gmw-3 | South-Central | 41 | 98% | N/A | 10/22/2015 | 50 | 5/7/1999 | 500 | 90% |
| mw-sf-1 | South-Central | 41 | 15% | 100% | 5/12/2020 | 200 | 11/3/2004 | 34000 | 99% |
| mw-12 | South-Central | 45 | 100% | 100% | N/A | N/A | N/A | N/A | N/A |
| gmw-o-9 | South-Central/Offsite | 46 | 100% | 100% | N/A | N/A | N/A | N/A | N/A |
| hl-2 | South-Central | 46 | 91% | 100% | 5/12/2020 | 50 | 7/16/1997 | 1400 | 96% |
| gmw-o-4 | South-Central/Offsite | 47 | 100% | 100% | N/A | N/A | N/A | N/A | N/A |
| mw-7 | South-Central | 47 | 77% | 100% | 5/7/2020 | 50 | 5/17/2000 | 590 | 92% |
| gmw-13 | Southeastern | 48 | 98% | 100% | 5/8/2020 | 50 | 7/10/1997 | 1300 | 96% |
| gmw-1 | South-Central | 52 | 33% | 100% | 5/11/2020 | 50 | 7/17/1997 | 68000 | 100% |
| gmw-o-10 | South-Central/Offsite | 52 | 31% | 100% | 5/6/2020 | 50 | 11/16/1999 | 32000 | 100% |
| pw-3 | South-Central | 52 | 98% | 100% | 5/11/2020 | 50 | 2/3/1999 | 500 | 90% |
| gmw-o-18 | Southeastern | 54 | 30% | 0% | 5/7/2020 | 3400 | 4/14/2016 | 1100000 | 100% |
| gmw-o-5 | South-Central/Offsite | 55 | 100% | 100% | N/A | N/A | N/A | N/A | N/A |
| mw-19 (mid) | South-Central | 55 | 56% | 100% | 5/7/2020 | 50 | 2/3/1999 | 10000 | 100% |
| gmw-sf-8 | Southeastern | 56 | 98% | 100% | 5/7/2020 | 50 | 11/18/1999 | 660 | 92% |
| gmw-sf-7 | Southeastern | 57 | 95% | 100% | 5/7/2020 | 50 | 7/19/2004 | 550 | 91% |
| gmw-37 | Southeastern | 58 | 100% | 100% | N/A | N/A | N/A | N/A | N/A |
| mw-8 | Southeastern | 60 | 85% | 100% | 5/7/2020 | 50 | 1/30/2002 | 1700 | 97% |
| gmw-36 | Southeastern | 63 | 2% | 100% | 5/8/2020 | 200 | 4/12/2013 | 560000 | 100% |
| gmw-38 | Southeastern | 63 | 100% | 100% | N/A | N/A | N/A | N/A | N/A |
| gmw-39 | Southeastern | 70 | 96% | 100% | 5/7/2020 | 50 | 5/7/1999 | 500 | 90% |
| gmw-o-2 | South-Central/Offsite | 70 | 100% | 100% | N/A | N/A | N/A | N/A | N/A |
| pz-5 | Southeastern | 74 | 4% | 0% | 11/6/2020 | 700 | 5/27/2010 | 3200000 | 100% |
| gmw-o-14 | South-Central/Offsite | 75 | 0% | 0% | 8/20/2020 | 4800 | 7/17/1997 | 160000 | 97% |
| gmw-o-1 | South-Central/Offsite | 76 | 100% | 100% | N/A | N/A | N/A | N/A | N/A |
| gmw-o-19 | Southeastern | 77 | 95% | 100% | 5/8/2020 | 50 | 5/5/2005 | 510 | 90% |
| gmw-o-3 | South-Central/Offsite | 78 | 46% | 0% | 5/6/2020 | 60 | 7/14/1997 | 14000 | 100% |
| gmw-o-16 | Southeastern | 79 | 94% | 100% | 5/8/2020 | 50 | 5/7/1999 | 500 | 90% |
| exp-3 | Southeastern | 131 | 99% | 100% | 5/7/2020 | 50 | 1/9/1998 | 500 | 90% |

Notes:

*Valid statistical trend analysis requires 3 or more observations, with less than 75% nondetect values per well.
 Stable = Trend in well is not statistically significant in a positive or negative direction, and therefore illustrates stability.
 Increasing = Statistically significant increasing trend observed in the data over time.
 Decreasing = Statistically significant decreasing trend observed in the data over time.
 N/A = not available
 ND = nondetect
 MK = Mann-Kendall
 S = MK test statistical value; the greater the value, both positive and negative, the greater the magnitude of the trend.
 TS = Theil-Sen

Table C-1. Total Gasoline Range Petroleum Hydrocarbons (TPH-g) in Groundwater – Gasoline Range – Statistical Summary
 SFPP Norwalk Pump Station, Norwalk, California

