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**SFPP Norwalk Pump Station  
Norwalk, California**

**Fourth Quarter 2022 Remediation Progress Report**

**Final**

**February 15, 2023**

**Kinder Morgan, Inc.**



## SFPP Norwalk Pump Station

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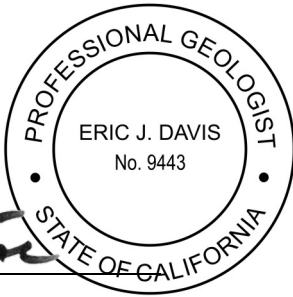

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Eric Davis  
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February 15, 2023  
Date

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## Acronyms and Abbreviations

µg/L	microgram(s) per liter
API	American Petroleum Institute
ASTM	ASTM International
BaCO <sub>3</sub>	barium carbonate
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
<sup>14</sup> C	Carbon-14 (radiocarbon)
CH2M	CH2M HILL, now part of Jacobs Engineering Group Inc.
CO <sub>2</sub>	carbon dioxide
COPC	contaminant(s) of potential concern
DFSP	Defense Fuel Support Point
DTSC	Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
EVS	Earth Volumetric Studio
ft	foot/feet
ft <sup>2</sup> /day	square foot/feet per day
gal(s)/year	gallon(s) per year
GWE	groundwater extraction
HSVE	horizontal soil vapor extraction
IRAP	interim remedial action plan
ITRC	Interstate Technology and Regulatory Council
Jacobs	Jacobs Engineering Group Inc.
Kinder Morgan	Kinder Morgan, Inc.
lb(s)/day	pound(s) per day
lb(s)/yr	pound(s) per year
LNAPL	light nonaqueous phase liquid
MTBE	methyl tertiary butyl ether
No.	number
NSZD	natural source zone depletion
ppmv	parts per million by volume
Regional Board	California Regional Water Quality Control Board, Los Angeles Region
RSL	regional screening level
RTO	regenerative thermal oxidizer

scfm	standard cubic feet per minute
SFPP	SFPP, L.P., an indirect subsidiary of Kinder Morgan, Inc.
SGI	The Source Group, Inc.
site	SFPP, L.P. Norwalk Pump Station located within Defense Fuel Support Point Norwalk, at 15306 Norwalk Boulevard, Norwalk, California
SVE	soil vapor extraction
SVM	soil vapor monitoring
SVP	soil vapor probe
TFE	total fluids extraction
TPH-d	total petroleum hydrocarbons quantified as diesel
TPH-g	total petroleum hydrocarbons quantified as gasoline
VOC	volatile organic compound



## 1. Introduction

This progress report summarizes remediation activities performed by Kinder Morgan, Inc. (Kinder Morgan) 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 2022 reporting period.

This progress report is being submitted pursuant to a request from the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) in its letter dated October 25, 2006 (Regional 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* report and *Light Nonaqueous Phase Liquid Conceptual Site Model Update* (CH2M<sup>1</sup>, 2013 and 2018), as well as the recently published draft final *Interim Remedial Action Plan (IRAP) – Implementing a Natural Source Zone Depletion (NSZD) Remedy* (Jacobs, 2022a). In addition, previously published quarterly remediation progress reports and semiannual groundwater monitoring reports, available for download on “GeoTracker,” the Regional Board’s internet-accessible database system, contain site background information, historical data, and updates on remedial activities.

This report summarizes the remediation systems and activities at the site for the period of October 1, 2022, through December 31, 2022, including:

- Operation and maintenance of active remediation systems performed by Kinder Morgan field personnel and outside subcontractors, including laboratory analysis of compliance and performance samples (Appendix A).
- Transition of the southeastern area vertical soil vapor extraction (SVE) wells and horizontal biosparge treatment well (BS-02) to a NSZD remedy (Section 2.1.2).
- Modifications to the SVE header to increase HSVE-01 flow rate, increase radius of influence, and improve condensate collection (Section 2.2).
- Removal of LNAPL from wells with measurable LNAPL: GMW-23; GMW-O-12; GMW-30; GMW-29 (Section 4.1).
- Work progressed on finalizing the *NSZD Final Results* technical memorandum to summarize the continued evaluation of the NSZD performance monitoring pilot study as well as recommend a sitewide NSZD monitoring plan (Section 3.2).

This report also provides recommendations regarding ongoing remediation optimization and remedial transition points, with supplemental documentation, including:

- Remedial progress in the southeastern area associated with horizontal biosparge treatment well BS-02, along with offsite/south-central area associated with horizontal biosparge treatment well BS-03 and well HSVE-01. Supplemental BS-02 and BS-03 monitoring data are in Appendix B and Appendix C, respectively.

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<sup>1</sup> CH2M HILL (CH2M) is now part of Jacobs Engineering Group Inc. (Jacobs).

## 2. Description of Remediation Systems

Kinder Morgan currently operates remediation systems consisting of vertical SVE, HSVE, horizontal biosparge, and treatment of extracted soil vapors to address petroleum hydrocarbon impacts in the three primary treatment and monitoring areas, including the south-central area (located in the southern portion of the 36-acre parcel), the offsite/south-central area (located in the residential area to the south of the 36-acre parcel), and the southeastern area (located in the southern portion of the 15-acre parcel). These areas are labeled on Figure 2. In addition, NSZD monitoring has been implemented across the site as part of the ongoing NSZD performance monitoring pilot study using the ongoing collection of SVP data.

The objectives of the remediation systems are to reduce light nonaqueous phase liquid (LNAPL) saturation, change the LNAPL phase, and if necessary, contain hydrocarbon constituents in groundwater and soil vapor. The remediation systems consist of the following remediation wells:

### South-central Area

- Currently inactive
  - 15 total fluids extraction (TFE) wells
  - 24 onsite vertical SVE wells
  - 1 horizontal biosparge well (BS-01)
- Currently active
  - 8 individual SVM probes used for NSZD monitoring

### Offsite/south-central Area

- Currently inactive
  - 4 TFE wells
  - 4 offsite vertical SVE wells (three are collocated with TFE wells)
- Currently active
  - 1 horizontal biosparge well (BS-03)
  - 1 horizontal SVE well (HSVE-01)
  - 9 individual SVM probes used for NSZD monitoring

### Southeastern Area

- Currently inactive
  - 3 TFE wells (GMW-O-15, GMW-O-18, GMW-36)
  - 1 GWE well (GMW-SF-10)
  - 9 vertical SVE wells (two SVE wells are co-located with TFE wells)
  - 1 horizontal biosparge well (BS-02)
- Currently active
  - 9 individual SVM probes used for NSZD monitoring

A summary of remediation systems and their operational status at the end of the fourth quarter of 2022 is presented in Table 1. The remediation system layout is shown on Figure 2.

The biosparging and SVE systems will continue to be active in the offsite/south-central areas until remedial objectives are met. The south-central area transitioned from biosparging and SVE to NSZD in December 2019 as part of the ongoing NSZD performance monitoring pilot study.

## 2.1 Biosparge System

The layout of the horizontal biosparging wells at the site is illustrated on Figure 2. Each horizontal well is constructed of 4-inch-diameter polyvinyl chloride with varying screen lengths placed at approximately 45 feet below ground surface (bgs). All biosparging systems are interlocked with their respective SVE capture systems such that biosparging cannot operate without the SVE capture system also operating. Additional details regarding the operation of BS-03 during the fourth quarter of 2022 are provided in Section 3.

### 2.1.1 Biosparge Well BS-01 (Not Operating)

Biosparge well BS-01 was installed in December 2014 in the south-central area of the site and operated from December 2016 until December 2019 when it was turned off to facilitate evaluation of NSZD performance. A summary of the performance of BS-01 is available in the *Biosparging Effectiveness Evaluation and Recommendations Report* (Jacobs, 2019).

### 2.1.2 Biosparge Well BS-02 (Not Operating)

A second biosparge well (BS-02) was installed in the southeastern area of the site in November 2017. The screen interval of BS-02 is 240 feet centered below the southeastern area hydrocarbon plume. BS-02 (and BS-03) are supplied with air by a compressor (883 standard cubic feet per minute [scfm]) installed in the fourth quarter 2018. BS-02 was turned on in May 2020 and operated at a flow of 150 to 180 scfm since December 2021.

On October 6, 2022, BS-02 was deactivated as part of the transition of the southeastern vertical SVE wells and horizontal biosparge treatment system to an NSZD remedy. During the fourth quarter of 2022, BS-02 operated for 166 hours at an average uptime of approximately 98.7 percent and operated at an average flow of 180 scfm.

### 2.1.3 Biosparge Well BS-03 (Operating)

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. A horizontal SVE well (HSVE-01) was installed above BS-03 and is described in Section 3. BS-03 is centered below the offsite/south-central area hydrocarbon plume. Startup activities began at BS-03 in May 2021, shortly after startup and sustained operation of HSVE-01 in early April 2021 (see details of HSVE-01 startup and operation in Section 3).

During the fourth quarter of 2022, BS-03 had an average uptime of approximately 96.4 percent (2,082 hours) and operated within a flow range between 164 and 352 scfm.

## 2.2 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 (i.e., condensate) from the soil vapors. When the knock-out tank is full, the condensate water is hauled offsite for proper disposal. The soil vapors are treated in a regenerative thermal oxidizer (RTO) where volatile organic compounds (VOCs) are converted to carbon dioxide (CO<sub>2</sub>) and water prior to being discharged to the atmosphere. Operation of the SVE system is 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 remaining active SVE well (HSVE-01), began operating in April 2021. Supplemental data from wells and vapor points in the offsite/south-central area are routinely collected to optimize the operation both HSVE-01 and BS-03. HSVE-01 operated at flows ranging between 395 and 836 scfm, averaging 691 scfm during the reporting period for the fourth quarter of 2022. Additional details regarding the operation of HSVE-01 during the fourth quarter of 2022 are discussed in Section 3.1. Table 2 is a summary of extracted vapor analytical results.

From December 19, 2022, to December 20, 2022, an outside subcontractor completed modifications to the soil vapor extraction manifold to bypass all offline soil vapor extraction wells (ex: the southeast combined SVE header), leaving HSVE-01 as the only connected vapor extraction well. As part of this modification, the manifold diameter between HSVE-01 and the vapor extraction knockout pot was reduced from 12-inch diameter to 6-inch diameter. The reduction of the manifold's diameter increased vapor velocity allowing more efficient entrainment of condensate and increasing the radius of influence of HSVE-01. Additionally, by disconnecting offline soil vapor extraction wells, fugitive vacuum losses through control valves on those wells were eliminated.

### **2.3 Monitoring Well and Soil Vapor Probe Modifications**

No modifications were made to monitoring wells and/or soil vapor probes during this reporting period.

### 3. Remediation Progress and Optimization

Currently, remedial progress is being measured against the performance metrics defined in the draft final IRAP (Jacobs, 2022a), which are as follows:

- Recover LNAPL mass to the maximum hydraulic extent practicable using existing wells.
- Achieve an active LNAPL removal rate (e.g., through biosparging/SVE) that is below or of similar magnitude to the ambient NSZD degradation rate.
- Demonstrate a decrease in the ratio of more volatile to less volatile dissolved- and vapor-phase constituents over time.
- Demonstrate SVE systems have reached a transition point based on decline curve analysis.
- Demonstrate stable or decreasing dissolved-phase plume extents and concentrations across the site using spatial plume statistics.
- Ensure the dissolved- and vapor-phase extents and concentrations are stable or decreasing in extent on a sitewide scale.

As these metrics are achieved, a transition to NSZD will be implemented on an area-by-area basis, along with contingency measures, if needed. While these metrics are important, the active mass removal rate relative to the NSZD mass removal rate is the most significant proxy for all other remediation performance metrics. The overarching site management philosophy is that there are diminishing returns in operating active remedies when they are no longer capable of removing mass at a significantly greater rate than NSZD. Moreover, there are significant cost considerations in terms of environmental sustainability (i.e., carbon footprint) associated with long-term operation of energy intensive active treatment systems. The following sections present the remedial progress specifically related to each of these metrics and efforts being made to optimize the remedies. This section focuses on remedial operation data evaluation and Section 4 focuses on the resulting trends in vapors and groundwater and their respective metrics.

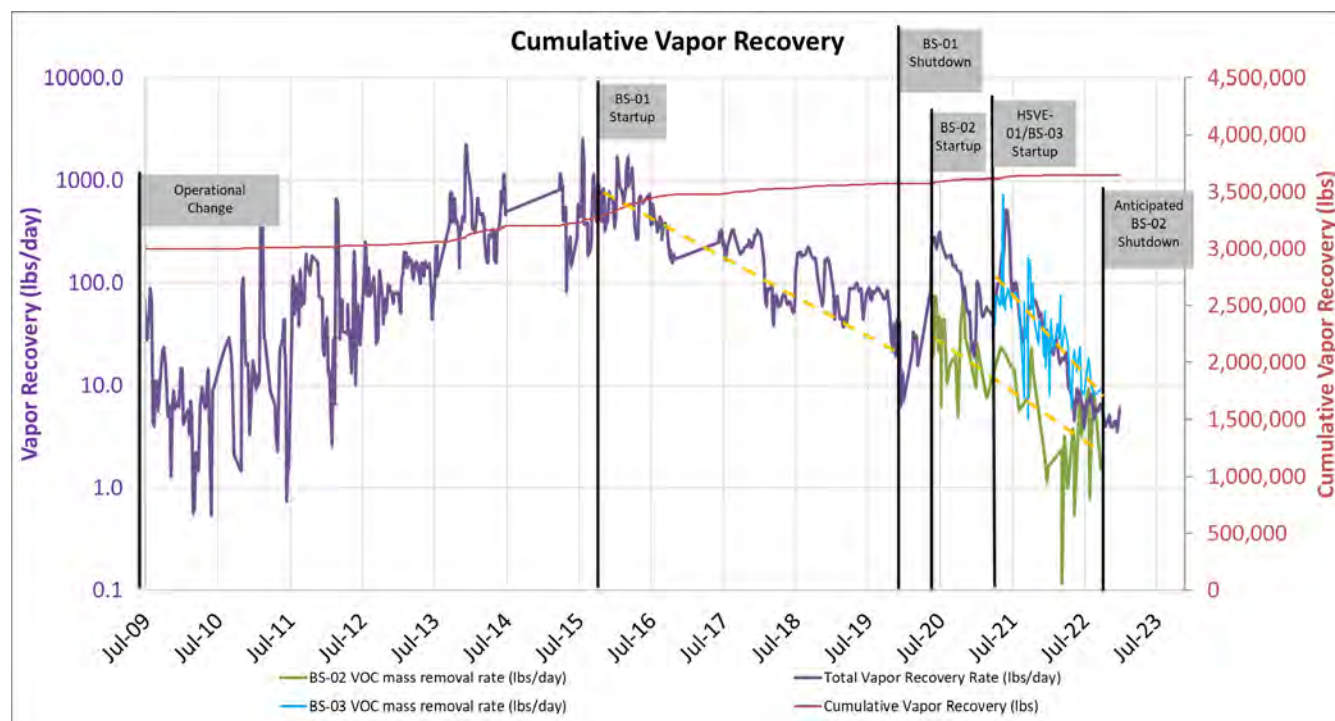
#### 3.1 Hydrocarbon Mass Removal from the Biosparge and Soil Vapor Extraction Systems

Exhibit 1, below, provides an overview of the VOC mass removal at the site collected weekly from the RTO combined header (i.e., it represents total SVE mass collected at the site as VOCs and may combine individual system data when biosparging systems overlap in operation). Narrative indicators are placed relative to the operation of each of the recent biosparging systems (BS-01, BS-02, and BS-03). The three biosparging systems at the site remove VOC mass at the highest rate during initial startup, followed by a predictable decline in VOC removal rate (pounds per day [lbs/day] as hexane) as the LNAPL adjacent to each system is depleted. Although BS-01 is no longer operating, an overview of the mass removed from the BS-01 treatment area and additional analysis of that system are presented in the draft final IRAP (Jacobs, 2022a). The overall VOC removal rates of each biosparging system are as follows:

- BS-01: Initially approximately 360,000 pounds per year (lbs/yr), and 3,600 lbs/yr at the end of operation
- BS-02: Initially approximately 36,000 lbs/yr, and 650lbs/yr at the end of operation (operation suspended in fourth quarter 2022)
- BS-03: Initially approximately 36,000 lbs/yr, and 4,200 lbs/yr currently (actively operating)

Supplemental data have also been collected from the SVE header for the vertical SVE wells in the southeastern area associated with BS-02 and HSVE-01 in the offsite/south-central area associated with BS-03 (Exhibit 1). 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 indicate that mass removal rates

are similar for the overall system mass removal and the offsite/south-central area mass removal (detailed data and analysis of BS-03 operations are described later in this section). The offsite/south-central area (BS-03) data in Exhibit 1 illustrate alignment to overall system mass removal data, indicating BS-02 is no longer contributing mass recovery at the site beyond what could be achieved by NSZD (described later in Section 3.2). Similar to the trends observed at BS-01 and BS-02 (Exhibit 1), and subsequent transitions (from active to passive remediation) that will occur in the fourth quarter 2022 (BS-01 and BS-02), BS-03 continues to make progress towards a remedial transition point, as defined in the draft final IRAP remedial metrics (Jacobs, 2022a).



**Exhibit 1. Cumulative SVE Vapor Mass Recovery Rate Over Time**

In addition to VOC mass removal, the biosparging systems enhance the biodegradation of hydrocarbons. The calculation and trends of biodegradation of hydrocarbon removal as well as the resulting indicators of LNAPL phase change are discussed in detail in the following sections. The methods for estimating the biosparging biodegradation rates are defined in the *Biosparging Effectiveness Evaluation and Recommendations, South-Central Area* (Jacobs, 2019). Biosparging also can affect the fluid levels at the site in the short term, during long-term operation there have not been notable changes to site fluid levels. A summary of these Groundwater elevations and LNAPL thicknesses continue to be recorded, particularly around HSVE-01 and BS-03 and are summarized in Table 4.

Monthly vapor samples from the SVE system (influent, influent post-dilution, and effluent) were collected in October, November, and December 2022. The vapor samples were delivered to Air Technology Laboratories in City of Industry, California, for the following analyses:

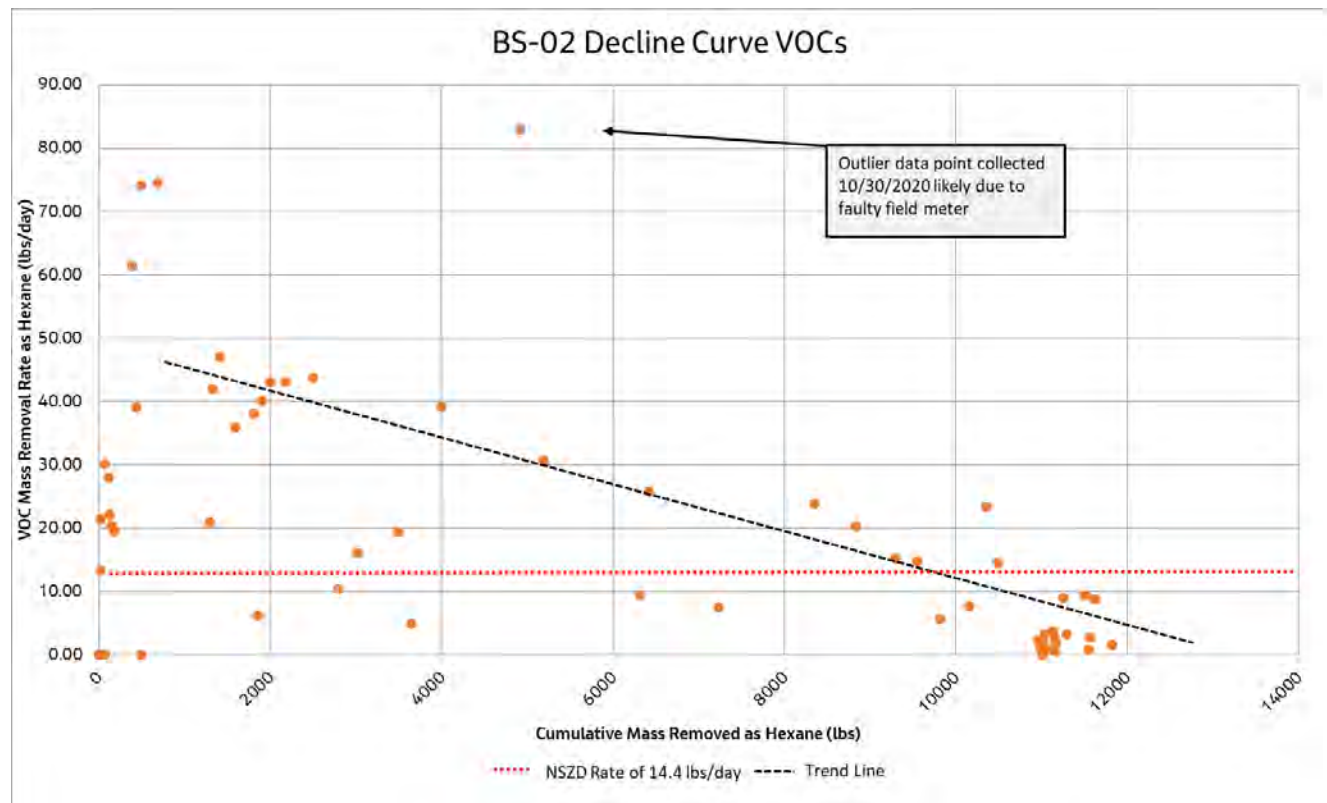
- Fixed gases (methane, CO<sub>2</sub>, oxygen, and argon) using ASTM International (ASTM) D1946
- VOCs using U.S. Environmental Protection Agency (EPA) Method TO-15
- Total VOCs using EPA Method TO-3

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 combined SVE systems was 396 pounds during the third quarter of 2022. Total mass recovered by the SVE system has consistently decreased since the first quarter of 2016 (where a high of 74,148 pounds of VOCs were 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 (benzene, toluene, ethylbenzene, and xylene [BTEX] and methyl tert butyl ether [MTBE]) have consistently decreased since initiating biosparging activities (Table 3, Figure 4), until startup of BS-02 (May 2020) and BS-03 (May 2021). The cumulative mass of VOCs removed since SVE was implemented in September 1995 is 3,644,838 pounds (Table 5). This cumulative mass removed by SVE does not include the mass removed by naturally occurring in-situ biodegradation which is discussed in later sections of this report.