| Well | Location | Whole Dataset | | Whole Dataset | | | Pre-2010 | | | Post-2010 | | | Post-2016 | | |
|---------------|-----------------------|---------------|-------|---------------|------------|------------|----------|------------|------------|-----------|------------|------------|-----------|------------|------------|
| | | NumObs | % NDs | MK (S) | MK Trend | TS Trend | MK (S) | MK Trend | TS Trend | MK (S) | MK Trend | TS Trend | MK (S) | MK Trend | TS Trend |
| gmw-o-7* | South-Central/Offsite | 1 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-24* | South-Central | 2 | 0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-11* | South-Central/Offsite | 2 | 50% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gwr-3 | South-Central | 3 | 33% | -1 | Stable | Stable | N/A | N/A | N/A | -1 | Stable | Stable | N/A | N/A | N/A |
| mw-sf-10 | South-Central | 3 | 0% | -1 | Stable | Stable | N/A | N/A | N/A | -1 | Stable | Stable | N/A | N/A | N/A |
| mw-sf-12 | South-Central | 3 | 0% | 3 | Stable | Stable | N/A | N/A | N/A | 3 | Stable | Stable | N/A | N/A | N/A |
| mw-sf-2 | South-Central | 3 | 0% | -1 | Stable | Stable | N/A | N/A | N/A | -1 | Stable | Stable | N/A | N/A | N/A |
| pz-7a | Southeastern | 3 | 0% | -1 | Stable | Stable | -1 | Stable | Stable | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-7b | Southeastern | 3 | 0% | -1 | Stable | Stable | -1 | Stable | Stable | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-9a | Southeastern | 3 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-9b | Southeastern | 3 | 67% | -2 | Stable | Decreasing | -2 | Stable | Decreasing | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-22 | South-Central | 4 | 0% | 4 | Stable | Stable | N/A | N/A | N/A | 4 | Stable | Stable | N/A | N/A | N/A |
| mw-sf-3 | South-Central | 4 | 25% | 4 | Stable | Stable | N/A | N/A | N/A | 4 | Stable | Stable | N/A | N/A | N/A |
| pz-6 | South-Central | 4 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-8a | Southeastern | 4 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-8b | Southeastern | 4 | 50% | 1 | Stable | Stable | 1 | Stable | Stable | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-29 | South-Central | 5 | 0% | 10 | Increasing | Increasing | 10 | Increasing | Increasing | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-11 | South-Central | 5 | 80% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-sf-11 | South-Central | 5 | 0% | 6 | Stable | Stable | N/A | N/A | N/A | 6 | Stable | Stable | N/A | N/A | N/A |
| gmw-23 | South-Central | 6 | 0% | -6 | Stable | Stable | N/A | N/A | N/A | -6 | Stable | Stable | 1 | Stable | Stable |
| mw-o-1 | South-Central/Offsite | 6 | 17% | -7 | Stable | Stable | N/A | N/A | N/A | -7 | Stable | Stable | N/A | N/A | N/A |
| mw-sf-16 | South-Central | 6 | 0% | 3 | Stable | Stable | N/A | N/A | N/A | 3 | Stable | Stable | N/A | N/A | N/A |
| mw-sf-5 | South-Central | 6 | 50% | -8 | Stable | Stable | N/A | N/A | N/A | -8 | Stable | Stable | N/A | N/A | N/A |
| gmw-14r | South-Central | 7 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-30 | South-Central | 7 | 29% | -17 | Decreasing | Decreasing | N/A | N/A | N/A | -17 | Decreasing | Decreasing | -17 | Decreasing | Decreasing |
| gmw-o-12 | South-Central/Offsite | 7 | 0% | 7 | Stable | Stable | N/A | N/A | N/A | 7 | Stable | Stable | N/A | N/A | N/A |
| gmw-sf-10 | Southeastern | 7 | 71% | -9 | Stable | Stable | N/A | N/A | N/A | 0 | N/A | N/A | N/A | N/A | N/A |
| gwr-1r | South-Central | 7 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-15r | South-Central | 7 | 57% | -4 | Stable | Stable | N/A | N/A | N/A | -4 | Stable | Stable | -4 | Stable | Stable |
| gmw-10 | South-Central | 8 | 0% | 16 | Increasing | Stable | N/A | N/A | N/A | 16 | Increasing | Stable | N/A | N/A | N/A |
| gmw-sf-9 | Southeastern | 8 | 88% | -1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-sf-14 | South-Central | 8 | 13% | -14 | Stable | Stable | N/A | N/A | N/A | -14 | Stable | Stable | N/A | N/A | N/A |
| mw-o-2 | South-Central/Offsite | 10 | 10% | -7 | Stable | Stable | N/A | N/A | N/A | -7 | Stable | Stable | -2 | Stable | Stable |
| gmw-25 | South-Central | 11 | 18% | -31 | Decreasing | Decreasing | N/A | N/A | N/A | -31 | Decreasing | Decreasing | -8 | Stable | Stable |
| gmw-9 | South-Central | 11 | 45% | -29 | Decreasing | Decreasing | N/A | N/A | N/A | -29 | Decreasing | Decreasing | -8 | Stable | Stable |
| mw-sf-13 | South-Central | 11 | 55% | -31 | Decreasing | Decreasing | N/A | N/A | N/A | -31 | Decreasing | Decreasing | -10 | N/A | N/A |
| mw-sf-15 | South-Central | 11 | 18% | -32 | Decreasing | Decreasing | N/A | N/A | N/A | -32 | Decreasing | Decreasing | -11 | Stable | Stable |
| mw-sf-6 | South-Central | 11 | 36% | -43 | Decreasing | Decreasing | N/A | N/A | N/A | -43 | Decreasing | Decreasing | -18 | Decreasing | Stable |
| gmw-o-23 | South-Central/Offsite | 12 | 33% | -47 | Decreasing | Decreasing | N/A | N/A | N/A | -47 | Decreasing | Decreasing | -9 | Stable | Stable |
| gmw-o-20 | South-Central/Offsite | 13 | 0% | -54 | Decreasing | Decreasing | N/A | N/A | N/A | -54 | Decreasing | Decreasing | -14 | Stable | Stable |
| gmw-o-21 | South-Central/Offsite | 15 | 13% | -62 | Decreasing | Decreasing | N/A | N/A | N/A | -50 | Decreasing | Decreasing | -16 | Stable | Stable |
| pz-2 | South-Central | 15 | 33% | -58 | Decreasing | Decreasing | N/A | N/A | N/A | -58 | Decreasing | Decreasing | -22 | Decreasing | Stable |
| hl-4 | South-Central | 16 | 6% | -32 | Stable | Stable | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-24 | Southeastern | 17 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-sf-9 | South-Central | 18 | 11% | -34 | Stable | Stable | -30 | Decreasing | Decreasing | 12 | Increasing | Stable | N/A | N/A | N/A |
| gmw-2 | South-Central | 19 | 84% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-28 | South-Central | 20 | 20% | -110 | Decreasing | Decreasing | 8 | Stable | Stable | -22 | Stable | Stable | 2 | Stable | Stable |
| gmw-o-6 | South-Central/Offsite | 20 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-18 (mid) | South-Central | 20 | 60% | -98 | Decreasing | Decreasing | 3 | Stable | Increasing | -77 | Decreasing | Decreasing | -21 | N/A | N/A |
| gmw-o-8 | South-Central/Offsite | 21 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-15 | South-Central | 22 | 36% | 70 | Increasing | Stable | 8 | Stable | Stable | -6 | Stable | Stable | N/A | N/A | N/A |
| gmw-26 | South-Central | 24 | 54% | -170 | Decreasing | Decreasing | -27 | Stable | Stable | 0 | N/A | N/A | 0 | N/A | N/A |
| mw-sf-4 | South-Central | 24 | 29% | -173 | Decreasing | Decreasing | -6 | Stable | Stable | -93 | Decreasing | Decreasing | -13 | N/A | N/A |
| gwr-1 | South-Central | 28 | 11% | -131 | Decreasing | Decreasing | 21 | Stable | Stable | -24 | Decreasing | Decreasing | N/A | N/A | N/A |
| hl-3 | South-Central | 28 | 89% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-21 (mid) | South-Central | 30 | 80% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| pw-1 | South-Central | 30 | 97% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-14 | South-Central | 31 | 68% | -152 | Decreasing | Stable | -42 | Stable | Stable | -13 | N/A | N/A | N/A | N/A | N/A |
| gmw-o-4 (mid) | South-Central/Offsite | 31 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-10 | South-Central | 31 | 68% | -152 | Decreasing | Decreasing | -100 | Decreasing | Decreasing | 11 | N/A | N/A | N/A | N/A | N/A |
| pw-2 | South-Central | 33 | 91% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-14 | South-Central | 35 | 83% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-9 | South-Central | 35 | 17% | -373 | Decreasing | Decreasing | 3 | Stable | Stable | -175 | Decreasing | Decreasing | -18 | Decreasing | Decreasing |

Table C-1. Total Gasoline Range Petroleum Hydrocarbons (TPH-g) in Groundwater – Gasoline Range – Statistical Summary
SFPP Norwalk Pump Station, Norwalk, California

| Well | Location | Whole Dataset | | Whole Dataset | | | Pre-2010 | | | Post-2010 | | | Post-2016 | | |
|-------------|-----------------------|---------------|-------|---------------|------------|------------|----------|------------|------------|-----------|------------|------------|-----------|----------|----------|
| | | NumObs | % NDs | MK (S) | MK Trend | TS Trend | MK (S) | MK Trend | TS Trend | MK (S) | MK Trend | TS Trend | MK (S) | MK Trend | TS Trend |
| gmw-o-17 | Southeastern | 37 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-27 | South-Central | 38 | 24% | -339 | Decreasing | Decreasing | -37 | Stable | Stable | -11 | N/A | N/A | N/A | N/A | N/A |
| gmw-o-15 | Southeastern | 40 | 0% | 51 | Stable | Stable | N/A | N/A | N/A | 50 | Stable | Stable | -4 | Stable | Stable |
| gmw-3 | South-Central | 41 | 98% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-sf-1 | South-Central | 41 | 15% | -412 | Decreasing | Decreasing | 25 | Stable | Stable | -100 | Decreasing | Decreasing | 12 | N/A | N/A |
| mw-12 | South-Central | 45 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-9 | South-Central/Offsite | 46 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| hl-2 | South-Central | 46 | 91% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-4 | South-Central/Offsite | 47 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-7 | South-Central | 47 | 77% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-13 | Southeastern | 48 | 98% | -444 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-1 | South-Central | 52 | 33% | -836 | Decreasing | Decreasing | -336 | Decreasing | Decreasing | -78 | Decreasing | Decreasing | -1 | Stable | Stable |
| gmw-o-10 | South-Central/Offsite | 52 | 31% | -693 | Decreasing | Decreasing | -126 | Decreasing | Decreasing | -77 | Decreasing | Stable | -11 | N/A | N/A |
| pw-3 | South-Central | 52 | 98% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-18 | Southeastern | 54 | 30% | 185 | Stable | Stable | -20 | Stable | Stable | 10 | Stable | Stable | -4 | Stable | Stable |
| gmw-o-5 | South-Central/Offsite | 55 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-19 (mid) | South-Central | 55 | 56% | -922 | Decreasing | Decreasing | -341 | Decreasing | Decreasing | -33 | N/A | N/A | -6 | N/A | N/A |
| gmw-sf-8 | Southeastern | 56 | 98% | -564 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-sf-7 | Southeastern | 57 | 95% | -596 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-37 | Southeastern | 58 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-8 | Southeastern | 60 | 85% | -746 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-36 | Southeastern | 63 | 2% | -566 | Decreasing | Decreasing | 59 | Stable | Stable | -122 | Stable | Stable | -11 | Stable | Stable |
| gmw-38 | Southeastern | 63 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-39 | Southeastern | 70 | 96% | -723 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-2 | South-Central/Offsite | 70 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-5 | Southeastern | 74 | 4% | 735 | Increasing | Increasing | 67 | Increasing | Increasing | -89 | Stable | Stable | -9 | Stable | Stable |
| gmw-o-14 | South-Central/Offsite | 75 | 0% | -356 | Stable | Stable | -9 | Stable | Stable | -195 | Decreasing | Decreasing | -3 | Stable | Stable |
| gmw-o-1 | South-Central/Offsite | 76 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-19 | Southeastern | 77 | 95% | -653 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-3 | South-Central/Offsite | 78 | 46% | -1683 | Decreasing | Decreasing | -748 | Decreasing | Decreasing | 101 | N/A | N/A | 6 | Stable | Stable |
| gmw-o-16 | Southeastern | 79 | 94% | -708 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| exp-3 | Southeastern | 131 | 99% | -2451 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Notes:

*Valid statistical trend analysis requires 3 or more observations, with less than 75% nondetect values per well.