**Biosparge (BS-02)**

The southeastern biosparge system (BS-02) operated for 166 hours with 99 percent uptime during the fourth quarter of 2022 (Table 3), until operations were suspended on October 6, 2022. During the fourth quarter of 2022, the VOC removal rate averaged less than 650 lbs/yr (less than 2 lbs/day) below the ambient NSZD rate of 14.4 lbs/day. A detailed narrative of the southeastern biosparge system is provided in the BS-02 supplemental data in Appendix B. The BS-02 decline curve indicates a transition point to NSZD was reached prior to operation being suspended, as illustrated in Exhibit 2.

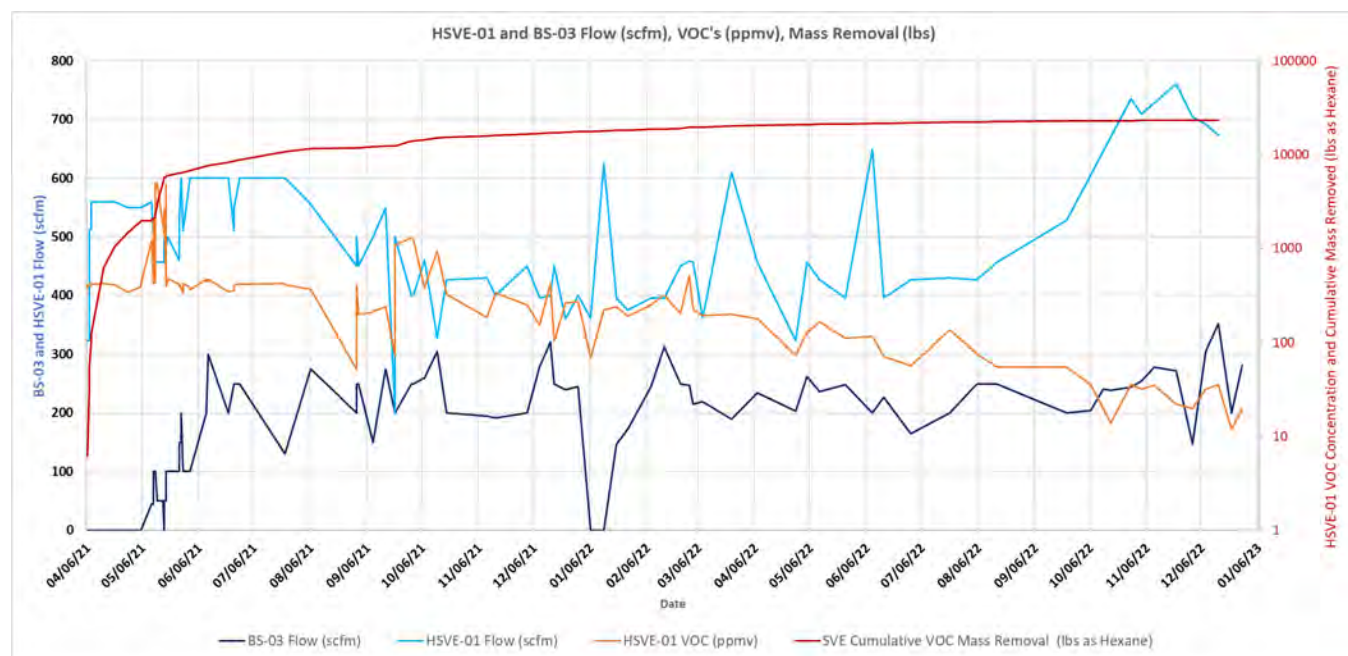


**Exhibit 2. BS-02 Decline Curve**

**Soil Vapor Extraction Well (HSVE-01) and Biosparging Well BS-03**

Operation of the offsite/south-central SVE system (HSVE-01) was initiated in the second quarter of 2021 and continued operating through the fourth quarter of 2022. During the fourth quarter of 2022, HSVE-01 flow was on average 712 scfm. BS-03 operated for 2,082 hours with 96.4 percent uptime during the fourth quarter. The biosparge system flow (air injection) rate ranged from approximately 148 - 353 scfm. A detailed data narrative for the offsite/south-central biosparge system is provided in Appendix C.

The flow rates, VOC mass removal, and VOC concentrations observed during operation of HSVE-01 historically to present are illustrated in Exhibit 3.



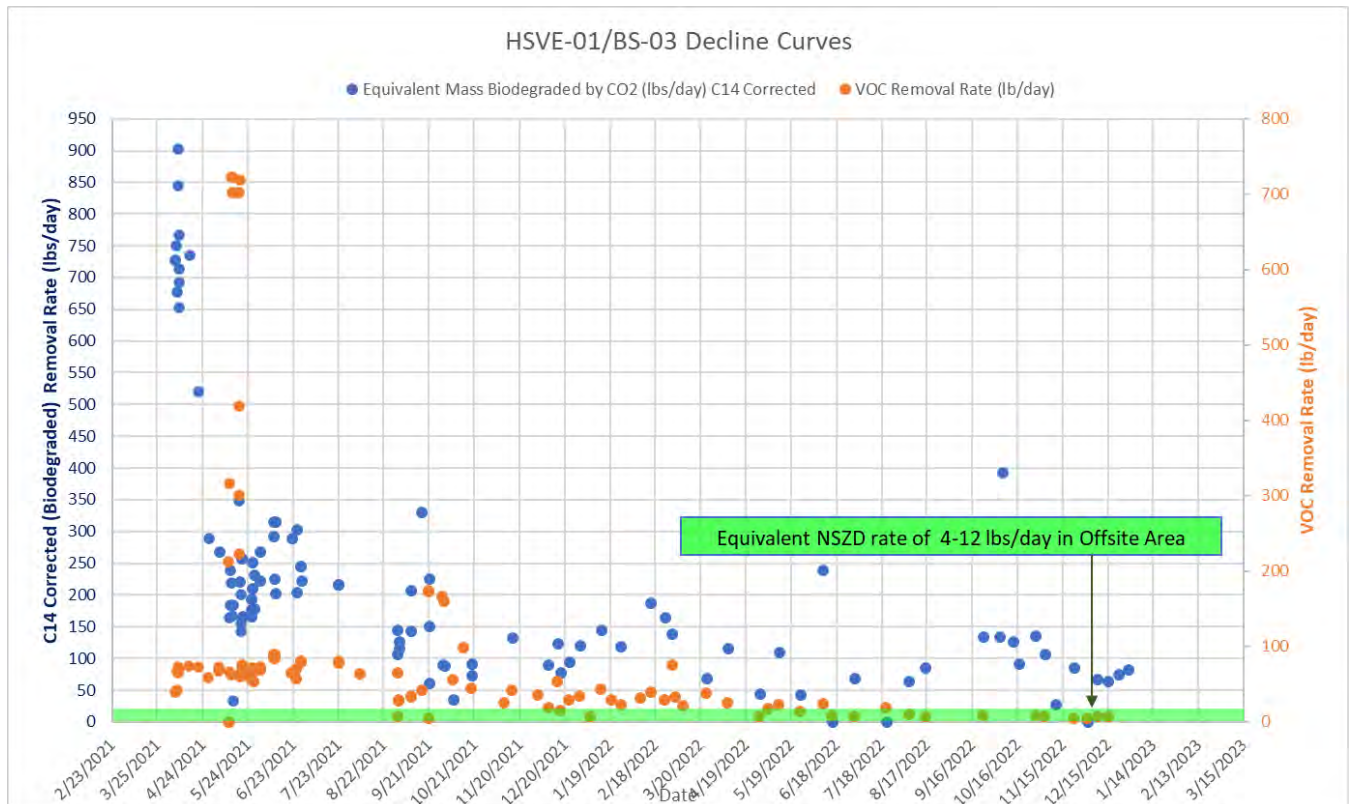
**Exhibit 3. HSVE-01 and BS-03 Operations and Performance**

Variation in flow and VOC concentrations in HSVE-01 are attributable to intermittent shutdown and restarts from various operational adjustments, as well as clearing of the five distributed drip legs, which have been conducted weekly since the third quarter 2021. Drip legs are condensate collection pipes along the SVE conveyance line that trap and accumulate excess moisture from the air and prevent build-up in the line that would otherwise hinder SVE performance.

Cumulative VOCs captured by HSVE-01 from startup (April 2021) through December 2022, were calculated using the same method used for previous SVE mass removal estimates and were observed to be approximately 20,700 pounds. The average VOC removal rate was 6 lbs/day over the 90-day operation period. With biodegradation included, HSVE-01 has removed approximately 100,500 pounds of mass in this area. The average biodegradation rate was 100 lbs/day over the 90-day operation period. See Appendix C for a detailed data and operations narrative.

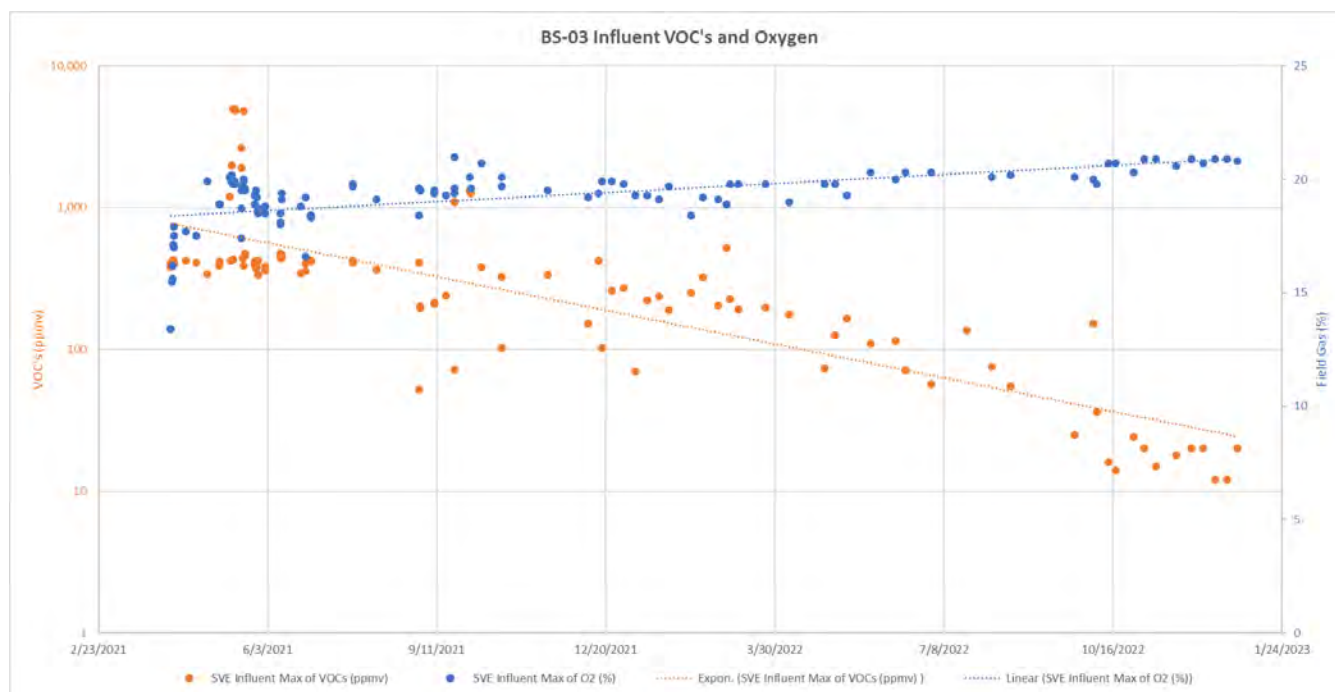


Using the supplemental data from BS-03, a decline curve is illustrated in Exhibit 4 comparing VOC mass removal rate as well as mass biodegradation rate corrected with <sup>14</sup>C data collected from the HSVE-01 header over time. The decline curve illustrates the trend of the data towards the NSZD transition point where the biosparging well is effectively removing less mass than NSZD would remove. The NSZD rate prior to biosparging (operational endpoint) ranged from 4 to 12 lbs/day in the offsite/south-central area (Jacobs, 2022a) compared to the current average VOC removal rate of approximately 6 lbs/day and the biodegradation rate of 100 lbs/day as illustrated in Exhibit 4.



**Exhibit 4. BS-03/HSVE-01 VOC Decline Curve**

Exhibit 5 illustrates the VOCs and oxygen concentration at the SVE header in the offsite/south-central area for BS-03 are diverging as expected. Observed VOCs are declining from approximately 800 parts per million by volume (ppmv) to less than 100 ppmv and oxygen concentrations are increasing from approximately 18 to 20 percent; both trends support remaining petroleum hydrocarbon impacts in the area being depleted.



**Exhibit 5. BS-03/HSVE-01 Influent VOCs and Oxygen Concentrations Over Time**

During the fourth quarter 2022 operation of HSVE-01 and BS-03, soil vapor field monitoring data (VOCs) were slightly elevated (>50 ppmv) at the following locations: SVM-06D (multiple times throughout the quarter) and SVM-06S (multiple times throughout the quarter). While VOCs were observed at SVM-06D and SVM-06S during multiple field screening events in the fourth quarter, VOCs generally decreased with a reduction in BS-03 flow (scfm). These temporary increases in VOCs at SVM-06D/S were likely due to an increase in the flow at BS-03, coupled with precipitation events that can temporarily disrupt airflow in the formation. All other monitoring locations during the fourth quarter of 2022 were observed to be below 50 ppmv for VOCs. Field screening events will continue on a bi-weekly to monthly basis to monitor VOC concentrations and the system will continue to be adjusted to optimize performance.

Overall, the combination of SVM probes with limited VOC detections in the offsite/south-central area combined with the sustained radius of capture on average of at least 200 feet (as detailed in previous quarterly remediation progress reports), supports continued operation and optimization of BS-03 and HSVE-01 without adversely affecting surficial soil vapors or aboveground residential locations.

The trends related to BS-03 and the offsite/south-central area demonstrate the following transition metrics are in progress:

- LNAPL mass has been recovered to the maximum hydraulic extent practicable (i.e., LNAPL removal rates are below ambient NSZD rates and remaining LNAPL transmissivities are less than 0.1 ft<sup>2</sup>/day).
- Mass removal rate through biosparging/SVE is trending toward the ambient NSZD degradation rate (discussed further in Section 3.2).
- In general, the ratio of more volatile to less volatile vapor-phase constituents have decreased over time.
- Vapor-phase extents and concentrations are stable or decreasing (SVE wellfield gases).
- Additional improvements in dissolved-phase trends are discussed in a later section.

### 3.2 Natural Source Zone Depletion Assessment

Barium carbonate sampling from the HSVE-01 and southeastern area header was conducted as part of the third round of NSZD sampling in September 2022 but were not collected during the fourth quarter of 2022.

Updated NSZD calculations and analysis, as detailed in the recently published draft final IRAP (Jacobs, 2022a), and discussed below, are also available to review in the *Natural Source Zone Depletion Preliminary Results* technical memorandum (Jacobs, 2020) provided in the *Second Quarter 2022 Remediation Progress Report* (Jacobs, 2022b). That progress report explains in detail the NSZD monitoring methodology used at the site. Additional NSZD evaluations are ongoing and recent BaCO<sub>2</sub> sample results, received January 28, 2022, are being incorporated into the forthcoming *Natural Source Zone Depletion Final Results* technical memorandum (Jacobs, 2022e; in press).

The comparative analysis of E-Flux trap and Ba<sup>14</sup>CO<sub>3</sub> sampling techniques for the analysis of the <sup>14</sup>C signature of CO<sub>2</sub> efflux showed that both methods produce comparable results. Going forward, only Ba<sup>14</sup>CO<sub>3</sub> sampling techniques will be used at the site as they allow collection of NSZD data in the offsite/south-central area where surface flux meters would not be effective because the area is mostly paved private (residential) property, and Ba<sup>14</sup>CO<sub>3</sub> sampling techniques allow the collection of a higher density of samples across the site.

This NSZD evaluation evaluates NSZD processes occurring in the subsurface with consideration of historical and future remedial activities (e.g., biosparging operation). In 2019, NSZD rates with active remedies temporarily suspended were measured at up to approximately 1,400 gallons per year (gals/year) (10,000 lbs/yr) in terms of biodegradation occurring in the subsurface.

The south-central area NSZD footprint is approximately 7 acres, the southeastern area is approximately 3 acres, and the offsite/south-central area is approximately 4 acres based on current dissolved-phase extents. On average across the site, this equates to approximately 100 gallons per acre per year (700 pounds per acre per year), recognizing each area at the site is at a different remedial phase and those average degradation rates vary in each area accordingly.

These trends related to NSZD demonstrate the following transition metrics have been met or are in progress:

- The ambient NSZD degradation rate is of a similar magnitude as active biosparging mass removal rates, considering the depletion of LNAPL in biosparging areas.
  - In particular, the south-central area and southeastern areas have reached the transition point based on NSZD rates.
  - The offsite/south-central area biosparging continues to make progress toward an NSZD transition point.

## 4. Current Site Conditions, Trends, and Interpretation

Routine sampling and monitoring of groundwater, soil gas, and SVE influent and effluent are performed to evaluate changes to the nature and extent of petroleum hydrocarbon impacts across the site because of ongoing remedial activities, including active treatment systems and natural biodegradation. Currently, supplemental groundwater sampling is performed during the first and third quarter of each year by Jacobs as part of active remedial operations monitoring. Sitewide groundwater monitoring is performed by Jacobs and The Source Group, Inc. (SGI) during the second quarter (first semiannual monitoring event) and fourth quarter (second semiannual monitoring event) of each year. This most recent sitewide report and data will be presented in the *Second Semiannual 2022 Groundwater Monitoring and Sampling Report, Defense Fuel Support Point Norwalk, 15306 Norwalk Boulevard, Norwalk, California (in press, SGI, 2022)*.

### 4.1 Groundwater Stability Trend Analysis and LNAPL Observations

As discussed in the IRAP (Jacobs, 2022a), groundwater monitoring data indicate that the dissolved-phase plumes are decreasing or stable across the site because of operating treatment systems and natural biodegradation (Figure 5).

A statistical analysis of site groundwater data collected through the fourth quarter of 2022 was conducted for benzene, total petroleum hydrocarbons quantified as gasoline (TPH-g) and diesel (TPH-d), MTBE, and tertiary butyl alcohol (TBA), (Appendix E). Only TPH-g trend analysis is discussed in this report, as other contaminants of potential concern (COPCs) are similar to TPH-g results and TPH-g is a more useful (and conservative) proxy for evaluation of both sitewide dissolved phase hydrocarbons and LNAPL. The other, less prevalent COPCs are detailed in the semiannual groundwater monitoring reports (*in press, SGI, 2022*).

To summarize, the statistical groundwater analysis for TPH-g shows that 216 of 220 wells analyzed have either nondetect, decreasing, or no trend (i.e., not significantly increasing or decreasing statistically at the given confidence level of 95%) for TPH-g when evaluated in the context of the entire dataset for each individual well (Appendix E). A subset of wells listed in Appendix E are noted as 'not stable', with no trend, for TPH-g simply due to a coefficient of variation (CV) greater than one, that is, these wells demonstrate outliers (historically) compared to other wells at the site.

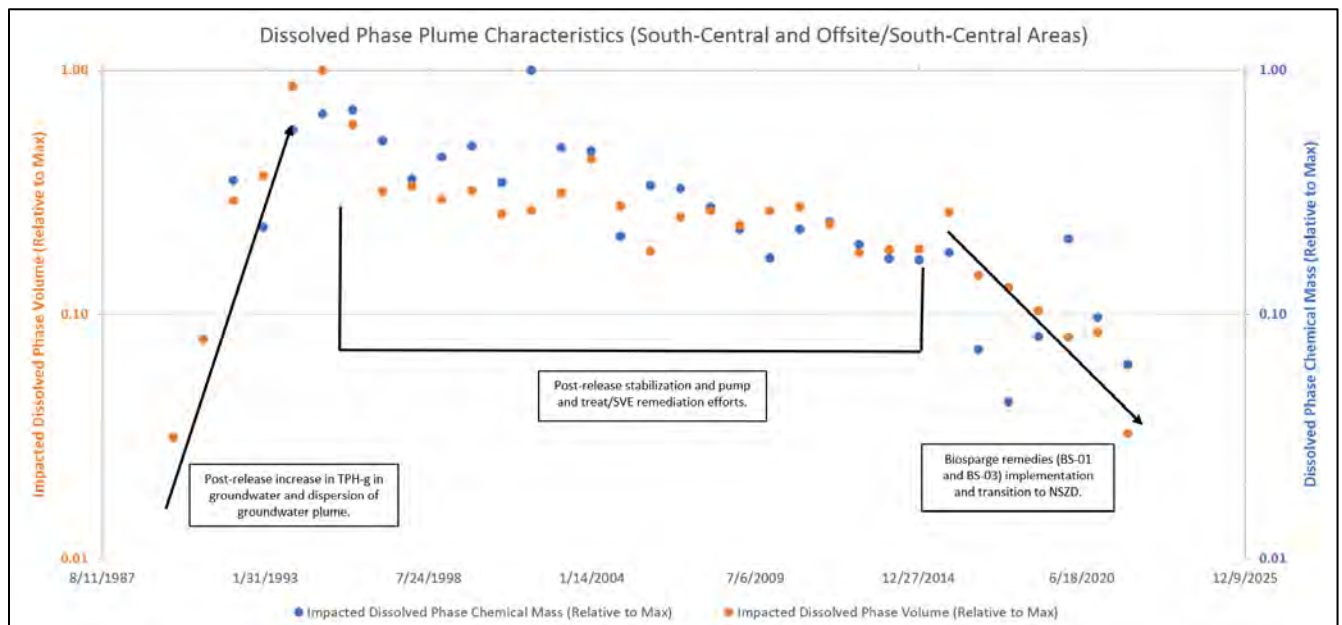
The exceptions to these trends list above are wells GMW-4 and MW-15 (both located in the south-central area). In addition, GMW-O-18 and PZ-5 (both located in the southeastern area). GMW-4 and MW-15 both have not been sampled since October 2013 and 2014. This is because both wells were replaced with GMW-4R and MW-15R. The replacement wells both demonstrate nondetect results for TPH-g as of the November 2022 sampling event. In addition, the Mann-Kendall trends in the replacement wells are no trend, due to >50% nondetect results collectively for the data from the well. GMW-O-18 and PZ-5 show increasing trends with all data historically, however, a more in-depth statistical analysis, evaluating discrete time periods based on treatment implementations at the site (2016 to present), indicates that since 2016 these two wells conform to more recent remedial operations influence, whereby the TPH-g concentrations in GMW-O-18 and PZ-5 have been decreasing. Moreover, the TPH-g concentrations in these two wells have decreased by approximately 99 percent from their respective historical high concentrations.

Overall, these statistical analyses and compilation of the TPH-g trends demonstrate that the dissolved-phase plumes are stable and decreasing, have been stable and decreasing, and will continue decreasing across the site because of ongoing remedial operations and NSZD processes. In addition, since the discontinued operation of BS-01 in December 2019, all downgradient wells in the south-central area have remained stable or decreasing in trend. These downgradient wells are part of a group of contingency wells, specified in greater detail in the forthcoming groundwater sampling and analysis plan (SAP), in press.

To support the understanding of stable and decreasing trends over time, a plume-scale spatial analysis is conducted semi-annually (second and fourth quarter) using TPH-g data historically collected at the site, developed for the south-central area (including the offsite/south-central area) and the southeastern area.

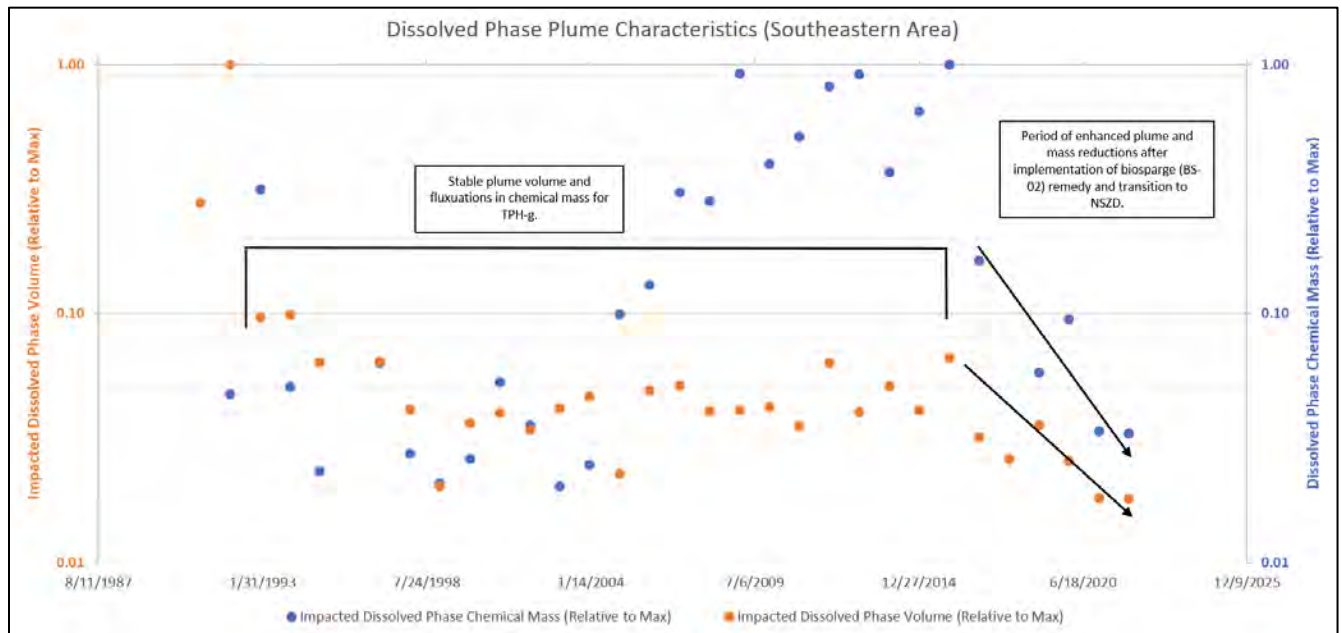
Analysis was performed using CTech's Earth Volumetric Studio (EVS) to determine average normalized (relative to max) detectable dissolved volumes and dissolved phase chemical masses (pounds) over time. Groundwater data were interpolated (kriged) in 1-year increments using the average annual chemical concentrations for individual wells, including nondetect data. In cases where chemical concentrations were not available for a given well for the modeled period, the previous or most recent known concentration was used to estimate the likely concentration at a location during that time. Volumetrics were output from an iso-concentration threshold set at >100 micrograms per liter ( $\mu\text{g/L}$ ) within the saturated zone.

Exhibit 6 illustrates the dissolved phase volume and dissolved phase chemical mass of TPH-g within the south-central area of the site (based on data historically through the fourth quarter 2022). Prior to remediation, increases in TPH-g were due to the expansion of the well network at the site during initial characterization. As remediation was implemented over time, the TPH-g groundwater plume stabilized and slowly began to decrease in extent and overall mass. More recent remediation (biosparging well BS-01 and BS-03 in this area, along with the transition to NSZD) of groundwater has resulted in the observed, more rapidly declining dissolved phase trends in both overall volume and mass.



**Exhibit 6. Dissolved-phase Plume Characteristics for TPH-g (South-Central and Offsite/South-Central Areas) Over Time, Set at an Iso-concentration Value of >100  $\mu\text{g/L}$ , Representative of Saturated Soils in the Subsurface.**

The southeast area plume saw similar trends in TPH-g throughout monitoring history through the fourth quarter 2022, however, some differences in the state of degradation are observed in this area as shown in Exhibit 7. Between 1994 and 2018, mass fluctuated two orders of magnitude over the 24-year period but has consistently been decreasing since installation and operation of horizontal biosparging well BS-02, as well as implementation of the NSZD remedy. Reductions in plume volume have also been observed in recent years and are consistently declining with only a limited footprint remaining.



**Exhibit 7. Dissolved-phase Plume Characteristics for TPH-g (Southeastern Area) Over Time, Set at an Iso-concentration Value of  $>100 \mu\text{g/L}$ , Representative of Saturated Soils in the Subsurface.**

Historical LNAPL thicknesses are presented in Table 4. During recent years, LNAPL has been detected in only four wells in the remedial areas described in this report (GMW-29, GMW-30, GMW-O-12, and GMW-23). These wells include GMW-29 (0.98 foot), GMW-30 (0.34 foot), and GMW-O-12 (0.03 foot). The observed thickness in GMW-23 (7.04 feet) is a result of continued decline in groundwater elevations in the uppermost groundwater zone (Table 4).

Between December 19, 2022, and December 22, 2022, Jacobs and an outside subcontractor performed a vacuum enhanced LNAPL recovery event from GMW-23, GMW-29, GMW-30, and GMW-O-12. The goal of the vacuum enhanced recovery event was to remove LNAPL from the wells. A vacuum truck equipped with vapor controls (i.e., carbon canisters) was mobilized to the site and set up at each well to recover LNAPL and water. On December 19, 2022, before recovery began, Jacobs collected depth to product and depth to water measurements from each of these wells and calculated the LNAPL thicknesses, which are presented in the above paragraph. After measurable LNAPL was removed from the wells, vacuum recovery continued at the surface of the water table (i.e., skimming) to maintain a depressed water table and recover any LNAPL mobilized into the wells. At the conclusion of this event, depth to water and depth to product measurements were collected and LNAPL thicknesses were calculated for each well. Operations data for this event are included Appendix D.2. The total volume of LNAPL recovered was too small to be measured. At the conclusion of the recovery event, all wells had a sheen (0.00 foot) of LNAPL. Additional continued gauging of these wells will be used to recalculate the reduced LNAPL transmissivity at each location over the next year. An updated LNAPL extent map is included on Figure 5. Overall, the horizontal and vertical distribution of LNAPL at this site is well defined and the three wells containing LNAPL at the site exhibit exaggerated LNAPL thickness and intermittent near residual LNAPL presence behavior due to changes in groundwater elevation/precipitation.

Following the baildown of LNAPL and sampling at GMW-23 in August 2021, gauging was continued throughout the fourth quarter at this well to assist in calculating transmissivity. Using the American Petroleum Institute (API) transmissivity workbook (API, 2016), gauging data (depth to product, depth to water) were used to calculate an estimated transmissivity at the well, which is a more representative attribute of LNAPL in a well than LNAPL thickness. Transmissivity at this well was calculated to be less than 0.01 square foot per day (ft<sup>2</sup>/day). Calculations of these testing events and results are available in Appendix D. Overall, transmissivity data indicate LNAPL beneath the site is at or near residual saturation, and recovery of LNAPL from the limited locations where it currently exists would be ineffective based on published guidance from the Interstate Technology and Regulatory Council (ITRC) (ITRC, 2018).

The trends related to dissolved-phase groundwater and LNAPL (where present) at the site demonstrate the following transition metrics have been met:

- LNAPL mass recovery to the maximum hydraulic extent practicable:
  - Only three wells remain with measurable LNAPL; two are less than 1 foot in thickness and intermittent in presence historically, and the fourth is greater than 1 foot in thickness, which demonstrates a transmissivity of an order of magnitude lower than ITRC guidance for recoverability

Dissolved-phase groundwater data demonstrate:

- Decrease in the ratio of more volatile to less volatile dissolved-phase constituents over time
- Stable or decreasing dissolved-phase plume extents and concentrations across the site
  - Downgradient wells have been and remain nondetect

## 4.2 Soil Vapor Monitoring Program

Kinder Morgan has utilized a network of 31 dual- and triple-nested SVPs located within and around their three areas of ongoing treatment and monitoring at the site: the south-central area in the 36-acre parcel, the offsite/south-central area in the residential area south of the 36-acre parcel, and the southeastern area in the 15-acre parcel (Figure 2). These SVPs comprised 66 unique sample intervals from approximately 5, 10, 15, and 22 feet bgs that were available for sampling during the first semiannual 2022 sampling event.

As part of the modified monitoring and sampling plan indicated above, several SVPs were destroyed in May 2022, after the first semiannual sampling event was conducted because they were in the way of construction and redevelopment activities, including offsite/south-central SVP "SVM-15" and southeastern area SVPs "SVM-17," "SVM-18," "SVM-19," and "SVM-20." Therefore, the SVP network was reduced to 26 dual- and triple-nested SVPs, with 55 unique sample intervals available for sampling.

There were no detections of any COPCs during the second 2022 semiannual sampling event; therefore, no COPCs currently present unacceptable risk at the site. The only exceedances of criteria were at SVP-06D and SVP-108D. The concentration of TPH-g (C4-C12) at SVM-06D exceeded both the residential and commercial regional screening levels (RSLs); however, the upper bounding sample from SVM-6S from 7-7.5 ft bgs did not exceed criteria. Similarly, the concentration of TPH-g (C4-C12) at SVP-108D exceeded the residential RSLs; however, the upper bounding sample from SVP-108S from 5-5.5 ft bgs did not exceed criteria. A statistical analysis of TPH-g from 2015 through September 2022 demonstrate that there are no increasing trends for TPH-g in soil vapor.

Other detected compounds (non-COPCs) are detected infrequently and at relatively low concentrations, below DTSC-modified screening levels and EPA RSLs, in the shallow soil vapor (defined as the upper 10 feet of soil). Observed transitory increases of non-COPCs, such as TPH-g, are an artifact of ongoing biosparging operations and are closely monitored with field-based observations on a weekly to biweekly basis.

Additional site background information and historical data from long-term soil vapor monitoring can be found in the recently submitted IRAP (Jacobs, 2022a), the *Second Quarter 2022 Remediation Progress Report* (Jacobs, 2022b), and the recently submitted *First 2022 Semiannual Soil Vapor Monitoring Report* (Jacobs, 2022c).

Following submission and subsequent approval by the Regional Board of the Sampling and Analysis Plan for Soil Vapor and Fixed Gases (*in press to be submitted February 15, 2023*), this section (Section 4.2) and Section 4.3 will be removed from this report going forward (i.e. first quarter 2023). The data and information as it pertains to soil vapor monitoring/analytical will be presented in a separate document. Discussion of fixed field gases will continue in this report and will be presented as needed in the context of site operations data and NSZD, to be profiled in Section 3.2.

### **4.3 Soil Vapor Monitoring Results**

Analytical results for samples collected during the August 2022 sampling event were presented in the *Second 2022 Semiannual Soil Vapor Monitoring Report* (Jacobs, 2022d).



## 5. Transition Metric Summary, Planned 2023 Activities, and Recommendations

This section provides summary-level descriptions of the remedy transition metrics, planned first quarter 2023 activities, and recommendations for a path forward.

### 5.1 Transition Metric Summary

The primary observations in this report are as follows:

#### BS-01 (South-Central Area)

- BS-01 previously met all transition metrics as defined in the draft final IRAP and the NSZD remedy is operating.
- BS-01 continues to meet dissolved-phase groundwater and vapor contingency metrics:
  - All shallow SVM probes in the south-central area, which function as part of the contingency metrics defined in the draft final IRAP (Jacobs, 2022a), have been and continue to be below EPA RSLs (with and without active remediation) (EPA, 2021), as presented in the *First 2022 Semiannual Soil Vapor Monitoring Report* (Jacobs, 2022c).
  - All downgradient groundwater wells have remained stable or decreasing in trend for TPH-g since BS-01 shutdown in December 2019.
- The LNAPL present in GMW-23, also continues to meet the LNAPL contingency criteria (transmissivity of  $\leq 0.01$  ft<sup>2</sup>/day, an order of magnitude below the ITRC effective recoverability endpoint):
  - Monitoring at GMW-23 will continue (approximately once per month) until it recovers to static fluid levels (three consistent fluid level measurements in a row).
- LNAPL was recovered during a vacuum truck removal event from the four wells historically containing LNAPL (GMW-23, GMW-29, GMW-30, and GMW-O-12). These wells will continue to be gauged to confirm their low transmissivity and evaluate the long-term effectiveness of vacuum recovery.

#### BS-02 (Southeastern Area)

The trends related to BS-02 and the southeastern area demonstrate all transition metrics are being met:

- LNAPL mass has been recovered to the extent practicable.
  - No wells in this area had measurable LNAPL during the fourth quarter of 2022.
- Active LNAPL removal rate (e.g., through biosparging/SVE) is of similar magnitude, or less, to the ambient NSZD degradation rate.
- The ratio of more volatile to less volatile vapor-phase constituents has decreased over time.
- SVE and biosparging (BS-02) activities were discontinued on October 6, 2022.
  - As reported in the third quarter 2022 remediation progress report, SVE systems reached a transition point based on decline curve analysis:
  - The initial observation of BS-02 biosparging performance, with initial VOC mass removal rates of 36,000 lbs/yr, showed a steady decline similar to BS-01 to a final VOC mass removal rate less than 650lbs/yr (less than 2 lbs/day), below the ambient NSZD removal rate, and well below the transition point for BS-01, which was at 3,600 lbs/yr. Biosparging at BS-02 has been suspended and the area has transitioned to a NSZD remedy.

- Vapor-phase extents and concentrations are stable or decreasing (SVE wellfield gases).
  - All shallow SVM probes in the southeastern area, which function as part of the contingency metrics defined in the draft final IRAP (Jacobs, 2022a), have been and continue to be below EPA RSLs (with and without active remediation).
- Dissolved-phase groundwater data demonstrate:
  - A decrease in the ratio of more volatile to less volatile dissolved-phase constituents over time
  - Stable or decreasing dissolved-phase plume extents and concentrations across the site, specifically when analyzed from more recent remedial operation activity
- Contingencies in the southeastern area will be primarily based on dissolved-phase plume stability:
  - Currently downgradient wells have been and remain nondetect

### HSVE-01 and BS-03 (Offsite/South-Central Area)

The trends related to HSVE-01/BS-03 and the offsite/south-central area demonstrate that the following transition metrics are in progress:

- SVE systems are starting to exhibit a declining trend (similar to BS-01 and BS-02) based on decline curve analysis:
  - HSVE-01 has removed approximately 23,500 pounds of VOCs since startup (April 2021), averaging 7.5 lbs/day over the 90-day operation period during the fourth quarter of 2022.
  - With biodegradation included, HSVE-01 has removed approximately 100,500 pounds of mass in this area, currently averaging a biodegradation mass removal rate of 1000 lbs/day for this reporting period.
- Volatile concentration of vapor-phase constituents is decreasing over time.
- Vapor-phase extents and concentrations are stable or decreasing in extent:
  - All shallow probes in the offsite/south-central area function as part of the contingency metrics defined in the draft final IRAP; the probes have been and continue to be below EPA RSLs (with and without active remediation).
  - Combined with the sustained radius of capture of at least 200 feet, observed system performance supports continued operation and optimization of BS-03 and HSVE-01 without adversely affecting surficial soil vapors or aboveground residential locations.
- Other than biosparge system optimization (i.e., adjustment of flow rates), there are no contingencies active as the offsite/south-central area is continuing to undergo active biosparging.