Stable = Trend in well is not statistically significant in a positive or negative direction, and therefore illustrates stability.

Increasing = Statistically significant increasing trend observed in the data over time.

Decreasing = Statistically significant decreasing trend observed in the data over time.

N/A = not available

ND = nondetect

MK = Mann-Kendall

S = MK test statistical value; the greater the value, both positive and negative,

the greater the magnitude of the trend.

TS = Theil-Sen

Table C-2. Benzene in Groundwater – Statistical Summary
 SFPP Norwalk Pump Station, Norwalk, California

| Well | Location | Whole Dataset | | 2020 % NDs | LAST RESULT DATE | LAST RESULT | HISTORICAL HIGH RESULT DATE | HISTORICAL HIGH RESULT | DIFFERENCE |
|---------------|-----------------------|---------------|-------|------------|------------------|-------------|-----------------------------|------------------------|------------|
| | | NumObs | % NDs | | | | | | |
| gmw-o-7* | South-Central/Offsite | 1 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-11* | South-Central/Offsite | 2 | 0% | 0% | 8/20/2020 | 1.2 | 10/4/2010 | 4200 | 100% |
| gmw-24* | South-Central | 2 | 0% | N/A | 10/13/2011 | 23000 | 10/13/2011 | 23000 | 0% |
| gwr-3 | South-Central | 3 | 0% | N/A | 10/13/2011 | 9100 | 4/13/2011 | 11000 | 17% |
| mw-sf-10 | South-Central | 3 | 0% | N/A | 10/13/2011 | 320 | 10/5/2010 | 1500 | 79% |
| mw-sf-12 | South-Central | 3 | 0% | N/A | 10/13/2011 | 24000 | 10/13/2011 | 24000 | 0% |
| mw-sf-2 | South-Central | 3 | 0% | N/A | 10/13/2011 | 18000 | 10/5/2010 | 21000 | 14% |
| gmw-22 | South-Central | 4 | 0% | N/A | 10/18/2012 | 16000 | 4/20/2012 | 20000 | 20% |
| mw-sf-3 | South-Central | 4 | 0% | N/A | 11/3/2015 | 11000 | 11/3/2015 | 11000 | 0% |
| pz-7a | Southeastern | 4 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-7b | Southeastern | 4 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-9a | Southeastern | 4 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-9b | Southeastern | 4 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-sf-11 | South-Central | 5 | 0% | N/A | 10/18/2012 | 18000 | 10/18/2012 | 18000 | 0% |
| pz-6 | South-Central | 5 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-8a | Southeastern | 5 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-8b | Southeastern | 5 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-o-1 | South-Central/Offsite | 6 | 17% | 100% | 8/20/2020 | 0.5 | 10/27/2015 | 5900 | 100% |
| gmw-29 | South-Central | 6 | 0% | N/A | 7/8/2004 | 8900 | 7/8/2004 | 8900 | 0% |
| mw-sf-16 | South-Central | 6 | 0% | N/A | 10/27/2015 | 750 | 10/31/2014 | 7400 | 90% |
| mw-sf-5 | South-Central | 6 | 0% | N/A | 10/27/2015 | 13 | 4/24/2015 | 190 | 93% |
| gmw-30 | South-Central | 7 | 14% | 0% | 5/11/2020 | 3.7 | 4/15/2016 | 3600 | 100% |
| gmw-14r | South-Central | 7 | 100% | 100% | N/A | N/A | N/A | N/A | N/A |
| gwr-1r | South-Central | 7 | 100% | 100% | N/A | N/A | N/A | N/A | N/A |
| mw-15r | South-Central | 7 | 100% | 100% | N/A | N/A | N/A | N/A | N/A |
| gmw-23 | South-Central | 7 | 57% | N/A | 11/1/2019 | 0.5 | 10/31/2014 | 11000 | 100% |
| gmw-o-12 | South-Central/Offsite | 7 | 0% | N/A | 10/11/2013 | 13000 | 10/11/2013 | 13000 | 0% |
| gmw-sf-10 | Southeastern | 7 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-10 | South-Central | 8 | 0% | N/A | 10/28/2015 | 1100 | 10/19/2012 | 1300 | 15% |
| gmw-sf-9 | Southeastern | 8 | 88% | N/A | 10/17/2012 | 0.5 | 10/12/2011 | 1.5 | 67% |
| mw-sf-14 | South-Central | 8 | 0% | N/A | 4/15/2016 | 4.7 | 4/29/2011 | 12000 | 100% |
| mw-o-2 | South-Central/Offsite | 10 | 0% | 0% | 8/20/2020 | 4400 | 10/11/2013 | 17000 | 74% |
| mw-sf-13 | South-Central | 11 | 27% | 0% | 5/12/2020 | 0.79 | 10/14/2011 | 12000 | 100% |
| mw-sf-15 | South-Central | 11 | 0% | 0% | 5/11/2020 | 0.89 | 10/14/2011 | 11000 | 100% |
| mw-sf-6 | South-Central | 11 | 0% | 0% | 5/11/2020 | 2.8 | 10/8/2010 | 15000 | 100% |
| gmw-25 | South-Central | 11 | 73% | 100% | 5/11/2020 | 0.5 | 10/13/2011 | 9700 | 100% |
| gmw-9 | South-Central | 11 | 55% | 100% | 5/11/2020 | 0.5 | 4/13/2011 | 20000 | 100% |
| gmw-o-23 | South-Central/Offsite | 12 | 25% | 100% | 8/20/2020 | 0.5 | 10/8/2010 | 22000 | 100% |
| gmw-o-20 | South-Central/Offsite | 13 | 0% | 0% | 8/20/2020 | 100 | 10/5/2010 | 17000 | 99% |
| gmw-o-21 | South-Central/Offsite | 15 | 7% | 50% | 8/20/2020 | 3400 | 10/8/2010 | 19000 | 82% |
| pz-2 | South-Central | 15 | 53% | 100% | 5/11/2020 | 0.5 | 4/13/2016 | 110 | 100% |
| gmw-o-24 | Southeastern | 17 | 82% | N/A | 4/18/2019 | 0.5 | 4/21/2017 | 0.8 | 38% |
| hl-4 | South-Central | 17 | 6% | N/A | 11/3/2004 | 54 | 5/7/1999 | 1100 | 95% |
| mw-18 (mid) | South-Central | 18 | 67% | 100% | 5/11/2020 | 0.5 | 4/13/2011 | 1900 | 100% |
| mw-sf-9 | South-Central | 18 | 6% | N/A | 4/14/2016 | 96 | 3/11/2003 | 3200 | 97% |
| gmw-2 | South-Central | 20 | 60% | N/A | 5/26/2010 | 0.5 | 11/21/1996 | 6500 | 100% |
| gmw-28 | South-Central | 21 | 29% | 100% | 5/7/2020 | 0.5 | 5/7/1999 | 22000 | 100% |
| mw-11 | South-Central | 21 | 62% | N/A | 7/10/2012 | 0.5 | 4/14/2003 | 83.6 | 99% |
| gmw-o-6 | South-Central/Offsite | 22 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-8 | South-Central/Offsite | 22 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-15 | South-Central | 23 | 87% | N/A | 10/31/2014 | 2.5 | 5/4/2007 | 2.5 | 0% |
| mw-sf-4 | South-Central | 24 | 21% | 0% | 5/12/2020 | 1.6 | 10/7/2010 | 8900 | 100% |
| gmw-26 | South-Central | 26 | 69% | 100% | 5/11/2020 | 0.5 | 11/19/1999 | 3700 | 100% |
| hl-3 | South-Central | 28 | 100% | 100% | N/A | N/A | N/A | N/A | N/A |
| gwr-1 | South-Central | 29 | 14% | N/A | 10/30/2014 | 0.5 | 4/20/2009 | 3000 | 100% |
| mw-21 (mid) | South-Central | 30 | 93% | 100% | 5/7/2020 | 0.5 | 11/29/2000 | 3.6 | 86% |
| gmw-o-4 (mid) | South-Central/Offsite | 30 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| pw-1 | South-Central | 31 | 100% | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-10 | South-Central | 31 | 39% | N/A | 4/14/2016 | 1 | 4/22/2004 | 2100 | 100% |
| gmw-14 | South-Central | 32 | 94% | N/A | 10/30/2014 | 0.5 | 4/16/2010 | 160 | 100% |
| pw-2 | South-Central | 34 | 97% | N/A | 4/17/2008 | 0.5 | 11/16/1998 | 16 | 97% |
| mw-9 | South-Central | 36 | 31% | 100% | 5/8/2020 | 0.5 | 5/26/1998 | 69 | 99% |
| gmw-27 | South-Central | 38 | 29% | N/A | 10/30/2014 | 0.5 | 11/3/2004 | 8800 | 100% |
| gmw-o-17 | Southeastern | 39 | 97% | 100% | 5/6/2020 | 0.5 | 5/5/1999 | 0.64 | 22% |
| gmw-o-15 | Southeastern | 40 | 0% | 0% | 5/8/2020 | 1600 | 10/27/2015 | 12000 | 87% |