### NSZD

- NSZD observations relevant to each subarea are described above. Sitewide NSZD observations are summarized as follows:
  - Ongoing NSZD occurred under ambient conditions at rates of at least 600 gals/year and up to 1,800 gals/year (at least 4,000 lbs/yr and up to 12,000 lbs/yr) across the entire site.
  - NSZD rates continue to decline over time as the overall LNAPL mass remaining at the site is depleted.
  - Based on the receipt of final <sup>14</sup>C laboratory analysis in January of 2022, the *Natural Source Zone Depletion Final Results* technical memorandum (Jacobs, 2022e; in press) provides a comprehensive review of spatial and temporal distributions of NSZD rates and methods.

## 5.2 Planned First Quarter 2023 Activities

The following maintenance activities and other tasks are planned for the first quarter of 2023:

- Conduct quarterly groundwater monitoring event.
- Submit *Sampling and Analysis Plan for Soil Vapor and Fixed Gases (in press)* to Regional Board. Upon approval from Regional Board, commence sampling and analysis plan.
- Submit *Natural Source Zone Depletion Final Results* technical memorandum to Regional Board.
- Continue to operate and optimize the offsite/south-central horizontal SVE well, HSVE-01, and horizontal biosparge well BS-03 with opportunistic site visits (approximately biweekly to monthly).
- Perform system maintenance and 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 for VOCs using EPA Method TO-15, total VOCs as hexane using method TO-3, and fixed gases using method ASTM D1946.

## 5.3 Recommendations and Path Forward

During the first quarter 2023, Kinder Morgan plans to continue remedial activities in the offsite/south-central area of the site with the operation of BS-03 and HSVE-01. Continued collection and evaluation of monitoring data for the offsite/south-central remedial system (BS-03 and HSVE-01) will occur as part of first quarter 2023 operations. Newly acquired data will be presented in the next quarterly remediation progress report.

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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 2022	
			(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; TFE	Abandoned August 2022	
	MW-O-2	1/23/1991	71.90	25 - 40	SVE; TFE	OFF	OFF
	GMW-O-11	5/20/1992	74.17	20 - 50	SVE; TFE	OFF	OFF
	GMW-O-12	5/21/1992	73.49	20 - 50	SVE	OFF	--
	GMW-O-20	6/15/1995	73.32	--	SVE; TFE	OFF	OFF
	GMW-O-21	10/1/1997	71.43	26 - 46	TFE	--	OFF
	GMW-O-23	6/25/2007	73.63	20 - 40	SVE; TFE	Abandoned June 2022	
	HSVE-01	12/17/2019	--	--	SVE	ON	--
	BS-03	12/13/2019	--	--	BIOSPARGE	ON	--
	HW-1	9/6/1992	--	--	SVE	Abandoned 2019	
HW-2	9/6/1992	--	--	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 2022	
			(feet msl)	(feet bgs)		SVE/BS	TFE/GWE
Southeastern	GMW-O-15	4/19/1994	74.23	20 - 50	SVE; TFE	OFF	OFF
	GMW-O-16	4/19/1994	74.10	20 - 50	SVE	OFF	--
	GMW-O-18	7/25/1994	74.36	21 - 40	SVE; TFE	OFF	OFF
	GMW-O-19	7/29/1994	74.46	20 - 40	SVE	OFF	--
	GMW-36	4/11/1994	76.66	20 - 50	SVE; TFE	OFF	OFF
	GMW-SF-9	4/1/2003	73.05	37 - 46	TFE	Abandoned June 2022	
	GMW-SF-10	4/2/2003	75.77	37 - 46	TFE	Abandoned June 2022	
	MW-8	8/24/1990	76.06	18 - 48	SVE	OFF	--
	VEW-3	3/7/2019	--	23 - 32.5	SVE	OFF	--
	VEW-4	3/8/2019	--	23 - 32.5	SVE	OFF	--
	VEW-5	3/8/2019	--	23 - 32.5	SVE	OFF	--
West Side Barrier	BS-02	11/21/17	--	--	BIOSPARGE	OFF	--
	BW-2	5/20/1996	73.57	27 - 47	GWE	--	OFF
	BW-3	5/17/1996	74.16	31 - 50	GWE	--	OFF
	BW-4	5/20/1996	74.61	28 - 47	GWE	--	OFF
	BW-5	5/23/1996	73.59	27 - 46	GWE	--	OFF
	BW-6	5/22/1996	73.48	28 - 47	GWE	--	OFF
	BW-7	5/22/1996	74.65	27 - 46	GWE	--	OFF
	BW-8	5/21/1996	75.08	27 - 46	GWE	--	OFF
BW-9	5/21/1996	76.19	27 - 46	GWE	--	OFF	

Notes:

-- = information not available or not applicable

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. Extracted Vapor Analytical Results**  
 SFPP Norwalk Pump Station, Norwalk, California

Date Sampled	ASTM D-1946			EPA TO-3		SCAQMD 25.1	EPA TO-15 (VOCs) <sup>b</sup>				
	Methane (%v)	Carbon Dioxide (%v)	Oxygen and Argon (%v)	TPH-g (ppmv)	TVOC (ppmv)	TGNMOC (ppmv)	Benzene (ppbv)	Ethyl-benzene (ppbv)	Toluene (ppbv)	Xylenes (ppbv)	MTBE (ppbv)
8/3/2007	<0.5	<0.5	22.0	63	---	---	650	220	1,100	1,420	55
9/5/2007	<0.5	<0.5	22.0	9	---	---	32	48	140	320	18
10/2/2007	<0.5	<0.5	21.9	27	---	---	250	75	430	610	20
11/2/2007	<0.5	<0.5	22.1	5	---	---	40	10	74	95	7
2/1/2008	<0.5	<0.5	21.8	100	---	---	830	260	2,200	1,850	<50
3/4/2008	<0.5	<0.5	21.7	50	---	---	380	98	570	1,250	36
4/8/2008	<0.5	<0.5	22.2	69	---	---	290	110	480	1,040	41
5/23/2008	<0.5	<0.5	21.8	14	---	---	180	24	190	280	23
6/3/2008	<0.5	<0.5	21.7	30	---	---	380	42	400	330	70
7/2/2008	<0.5	<0.5	21.4	49	---	---	32	6	34	45	10
8/19/2008	<0.5	1.7	20.8	50	---	---	390	63	230	450	40
9/5/2008	<0.5	2.0	21.2	22	---	---	130	39	130	340	42
10/7/2008	<0.5	1.43	21.4	10	---	---	41	15	54	181	6.8
11/4/2008	<0.5	2.08	21.1	7.5	---	---	31	47	190	242	<2.0
3/6/2009	<0.5	<0.5	22.0	83	---	---	1,900	180	990	770	240
4/17/2009	<0.5	<0.5	22.2	3.1	---	---	140	8	37	68	26
5/29/2009	<0.5	1.08	21.0	130	---	---	1,700	640	3,700	3,100	100
8/18/2009	<0.5	0.78	21.7	28	---	---	380	37	290	310	33
8/25/2009	<0.5	0.87	20.6	37	---	---	500	44	320	293	20
9/18/2009	<0.5	0.37	21.6	11	---	---	75	11	39	107	3
10/29/2009	<0.5	1.80	18.2	77	---	---	350	45	250	440	4
11/25/2009	<0.5	<0.5	21.1	14	---	---	110	12	110	164	11
12/15/2009	<0.5	<0.5	21.7	7	---	---	28	3	20	47	<3.2
2/26/2010	<0.5	0.4	21.2	20	---	---	300	18	220	260	21
3/26/2010	<0.5	1.0	20.2	18	---	---	380	20	110	90	5
5/4/2010	<0.5	0.4	21.4	13	---	---	100	42	170	222	3
6/29/2010	<0.5	0.4	21.3	9	---	---	74	13	66	82	<5.0
8/3/2010	<0.5	0.6	20.4	29	---	---	210	13	64	85	9
8/31/2010	0.0039 <sup>c</sup>	<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
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



**Table 2. Extracted Vapor Analytical Results**  
 SFPP Norwalk Pump Station, Norwalk, California

Date Sampled	ASTM D-1946			EPA TO-3		SCAQMD 25.1	EPA TO-15 (VOCs) <sup>b</sup>				
	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)
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 <sup>c</sup>	---	---	---	---	---	470	4,800	500	5,400	3,600	<0.099
8/17/2015 <sup>c</sup>	---	---	---	---	---	470	5,000	520	5,800	3,870	<0.100
8/17/2015 <sup>c</sup>	---	---	---	---	---	480	5,100	580	6,100	4,000	<0.097
8/17/2015 <sup>c</sup>	---	---	---	---	---	480	5,200	580	6,300	4,100	<0.099
9/1/2015 <sup>e</sup>	---	---	---	---	---	670	7,000	850	8,700	6,900	<0.097
9/1/2015 <sup>e</sup>	---	---	---	---	---	930	12,000	1,500	14,000	11,400	<0.140
9/1/2015 <sup>e</sup>	---	---	---	---	---	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 <sup>e</sup>	0.0059	0.27	22	---	750	---	9,600	2,400	20,000	13,500	<220
2/4/2016 <sup>e</sup>	0.0038	0.58	21	---	2,000	---	16,000	2,600	29,000	19,300	<610
3/3/2016 <sup>e</sup>	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
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

**Table 2. Extracted Vapor Analytical Results**  
 SFPP Norwalk Pump Station, Norwalk, California

Date Sampled	ASTM D-1946			EPA TO-3		SCAQMD 25.1	EPA TO-15 (VOCs) <sup>b</sup>				
	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)
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 <sup>c</sup>	--	640 <sup>c</sup>	78 <sup>c</sup>	520 <sup>c</sup>	880 <sup>c</sup>	200 <sup>c</sup>
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	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>
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	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>
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
1/12/2021	<0.0024	0.60	21	--	54	--	280	120	510	1,720	220
2/2/2021	<0.0024	0.52	22	--	42	--	260	140	850	1,800	190
3/1/2021	<0.0027	0.80	21	--	58	--	470	100	970	2,280	170
4/1/2021	<0.0040	0.44	21	--	30	--	240	65	640	590	130
5/1/2021	<0.0025	1.2	21	--	160	--	520	560	2,100	3,410	<25
6/1/2021	<0.0024	1.2	21	--	320	--	1,400	970	2,900	3,540	<30
7/1/2021	<0.0024	0.73	21	--	110	--	800	520	1,400	1,900	<12
8/3/2021	<0.0025	1.0	21	--	100	--	850	380	1,700	2,390	<17
9/2/2021	<0.0025	0.94	21	--	74	--	490	300	940	2,210	<8
10/1/2021	<0.0024	0.95	21	--	49	--	230	270	810	2,600	31
11/9/2021	0.15	1.5	20	--	81	--	390	470	620	1,300	<24
12/2/2021	<0.0019	0.25	22	--	27	--	49	190	330	1,500	<3.9
1/6/2022 <sup>e</sup>	<0.0020	0.34	22	--	8.7	--	21	21	60	175	<1.6
2/1/2022	<0.0025	0.97	21	--	79	--	120	310	430	2,830	<20
3/1/2022	<0.0025	0.65	21	--	43	--	72	120	200	1,190	<2.5
4/1/2022	<0.0024	0.84	21	--	28	--	46	51	110	590	<2.5
5/1/2022	0.005	0.86	21	--	26	--	37	32	76	590	<2.3
6/1/2022	<0.0021	0.41	21	--	14	--	22	17	56	530	<2.1
7/1/2022	<0.0020	0.31	22	--	12	--	14	15	34	370	<2.0
8/2/2022	<0.0024	0.64	22	--	23	--	33	23	61	370	<2.4
9/1/2022	<0.0026	0.57	21	--	25	--	39	23	78	330	<2.6
10/1/2022	0.0026	0.68	21	--	14	--	26	27	51	400	<0.77
11/1/2022	0.011J	0.67	20	--	19	--	29	27	56	290	<0.54
12/1/2022	0.006	0.6	20	--	23	--	27	20	45	209	<0.54

Notes:

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

<sup>b</sup> Other detected VOCs are included in the laboratory analytical reports in Appendix A.

<sup>c</sup> Influent vapor samples were collected after dilution before entering the SVE combustion chamber.

<sup>d</sup> System was off for entire month.

<sup>e</sup> Influent vapor samples were inadvertently diluted, due to a large crack in Drip Leg 5 conveyance piping.

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

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

EPA = U.S. Environmental Protection Agency

ASTM = ASTM International

%v = percent by volume

-- = not applicable

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 3. 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 (%)	BS-02 Run Meter (hours)	BS-02 Incremental Hours of Operation (hours)	BS-02 Incremental Uptime (%)	BS-03 Run Meter (hours)	BS-03 Incremental Hours of Operation (hours)	BS-03 Incremental Uptime (%)	BS-02 System Flow <sup>a</sup> (scfm)	BS-02 Sparge Leg Pressure (psi)	BS-03 System Flow (scfm)	BS-03 Sparge Leg Pressure (psi)
<b>Fourth Quarter 2016 Totals</b>	5,302	527	62.7	--	--	--	--	--	--	--	--	--	--
<b>Fourth Quarter 2017 Totals</b>	8,396	1,141	52.2	--	--	--	--	--	--	--	--	--	--
<b>Fourth Quarter 2018 Totals</b>	14,216	649	27.9	--	--	--	--	--	--	--	--	--	--
<b>Fourth Quarter 2019 Totals</b>	20,332	1,489	63.3	--	--	--	--	--	--	--	--	--	--
<b>Fourth Quarter 2020 Totals</b>	25,120	1,914	87.6	--	--	--	--	--	--	--	--	--	--
1/5/2021	25,291	171	100	--	--	--	--	--	--	171	2	--	--
1/12/2021	25,458	167	99	--	--	--	--	--	--	194	2	--	--
1/19/2021	25,627	169	100	--	--	--	--	--	--	180	2	--	--
1/26/2021	25,794	167	99	--	--	--	--	--	--	183	2	--	--
2/2/2021	25,961	167	99	--	--	--	--	--	--	178	2	--	--
2/9/2021	26,129	168	100	--	--	--	--	--	--	181	2	--	--
2/16/2021	26,297	168	100	--	--	--	--	--	--	180	2	--	--
2/23/2021	26,373	76	45	--	--	--	--	--	--	80	2	--	--
3/2/2021	26,494	121	72	--	--	--	--	--	--	192	2	--	--
3/9/2021	26,660	166	99	--	--	--	--	--	--	182	2	--	--
3/16/2021	26,825	165	98	--	--	--	--	--	--	193	3	--	--
3/23/2021	26,995	170	100	--	--	--	--	--	--	170	2	--	--
3/30/2021	27,162	167	99	--	--	--	--	--	--	186	2	--	--
<b>First Quarter 2021 Totals</b>	27,162	2,042	93.5	--	--	--	--	--	--	--	--	--	--

**Table 3. 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 (%)	BS-02 Run Meter (hours)	BS-02 Incremental Hours of Operation (hours)	BS-02 Incremental Uptime (%)	BS-03 Run Meter (hours)	BS-03 Incremental Hours of Operation (hours)	BS-03 Incremental Uptime (%)	BS-02 System Flow <sup>a</sup> (scfm)	BS-02 Sparge Leg Pressure (psi)	BS-03 System Flow (scfm)	BS-03 Sparge Leg Pressure (psi)
4/6/2021	27,331	169	100	--	--	--	--	--	--	189	2	--	--
4/13/2021	27,512	181	100	--	--	--	--	--	--	86	2	--	--
4/20/2021	27,634	122	73	--	--	--	--	--	--	176	2	--	--
4/29/2021	27,852	218	100	--	--	--	--	--	--	170	2	--	--
5/4/2021	27,973	121	100	--	--	--	--	--	--	185	2	--	--
5/11/2021	28,138	165	98	--	--	--	--	--	--	193	5	50	2
5/18/2021	--	--	--	--	--	--	--	--	--	--	--	--	--
5/25/2021	28,450	312	93	--	--	--	--	--	--	164	2	121	2
6/1/2021	28,617	167	99	--	--	--	--	--	--	189	2	125	2
6/8/2021	28,785	168	100	--	--	--	--	--	--	100	2	100	2
6/15/2021	28,954	169	100	--	--	--	--	--	--	180	2	94	2
6/22/2021	29,120	166	99	--	--	--	--	--	--	190	2	203	2
6/29/2021	29,289	169	100	--	--	--	--	--	--	189	2	265	4
<b>Second Quarter 2021 Totals</b>	<b>29,289</b>	<b>2,127</b>	<b>97.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
7/6/2021	29,453	164	98	--	--	--	--	--	--	90	2	113	2
7/13/2021	29,620	167	99	--	--	--	--	--	--	183	2	249	2
7/21/2021	29,712	92	48	--	--	--	--	--	--	--	--	--	--
7/27/2021	29,853	141	98	--	--	--	--	--	--	185	6	216	6
8/3/2021	30,021	168	100	--	--	--	--	--	--	186	4	219	4
8/12/2021	30,138	117	54	--	--	--	--	--	--	172	6	250	6
8/24/2021	30,218	80	28	--	--	--	--	--	--	--	--	208	5
8/31/2021	30,381	163	97	--	--	--	--	--	--	121	4	238	4
9/7/2021	30,445	64	38	--	--	--	--	--	--	0	0	0	0
9/14/2021	30,613	168	100	--	--	--	--	--	--	197	6	257	21
9/21/2021	30,781	168	100	--	--	--	--	--	--	188	4	199	4
9/30/2021	31,000	219	100	10,910	--	--	9,892	--	--	184	4	194	4
<b>Third Quarter 2021 Totals</b>	<b>31,000</b>	<b>1,711</b>	<b>76.7</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>

**Table 3. 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 (%)	BS-02 Run Meter (hours)	BS-02 Incremental Hours of Operation (hours)	BS-02 Incremental Uptime (%)	BS-03 Run Meter (hours)	BS-03 Incremental Hours of Operation (hours)	BS-03 Incremental Uptime (%)	BS-02 System Flow <sup>a</sup> (scfm)	BS-02 Sparge Leg Pressure (psi)	BS-03 System Flow (scfm)	BS-03 Sparge Leg Pressure (psi)
10/5/2021	31,117	117	98	11,027	117	98	10,009	117	98	188	4	261	4
10/12/2021	31,285	168	100	11,194	167	100	10,176	167	100	183	4	260	4
10/19/2021	31,451	166	99	11,359	165	98	10,341	165	98	191	4	214	4
10/26/2021	31,614	163	97	11,521	162	97	10,503	162	97	188	4	215	4
11/9/2021	31,708	94	28	11,593	72	21	10,596	93	28	--	--	119	6
11/16/2021	31,877	169	95	11,593	0	0	10,764	167	94	--	--	198	4
11/23/2021	32,048	171	99	11,718	125	72	10,934	171	99	91	4	199	4
11/30/2021	32,209	161	100	11,878	160	100	11,094	160	100	90	4	209	4
12/2/2021	32,257	48	97	--	--	--	--	--	--	160	4	200	4
12/7/2021	32,374	117	100	12,042	164	100	11,258	164	100	165	4	200	4
12/14/2021	32,535	161	91	12,206	163	92	11,422	163	92	165	4	288	4
12/21/2021	32,669	134	78	12,371	166	97	11,588	166	97	161	4	237	4
12/28/2021	32,834	165	100	12,536	165	100	11,752	165	100	167	4	243	4
<b>Fourth Quarter 2021 Totals</b>	<b>32,834</b>	<b>1,834</b>	<b>--</b>	<b>12,536</b>	<b>1,626</b>	<b>76</b>	<b>11,752</b>	<b>1,861</b>	<b>87</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
1/13/2022	32,885	51	13	12,585	48	13	11,800	48	13	0	0	152	4
1/18/2022	33,002	117	100	12,585	0	0	11,917	117	100	0	0	151	4
1/25/2022	33,170	168	99	12,585	0	0	12,084	167	98	0	0	204	4
2/1/2022	33,339	169	100	12,585	0	0	12,251	167	99	0	0	258	4
2/8/2022	33,491	152	96	12,585	0	0	12,403	151	96	0	0	251	4
2/15/2022	33,658	167	99	12,585	0	0	12,568	166	99	0	0	313	4
2/22/2022	33,824	166	99	12,585	0	0	12,734	166	99	0	0	255	4
3/1/2022	33,993	169	100	12,585	0	0	12,903	169	100	0	0	247	4
3/8/2022	34,160	167	99	12,705	120	71	13,068	166	99	54	2	210	4
3/17/2022	34,374	214	99	12,915	210	97	13,282	213	99	151	4	211	4
3/22/2022	34,494	120	100	13,037	122	102	13,401	119	99	162	4	211	4
3/29/2022	34,661	167	99	13,203	166	99	13,567	166	99	163	4	216	4
<b>First Quarter 2022 Totals</b>	<b>34,661</b>	<b>1,827</b>	<b>84.0</b>	<b>13,203</b>	<b>667</b>	<b>31</b>	<b>13567</b>	<b>1,815</b>	<b>83</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>