Table C-2. Benzene in Groundwater – Statistical Summary
 SFPP Norwalk Pump Station, Norwalk, California

| Well | Location | Whole Dataset | | 2020 % NDs | LAST RESULT DATE | LAST RESULT | HISTORICAL HIGH RESULT DATE | HISTORICAL HIGH RESULT | DIFFERENCE |
|-------------|-----------------------|---------------|-------|------------|------------------|-------------|-----------------------------|------------------------|------------|
| | | NumObs | % NDs | | | | | | |
| mw-sf-1 | South-Central | 41 | 17% | 100% | 5/12/2020 | 1 | 11/3/2004 | 13000 | 100% |
| gmw-3 | South-Central | 43 | 95% | N/A | 10/22/2015 | 0.5 | 11/25/1996 | 5 | 90% |
| mw-12 | South-Central | 45 | 96% | 100% | 5/12/2020 | 0.5 | 11/7/2001 | 1.3 | 62% |
| gmw-o-9 | South-Central/Offsite | 48 | 96% | 100% | 5/6/2020 | 0.5 | 11/16/1998 | 3 | 83% |
| hl-2 | South-Central | 48 | 85% | 100% | 5/12/2020 | 0.5 | 11/27/1996 | 2600 | 100% |
| mw-7 | South-Central | 48 | 85% | 100% | 5/7/2020 | 0.5 | 7/14/1997 | 88 | 99% |
| gmw-o-4 | South-Central/Offsite | 49 | 100% | 100% | N/A | N/A | N/A | N/A | N/A |
| gmw-13 | Southeastern | 50 | 94% | 100% | 5/8/2020 | 0.5 | 11/21/1996 | 3.2 | 84% |
| gmw-1 | South-Central | 53 | 40% | 100% | 5/11/2020 | 0.5 | 11/27/1996 | 13000 | 100% |
| gmw-o-10 | South-Central/Offsite | 53 | 40% | 100% | 5/6/2020 | 0.5 | 11/16/1999 | 8300 | 100% |
| pw-3 | South-Central | 53 | 96% | 100% | 5/11/2020 | 0.5 | 7/14/1997 | 5.9 | 92% |
| gmw-o-18 | Southeastern | 55 | 60% | 0% | 5/7/2020 | 31 | 4/14/2016 | 53000 | 100% |
| gmw-o-5 | South-Central/Offsite | 56 | 96% | 100% | 5/6/2020 | 0.5 | 11/22/1996 | 11 | 95% |
| gmw-sf-8 | Southeastern | 56 | 96% | 100% | 5/7/2020 | 0.5 | 11/22/1996 | 4.5 | 89% |
| mw-19 (mid) | South-Central | 56 | 82% | 100% | 5/7/2020 | 0.5 | 5/17/2000 | 1900 | 100% |
| gmw-37 | Southeastern | 59 | 98% | 100% | 5/8/2020 | 0.5 | 5/7/1999 | 1.1 | 55% |
| gmw-sf-7 | Southeastern | 59 | 97% | 100% | 5/7/2020 | 0.5 | 5/7/1999 | 1 | 50% |
| mw-8 | Southeastern | 61 | 93% | 100% | 5/7/2020 | 0.5 | 11/26/1996 | 4400 | 100% |
| gmw-36 | Southeastern | 62 | 6% | 0% | 5/8/2020 | 3.8 | 7/30/2002 | 28000 | 100% |
| mw-14 | South-Central | 63 | 92% | N/A | 4/19/2017 | 0.5 | 1/6/1998 | 107 | 100% |
| gmw-38 | Southeastern | 65 | 98% | 100% | 5/7/2020 | 0.5 | 11/26/1996 | 1.8 | 72% |
| gmw-o-2 | South-Central/Offsite | 70 | 100% | 100% | N/A | N/A | N/A | N/A | N/A |
| pz-5 | Southeastern | 74 | 27% | 50% | 11/6/2020 | 0.5 | 4/16/2014 | 70000 | 100% |
| gmw-39 | Southeastern | 73 | 99% | 100% | 5/7/2020 | 0.5 | 8/29/2007 | 2.5 | 80% |
| gmw-o-14 | South-Central/Offsite | 75 | 0% | 0% | 8/20/2020 | 2000 | 10/23/2009 | 14000 | 86% |
| gmw-o-1 | South-Central/Offsite | 77 | 99% | 100% | 5/6/2020 | 0.5 | 11/6/2001 | 11 | 95% |
| gmw-o-19 | Southeastern | 78 | 95% | 100% | 5/8/2020 | 0.5 | 5/5/2005 | 110 | 100% |
| gmw-o-3 | South-Central/Offsite | 78 | 50% | 100% | 5/6/2020 | 0.5 | 11/27/1996 | 2900 | 100% |
| gmw-o-16 | Southeastern | 80 | 83% | 100% | 5/8/2020 | 0.5 | 11/27/1996 | 570 | 100% |
| exp-3 | Southeastern | 135 | 98% | 100% | 5/7/2020 | 0.5 | 7/10/1997 | 5 | 90% |

Notes:

*Valid statistical trend analysis requires 3 or more observations, with less than 75% nondetect values per well.

Stable = Trend in well is not statistically significant in a positive or negative direction, and therefore illustrates stability.

Increasing = Statistically significant increasing trend observed in the data over time.

Decreasing = Statistically significant decreasing trend observed in the data over time.

N/A = not available

ND = nondetect

MK = Mann-Kendall

S = MK test statistical value; the greater the value, both positive and negative, the greater the magnitude of the trend.

TS = Theil-Sen

Table C-2. Benzene in Groundwater – Statistical Summary
 SFPP Norwalk Pump Station, Norwalk, California