**Table 3. 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 (%)	BS-02 Run Meter (hours)	BS-02 Incremental Hours of Operation (hours)	BS-02 Incremental Uptime (%)	BS-03 Run Meter (hours)	BS-03 Incremental Hours of Operation (hours)	BS-03 Incremental Uptime (%)	BS-02 System Flow <sup>a</sup> (scfm)	BS-02 Sparge Leg Pressure (psi)	BS-03 System Flow (scfm)	BS-03 Sparge Leg Pressure (psi)
4/5/2022	34,789	128	76	13,330	127	75	13,694	127	75	158	4	238	4
4/12/2022	34,956	167	99	13,487	157	93	13,861	167	99	158	4	284	4
4/19/2022	35,047	91	54	13,587	100	59	13,951	90	54	150	4	150	4
4/26/2022	35,213	166	99	13,752	165	98	14,116	165	98	156	4	197	4
5/3/2022	35,381	168	100	13,919	167	99	14,283	167	99	159	4	268	2
5/10/2022	35,533	152	90	14,070	151	90	14,444	161	96	182	4	231	4
5/17/2022	35,699	166	99	14,235	165	98	14,609	165	98	181	4	250	4
5/24/2022	35,867	168	100	14,403	168	100	14,767	158	94	181	4	250	4
5/31/2022	36,036	169	100	14,571	168	100	14,935	168	100	180	4	225	4
6/2/2022	36,086	50	100	14,621	50	100	14,984	50	100	179	2	219	2
6/9/2022	36,251	165	98	14,785	165	98	15,149	165	98	181	4	175	4
6/14/2022	36,373	122	100	14,906	121	100	15,270	121	100	181	4	226	4
6/15/2022	36,397	24	100	14,930	24	99	15,293	23	96	181	3	225	3
6/21/2022	36,539	142	99	15,072	142	98	15,436	142	99	177	4	170	2
6/28/2022	36,684	145	86	15,216	144	86	15,580	144	86	180	4	162	2
<b>Second Quarter 2022 Totals</b>	36,684	2,023	92.6	15,216	2,013	92.2	15,580	2,013	92.2	--	--	--	--
7/7/2022	36,899	215	99.5	15,430	214	98.9	15,794	213	98.8	182	4	166	2
7/12/2022	37,020	121	100	15,551	121	100	15,915	121	100	182	4	202	4
7/21/2022	37,235	215	99.5	15,765	214	99.0	16,129	214	99.0	179	4	200	4
7/28/2022	37,402	167	99.4	15,931	167	99.2	16,295	167	99.2	185	4	249	4
8/2/2022	37,523	121	100	16,052	121	100	16,416	121	100.0	179	4	248	4
8/11/2022	37,740	217	100	16,268	216	99.8	16,631	216	99.8	180	4	247	4
8/18/2022	37,907	167	99	16,434	167	99.3	16,798	167	99.3	178	4	193	4
8/25/2022	38,074	167	99	16,600	166	98.7	16,964	166	98.6	181	4	200	4
9/1/2022	38,243	169	100	16,769	169	100	17,133	169	100	174	4	212	4
9/8/2022	38,408	165	98	16,934	165	98	17,297	165	98	181	4	212	4
9/15/2022	38,562	154	92	17,086	153	91	17,450	153	91	180	4	220	4
9/20/2022	38,675	113	94	17,203	117	97	17,567	117	97	184	4	224	4
9/29/2022	38,896	221	100	17,419	217	100	17,783	217	100	180	4	232	4
<b>Third Quarter 2022 Totals</b>	38,896	2,212	99.1	17,419	2,203	98.7	17,783	2,203	98.7	--	--	--	--

**Table 3. 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 (%)	BS-02 Run Meter (hours)	BS-02 Incremental Hours of Operation (hours)	BS-02 Incremental Uptime (%)	BS-03 Run Meter (hours)	BS-03 Incremental Hours of Operation (hours)	BS-03 Incremental Uptime (%)	BS-02 System Flow <sup>a</sup> (scfm)	BS-02 Sparge Leg Pressure (psi)	BS-03 System Flow (scfm)	BS-03 Sparge Leg Pressure (psi)
10/6/2022	39,064	221	100	17,585	166	98.7	17950	167	99	183	4	205	4
10/13/2022	39,234	170	100	17,585	0	0.0	18120	170	101	0	0	241	11
10/17/2022	39,330	96	100	17,585	0	0.0	18215	95	99	0	0	239	4
10/28/2022	39,591	261	99	17,585	0	0.0	18474	259	98	0	0	244	4
11/3/2022	39,735	144	100	17,585	0	0.0	18619	144	100	0	0	255	4
11/10/2022	39,905	170	100	17,585	0	0.0	18787	168	100	0	0	279	4
11/22/2022	40,196	291	100	17,585	0	0.0	19077	290	101	0	0	272	10
12/1/2022	40,391	195	90	17,585	0	0.0	19270	194	90	0	0	148	10
12/8/2022	40,554	163	97	17,585	0	0.0	19433	162	97	0	0	305	10
12/15/2022	40,697	143	85	17,585	0	0.0	19574	142	84	0	0	352	18
12/22/2022	40,841	144	86	17,585	0	0.0	19718	144	86	0	0	200	8
12/28/2022	40,988	147	100	17,585	0	0.0	19865	146	102	0	0	282	9
<b>Fourth Quarter 2022 Totals</b>	40,988	2,145	99	17,585	166	7.7	19865	2,082	96.4	--	--	--	--
<b>Cumulative Totals</b>	<b>40,988</b>	--	<b>67.0</b>	--	--	--	--	--	--	--	--	--	--

Notes:  
<sup>a</sup> Estimated system flow based on header flowmeter.  
 -- = not applicable or not available  
 psi = pounds per square inch  
 scfm = standard cubic feet per minute

**Table 4. 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	



**Table 4. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells**

*SFPF 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	4/20/2015	77.16	36.98	32.99	3.99	43.29	Blaine Tech
	10/20/2015	77.16	34.61	34.37	0.24	42.74	Kinder Morgan
	3/14/2016	77.16	36.10	---	---	41.06	Blaine Tech
	4/11/2016	77.16	36.20	---	---	40.96	Blaine Tech
	6/30/2016	77.16	31.02	---	---	46.14	Kinder Morgan
	8/22/2016	77.16	37.27	---	---	39.89	Kinder Morgan
	10/3/2016	77.16	38.02	---	---	39.14	Blaine Tech
	3/7/2017	77.16	35.13	---	---	42.03	CH2M
	4/17/2017	77.16	33.32	---	---	43.84	Blaine Tech
	10/2/2017	77.16	38.43	---	---	38.73	Blaine Tech
	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	
5/3/2021	77.16	36.50	---	---	40.66	Blaine Tech	
11/1/2021	77.16	37.62	---	---	39.54	Blaine Tech	
5/9/2022	77.16	36.82	---	---	40.34	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	

**Table 4. 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	6/29/2016	73.35	33.02	---	---	40.33	Blaine Tech
	8/22/2016	73.35	33.82	32.93	0.89	40.26	Blaine Tech
	10/3/2016	73.35	35.10	33.65	1.45	39.43	Blaine Tech
	3/8/2017	73.35	32.75	---	---	40.60	CH2M
	04/17/17	73.35	31.15	---	---	42.20	Blaine Tech
	10/2/2017	73.35	33.48	---	---	39.87	Blaine Tech
	4/16/2018	73.35	33.87	33.74	0.13	39.58	Blaine Tech
	11/5/2018	73.35	34.16	34.14	0.02	39.21	Blaine Tech
	4/16/2019	73.35	30.55	---	---	42.80	Blaine Tech
	10/28/2019	73.35	34.12	33.84	0.28	39.45	Blaine Tech
	5/4/2020	73.35	31.44	---	---	41.91	Blaine Tech
	11/2/2020	73.35	32.00	--	--	41.35	Blaine Tech
	2/24/2021	73.35	32.75	--	--	40.60	Blaine Tech
	5/3/2021	73.35	32.54	--	--	40.81	Blaine Tech
	8/31/2021	73.35	32.75	--	--	40.60	Blaine Tech
11/1/2021	73.35	33.35	--	--	40.00	Blaine Tech	
3/10/2022	73.35	33.27	--	--	40.08	Blaine Tech	
5/9/2022	73.35	33.07	--	--	40.28	Blaine Tech	
8/24/2022	73.35	33.50	--	--	39.85	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	

**Table 4. 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	9/18/2014	77.24	35.85	32.49	3.36	44.13	Blaine Tech
	9/26/2014	77.24	35.85	32.46	3.39	44.15	Blaine Tech
	10/1/2014	77.24	35.76	32.45	3.31	44.18	Blaine Tech
	10/6/2014	77.24	35.72	32.44	3.28	44.19	Blaine Tech
	10/14/2014	77.24	35.75	32.42	3.33	44.20	Blaine Tech
	10/23/2014	77.24	35.84	32.43	3.41	44.18	Blaine Tech
	10/27/2014	77.24	35.74	32.41	3.33	44.21	Blaine Tech
	11/3/2014	77.24	35.89	32.45	3.44	44.15	Blaine Tech
	11/10/2014	77.24	35.94	32.45	3.49	44.14	Blaine Tech
	11/18/2014	77.24	35.97	32.48	3.49	44.11	Blaine Tech
	11/25/2014	77.24	35.97	32.51	3.46	44.09	Blaine Tech
	12/3/2014	77.24	35.84	32.45	3.39	44.16	Blaine Tech
	12/12/2014	77.24	36.44	32.65	3.79	43.89	Blaine Tech
	12/19/2014	77.24	36.80	34.71	2.09	42.14	Blaine Tech
	4/20/2015	77.24	36.64	32.84	3.80	43.70	Blaine Tech
	7/24/2015	77.24	39.80	33.70	6.10	42.41	Northstar
	10/20/2015	77.24	36.10	34.92	1.18	42.10	Kinder Morgan
	3/16/2016	77.24	39.73	37.61	2.12	39.24	Kinder Morgan
	4/11/2016	77.24	38.59	35.50	3.09	41.17	Blaine Tech
	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	
5/3/2021	77.24	36.66	---	---	40.58	Blaine Tech	
11/1/2021	77.24	37.70	---	---	39.54	Blaine Tech	
5/9/2022	77.24	36.78	---	---	40.46	Blaine Tech	
GMW-23	3/10/2022	74.85	39.89	33.92	5.97	39.74	Blaine Tech
	5/9/2022	74.85	39.84	33.58	6.26	40.02	Blaine Tech
	8/24/2022	74.85	40.75	33.42	7.30	39.97	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	

**Table 4. 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	10/7/2013	77.48	35.42	31.61	3.81	45.11	Blaine Tech
	4/14/2014	77.48	37.74	32.01	5.73	44.32	Blaine Tech
	5/5/2014	77.48	37.81	32.09	5.72	44.25	Nieto & Sons
	5/12/2014	77.48	37.52	32.14	5.38	44.26	Nieto & Sons
	5/20/2014	77.48	37.39	32.21	5.18	44.23	Nieto & Sons
	5/27/2014	77.48	37.95	32.90	5.05	43.57	Nieto & Sons
	6/4/2014	77.48	37.00	32.70	4.30	43.92	Nieto & Sons
	6/10/2014	77.48	37.85	32.98	4.87	43.53	Nieto & Sons
	7/3/2014	77.48	39.60	33.04	6.56	43.13	Nieto & Sons
	7/8/2014	77.48	38.67	32.89	5.78	43.43	Blaine Tech
	7/18/2014	77.48	38.64	32.86	5.78	43.46	Blaine Tech
	7/24/2014	77.48	38.27	32.82	5.45	43.57	Blaine Tech
	8/1/2014	77.48	37.00	32.55	4.45	44.04	Blaine Tech
	8/8/2014	77.48	36.97	32.51	4.46	44.08	Blaine Tech
	8/13/2014	77.48	36.82	32.54	4.28	44.08	Blaine Tech
	8/19/2014	77.48	36.92	32.55	4.37	44.06	Blaine Tech
	8/29/2014	77.48	36.92	32.51	4.41	44.09	Blaine Tech
	9/5/2014	77.48	36.97	32.55	4.42	44.05	Blaine Tech
	9/11/2014	77.48	37.99	32.57	5.42	43.83	Blaine Tech
	9/18/2014	77.48	36.89	32.60	4.29	44.02	Blaine Tech
	9/26/2014	77.48	36.86	32.58	4.28	44.04	Blaine Tech
	10/1/2014	77.48	36.64	32.61	4.03	44.06	Blaine Tech
	10/6/2014	77.48	36.93	32.92	4.01	43.76	Blaine Tech
	10/14/2014	77.48	36.92	32.88	4.04	43.79	Blaine Tech
	10/23/2014	77.48	37.00	32.90	4.10	43.76	Blaine Tech
	10/27/2014	77.48	36.82	32.91	3.91	43.79	Blaine Tech
	11/3/2014	77.48	37.01	32.99	4.02	43.69	Blaine Tech
	11/10/2014	77.48	37.33	33.95	3.38	42.85	Blaine Tech
	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	
5/3/2021	77.48	37.18	---	---	40.30	Blaine Tech	
11/1/2021	77.48	38.48	---	---	39.00	Blaine Tech	
5/9/2022	77.48	37.50	---	---	39.98	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

**Table 4. 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	12/18/2008	74.29	29.01	---	---	45.28	Envent
	1/15/2009	74.29	28.62	---	---	45.67	Envent
	3/24/2009	74.29	28.79	---	---	45.50	Envent
	4/21/2009	74.29	28.35	---	---	45.94	Envent
	7/21/2009	74.29	29.80	---	---	44.49	Envent
	10/19/2009	74.29	30.28	---	---	44.01	Blaine Tech
	6/22/2010	74.29	31.64	---	---	42.65	Blaine Tech
	10/4/2010	74.29	29.25	---	---	45.04	Blaine Tech
	4/11/2011	74.29	26.21	---	---	48.08	Blaine Tech
	10/10/2011	74.29	30.02	---	---	44.27	Blaine Tech
	4/16/2012	74.29	31.30	---	---	42.99	Blaine Tech
	7/9/2012	---	NM	---	---	NC	Blaine Tech
	10/15/2012	78.14	31.88	---	---	46.26	Blaine Tech
	4/8/2013	78.14	32.11	---	---	46.03	Blaine Tech
	10/7/2013	78.14	33.23	33.10	0.13	45.01	Blaine Tech
	4/14/2014	78.14	37.40	33.00	4.40	44.13	Blaine Tech
	5/5/2014	78.14	37.51	33.06	4.45	44.06	Nieto & Sons
	5/12/2014	78.14	34.97	33.73	1.24	44.12	Nieto & Sons
	5/20/2014	78.14	36.75	34.30	2.45	43.28	Nieto & Sons
	5/27/2014	78.14	34.64	34.44	0.20	43.65	Nieto & Sons
	6/4/2014	78.14	35.00	---	---	43.14	Nieto & Sons
	6/10/2014	78.14	36.67	34.18	2.49	43.39	Nieto & Sons
	7/3/2014	78.14	34.21	---	---	43.93	Nieto & Sons
	7/24/2014	78.14	34.29	---	---	43.85	Blaine Tech
	8/1/2014	78.14	35.02	33.99	1.03	43.91	Blaine Tech
	8/8/2014	78.14	34.54	34.06	0.48	43.97	Blaine Tech
	8/14/2014	78.14	34.48	34.06	0.42	43.98	Blaine Tech
	8/19/2014	78.14	34.51	34.07	0.44	43.97	Blaine Tech
	8/29/2014	78.14	34.65	33.96	0.69	44.02	Blaine Tech
	9/18/2014	78.14	35.21	34.01	1.20	43.85	Blaine Tech
	9/26/2014	78.14	34.87	34.06	0.81	43.89	Blaine Tech
	10/1/2014	78.14	34.92	33.98	0.94	43.94	Blaine Tech
	10/6/2014	78.14	34.93	33.99	0.94	43.93	Blaine Tech
	10/14/2014	78.14	35.10	33.91	1.19	43.96	Blaine Tech
	10/23/2014	78.14	35.34	33.91	1.43	43.90	Blaine Tech
	10/27/2014	78.14	34.78	33.95	0.83	44.00	Blaine Tech
	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	

**Table 4. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells**

*SFPF 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	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
	5/3/2021	78.14	37.42	---	---	40.72	Blaine Tech
	11/1/2021	78.14	38.38	---	---	39.76	Blaine Tech
	5/9/2022	78.14	37.92	---	---	40.22	Blaine Tech
GMW-28	3/10/2022	74.68	34.63	---	---	40.05	Blaine Tech
	5/9/2022	74.68	34.48	---	---	40.20	Blaine Tech
	8/24/2022	74.68	34.60	---	---	40.08	Blaine Tech
GMW-29	3/10/2022	77.57	35.53	34.81	0.72	42.62	Blaine Tech
	5/9/2022	77.57	35.25	34.48	0.77	42.94	Blaine Tech
	8/24/2022	77.57	35.26	34.36	0.90	42.31	Blaine Tech
GMW-36	3/12/2007	74.53	24.29	---	---	50.24	Secor
	4/30/2007	74.53	24.40	---	---	50.13	Secor
	8/28/2007	74.53	24.31	---	---	50.22	Stantec
	11/12/2007	74.53	24.86	24.85	0.01	49.68	Stantec
	2/19/2008	74.53	25.50	---	---	49.03	Stantec
	4/14/2008	74.53	24.61	---	---	49.92	Stantec
	8/8/2008	74.53	26.20	26.14	0.06	48.38	Envent
	10/16/2008	74.77	26.11	26.09	0.02	48.68	Envent
	12/18/2008	74.53	28.70	28.65	0.05	45.87	Envent
	1/15/2009	74.53	27.73	27.45	0.28	47.02	Envent
	2/20/2009	74.53	26.39	26.35	0.04	48.17	Envent
	2/23/2009	74.53	26.13	25.80	0.33	48.66	Blaine Tech
	3/24/2009	74.53	29.83	---	---	44.70	Envent
	4/20/2009	74.53	25.63	25.59	0.04	48.93	Blaine Tech
	7/17/2009	74.53	27.40	---	---	47.13	Envent
	7/20/2009	74.53	25.90	---	---	48.63	Blaine Tech
	7/21/2009	74.53	26.03	---	---	48.50	Envent
	7/22/2009	74.53	25.90	---	---	48.63	Blaine Tech
	10/19/2009	74.53	26.56	26.45	0.11	48.06	Blaine Tech
	2/4/2010	74.53	26.93	26.80	0.13	47.70	Kinder Morgan
	3/15/2010	74.53	26.80	---	---	47.73	Blaine Tech
	4/16/2010	74.53	26.90	---	---	47.63	Blaine Tech
	5/24/2010	74.53	25.96	25.90	0.06	48.62	Blaine Tech
	5/28/2010	74.53	25.94	25.88	0.06	48.64	Blaine Tech
	6/22/2010	74.53	25.94	25.91	0.03	48.61	Blaine Tech
	7/12/2010	74.53	NM	---	---	NC	
	8/12/2010	74.53	NM	---	---	NC	
	9/20/2010	74.53	NM	---	---	NC	
	10/4/2010	74.53	26.90	---	---	47.63	
	10/24/2010	74.53	26.90	---	---	47.63	Blaine Tech
	11/23/2010	74.53	27.35	27.10	0.25	47.38	Blaine Tech
	12/22/2010	74.53	28.35	26.84	1.51	47.39	Blaine Tech
	1/10/2011	74.53	29.10	27.70	1.40	46.55	Blaine Tech
2/24/2011	74.53	NM	---	---	NC	Blaine Tech	
3/23/2011	74.53	NM	---	---	NC	Blaine Tech	
4/12/2011	74.53	26.98	25.05	1.93	49.09	Blaine Tech	
5/13/2011	74.53	NM	---	---	NC	Blaine Tech	
6/22/2011	74.53	NM	---	---	NC		
7/11/2011	74.53	NM	---	---	NC		
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	

**Table 4. 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	4/16/2012	74.53	27.34	---	---	47.19	Blaine Tech
	5/25/2012	74.53	NM	---	---	NC	Blaine Tech
	6/15/2012	---	33.27	---	---	NC	Blaine Tech
	7/9/2012	---	33.71	---	---	NC	Blaine Tech
	8/29/2012	---	NM	---	---	NC	Blaine Tech
	9/26/2012	---	NM	---	---	NC	Blaine Tech
	10/15/2012	76.66	32.11	---	---	44.55	Blaine Tech
	11/29/2012	76.66	33.93	31.68	2.25	44.53	Blaine Tech
	12/26/2012	76.66	34.86	30.36	4.50	45.40	Blaine Tech
	1/14/2013	76.66	34.12	30.42	3.70	45.50	Blaine Tech
	2/20/2013	76.66	NM	---	---	NC	Blaine Tech
	4/10/2013	76.66	32.42	29.75	2.67	46.38	Blaine Tech
	10/7/2013	76.66	34.65	30.72	3.93	45.15	Blaine Tech
	4/25/2014	76.66	34.71	31.12	3.59	44.82	Blaine Tech
	5/20/2014	76.66	34.95	31.50	3.45	44.47	Nieto & Sons
	5/27/2014	76.66	34.53	31.29	3.24	44.72	Nieto & Sons
	6/4/2014	76.66	34.93	31.50	3.43	44.47	Nieto & Sons
	8/13/2014	76.66	34.86	31.27	3.59	44.67	Blaine Tech
	8/19/2014	76.66	34.20	31.39	2.81	44.71	Blaine Tech
	8/29/2014	76.66	34.31	31.32	2.99	44.74	Blaine Tech
	9/5/2014	76.66	34.35	31.37	2.98	44.69	Blaine Tech
	9/11/2014	76.66	35.00	31.23	3.77	44.68	Blaine Tech
	9/18/2014	76.66	34.42	31.50	2.92	44.58	Blaine Tech
	9/26/2014	76.66	34.15	31.48	2.67	44.65	Blaine Tech
	10/1/2014	76.66	33.51	31.61	1.90	44.67	Blaine Tech
	10/6/2014	76.66	33.29	31.63	1.66	44.70	Blaine Tech
	10/14/2014	76.66	33.48	31.55	1.93	44.72	Blaine Tech
	10/23/2014	76.66	33.64	31.57	2.07	44.68	Blaine Tech
	10/27/2014	76.66	33.02	31.79	1.23	44.62	Blaine Tech
	11/3/2014	76.66	33.75	31.57	2.18	44.65	Blaine Tech
	11/18/2014	76.66	33.17	31.75	1.42	44.63	Blaine Tech
	11/25/2014	76.66	33.13	31.86	1.27	44.55	Blaine Tech
	12/3/2014	76.66	32.93	31.75	1.18	44.67	Blaine Tech
	4/20/2015	76.66	33.64	32.20	1.44	44.17	Blaine Tech
	10/21/2015	76.66	33.55	33.16	0.39	43.42	Blaine Tech
	4/12/2016	76.66	34.30	34.03	0.27	42.58	Kinder Morgan
	10/3/2016	76.66	35.05	34.65	0.40	41.93	Blaine Tech
	3/9/2017	76.66	33.45	---	---	43.21	CH2M
	4/17/2017	76.66	32.96	---	---	43.70	Blaine Tech
	10/2/2017	76.66	34.10	---	---	42.56	Blaine Tech
4/16/2018	76.66	35.18	---	---	41.48	Blaine Tech	
11/5/2018	76.66	35.91	---	---	40.75	Blaine Tech	
4/23/2019	76.66	33.56	---	---	43.10	Blaine Tech	
10/28/2019	76.66	34.86	34.84	0.02	41.82	Blaine Tech	
5/4/2020	76.66	31.03	---	---	45.63	Blaine Tech	
11/2/2020	76.66	Sludge in well, unable to gauge				Blaine Tech	
2/24/2021	76.66	35.18	---	---	48.82	Blaine Tech	
5/3/2021	76.66	30.69	---	---	45.97	Blaine Tech	
8/31/2021	76.66	30.47	---	---	46.19	Blaine Tech	
11/1/2021	76.66	37.95	---	---	46.19	Blaine Tech	
3/10/2022	76.66	27.29	---	---	49.37	Blaine Tech	
5/9/2022	76.66	31.87	---	---	44.79	Blaine Tech	
8/24/2022	76.66	31.95	---	---	44.71	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	

**Table 4. 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	2/24/2009	74.17	24.31	24.21	0.10	49.94	Envent
	3/27/2009	74.17	31.08	---	---	43.09	Envent
	4/21/2009	74.17	25.36	25.34	0.02	48.83	Envent
	7/21/2009	74.17	26.18	---	---	47.99	Envent
	10/19/2009	74.17	NM	---	---	NC	Blaine Tech
	11/6/2009	74.17	26.33	26.18	0.15	47.96	Kinder Morgan
	10/4/2010	74.17	30.00	---	---	44.17	Blaine Tech
	4/13/2011	74.17	24.19	---	---	49.98	Blaine Tech
	10/10/2011	74.17	24.38	---	---	49.79	Blaine Tech
	4/16/2012	74.17	NM	---	---	NC	Blaine Tech
	7/9/2012	74.17	NM	---	---	NC	Blaine Tech
	10/15/2012	74.17	28.12	---	---	46.05	Blaine Tech
	4/8/2013	74.17	NM	---	---	NC	Blaine Tech
	9/24/2013	74.17	31.25	28.15	3.10	45.40	Blaine Tech
	10/7/2013	74.17	31.19	27.69	3.50	45.78	Blaine Tech
	4/25/2014	74.17	28.96	28.62	0.34	45.48	Blaine Tech
	9/5/2014	74.17	31.13	27.89	3.24	45.63	Blaine Tech
	9/11/2014	74.17	31.12	27.85	3.27	45.67	Blaine Tech
	9/18/2014	74.17	31.22	27.85	3.37	45.65	Blaine Tech
	9/26/2014	74.17	31.34	27.91	3.43	45.57	Blaine Tech
	10/1/2014	74.17	31.19	27.84	3.35	45.66	Blaine Tech
	10/6/2014	74.17	32.19	27.84	4.35	45.46	Blaine Tech
	10/14/2014	74.17	31.18	28.85	2.33	44.85	Blaine Tech
	10/23/2014	74.17	31.34	27.85	3.49	45.62	Blaine Tech
	10/27/2014	74.17	31.28	28.89	2.39	44.80	Blaine Tech
	11/3/2014	74.17	32.34	27.83	4.51	45.44	Blaine Tech
	11/10/2014	74.17	31.46	27.97	3.49	45.50	Blaine Tech
	11/18/2014	74.17	31.41	27.88	3.53	45.58	Blaine Tech
	11/25/2014	74.17	31.48	27.87	3.61	45.58	Blaine Tech
	12/3/2014	74.17	33.34	29.95	3.39	43.54	Blaine Tech
	12/12/2014	74.17	33.25	29.08	4.17	44.26	Blaine Tech
	12/19/2014	74.17	32.52	28.09	4.43	45.19	Blaine Tech
	4/22/2015	74.17	31.54	28.10	3.44	45.38	Blaine Tech
	10/22/2015	74.17	33.08	29.23	3.85	44.17	Kinder Morgan
	3/16/2016	74.17	33.39	33.16	0.23	40.96	Kinder Morgan
	4/12/2016	74.17	33.33	33.12	0.21	41.01	Kinder Morgan
6/30/2016	74.17	31.50	---	---	42.67	Kinder Morgan	
8/22/2016	74.17	32.75	32.74	0.01	41.43	Kinder Morgan	
10/3/2016	74.17	32.72	32.71	0.01	41.46	Kinder Morgan	
3/24/2017	74.17	31.50	30.45	1.05	43.51	CH2M	
4/17/2017	74.17	30.12	29.96	0.16	44.18	Blaine Tech	
10/2/2017	74.17	33.54	---	---	40.63	Blaine Tech	
4/16/2018	74.17	NM	---	---	NC	Blaine Tech	
11/5/2018	74.17	33.22	33.11	0.11	41.04	Blaine Tech	
4/16/2019	74.17	NM	---	---	NC	Blaine Tech	
10/28/2019	74.17	NM	---	---	NC	Blaine Tech	
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	
2/24/2021	74.17	32.18	---	---	41.99	Blaine Tech	
5/3/2021	74.17	31.89	---	---	42.28	Blaine Tech	
8/31/2021	74.17	31.50	---	---	42.67	Blaine Tech	
11/1/2021	74.17	34.76	---	---	39.41	Blaine Tech	
3/10/2022	74.17	32.60	---	---	41.57	Blaine Tech	
5/9/2022	74.17	32.38	---	---	41.79	Blaine Tech	
8/24/2022	74.17	32.50	---	---	41.67	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



**Table 4. 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	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
	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	

**Table 4. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells**

*SFPF 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	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
	4/1/2016	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
	2/24/2021	73.49	31.97	31.45	0.52	41.94	Blaine Tech
5/3/2021	73.49	31.66	31.05	0.61	41.83	Blaine Tech	
8/31/2021	73.49	25.89	25.89	0.00	47.60	Blaine Tech	
11/1/2021	73.49	34.89	33.18	1.71	39.96	Blaine Tech	
3/10/2022	73.49	NM	---	---	NC	Blaine Tech	
5/9/2022	73.49	35.16	34.21	0.95	39.09	Blaine Tech	
8/24/2022	73.49	31.90	31.80	0.10	41.67	Blaine Tech	
GMW-O-14	3/10/2022	74.08	29.35	---	---	44.73	Blaine Tech
	5/9/2022	74.08	39.64	---	---	34.44	Blaine Tech
	8/24/2022	74.08	30.66	---	---	43.42	Blaine Tech
GMW-O-15	4/30/2007	74.23	23.41	23.30	0.11	50.91	Secor
	11/12/2007	74.23	23.95	23.85	0.10	50.36	Stantec
	4/14/2008	74.23	23.64	---	---	50.59	Stantec
	8/8/2008	74.23	24.60	---	---	49.63	Envent
	8/11/2008	74.23	24.40	24.34	0.06	49.88	Stantec
	10/16/2008	74.23	24.53	---	---	49.70	Envent
	12/18/2008	74.23	24.86	---	---	49.37	Envent
	1/2/2009	74.23	24.82	---	---	49.41	Envent
	1/15/2009	74.23	26.01	---	---	48.22	Envent
	2/20/2009	74.23	24.80	---	---	49.43	Envent
	2/23/2009	74.23	24.76	24.74	0.02	49.49	Blaine Tech
	3/24/2009	74.23	25.55	---	---	48.68	Envent
	4/20/2009	74.23	24.66	24.61	0.05	49.61	Blaine Tech
	7/17/2009	74.23	25.01	---	---	49.22	Envent
	7/20/2009	74.23	24.99	24.94	0.05	49.28	Blaine Tech
	7/22/2009	74.23	24.99	24.94	0.05	49.28	Blaine Tech
	10/19/2009	74.23	25.55	25.43	0.12	48.78	Blaine Tech
	2/4/2010	74.23	25.50	25.48	0.02	48.75	Kinder Morgan
3/15/2010	74.23	NM	---	---	NC		
4/16/2010	74.23	23.10	---	---	51.13	Blaine Tech	

**Table 4. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells**

*SFPF 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	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	
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	

**Table 4. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells**

*SFPF 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	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
	5/3/2021	74.86	28.62	---	---	46.24	Blaine Tech
11/1/2021	Inaccessable, pump stuck in well						Blaine Tech
5/9/2022	Inaccessable, pump stuck in well						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	
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	

**Table 4. 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	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
5/3/2021	74.32	29.77	---	---	44.55	Blaine Tech	
11/1/2021	74.32	36.39	---	---	37.93	Blaine Tech	
5/9/2022	74.32	29.62	---	---	44.70	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	
	10/10/2011	73.32	24.05	---	---	49.27	Blaine Tech
	1/9/2012	73.32	24.68	---	---	48.64	Blaine Tech
	4/16/2012	73.32	26.18	---	---	47.14	Blaine Tech
	7/9/2012	73.32	32.92	---	---	40.40	Blaine Tech
10/15/2012	73.32	32.97	32.95	0.02	40.37	Blaine Tech	
1/14/2013	73.32	32.98	32.93	0.05	40.38	Blaine Tech	
4/8/2013	73.32	29.63	26.46	3.17	46.27	Blaine Tech	

**Table 4. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells**

*SFPF 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	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	
2/24/2021	73.32	31.99	---	---	37.16	Blaine Tech	
5/3/2021	73.32	32.67	---	---	40.65	Blaine Tech	
8/31/2021	73.32	31.06	---	---	42.26	Blaine Tech	
11/1/2021	73.32	34.90	---	---	38.42	Blaine Tech	
3/10/2022	73.32	32.34	---	---	40.98	Blaine Tech	
5/9/2022	73.32	32.11	---	---	41.21	Blaine Tech	
8/24/2022	73.32	32.20	---	---	41.12	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 4. 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
2/24/2021	71.43	32.57	---	---	42.70	Blaine Tech	
5/3/2021	71.43	32.17	---	---	39.26	Blaine Tech	
8/31/2021	71.43	31.39	---	---	40.04	Blaine Tech	
11/1/2021	71.43	32.96	---	---	38.47	Blaine Tech	
3/10/2022	71.43	32.60	---	---	38.83	Blaine Tech	
5/9/2022	71.43	32.83	---	---	38.60	Blaine Tech	
8/24/2022	71.43	32.75	---	---	38.68	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	

**Table 4. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells**

*SFPF 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	1/10/2011	73.63	27.45	---	---	46.18	Blaine Tech
	4/11/2011	73.63	25.03	---	---	48.60	Blaine Tech
	7/11/2011	73.63	NM	---	---	NC	
	10/10/2011	73.63	25.25	---	---	48.38	Blaine Tech
	1/9/2012	73.63	25.91	---	---	47.72	Blaine Tech
	4/16/2012	73.63	27.38	---	---	46.25	Blaine Tech
	7/9/2012	73.63	27.41	---	---	46.22	Blaine Tech
	10/15/2012	73.63	26.48	---	---	47.15	Blaine Tech
	1/14/2013	73.63	29.35	---	---	44.28	Blaine Tech
	4/8/2013	73.63	29.81	27.74	2.07	45.48	Blaine Tech
	9/23/2013	73.63	29.90	---	---	43.73	Blaine Tech
	10/7/2013	73.63	32.86	28.30	4.56	44.42	Blaine Tech
	4/25/2014	73.63	29.81	29.66	0.15	43.94	Blaine Tech
	9/5/2014	73.63	32.57	28.76	3.81	44.11	Blaine Tech
	9/11/2014	73.63	32.94	28.63	4.31	44.14	Blaine Tech
	9/18/2014	73.63	32.80	28.65	4.15	44.15	Blaine Tech
	9/26/2014	73.63	32.87	28.70	4.17	44.10	Blaine Tech
	10/1/2014	73.63	32.56	28.75	3.81	44.12	Blaine Tech
	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	28.75	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	
2/24/2021	73.63	33.19	---	---	40.44	Blaine Tech	
5/3/2021	73.63	32.91	---	---	40.72	Blaine Tech	
8/31/2021	73.63	32.50	---	---	41.13	Blaine Tech	
11/1/2021	73.63	33.75	---	---	39.88	Blaine Tech	
3/10/2022	73.63	33.58	---	---	40.05	Blaine Tech	
5/9/2022	73.63	33.40	---	---	40.23	Blaine Tech	
GMW-O-24	3/10/2022	74.39	31.15	---	---	43.24	Blaine Tech
	5/9/2022	74.39	33.36	---	---	41.03	Blaine Tech
	8/24/2022	74.39	33.93	---	---	40.46	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



**Table 4. 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	10/4/2010	73.00	25.28	---	---	47.72	Blaine Tech
	4/11/2011	73.00	23.90	---	---	49.10	Blaine Tech
	10/10/2011	73.00	24.70	---	---	48.30	Blaine Tech
	4/16/2012	73.00	26.99	---	---	46.01	Blaine Tech
	7/9/2012	73.00	NM	---	---	NC	Blaine Tech
	10/15/2012	73.05	34.21	---	---	38.84	Blaine Tech
	1/14/2013	73.05	34.32	---	---	38.73	Blaine Tech
	4/10/2013	73.05	27.37	---	---	45.68	Blaine Tech
	8/14/2014	73.05	29.35	28.37	0.98	44.48	Blaine Tech
	8/19/2014	73.05	28.46	28.44	0.02	44.61	Blaine Tech
	8/29/2014	73.05	29.32	28.31	1.01	44.54	Blaine Tech
	9/5/2014	73.05	29.33	28.29	1.04	44.55	Blaine Tech
	9/11/2014	73.05	29.49	28.47	1.02	44.38	Blaine Tech
	9/18/2014	73.05	28.95	28.91	0.04	44.13	Blaine Tech
	9/26/2014	73.05	28.93	28.59	0.34	44.39	Blaine Tech
	4/20/2015	73.05	29.01	---	---	44.04	Blaine Tech
	10/21/2015	73.05	29.69	---	---	43.36	Blaine Tech
3/6/2017	73.05	28.88	---	---	44.17	CH2M	
GMW-SF-10	4/21/2009	75.77	27.10	---	---	48.67	Envent
	10/4/2010	75.77	28.03	---	---	47.74	Blaine Tech
	4/11/2011	75.77	26.80	---	---	48.97	Blaine Tech
	10/10/2011	75.77	27.60	---	---	48.17	Blaine Tech
	4/16/2012	75.77	28.81	---	---	46.96	Blaine Tech
	7/9/2012	75.77	NM	---	---	NC	Blaine Tech
	10/15/2012	75.77	29.88	---	---	45.89	Blaine Tech
	4/8/2013	75.77	DRY	---	---	NC	Blaine Tech
GWR-3	4/30/2007	74.93	27.97	---	---	46.96	Secor
	11/12/2007	74.93	27.90	---	---	47.03	Stantec
	10/17/2008	74.93	29.88	---	---	45.05	Envent
	12/17/2008	74.93	19.71	---	---	55.22	Envent
	1/15/2009	74.93	29.27	29.26	0.26	45.88	Envent
	3/27/2009	74.93	27.18	---	---	47.75	Envent
	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	