| Well | Location | Whole Dataset | | Whole Dataset | | | Pre-2010 | | | Post-2010 | | | Post-2016 | | |
|---------------|-----------------------|---------------|-------|---------------|------------|------------|----------|------------|------------|-----------|------------|------------|-----------|------------|------------|
| | | NumObs | % NDs | MK (S) | MK Trend | TS Trend | MK (S) | MK Trend | TS Trend | MK (S) | MK Trend | TS Trend | MK (S) | MK Trend | TS Trend |
| gmw-o-7* | South-Central/Offsite | 1 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-11* | South-Central/Offsite | 2 | 0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-24* | South-Central | 2 | 0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gwr-3 | South-Central | 3 | 0% | -1 | Stable | Stable | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-sf-10 | South-Central | 3 | 0% | -3 | Stable | Decreasing | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-sf-12 | South-Central | 3 | 0% | 3 | Stable | Stable | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-sf-2 | South-Central | 3 | 0% | -1 | Stable | Stable | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-22 | South-Central | 4 | 0% | 4 | Stable | Stable | N/A | N/A | N/A | 1 | Stable | Stable | N/A | N/A | N/A |
| mw-sf-3 | South-Central | 4 | 0% | 4 | Stable | Stable | N/A | N/A | N/A | 1 | Stable | Stable | N/A | N/A | N/A |
| pz-7a | Southeastern | 4 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-7b | Southeastern | 4 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-9a | Southeastern | 4 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-9b | Southeastern | 4 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-sf-11 | South-Central | 5 | 0% | 6 | Stable | Stable | N/A | N/A | N/A | 2 | Stable | Stable | N/A | N/A | N/A |
| pz-6 | South-Central | 5 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-8a | Southeastern | 5 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-8b | Southeastern | 5 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-o-1 | South-Central/Offsite | 6 | 17% | -7 | Stable | Stable | N/A | N/A | N/A | -4 | Stable | Stable | N/A | N/A | N/A |
| gmw-29 | South-Central | 6 | 0% | 13 | Increasing | Increasing | 13 | Increasing | Increasing | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-sf-16 | South-Central | 6 | 0% | -3 | Stable | Stable | N/A | N/A | N/A | -4 | Stable | Stable | N/A | N/A | N/A |
| mw-sf-5 | South-Central | 6 | 0% | -3 | Stable | Stable | N/A | N/A | N/A | 0 | Stable | Stable | N/A | N/A | N/A |
| gmw-30 | South-Central | 7 | 14% | -15 | Decreasing | Decreasing | N/A | N/A | N/A | -15 | Decreasing | Decreasing | -15 | Decreasing | Decreasing |
| gmw-14r | South-Central | 7 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gwr-1r | South-Central | 7 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-15r | South-Central | 7 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-23 | South-Central | 7 | 57% | -6 | Stable | Stable | N/A | N/A | N/A | -12 | Decreasing | Decreasing | -3 | N/A | N/A |
| gmw-o-12 | South-Central/Offsite | 7 | 0% | 7 | Stable | Stable | N/A | N/A | N/A | 8 | Stable | Stable | N/A | N/A | N/A |
| gmw-sf-10 | Southeastern | 7 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-10 | South-Central | 8 | 0% | 8 | Stable | Stable | N/A | N/A | N/A | 4 | Stable | Stable | N/A | N/A | N/A |
| gmw-sf-9 | Southeastern | 8 | 88% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-sf-14 | South-Central | 8 | 0% | -20 | Decreasing | Decreasing | N/A | N/A | N/A | -15 | Decreasing | Decreasing | N/A | N/A | N/A |
| mw-o-2 | South-Central/Offsite | 10 | 0% | -5 | Stable | Stable | N/A | N/A | N/A | -14 | Stable | Stable | -2 | Stable | Stable |
| mw-sf-13 | South-Central | 11 | 27% | -50 | Decreasing | Decreasing | N/A | N/A | N/A | -42 | Decreasing | Decreasing | -27 | Decreasing | Decreasing |
| mw-sf-15 | South-Central | 11 | 0% | -35 | Decreasing | Decreasing | N/A | N/A | N/A | -29 | Decreasing | Decreasing | -14 | Stable | Stable |
| mw-sf-6 | South-Central | 11 | 0% | -45 | Decreasing | Decreasing | N/A | N/A | N/A | -35 | Decreasing | Decreasing | -20 | Decreasing | Decreasing |
| gmw-25 | South-Central | 11 | 73% | -28 | Decreasing | Stable | N/A | N/A | N/A | -20 | N/A | N/A | -5 | N/A | N/A |
| gmw-9 | South-Central | 11 | 55% | -34 | Decreasing | Decreasing | N/A | N/A | N/A | -28 | Decreasing | Stable | -11 | N/A | N/A |
| gmw-o-23 | South-Central/Offsite | 12 | 25% | -59 | Decreasing | Decreasing | N/A | N/A | N/A | -48 | Decreasing | Decreasing | -23 | Decreasing | Decreasing |
| gmw-o-20 | South-Central/Offsite | 13 | 0% | -62 | Decreasing | Decreasing | N/A | N/A | N/A | -50 | Decreasing | Decreasing | -14 | Stable | Stable |
| gmw-o-21 | South-Central/Offsite | 15 | 7% | -54 | Decreasing | Decreasing | N/A | N/A | N/A | -29 | Decreasing | Stable | -5 | Stable | Stable |
| pz-2 | South-Central | 15 | 53% | -58 | Decreasing | Decreasing | N/A | N/A | N/A | -58 | Decreasing | Decreasing | -15 | N/A | N/A |
| gmw-o-24 | Southeastern | 17 | 82% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| hl-4 | South-Central | 17 | 6% | -21 | Stable | Stable | -21 | Stable | Stable | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-18 (mid) | South-Central | 18 | 67% | -71 | Decreasing | Stable | N/A | N/A | N/A | -52 | N/A | N/A | -15 | N/A | N/A |
| mw-sf-9 | South-Central | 18 | 6% | -5 | Stable | Stable | -15 | Stable | Stable | 4 | Stable | Stable | N/A | N/A | N/A |
| gmw-2 | South-Central | 20 | 60% | -70 | Decreasing | Stable | -62 | Decreasing | Stable | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-28 | South-Central | 21 | 29% | -134 | Decreasing | Decreasing | 9 | Stable | Stable | -35 | Decreasing | Stable | -11 | Stable | Stable |
| mw-11 | South-Central | 21 | 62% | 40 | Stable | Stable | 37 | Increasing | Stable | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-6 | South-Central/Offsite | 22 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-8 | South-Central/Offsite | 22 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-15 | South-Central | 23 | 87% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-sf-4 | South-Central | 24 | 21% | -107 | Decreasing | Decreasing | 6 | Stable | Stable | -59 | Decreasing | Decreasing | -8 | Stable | Stable |
| gmw-26 | South-Central | 26 | 69% | -115 | Decreasing | Stable | -38 | Decreasing | Stable | 0 | N/A | N/A | 0 | N/A | N/A |
| hl-3 | South-Central | 28 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gwr-1 | South-Central | 29 | 14% | -120 | Decreasing | Decreasing | 27 | Stable | Stable | -18 | Decreasing | Decreasing | N/A | N/A | N/A |
| mw-21 (mid) | South-Central | 30 | 93% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-4 (mid) | South-Central/Offsite | 30 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| pw-1 | South-Central | 31 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-10 | South-Central | 31 | 39% | -116 | Decreasing | Decreasing | -68 | Decreasing | Stable | -4 | Stable | Stable | N/A | N/A | N/A |
| gmw-14 | South-Central | 32 | 94% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| pw-2 | South-Central | 34 | 97% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-9 | South-Central | 36 | 31% | -390 | Decreasing | Decreasing | -2 | Stable | Stable | -120 | Decreasing | Decreasing | -8 | N/A | N/A |
| gmw-27 | South-Central | 38 | 29% | -325 | Decreasing | Decreasing | -34 | Stable | Stable | 0 | N/A | N/A | N/A | N/A | N/A |
| gmw-o-17 | Southeastern | 39 | 97% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-15 | Southeastern | 40 | 0% | 1 | Stable | Stable | N/A | N/A | N/A | -33 | Stable | Stable | 0 | Stable | Stable |

Table C-2. Benzene in Groundwater – Statistical Summary

SFPP Norwalk Pump Station, Norwalk, California

| Well | Location | Whole Dataset | | Whole Dataset | | | Pre-2010 | | | Post-2010 | | | Post-2016 | | |
|-------------|-----------------------|---------------|-------|---------------|------------|------------|----------|------------|------------|-----------|------------|------------|-----------|----------|----------|
| | | NumObs | % NDs | MK (S) | MK Trend | TS Trend | MK (S) | MK Trend | TS Trend | MK (S) | MK Trend | TS Trend | MK (S) | MK Trend | TS Trend |
| mw-sf-1 | South-Central | 41 | 17% | -298 | Decreasing | Decreasing | 61 | Increasing | Stable | -78 | Decreasing | Decreasing | 5 | N/A | N/A |
| gmw-3 | South-Central | 43 | 95% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-12 | South-Central | 45 | 96% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-9 | South-Central/Offsite | 48 | 96% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| hl-2 | South-Central | 48 | 85% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-7 | South-Central | 48 | 85% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-4 | South-Central/Offsite | 49 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-13 | Southeastern | 50 | 94% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-1 | South-Central | 53 | 40% | -891 | Decreasing | Decreasing | -373 | Decreasing | Decreasing | -33 | N/A | N/A | 0 | Stable | Stable |
| gmw-o-10 | South-Central/Offsite | 53 | 40% | -690 | Decreasing | Decreasing | -77 | Stable | Stable | -18 | N/A | N/A | -11 | N/A | N/A |
| pw-3 | South-Central | 53 | 96% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-18 | Southeastern | 55 | 60% | 76 | Stable | Stable | -27 | N/A | N/A | 7 | Stable | Stable | -4 | Stable | Stable |
| gmw-o-5 | South-Central/Offsite | 56 | 96% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-sf-8 | Southeastern | 56 | 96% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-19 (mid) | South-Central | 56 | 82% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-37 | Southeastern | 59 | 98% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-sf-7 | Southeastern | 59 | 97% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| mw-8 | Southeastern | 61 | 93% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-36 | Southeastern | 62 | 6% | -726 | Decreasing | Decreasing | 20 | Stable | Stable | -78 | Stable | Stable | -11 | Stable | Stable |
| mw-14 | South-Central | 63 | 92% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-38 | Southeastern | 65 | 98% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-2 | South-Central/Offsite | 70 | 100% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| pz-5 | Southeastern | 74 | 27% | 729 | Increasing | Increasing | 81 | Increasing | Increasing | -60 | Stable | Stable | -1 | Stable | Stable |
| gmw-39 | Southeastern | 73 | 99% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-14 | South-Central/Offsite | 75 | 0% | 185 | Stable | Stable | 0 | Stable | Stable | -81 | Stable | Stable | -1 | Stable | Stable |
| gmw-o-1 | South-Central/Offsite | 77 | 99% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-19 | Southeastern | 78 | 95% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| gmw-o-3 | South-Central/Offsite | 78 | 50% | -1817 | Decreasing | Decreasing | -848 | Decreasing | Decreasing | 29 | N/A | N/A | -1 | N/A | N/A |
| gmw-o-16 | Southeastern | 80 | 83% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| exp-3 | Southeastern | 135 | 98% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Notes:

*Valid statistical trend analysis requires 3 or more observations, with less than 75% nondetect values per well.

Stable = Trend in well is not statistically significant in a positive or negative direction, and therefore illustrates stability.

Increasing = Statistically significant increasing trend observed in the data over time.

Decreasing = Statistically significant decreasing trend observed in the data over time.

N/A = not available

ND = nondetect

MK = Mann-Kendall

S = MK test statistical value; the greater the value, both positive and negative, the greater the magnitude of the trend.

TS = Theil-Sen

Appendix D
BS-02 Startup Operation Narrative

Appendix D. BS-02 Startup Operation Narrative

SFPP Norwalk Pump Station, Norwalk, California

| Date | BS-02 Flow (scfm) | Cumulative Overall Mass Removal (lbs) | Total Biodegraded (Average of O2 and CO2 Methods) (lbs) | Operation Notes |
|-----------------|-------------------|---------------------------------------|---|---|
| 5/15/2020 11:30 | 0 | 0.00 | 0.00 | Start |
| 5/15/2020 11:30 | 26 | 0.00 | 0.00 | BS-02 flow increased |
| 5/15/20 12:46 | 23 | 15.74 | 14.91 | |
| 5/18/2020 8:20 | 23 | 767.54 | 703.02 | |
| 5/18/2020 8:20 | 30 | 767.54 | 703.02 | BS-02 flow increased |
| 5/18/2020 11:58 | 70 | 796.58 | 729.55 | |
| 5/20/20 8:25 | 70 | 1140.89 | 1023.31 | |
| 5/20/20 8:25 | 100 | 1140.89 | 1023.31 | BS-02 ramped up |
| 5/20/20 11:18 | 100 | 1162.61 | 1044.23 | |
| 5/22/20 14:15 | 100 | 1547.13 | 1382.48 | |
| 5/22/20 14:15 | 135 | 1547.13 | 1382.48 | BS-02 ramped up |
| 5/26/20 8:46 | 135 | 2184.75 | 1967.37 | |
| 5/26/20 14:18 | 135 | 2223.95 | 2000.78 | |
| 5/27/20 8:10 | 135 | 2344.06 | 2105.04 | |
| 5/29/20 9:13 | 135 | 2661.79 | 2381.96 | |
| 6/3/20 14:48 | 135 | 3566.73 | 3074.96 | |
| 6/4/20 10:08 | 135 | 3876.97 | 3344.68 | |
| 6/5/20 13:00 | 135 | 4067.02 | 3471.38 | |
| 6/5/20 13:00 | 100 | 4067.02 | 3471.38 | BS-02 ramped down |
| 6/10/20 10:45 | 100 | 4993.87 | 4215.66 | |
| 6/12/20 0:00 | 100 | -- | -- | Only flow data collected |
| 6/12/20 0:00 | 0 | -- | -- | BS-02 Shutdown/restarted |
| 6/16/20 0:00 | 12 | -- | -- | Only flow data collected |
| 6/23/20 10:30 | 3 | 7970.19 | 6571.85 | Only flow data collected |
| 6/23/20 10:30 | 70 | 7970.19 | 6571.85 | BS-02 Flow increased |
| 6/24/20 11:20 | 70 | 8224.74 | 6793.69 | |
| 6/24/20 11:20 | 100 | 8224.74 | 6793.69 | BS-02 flow increased. Only flow data collected. |
| 6/26/20 7:45 | 100 | 8637.42 | 7123.54 | |
| 6/27/20 7:45 | 100 | -- | -- | |
| 6/27/20 7:45 | 0 | -- | -- | BS-02 compressor shut down/restarted |
| 6/30/20 12:49 | 100 | 9633.62 | 7944.29 | |
| 7/2/20 12:49 | 0 | -- | -- | BS-02 Compressor shutdown |
| 7/2/20 12:49 | 100 | -- | -- | BS-02 restarted. Flow measured. |
| 7/6/20 11:34 | 100 | 10920.52 | 9011.17 | |
| 7/6/20 11:34 | 130 | 10920.52 | 9011.17 | BS-02 flow increased. Only flow data collected. |
| 7/8/20 13:02 | 105 | 11314.32 | 9359.08 | |
| 7/8/20 13:02 | 165 | 11314.32 | 9359.08 | BS-02 flow increased. Only flow data collected. |
| 7/10/20 14:30 | 129 | 11731.34 | 9725.74 | |

Appendix D. BS-02 Startup Operation Narrative

SFPP Norwalk Pump Station, Norwalk, California

| Date | BS-02 Flow (scfm) | Cumulative Overall Mass Removal (lbs) | Total Biodegraded (Average of O2 and CO2 Methods) (lbs) | Operation Notes |
|------------------|-------------------|---------------------------------------|---|---|
| 7/10/20 14:30 | 165 | 11731.34 | 9725.74 | BS-02 flow increased. Only flow data collected. |
| 7/14/20 10:30 | 160 | 12482.31 | 10373.79 | |
| 7/14/20 10:30 | 185 | 12482.31 | 10373.79 | BS-02 flow increased. Only flow data collected. |
| 7/17/20 8:13 | 185 | 13017.03 | 10715.38 | |
| 7/24/20 13:30 | 180 | 14240.09 | 11612.25 | |
| 7/28/20 13:30 | 180 | -- | -- | Only flow data collected. |
| 7/28/20 13:30 | 0 | -- | -- | BS-02 Compressor shutdown |
| 8/4/20 13:35 | 162 | 16428.86 | 13493.98 | |
| 8/21/2020 15:25 | 170 | 19658.02 | 16491.82 | |
| 9/7/2020 15:25 | 0 | -- | -- | BS-02 compressor shutdown |
| 9/8/2020 15:25 | 170 | -- | -- | BS-02 restarted. Only flow data collected. |
| 9/17/2020 8:10 | 180 | 22828.62 | 19176.65 | |
| 9/29/2020 13:30 | 180 | 24128.54 | 20322.90 | |
| 10/8/2020 10:30 | 90 | -- | -- | Only flow data collected. BS-03 tie-in. |
| 10/15/2020 0:30 | 174 | -- | -- | |
| 10/30/2020 12:20 | 83 | 28182.52 | 22935.28 | |
| 11/3/2020 12:20 | 180 | -- | -- | BS-02 flow increased. Only flow data collected. |
| 11/4/2020 9:12 | 188 | 29325.69 | 23764.87 | |
| 11/13/2020 9:12 | 188 | -- | -- | Shut down |
| 11/16/2020 9:00 | 90 | -- | -- | |
| 11/16/2020 9:00 | 182 | -- | -- | Restarted |
| 11/19/2020 0:00 | 0 | -- | -- | Only flow data collected. |
| 11/30/2020 0:20 | 180 | -- | -- | Only flow data collected. |
| 11/30/2020 0:20 | 170 | -- | -- | Shut down |
| 12/8/2020 12:20 | 180 | -- | -- | BS-02 restarted prior to 12/8/20/20. Only flow data collected. |
| 12/30/20 11:16 | 170 | 38727.01 | 31957.56 | |