**Table 4. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells**

*SFPF 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	10/1/2014	77.60	36.44	34.01	2.43	43.18	Blaine Tech
	10/6/2014	77.60	34.71	33.33	1.38	44.04	Blaine Tech
	10/14/2014	77.60	35.15	33.20	1.95	44.07	Blaine Tech
	10/23/2014	77.60	35.36	33.20	2.16	44.03	Blaine Tech
	10/27/2014	77.60	34.68	33.49	1.19	43.91	Blaine Tech
	11/3/2014	77.60	35.43	33.18	2.25	44.04	Blaine Tech
	11/10/2014	77.60	35.02	33.32	1.70	43.99	Blaine Tech
	11/18/2014	77.60	35.05	33.34	1.71	43.97	Blaine Tech
	11/25/2014	77.60	35.04	33.36	1.68	43.95	Blaine Tech
	12/3/2014	77.60	34.95	33.34	1.61	43.99	Blaine Tech
	12/12/2014	77.60	35.11	33.64	1.47	43.71	Blaine Tech
	12/19/2014	77.60	35.55	33.67	1.88	43.61	Blaine Tech
	4/20/2015	77.60	37.25	33.34	3.91	43.60	Blaine Tech
	7/24/2015	77.60	41.30	33.95	7.35	42.40	Northstar
	8/12/2015	77.60	37.03	34.42	2.61	42.74	Northstar
	10/20/2015	77.60	35.98	34.65	1.33	42.72	Blaine Tech
	3/16/2016	77.60	38.60	---	---	39.00	Kinder Morgan
	4/11/2016	77.60	36.90	---	---	40.70	Blaine Tech
	6/29/2016	77.60	37.77	---	---	39.83	Blaine Tech
	8/22/2016	77.60	38.24	---	---	39.36	Blaine Tech
	10/3/2016	77.60	39.20	39.15	0.05	38.44	Blaine Tech
	3/7/2017	77.60	35.62	---	---	41.98	CH2M
	4/17/2017	77.60	34.88	---	---	42.72	Blaine Tech
	10/2/2017	77.60	38.92	---	---	38.68	Blaine Tech
	4/16/2018	77.60	38.73	---	---	38.87	Blaine Tech
	11/5/2018	77.60	38.42	---	---	39.18	Blaine Tech
	4/16/2019	77.60	37.16	---	---	40.44	Blaine Tech
10/28/2019	77.60	38.58	---	---	39.02	Blaine Tech	
5/4/2020	77.60	36.02	---	---	41.58	Blaine Tech	
11/2/2020	77.60	35.51	---	---	42.09	Blaine Tech	
5/3/2021	77.60	36.18	---	---	41.42	Blaine Tech	
11/1/2021	77.60	38.07	---	---	39.53	Blaine Tech	
5/9/2022	77.60	37.21	---	---	40.39	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	

**Table 4. 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-18 (MID) Continued	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
	5/3/2021	75.67	38.57	---	---	37.10	Blaine Tech
MW-O-1	11/1/2021	75.67	40.02	---	---	35.65	Blaine Tech
	5/9/2022	75.67	29.62	---	---	46.05	Blaine Tech
	4/30/2007	75.48	24.10	23.98	0.12	51.48	Secor
	8/14/2007	75.48	25.31	23.78	1.53	51.39	Geomatrix
	8/21/2007	75.48	23.84	23.58	0.26	51.85	Geomatrix
	8/28/2007	75.48	23.07	23.06	0.01	52.42	Stantec
	9/11/2007	75.48	23.86	23.48	0.38	51.92	Geomatrix
	10/5/2007	75.48	24.67	---	---	50.81	Geomatrix
	11/2/2007	75.48	24.25	---	---	51.23	Geomatrix
	11/12/2007	75.48	24.27	24.25	0.02	51.23	Stantec
	12/28/2007	75.48	25.54	25.51	0.03	49.96	Geomatrix
	8/15/2008	75.48	NM	---	---	NC	Envent
	8/19/2008	75.48	25.18	25.13	0.05	50.34	Envent
	10/17/2008	75.48	25.30	---	---	50.18	Envent
	12/19/2008	75.48	26.31	---	---	49.17	Envent
	1/15/2009	75.48	25.84	---	---	49.64	Envent
	4/21/2009	75.48	25.41	---	---	50.07	Envent
	10/19/2009	75.48	26.30	---	---	49.18	Blaine Tech
	10/4/2010	75.48	26.90	---	---	48.58	Blaine Tech
	4/11/2011	75.48	25.59	---	---	49.89	Blaine Tech
	10/10/2011	75.48	26.52	---	---	48.96	Blaine Tech
	4/16/2012	75.48	27.25	---	---	48.23	Blaine Tech
	7/9/2012	75.48	NM	---	---	NC	Blaine Tech
	10/15/2012	75.48	28.94	---	---	46.54	Blaine Tech
	4/8/2013	75.48	28.81	---	---	46.67	Blaine Tech
	10/7/2013	75.48	29.21	---	---	46.27	Blaine Tech
	4/14/2014	75.48	29.82	---	---	45.66	Blaine Tech
	10/27/2014	75.48	29.92	---	---	45.56	Blaine Tech
	4/20/2015	75.48	30.39	---	---	45.09	Blaine Tech
	10/27/2015	75.48	27.67	---	---	47.81	Blaine Tech
	3/14/2016	75.48	DRY	---	---	NC	Blaine Tech
	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	
2/24/2021	75.48	33.02	---	---	34.37	Blaine Tech	
5/3/2021	75.48	DRY	---	---	NC	Blaine Tech	
8/31/2021	75.48	DRY	---	---	NC	Blaine Tech	

**Table 4. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells**

*SFPF 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	11/1/2021	75.48	DRY	---	---	NC	Blaine Tech
	3/10/2022	75.48	DRY	---	---	NC	Blaine Tech
	5/9/2022	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
	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	
2/24/2021	71.90	33.16	---	---	38.74	Blaine Tech	
5/3/2021	71.90	32.94	---	---	38.96	Blaine Tech	
8/31/2021	71.90	32.60	---	---	39.30	Blaine Tech	
11/1/2021	71.90	33.61	---	---	38.29	Blaine Tech	
3/10/2022	71.90	33.52	---	---	38.38	Blaine Tech	
5/9/2022	71.90	33.36	---	---	38.54	Blaine Tech	
8/24/2022	71.90	33.70	---	---	38.20	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

**Table 4. 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	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
	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	

**Table 4. 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	6/5/2015	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
5/3/2021	78.93	38.03	---	---	40.90	Blaine Tech	
11/1/2021	78.93	39.29	---	---	39.64	Blaine Tech	
5/9/2022	78.93	38.52	---	---	40.41	Blaine Tech	
MW-SF-2	4/30/2007	78.45	28.35	28.34	0.01	50.11	Secor
	11/12/2007	78.45	29.18	28.71	0.47	49.65	Stantec
	8/12/2008	78.45	31.11	---	---	47.34	Envent
	10/17/2008	78.45	31.55	31.50	0.05	46.94	Envent
	12/18/2008	78.53	32.75	32.55	0.20	45.94	Envent
	1/15/2009	78.53	30.84	30.57	0.27	47.91	Envent
	3/24/2009	78.53	28.85	---	---	49.68	Envent
	4/21/2009	78.53	29.98	---	---	48.55	Envent
	7/21/2009	78.53	29.85	---	---	48.68	Envent
	10/19/2009	78.53	NM	---	---	NC	Blaine Tech
	12/9/2009	78.53	31.45	---	---	47.08	Kinder Morgan
	10/4/2010	78.53	30.96	30.75	0.21	47.74	Blaine Tech
	1/10/2011	78.53	32.62	32.50	0.12	46.01	Blaine Tech
	4/11/2011	78.53	29.83	---	---	48.70	Blaine Tech
	7/11/2011	78.53	NM	---	---	NC	
	10/10/2011	78.53	29.82	---	---	48.71	Blaine Tech
	1/9/2012	78.53	30.52	---	---	48.01	Blaine Tech
	4/16/2012	78.53	31.28	---	---	47.25	Blaine Tech
	7/9/2012	78.53	33.18	---	---	45.35	Blaine Tech
	10/15/2012	78.53	32.11	---	---	46.42	Blaine Tech
	1/14/2013	78.53	33.59	---	---	44.94	Blaine Tech
	4/8/2013	78.53	33.32	---	---	45.21	Blaine Tech
	10/7/2013	78.53	34.58	33.08	1.50	45.15	Blaine Tech
	4/14/2014	78.53	37.50	33.27	4.23	44.41	Blaine Tech
	5/6/2014	78.53	37.71	33.24	4.47	44.40	Nieto & Sons
	5/12/2014	78.53	37.53	33.34	4.19	44.35	Nieto & Sons
	5/20/2014	78.53	37.62	33.51	4.11	44.20	Nieto & Sons
	5/27/2014	78.53	38.24	33.77	4.47	43.87	Nieto & Sons
	6/4/2014	78.53	34.63	---	---	43.90	Nieto & Sons
	6/10/2014	78.53	38.49	34.00	4.49	43.63	Nieto & Sons
8/8/2014	78.53	36.23	33.82	2.41	44.23	Blaine Tech	
8/13/2014	78.53	36.75	33.59	3.16	44.31	Blaine Tech	
8/19/2014	78.53	36.90	33.60	3.30	44.27	Blaine Tech	
8/29/2014	78.53	37.11	33.53	3.58	44.28	Blaine Tech	
9/5/2014	78.53	37.09	33.51	3.58	44.30	Blaine Tech	

**Table 4. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells**

*SFPF 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	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	
5/3/2021	78.53	37.82	---	---	40.71	Blaine Tech	
11/1/2021	78.53	39.30	---	---	39.23	Blaine Tech	
5/9/2022	78.53	38.17	---	---	40.36	Blaine Tech	
MW-SF-3	4/30/2007	77.62	27.72	27.45	0.27	50.12	Secor
	11/12/2007	77.62	29.34	28.28	1.06	49.13	Stantec
	8/12/2008	77.62	30.30	29.05	1.25	48.32	Envent
	10/17/2008	77.62	29.45	---	---	48.17	Envent
	12/18/2008	78.12	31.08	30.82	0.26	47.25	Envent
	1/15/2009	78.12	29.96	29.94	0.02	48.18	Envent
	3/20/2009	78.12	31.10	---	---	47.02	Envent
	3/24/2009	78.12	27.82	---	---	50.30	Envent
	4/21/2009	78.12	29.51	29.50	0.01	48.62	Envent
	7/21/2009	78.12	30.07	---	---	48.05	Envent
	10/19/2009	78.12	NM	---	---	NC	Blaine Tech
	11/6/2009	78.12	30.37	30.35	0.02	47.77	Kinder Morgan
	12/9/2009	78.12	30.53	---	---	47.59	Kinder Morgan
	9/3/2010	78.12	30.97	30.42	0.55	47.59	Kinder Morgan
	10/4/2010	78.12	30.88	30.30	0.58	47.70	Blaine Tech
	4/12/2011	78.12	29.44	---	---	48.68	Blaine Tech
	10/10/2011	78.12	30.75	---	---	47.37	Blaine Tech
	4/16/2012	78.12	NM	---	---	NC	Blaine Tech
	7/9/2012	78.12	NM	---	---	NC	Blaine Tech
	10/15/2012	78.12	32.47	---	---	45.65	Blaine Tech
5/24/2013	78.12	33.35	32.51	0.84	45.44	Blaine Tech	
9/25/2013	78.12	34.40	---	---	43.72	Blaine Tech	

**Table 4. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells**

*SFPF 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	10/7/2013	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	
5/3/2021	78.12	37.51	---	---	40.61	Blaine Tech	
11/1/2021	78.12	38.59	---	---	39.53	Blaine Tech	
5/9/2022	78.12	37.75	---	---	40.37	Blaine Tech	
MW-SF-4	3/12/2007	79.38	30.01	29.41	0.60	49.85	Secor
	4/30/2007	79.38	29.96	29.11	0.85	50.10	Secor
	8/14/2007	79.38	30.34	28.38	1.96	50.60	Geomatrix
	8/28/2007	79.38	29.95	28.30	1.65	50.74	Stantec
	9/11/2007	79.38	29.98	28.43	1.55	50.63	Geomatrix
	10/5/2007	79.38	30.68	28.85	1.83	50.15	Geomatrix
	10/12/2007	79.38	30.27	29.96	0.31	49.36	Geomatrix
	10/19/2007	79.38	30.28	---	---	49.10	Geomatrix
	10/26/2007	79.38	30.52	---	---	48.86	Geomatrix
	11/2/2007	79.38	30.68	---	---	48.70	Geomatrix
	11/12/2007	79.38	29.70	29.69	0.01	49.69	Stantec
	12/21/2007	79.38	30.69	---	---	48.69	Geomatrix
	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	



**Table 4. 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	10/19/2009	79.38	31.93	31.90	0.03	47.47	Blaine Tech
	3/15/2010	79.38	31.95	31.91	0.04	47.46	Blaine Tech
	5/24/2010	79.38	31.60	---	---	47.78	Blaine Tech
	5/28/2010	79.38	26.40	---	---	52.98	Blaine Tech
	6/22/2010	79.38	31.63	---	---	47.75	Blaine Tech
	7/12/2010	79.38	31.37	---	---	48.01	Blaine Tech
	10/4/2010	79.38	31.81	---	---	47.57	Blaine Tech
	1/10/2011	79.38	32.99	---	---	46.39	Blaine Tech
	4/11/2011	79.38	30.85	---	---	48.53	Blaine Tech
	7/11/2011	79.38	30.35	---	---	49.03	Blaine Tech
	10/10/2011	79.38	NM	---	---	NC	Blaine Tech
	1/9/2012	79.38	32.07	---	---	47.31	Blaine Tech
	4/16/2012	79.38	33.35	---	---	46.03	Blaine Tech
	7/9/2012	79.38	32.11	---	---	47.27	Blaine Tech
	10/15/2012	79.38	34.04	---	---	45.34	Blaine Tech
	1/14/2013	79.38	34.52	---	---	44.86	Blaine Tech
	4/8/2013	79.38	DRY	---	---	NC	Blaine Tech
	10/7/2013	79.38	DRY	---	---	NC	Blaine Tech
	4/25/2014	79.38	40.03	34.23	5.80	43.96	Blaine Tech
	5/6/2014	79.38	39.78	33.91	5.87	44.27	Nieto & Sons
	5/12/2014	79.38	37.02	34.64	2.38	44.25	Nieto & Sons
	5/20/2014	79.38	36.60	35.60	1.00	43.58	Nieto & Sons
	5/27/2014	79.38	36.12	35.45	0.67	43.79	Nieto & Sons
	6/4/2014	79.38	36.54	35.91	0.63	43.34	Nieto & Sons
	6/10/2014	79.38	37.02	35.38	1.64	43.66	Nieto & Sons
	7/3/2014	79.38	36.98	35.63	1.35	43.47	Nieto & Sons
	7/8/2014	79.38	36.78	35.34	1.44	43.74	Blaine Tech
	7/18/2014	79.38	35.88	35.55	0.33	43.76	Blaine Tech
	7/24/2014	79.38	35.98	35.42	0.56	43.85	Blaine Tech
	8/1/2014	79.38	35.57	35.30	0.27	44.02	Blaine Tech
	8/14/2014	79.38	35.42	35.23	0.19	44.11	Blaine Tech
	8/19/2014	79.38	35.36	35.21	0.15	44.14	Blaine Tech
	8/29/2014	79.38	35.32	35.20	0.12	44.16	Blaine Tech
	9/18/2014	79.38	35.55	35.30	0.25	44.03	Blaine Tech
	9/26/2014	79.38	35.56	35.30	0.26	44.03	Blaine Tech
	10/1/2014	79.38	35.56	35.24	0.32	44.07	Blaine Tech
	10/6/2014	79.38	35.48	35.22	0.26	44.11	Blaine Tech
	10/14/2014	79.38	35.33	35.20	0.13	44.15	Blaine Tech
	10/23/2014	79.38	35.51	35.22	0.29	44.10	Blaine Tech
	10/27/2014	79.38	35.54	35.25	0.29	44.07	Blaine Tech
	11/18/2014	79.38	35.56	35.25	0.31	44.07	Blaine Tech
	11/25/2014	79.38	35.66	35.32	0.34	43.99	Blaine Tech
12/12/2014	79.38	35.81	35.58	0.23	43.75	Blaine Tech	
12/19/2014	79.38	35.75	35.62	0.13	43.73	Blaine Tech	
4/20/2015	79.38	37.78	35.29	2.49	43.58	Blaine Tech	
5/19/2015	79.38	39.22	35.28	3.94	43.29	Northstar	
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	

**Table 4. 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	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
	5/3/2021	79.38	38.30	---	---	41.08	Blaine Tech
11/1/2021	79.38	39.75	---	---	39.63	Blaine Tech	
5/9/2022	79.38	38.69	---	---	40.69	Blaine Tech	
MW-SF-5	4/30/2007	79.74	29.54	---	---	50.20	Secor
	8/21/2007	79.74	28.36	---	---	51.38	Geomatrix
	8/28/2007	79.74	28.84	---	---	50.90	Stantec
	10/5/2007	79.74	29.50	---	---	50.24	Geomatrix
	11/2/2007	79.74	31.50	---	---	48.24	Geomatrix
	11/12/2007	79.74	29.93	---	---	49.81	Stantec
	12/21/2007	79.74	31.00	---	---	48.74	Geomatrix
	4/14/2008	79.74	30.20	---	---	49.54	Stantec
	8/11/2008	79.74	30.85	---	---	48.89	Stantec
	10/13/2008	79.74	30.93	---	---	48.81	Stantec
	4/20/2009	79.74	30.99	---	---	48.75	Blaine Tech
	10/19/2009	79.74	NM	---	---	NC	Blaine Tech
	5/24/2010	79.74	31.55	---	---	48.19	Blaine Tech
	5/28/2010	79.74	31.44	---	---	48.30	Blaine Tech
	6/22/2010	79.74	31.57	---	---	48.17	Blaine Tech
	10/4/2010	79.74	31.39	---	---	48.35	Blaine Tech
	1/10/2011	79.74	33.80	---	---	45.94	Blaine Tech
	4/11/2011	79.74	31.03	---	---	48.71	Blaine Tech
	7/11/2011	79.74	NM	---	---	NC	
	10/10/2011	79.74	31.28	---	---	48.46	Blaine Tech
	1/9/2012	79.74	32.12	---	---	47.62	Blaine Tech
	4/16/2012	79.74	33.30	---	---	46.44	Blaine Tech
	7/9/2012	79.74	34.45	---	---	45.29	Blaine Tech
	10/15/2012	79.74	33.28	---	---	46.46	Blaine Tech
	1/14/2013	79.74	33.37	---	---	46.37	Blaine Tech
	4/8/2013	79.74	34.28	---	---	45.46	Blaine Tech
	10/7/2013	79.74	34.58	---	---	45.16	Blaine Tech
	4/14/2014	79.74	35.33	---	---	44.41	Blaine Tech
	10/27/2014	79.74	35.48	---	---	44.26	Blaine Tech
	4/20/2015	79.74	36.05	---	---	43.69	Blaine Tech
	10/19/2015	79.74	36.82	---	---	42.92	Blaine Tech
	3/14/2016	79.74	DRY	---	---	NC	Blaine Tech
	4/11/2016	79.74	DRY	---	---	NC	Blaine Tech
	6/29/2016	79.74	DRY	---	---	NC	Blaine Tech
8/22/2016	79.74	DRY	---	---	NC	Blaine Tech	
10/3/2016	79.74	DRY	---	---	NC	Blaine Tech	
4/17/2017	79.74	36.88	---	---	42.86	Blaine Tech	
10/2/2017	79.74	DRY	---	---	NC	Blaine Tech	
4/16/2018	79.74	DRY	---	---	NC	Blaine Tech	
11/5/2018	79.74	DRY	---	---	NC	Blaine Tech	
4/16/2019	79.74	DRY	---	---	NC	Blaine Tech	
10/28/2019	79.74	DRY	---	---	NC	Blaine Tech	
5/4/2020	79.74	37.86	---	---	41.88	Blaine Tech	
11/2/2020	79.74	DRY	---	---	NC	Blaine Tech	