-- No data recorded

Appendix E
BS-02 Startup Cumulative Mass Removed Narrative

Appendix E. BS-02 Startup Cumulative Mass Removed
SFPP Norwalk Pump Station, Norwalk, California

| Date | SVE Influent CO2 (%) | SVE Influent O2 (%) | SVE Influent Max VOCs (ppmv) | SVE Influent Flow (scfm) | Removal Rate (VOC ppm/ft3/minute) | VOC Mass Removal Rate as Hexane (lb/minute) | VOC Mass Removal Rate as Hexane (lb/day) | Cumulative Mass Removed (lbs) | O2 Depletion | O2 Depletion (lbs/minute) | Equivalent Hexane Consumed by O2 (lbs/minute) | Equivalent Hexane Consumed by O2 (lbs/day) | Cumulative Equivalent Hexane Consumed by O2 (lbs) |
|------------------|----------------------|---------------------|------------------------------|--------------------------|-----------------------------------|---|--|-------------------------------|--------------|---------------------------|---|--|---|
| 5/15/20 11:30 | 2.40 | 17.20 | 0.00 | 196.00 | 0.00 | 0 | 0 | 0 | 4.8 | 0.72 | 0.20 | 293.82 | 0.0 |
| 5/15/20 12:46 | 2.70 | 17.70 | 263.50 | 188.00 | 49538.00 | 0.0109 | 16 | 1 | 4.3 | 0.62 | 0.18 | 252.47 | 15.5 |
| 5/18/20 8:20 | 2.20 | 19.30 | 563.00 | 166.00 | 93458.00 | 0.0205 | 30 | 65 | 2.7 | 0.34 | 0.10 | 139.98 | 567.9 |
| 5/18/20 8:20 | 2.20 | 19.30 | 0.00 | 166.00 | 0.00 | 0.0000 | 0 | 65 | 2.7 | 0.34 | 0.10 | 139.98 | 568 |
| 5/18/20 11:58 | 1.60 | 19.20 | 655.00 | 160.00 | 104800.00 | 0.0230 | 33 | 67 | 2.8 | 0.34 | 0.10 | 139.91 | 589 |
| 5/20/20 8:25 | 1.70 | 18.20 | 403.00 | 168.00 | 67704.00 | 0.0149 | 21 | 118 | 3.8 | 0.49 | 0.14 | 199.38 | 903 |
| 5/20/20 8:25 | 1.70 | 18.20 | 0.00 | 168.00 | 0.00 | 0.0000 | 0 | 118 | 3.8 | 0.49 | 0.14 | 199.38 | 903 |
| 5/20/20 11:18 | 1.50 | 18.80 | 252.00 | 168.00 | 42336.00 | 0.0093 | 13 | 118 | 3.2 | 0.41 | 0.12 | 167.90 | 925 |
| 5/22/20 14:15 | 1.30 | 18.80 | 533.00 | 179.00 | 95407.00 | 0.0210 | 30 | 165 | 3.2 | 0.44 | 0.12 | 178.89 | 1293 |
| 5/22/20 14:15 | 1.30 | 18.80 | 0.00 | 179.00 | 0.00 | 0.0000 | 0.0 | 165 | 3.2 | 0.44 | 0.12 | 178.89 | 1293 |
| 5/26/20 8:46 | 1.10 | 18.70 | 526.00 | 168.00 | 88368.00 | 0.0194 | 28.0 | 217 | 3.3 | 0.42 | 0.12 | 173.14 | 1957 |
| 5/26/20 14:18 | 1.00 | 18.50 | 397.00 | 177.00 | 70269.00 | 0.0154 | 22.2 | 223 | 3.5 | 0.47 | 0.13 | 193.48 | 2000 |
| 5/27/20 8:10 | 1.20 | 18.90 | 383.00 | 168.00 | 64344.00 | 0.0141 | 20.4 | 239 | 3.1 | 0.40 | 0.11 | 162.65 | 2132 |
| 5/29/20 9:13 | 1.20 | 19.20 | 368.00 | 168.00 | 61824.00 | 0.0136 | 19.6 | 280 | 2.8 | 0.36 | 0.10 | 146.91 | 2448 |
| 6/3/20 14:48 | 5.40 | 19.20 | 1129.00 | 172.00 | 194188.00 | 0.0427 | 61.4 | 492 | 2.8 | 0.37 | 0.10 | 150.41 | 3226 |
| 6/4/20 10:08 | 0.80 | 19.90 | 687.10 | 180.00 | 123678.00 | 0.0272 | 39.1 | 532 | 2.1 | 0.29 | 0.08 | 118.05 | 3334 |
| 6/5/20 13:00 | 1.10 | 19.00 | 1300.00 | 180.00 | 234000.00 | 0.0514 | 74.0 | 596 | 3 | 0.41 | 0.12 | 168.65 | 3495 |
| 6/5/20 13:00 | 1.10 | 19.00 | 0.00 | 180.00 | 0.00 | 0.0000 | 0.0 | 596 | 3 | 0.41 | 0.12 | 168.65 | 3495 |
| 6/10/20 10:45 | 1.10 | 19.00 | 1050.00 | 224.00 | 235200.00 | 0.0517 | 74.4 | 778 | 3 | 0.51 | 0.15 | 209.87 | 4424 |
| 6/23/20 10:30 | 1.80 | 18.40 | 323.00 | 206.00 | 66538.00 | 0.0146 | 21.1 | 1398 | 3.6 | 0.57 | 0.16 | 231.61 | 7291 |
| 6/24/20 11:20 | 1.00 | 18.90 | 650.00 | 205.00 | 133250.00 | 0.0293 | 42.2 | 1431 | 3.1 | 0.49 | 0.14 | 198.47 | 7513 |
| 6/26/20 7:45 | 1.30 | 17.80 | 706.00 | 212.00 | 149672.00 | 0.0329 | 47.4 | 1514 | 4.2 | 0.68 | 0.19 | 278.08 | 7954 |
| 6/30/20 12:49 | 1.50 | 19.10 | 560.00 | 202.92 | 113635.20 | 0.0250 | 36.0 | 1689 | 2.9 | 0.45 | 0.13 | 183.78 | 8927 |
| 7/6/20 11:34 | 1.10 | 19.20 | 575.00 | 209.00 | 120175.00 | 0.0264 | 38.0 | 1909 | 2.8 | 0.45 | 0.13 | 182.76 | 10017 |
| 7/8/20 13:02 | 1.20 | 18.50 | 98.80 | 208.00 | 20550.40 | 0.0045 | 6.5 | 1955 | 3.5 | 0.56 | 0.16 | 227.36 | 10440 |
| 7/10/20 14:30 | 0.90 | 19.00 | 638.50 | 209.68 | 133880.68 | 0.0294 | 42.4 | 2006 | 3 | 0.48 | 0.14 | 196.45 | 10876 |
| 7/14/20 10:30 | 0.70 | 19.30 | 699.10 | 205.70 | 143804.87 | 0.0316 | 45.5 | 2109 | 2.7 | 0.42 | 0.12 | 173.45 | 11621 |
| 7/17/20 8:13 | 0.70 | 19.30 | 699.10 | 205.70 | 143804.87 | 0.0316 | 45.5 | 2302 | 2.7 | 0.42 | 0.12 | 173.45 | 12123 |
| 7/24/20 13:30 | 0.80 | 19.60 | 675.00 | 210.00 | 141750.00 | 0.0311 | 44.9 | 2628 | 2.4 | 0.39 | 0.11 | 157.40 | 13317 |
| 8/4/20 13:35 | 1.00 | 17.30 | 152.60 | 226.83 | 34614.26 | 0.0076 | 11.0 | 2935 | 4.7 | 0.82 | 0.23 | 332.95 | 16015 |
| 8/21/2020 15:25 | 0.80 | 19.70 | 340.00 | 150.00 | 51000.00 | 0.0112 | 16.1 | 3166 | 2.3 | 0.26 | 0.07 | 107.75 | 19778 |
| 9/17/2020 8:10 | 0.80 | 19.50 | 320.00 | 200.00 | 64000.00 | 0.0141 | 20.3 | 3652 | 2.5 | 0.38 | 0.11 | 156.15 | 23300 |
| 9/29/2020 13:30 | 0.30 | 21.50 | 70.00 | 221.00 | 15470.00 | 0.0034 | 4.9 | 3806 | 0.5 | 0.08 | 0.02 | 34.51 | 24466 |
| 10/15/2020 10:30 | 0.70 | 19.80 | 801.00 | 169.00 | 135369.00 | 0.0297 | 42.8 | 4185 | 2.2 | 0.28 | 0.08 | 116.12 | 25661 |
| 10/30/2020 12:20 | 1.10 | 19.20 | 1346.00 | 230.43 | 310158.78 | 0.0682 | 98.1 | 5247 | 2.8 | 0.49 | 0.14 | 201.50 | 28055 |
| 11/4/2020 9:12 | 0.80 | 19.80 | 354.50 | 273.22 | 96856.49 | 0.0213 | 30.6 | 5561 | 2.2 | 0.46 | 0.13 | 187.72 | 29003 |
| 12/30/20 11:16 | 0.30 | 20.30 | 144.50 | 272.29 | 39345.91 | 0.0086 | 12 | 6769 | 1.7 | 0.35 | 0.10 | 144.57 | 38321 |

Appendix E. BS-02 Startup Cumulative Mass Removed

SFPP Norwalk Pump Station, Norwalk, California

| Date | CO2 Production (scf/minute) | CO2 Production (lbs/minute) | Equivalent Hexane Consumed by CO2 (lbs/minute) | Equivalent Hexane Consumed by CO2 (lbs/day) | Cumulative Equivalent Hexane Consumed by CO2 (lbs) | Cumulative Overall Mass Removal (lbs) | Total Biodegraded (Average of O2 and CO2 Methods) (lbs) | Difference O2 vs CO2 | BS-02 Flow (scfm) | Cumulative Overall Rate of Mass Removal (lbs/day) |
|------------------|-----------------------------|-----------------------------|--|---|--|---------------------------------------|---|----------------------|-------------------|---|
| 5/15/20 11:30 | 4.70 | 0.58 | 0.19 | 271.17 | 0.00 | 0 | 0 | 0 | 0 | |
| 5/15/20 12:46 | 5.08 | 0.62 | 0.20 | 292.62 | 14 | 16 | 15 | -1 | 26 | 298 |
| 5/18/20 8:20 | 3.65 | 0.45 | 0.15 | 210.53 | 838 | 768 | 703 | 270 | 23 | 273 |
| 5/18/20 8:20 | 3.65 | 0.45 | 0.15 | 210.53 | 838 | 768 | 703 | 270 | 30 | 2767 |
| 5/18/20 11:58 | 2.56 | 0.31 | 0.10 | 147.58 | 870 | 797 | 730 | 281 | 70 | 5262 |
| 5/20/20 8:25 | 2.86 | 0.35 | 0.11 | 164.64 | 1143 | 1141 | 1023 | 240 | 70 | 616 |
| 5/20/20 8:25 | 2.86 | 0.35 | 0.11 | 164.64 | 1143 | 1141 | 1023 | 240 | 100 | 5147 |
| 5/20/20 11:18 | 2.52 | 0.31 | 0.10 | 145.27 | 1163 | 1163 | 1044 | 238 | 100 | 9677 |
| 5/22/20 14:15 | 2.33 | 0.29 | 0.09 | 134.14 | 1471 | 1547 | 1382 | 178 | 100 | 729 |
| 5/22/20 14:15 | 2.33 | 0.29 | 0.09 | 134.14 | 1471 | 1547 | 1382 | 178 | 135 | 654 |
| 5/26/20 8:46 | 1.85 | 0.23 | 0.07 | 106.53 | 1977 | 2185 | 1967 | 20 | 135 | 579 |
| 5/26/20 14:18 | 1.77 | 0.22 | 0.07 | 102.03 | 2002 | 2224 | 2001 | 2 | 135 | 9646 |
| 5/27/20 8:10 | 2.02 | 0.25 | 0.08 | 116.22 | 2078 | 2344 | 2105 | -54 | 135 | 3149 |
| 5/29/20 9:13 | 2.02 | 0.25 | 0.08 | 116.22 | 2315 | 2662 | 2382 | -133 | 135 | 1302 |
| 6/3/20 14:48 | 9.29 | 1.14 | 0.37 | 535.42 | 2924 | 3567 | 3075 | -303 | 135 | 682 |
| 6/4/20 10:08 | 1.44 | 0.18 | 0.06 | 83.01 | 3355 | 3877 | 3345 | 20 | 135 | 4813 |
| 6/5/20 13:00 | 1.98 | 0.24 | 0.08 | 114.14 | 3448 | 4067 | 3471 | -47 | 135 | 3633 |
| 6/5/20 13:00 | 1.98 | 0.24 | 0.08 | 114.14 | 3448 | 4067 | 3471 | -47 | 100 | 2325 |
| 6/10/20 10:45 | 2.46 | 0.30 | 0.10 | 142.04 | 4008 | 4994 | 4216 | -416 | 100 | 1018 |
| 6/23/20 10:30 | 3.71 | 0.45 | 0.15 | 213.75 | 5853 | 7970 | 6572 | -1438 | 3 | 614 |
| 6/24/20 11:20 | 2.05 | 0.25 | 0.08 | 118.18 | 6074 | 8225 | 6794 | -1439 | 70 | 7949 |
| 6/26/20 7:45 | 2.76 | 0.34 | 0.11 | 158.87 | 6293 | 8637 | 7124 | -1662 | 100 | 4667 |
| 6/30/20 12:49 | 3.04 | 0.37 | 0.12 | 175.47 | 6962 | 9634 | 7944 | -1965 | 100 | 2288 |
| 7/6/20 11:34 | 2.30 | 0.28 | 0.09 | 132.53 | 8005 | 10921 | 9011 | -2011 | 100 | 1836 |
| 7/8/20 13:02 | 2.50 | 0.31 | 0.10 | 143.89 | 8279 | 11314 | 9359 | -2161 | 105 | 5489 |
| 7/10/20 14:30 | 1.89 | 0.23 | 0.08 | 108.79 | 8575 | 11731 | 9726 | -2301 | 129 | 5692 |
| 7/14/20 10:30 | 1.44 | 0.18 | 0.06 | 83.01 | 9127 | 12482 | 10374 | -2494 | 160 | 3256 |
| 7/17/20 8:13 | 1.44 | 0.18 | 0.06 | 83.01 | 9308 | 13017 | 10715 | -2814 | 185 | 4481 |
| 7/24/20 13:30 | 1.68 | 0.21 | 0.07 | 96.85 | 9908 | 14240 | 11612 | -3409 | 180 | 1972 |
| 8/4/20 13:35 | 2.27 | 0.28 | 0.09 | 130.76 | 10973 | 16429 | 13494 | -5042 | 162 | 1493 |
| 8/21/2020 15:25 | 1.20 | 0.15 | 0.05 | 69.18 | 13206 | 19658 | 16492 | -6571 | 170 | 1151 |
| 9/17/2020 8:10 | 1.60 | 0.20 | 0.06 | 92.24 | 15053 | 22829 | 19177 | -8247 | 180 | 855 |
| 9/29/2020 13:30 | 0.66 | 0.08 | 0.03 | 38.22 | 16180 | 24129 | 20323 | -8285 | 180 | 1974 |
| 10/15/2020 10:30 | 1.18 | 0.15 | 0.05 | 68.20 | 16787 | 25409 | 21224 | -8874 | 174 | 1601 |
| 10/30/2020 12:20 | 2.53 | 0.31 | 0.10 | 146.12 | 17815 | 28183 | 22935 | -10240 | 83 | 1869 |
| 11/4/2020 9:12 | 2.19 | 0.27 | 0.09 | 126.00 | 18527 | 29326 | 23765 | -10476 | 188 | 6022 |
| 12/30/20 11:16 | 0.82 | 0.10 | 0.03 | 47.09 | 25594 | 38727 | 31958 | -12728 | 170 | 690 |