**Table 4. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells**

*SFPF 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	5/3/2021	79.74	DRY	---	---	NC	Blaine Tech
	11/1/2021	79.74	DRY	---	---	NC	Blaine Tech
	5/9/2022	79.74	DRY	---	---	NC	Blaine Tech
MW-SF-6	4/30/2007	79.96	27.44	27.20	0.24	52.71	Secor
	11/12/2007	79.96	27.14	---	---	52.82	Stantec
	8/12/2008	79.96	29.82	---	---	50.14	Envent
	10/17/2008	79.96	29.75	---	---	50.21	Envent
	12/18/2008	76.8	30.73	---	---	46.07	Envent
	1/15/2009	76.8	31.35	---	---	45.45	Envent
	3/24/2009	76.80	30.50	---	---	46.30	Envent
	4/21/2009	76.80	28.45	---	---	48.35	Envent
	7/21/2009	76.80	27.22	---	---	49.58	Envent
	10/19/2009	76.80	NM	---	---	NC	Blaine Tech
	11/6/2009	76.80	29.10	---	---	47.70	Kinder Morgan
	12/9/2009	76.80	31.35	---	---	45.45	Kinder Morgan
	10/4/2010	76.80	29.09	---	---	47.71	Blaine Tech
	1/10/2011	76.80	30.87	---	---	45.93	Blaine Tech
	4/11/2011	76.80	28.16	---	---	48.64	Blaine Tech
	7/11/2011	76.80	NM	---	---	NC	
	10/10/2011	76.80	28.21	---	---	48.59	Blaine Tech
	1/9/2012	76.80	29.03	---	---	47.77	Blaine Tech
	4/16/2012	76.80	29.66	---	---	47.14	Blaine Tech
	7/9/2012	76.80	31.46	---	---	45.34	Blaine Tech
	10/15/2012	76.80	31.44	---	---	45.36	Blaine Tech
	1/14/2013	76.80	31.53	---	---	45.27	Blaine Tech
	4/8/2013	76.80	30.21	28.81	1.40	47.71	Blaine Tech
	10/7/2013	76.80	NM	---	---	NC	Blaine Tech
	11/14/2013	76.80	31.90	---	---	44.90	Blaine Tech
	4/18/2014	76.80	33.30	32.15	1.15	44.42	Blaine Tech
	8/8/2014	76.80	34.50	33.31	1.19	43.25	Blaine Tech
	8/13/2014	76.80	32.95	32.54	0.41	44.18	Blaine Tech
	8/19/2014	76.80	32.87	32.62	0.25	44.13	Blaine Tech
	8/29/2014	76.80	32.79	32.56	0.23	44.19	Blaine Tech
	9/5/2014	76.80	32.81	32.59	0.22	44.17	Blaine Tech
	9/18/2014	76.80	32.95	32.65	0.30	44.09	Blaine Tech
	9/26/2014	76.80	32.94	32.61	0.33	44.12	Blaine Tech
	10/1/2014	76.80	32.91	32.60	0.31	44.14	Blaine Tech
	10/6/2014	76.80	32.90	32.61	0.29	44.13	Blaine Tech
	10/14/2014	76.80	33.72	33.60	0.12	43.18	Blaine Tech
10/23/2014	76.80	34.57	33.94	0.63	42.73	Blaine Tech	
10/27/2014	76.80	32.92	32.58	0.34	44.15	Blaine Tech	
11/18/2014	76.80	32.99	32.62	0.37	44.11	Blaine Tech	
11/25/2014	76.80	32.66	32.58	0.08	44.20	Blaine Tech	
12/12/2014	76.80	33.45	33.07	0.38	43.65	Blaine Tech	
12/19/2014	76.80	33.60	33.15	0.45	43.56	Blaine Tech	
4/20/2015	76.80	33.23	33.11	0.12	43.67	Blaine Tech	
10/21/2015	76.80	34.28	---	---	42.52	Kinder Morgan	
3/14/2016	76.80	38.10	38.08	0.02	38.72	Blaine Tech	
4/11/2016	76.80	35.83	---	---	40.97	Blaine Tech	
6/29/2016	76.80	36.89	---	---	39.91	Blaine Tech	
8/22/2016	76.80	37.11	---	---	39.69	Blaine Tech	
10/3/2016	76.80	38.45	---	---	38.35	Blaine Tech	
4/17/2017	76.80	34.03	---	---	42.77	Blaine Tech	
10/2/2017	76.80	37.89	---	---	38.91	Blaine Tech	
4/16/2018	76.80	37.65	---	---	39.15	Blaine Tech	
11/5/2018	76.80	37.70	---	---	39.10	Blaine Tech	
4/16/2019	76.80	36.13	---	---	40.67	Blaine Tech	

**Table 4. 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	10/28/2019	76.80	37.41	---	---	39.39	Blaine Tech
	5/4/2020	76.80	34.90	---	---	41.90	Blaine Tech
	11/2/2020	76.80	35.35	---	---	41.45	Blaine Tech
	5/3/2021	76.80	35.86	---	---	40.94	Blaine Tech
	11/1/2021	76.80	37.50	---	---	39.30	Blaine Tech
	5/9/2022	76.80	36.47	---	---	40.33	Blaine Tech
MW-SF-9	4/30/2007	74.1	22.66	---	---	51.44	Secor
	8/14/2007	74.1	28.73	28.61	0.12	45.47	Geomatrix
	8/21/2007	74.1	26.55	---	---	47.55	Geomatrix
	8/28/2007	74.1	20.55	---	---	53.55	Stantec
	9/11/2007	74.1	19.40	---	---	54.70	Geomatrix
	10/5/2007	74.1	26.84	---	---	47.26	Geomatrix
	11/2/2007	74.1	22.76	---	---	51.34	Geomatrix
	11/12/2007	74.1	22.96	---	---	51.14	Stantec
	12/21/2007	74.1	24.05	---	---	50.05	Geomatrix
	4/14/2008	74.1	24.23	---	---	49.87	Stantec
	10/13/2008	74.1	24.83	---	---	49.27	Stantec
	4/20/2009	74.10	25.27	---	---	48.83	Blaine Tech
	10/19/2009	74.10	26.45	---	---	47.65	Blaine Tech
	5/24/2010	74.10	25.80	---	---	48.30	Blaine Tech
	5/28/2010	74.10	25.66	---	---	48.44	Blaine Tech
	6/22/2010	74.10	25.84	---	---	48.26	Blaine Tech
	10/4/2010	74.10	26.10	---	---	48.00	Blaine Tech
	1/10/2011	74.10	27.41	---	---	46.69	Blaine Tech
	4/11/2011	74.10	24.16	---	---	49.94	Blaine Tech
	7/11/2011	74.10	NM	---	---	NC	
	10/10/2011	74.10	25.02	---	---	49.08	Blaine Tech
	1/9/2012	74.10	25.98	---	---	48.12	Blaine Tech
	4/16/2012	74.10	25.92	---	---	48.18	Blaine Tech
	7/9/2012	74.10	26.44	---	---	47.66	Blaine Tech
	10/15/2012	74.10	NM	---	---	NC	Blaine Tech
	4/8/2013	74.10	DRY	---	---	NC	Blaine Tech
	6/6/2013	74.10	28.53	---	---	45.57	Blaine Tech
	10/7/2013	74.10	28.95	---	---	45.15	Blaine Tech
	4/25/2014	74.10	34.75	27.95	6.80	44.89	Blaine Tech
	5/5/2014	74.10	37.81	31.76	6.05	41.22	Nieto & Sons
	5/12/2014	74.10	32.32	29.11	3.21	44.40	Nieto & Sons
	5/20/2014	74.10	30.75	29.95	0.80	44.00	Nieto & Sons
	5/27/2014	74.1	38.08	32.32	5.76	40.71	Nieto & Sons
	6/4/2014	74.1	32.19	28.61	3.58	44.83	Nieto & Sons
	6/10/2014	74.1	36.27	28.85	7.42	43.88	Nieto & Sons
	7/3/2014	74.1	39.26	32.59	6.67	40.28	Nieto & Sons
	7/8/2014	74.1	36.40	28.60	7.80	44.06	Blaine Tech
	7/18/2014	74.1	31.04	29.66	1.38	44.18	Blaine Tech
	7/24/2014	74.1	31.15	29.85	1.30	44.01	Blaine Tech
	8/1/2014	74.1	30.25	29.85	0.40	44.18	Blaine Tech
8/14/2014	74.1	30.13	29.82	0.31	44.22	Blaine Tech	
8/19/2014	74.1	30.08	29.85	0.23	44.21	Blaine Tech	
8/29/2014	74.1	30.10	29.81	0.29	44.24	Blaine Tech	
9/5/2014	74.1	30.13	29.84	0.29	44.21	Blaine Tech	
9/11/2014	74.1	29.49	28.47	1.02	45.44	Blaine Tech	
9/18/2014	74.1	30.29	29.90	0.39	44.13	Blaine Tech	
9/26/2014	74.1	30.25	29.84	0.41	44.18	Blaine Tech	
10/1/2014	74.1	30.24	29.84	0.40	44.19	Blaine Tech	
10/6/2014	74.1	30.24	29.83	0.41	44.19	Blaine Tech	
10/14/2014	74.1	30.12	29.81	0.31	44.23	Blaine Tech	
10/23/2014	74.1	30.27	29.85	0.42	44.17	Blaine Tech	

**Table 4. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells**

*SFPF 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	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	
5/3/2021	74.10	DRY	---	---	NC	Blaine Tech	
11/1/2021	74.10	DRY	---	---	NC	Blaine Tech	
11/1/2021	74.10	NA	---	---	NA	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	
5/4/2020	76.53	DRY	---	---	NC	Blaine Tech	
11/2/2020	76.53	DRY	---	---	NC	Blaine Tech	

**Table 4. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells**

*SFPF 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 Continued	5/3/2021	76.53	DRY	---	---	NC	Blaine Tech
	11/1/2021	76.53	DRY	---	---	NC	Blaine Tech
	5/9/2022	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	

**Table 4. 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	6/29/2016	78.56	37.06	---	---	41.50	Blaine Tech
	8/22/2016	78.56	39.25	---	---	39.31	Blaine Tech
	10/3/2016	78.56	40.05	---	---	38.51	Blaine Tech
	3/10/2017	78.56	36.56	---	---	42.00	CH2M
	4/17/2017	78.56	35.91	---	---	42.65	Blaine Tech
	10/2/2017	78.56	40.09	---	---	38.47	Blaine Tech
	4/16/2018	78.56	39.90	---	---	38.66	Blaine Tech
	11/5/2018	78.56	39.52	---	---	39.04	Blaine Tech
	4/16/2019	78.56	38.52	---	---	40.04	Blaine Tech
	10/28/2019	78.56	39.13	---	---	39.43	Blaine Tech
	5/4/2020	78.56	36.95	---	---	41.61	Blaine Tech
	11/2/2020	78.56	37.18	---	---	41.38	Blaine Tech
	5/3/2021	78.56	37.38	---	---	41.18	Blaine Tech
11/1/2021	78.56	38.97	---	---	39.59	Blaine Tech	
5/9/2022	78.56	38.14	---	---	40.42	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	

**Table 4. 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	11/3/2014	78.07	37.48	33.09	4.39	44.10	Blaine Tech
	11/18/2014	78.07	37.44	33.15	4.29	44.06	Blaine Tech
	11/25/2014	78.07	37.35	33.21	4.14	44.03	Blaine Tech
	12/3/2014	78.07	37.31	33.12	4.19	44.11	Blaine Tech
	12/12/2014	78.07	37.92	33.45	4.47	43.73	Blaine Tech
	12/19/2014	78.07	38.25	33.50	4.75	43.62	Blaine Tech
	3/17/2015	78.07	36.42	34.05	2.37	43.55	Kinder Morgan
	4/20/2015	78.07	36.42	34.05	2.37	43.55	Blaine Tech
	10/20/2015	78.07	36.78	34.84	1.94	42.84	Kinder Morgan
	3/16/2016	78.07	39.03	---	---	39.04	Kinder Morgan
	4/11/2016	78.07	37.13	---	---	40.94	Blaine Tech
	6/29/2016	78.07	38.34	38.28	0.06	39.78	Blaine Tech
	8/22/2016	78.07	38.60	---	---	39.47	Blaine Tech
	10/3/2016	78.07	39.45	---	---	38.62	Blaine Tech
	3/10/2017	78.07	36.09	---	---	41.98	CH2M
	4/17/2017	78.07	35.12	---	---	42.95	Blaine Tech
	10/2/2017	78.07	39.31	---	---	38.76	Blaine Tech
	4/16/2018	78.07	39.09	---	---	38.98	Blaine Tech
	11/5/2018	78.07	38.96	---	---	39.11	Blaine Tech
	4/16/2019	78.07	37.53	---	---	40.54	Blaine Tech
10/28/2019	78.07	38.78	---	---	39.29	Blaine Tech	
5/4/2020	78.07	36.36	---	---	41.71	Blaine Tech	
11/2/2020	78.07	36.53	---	---	41.54	Blaine Tech	
5/3/2021	78.07	36.19	---	---	41.88	Blaine Tech	
11/1/2021	78.07	38.69	---	---	39.38	Blaine Tech	
5/9/2022	78.07	37.36	---	---	40.71	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	



**Table 4. 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	5/12/2014	73.40	30.02	28.88	1.14	44.24	Nieto & Sons
	5/20/2014	73.40	31.10	29.77	1.33	43.30	Nieto & Sons
	5/27/2014	73.40	30.17	29.48	0.69	43.75	Nieto & Sons
	6/4/2014	73.40	30.22	---	---	43.18	Nieto & Sons
	6/10/2014	73.40	30.20	29.76	0.44	43.53	Nieto & Sons
	7/3/2014	73.40	30.49	29.88	0.61	43.37	Nieto & Sons
	7/24/2014	73.40	30.50	29.54	0.96	43.62	Blaine Tech
	8/1/2014	73.40	29.82	29.25	0.57	44.01	Blaine Tech
	8/8/2014	73.40	34.07	33.71	0.36	39.60	Blaine Tech
	8/14/2014	73.40	29.96	29.13	0.83	44.06	Blaine Tech
	8/19/2014	73.40	29.91	29.15	0.76	44.06	Blaine Tech
	8/29/2014	73.40	30.15	29.02	1.13	44.10	Blaine Tech
	9/5/2014	73.40	30.19	29.08	1.11	44.04	Blaine Tech
	9/11/2014	73.40	30.66	28.91	1.75	44.05	Blaine Tech
	9/18/2014	73.40	30.41	29.15	1.26	43.94	Blaine Tech
	9/26/2014	73.40	30.18	29.14	1.04	44.00	Blaine Tech
	10/1/2014	73.40	30.38	29.05	1.33	44.02	Blaine Tech
	10/6/2014	73.40	30.10	29.12	0.98	44.04	Blaine Tech
	10/13/2014	73.40	30.28	29.07	1.21	44.03	Blaine Tech
	10/23/2014	73.40	30.72	28.95	1.77	44.01	Blaine Tech
	10/27/2014	73.40	30.21	29.06	1.15	44.05	Blaine Tech
	11/3/2014	73.40	30.62	28.93	1.69	44.05	Blaine Tech
	11/18/2014	73.40	30.54	29.11	1.43	43.93	Blaine Tech
	11/25/2014	73.40	29.48	29.14	0.34	44.18	Blaine Tech
	12/3/2014	73.40	31.02	28.93	2.09	43.95	Blaine Tech
	12/12/2014	73.40	31.05	29.40	1.65	43.59	Blaine Tech
	12/19/2014	73.40	31.11	29.40	1.71	43.57	Blaine Tech
	4/20/2015	73.40	32.44	29.04	3.40	43.51	Blaine Tech
	10/19/2015	73.40	35.16	29.31	5.85	42.63	Blaine Tech
	3/14/2016	73.40	34.72	---	---	38.68	Blaine Tech
	4/11/2016	73.40	32.28	---	---	41.12	Blaine Tech
	6/29/2016	73.40	33.62	---	---	39.78	Blaine Tech
	8/22/2016	73.40	33.66	---	---	39.74	Blaine Tech
10/3/2016	73.40	34.20	---	---	39.20	Blaine Tech	
3/24/2017	73.40	31.25	---	---	42.15	CH2M	
4/17/2017	73.40	30.40	---	---	43.00	Blaine Tech	
10/2/2017	73.40	34.52	---	---	38.88	Blaine Tech	
4/16/2018	73.40	34.26	---	---	39.14	Blaine Tech	
11/5/2018	73.40	34.43	---	---	38.97	Blaine Tech	
4/16/2019	73.40	32.29	---	---	41.11	Blaine Tech	
11/1/2019	73.40	33.76	---	---	39.64	Blaine Tech	
5/4/2020	73.40	31.52	---	---	41.88	Blaine Tech	
11/2/2020	73.40	32.05	---	---	41.35	Blaine Tech	
5/3/2021	73.40	32.48	---	---	40.92	Blaine Tech	
11/1/2021	73.40	33.82	---	---	39.58	Blaine Tech	
5/9/2022	73.40	33.52	---	---	39.88	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	

**Table 4. 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	3/24/2009	78.16	29.73	---	---	48.43	Envent
	4/21/2009	78.16	29.61	---	---	48.55	Envent
	7/21/2009	78.16	29.20	---	---	48.96	Envent
	10/19/2009	78.16	NM	---	---	NC	Blaine Tech
	11/6/2009	78.16	30.48	---	---	47.68	Kinder Morgan
	12/9/2009	78.16	30.68	---	---	47.48	Kinder Morgan
	6/22/2010	78.16	26.17	---	---	51.99	Blaine Tech
	10/4/2010	78.16	30.54	---	---	47.62	Blaine Tech
	4/12/2011	78.16	29.55	---	---	48.61	Blaine Tech
	10/10/2011	78.16	29.84	---	---	48.32	Blaine Tech
	4/16/2012	78.16	NM	---	---	NC	Blaine Tech
	7/9/2012	78.16	NM	---	---	NC	Blaine Tech
	10/15/2012	78.16	30.02	---	---	48.14	Blaine Tech
	4/8/2013	78.16	32.75	---	---	45.41	Blaine Tech
	5/24/2013	78.16	32.75	---	---	45.41	Blaine Tech
	9/26/2013	78.16	34.50	34.25	0.25	43.86	Blaine Tech
	10/7/2013	78.16	NM	---	---	NC	Blaine Tech
	11/14/2013	78.16	33.57	33.19	0.38	44.89	Blaine Tech
	4/14/2014	78.16	34.81	33.56	1.25	44.35	Blaine Tech
	8/8/2014	78.16	34.24	33.98	0.26	44.13	Blaine Tech
	10/14/2014	78.16	34.36	33.80	0.56	44.25	Blaine Tech
	10/23/2014	78.16	34.49	34.43	0.06	43.72	Blaine Tech
	10/27/2014	78.16	34.40	33.97	0.43	44.10	Blaine Tech
	11/18/2014	78.16	34.27	34.07	0.20	44.05	Blaine Tech
	4/20/2015	78.16	34.48	---	---	43.68	Blaine Tech
	10/21/2015	78.16	35.25	---	---	42.91	Blaine Tech
	3/14/2016	78.16	36.21	---	---	41.95	Blaine Tech
	4/11/2016	78.16	37.14	---	---	41.02	Blaine Tech
	6/29/2016	78.16	37.36	---	---	40.80	Blaine Tech
	8/22/2016	78.16	DRY	---	---	NC	Blaine Tech
10/3/2016	78.16	DRY	---	---	NC	Blaine Tech	
4/17/2017	78.16	35.40	---	---	42.76	Blaine Tech	
10/2/2017	78.16	DRY	---	---	NC	Blaine Tech	
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	
5/3/2021	78.16	DRY	---	---	NC	Blaine Tech	
11/1/2021	78.16	DRY	---	---	NC	Blaine Tech	
5/9/2022	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	

**Table 4. Groundwater and Product Measurements, and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells**

*SFPF 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	10/19/2009	78.27	NM	---	---	NC	Blaine Tech
	11/4/2009	78.27	31.10	30.45	0.36	47.46	Kinder Morgan
	12/9/2009	78.27	30.87	---	---	47.40	Kinder Morgan
	10/4/2010	78.27	30.66	30.65	0.01	47.62	Blaine Tech
	4/12/2011	78.27	30.50	29.40	1.10	48.65	Blaine Tech
	10/10/2011	78.27	29.60	---	---	48.67	Blaine Tech
	12/2/2011	78.27	31.40	30.05	1.35	47.95	Blaine Tech
	4/16/2012	78.27	32.48	32.39	0.09	45.86	Blaine Tech
	7/9/2012	78.27	NM	---	---	NC	Blaine Tech
	10/15/2012	78.16	33.04	---	---	45.12	Blaine Tech
	4/8/2013	78.27	33.90	---	---	44.37	Blaine Tech
	5/24/2013	78.27	33.90	---	---	44.37	Blaine Tech
	10/7/2013	78.27	NM	---	---	NC	Blaine Tech
	11/14/2013	78.27	33.41	33.38	0.03	44.88	Blaine Tech
	4/18/2014	78.27	33.85	---	---	44.42	Blaine Tech
	8/8/2014	78.27	34.87	33.96	0.91	44.13	Blaine Tech
	8/13/2014	78.27	34.89	33.95	0.94	44.13	Blaine Tech
	8/19/2014	78.27	34.90	33.94	0.96	44.14	Blaine Tech
	8/29/2014	78.27	35.65	35.38	0.27	42.84	Blaine Tech
	10/27/2014	78.27	35.82	---	---	42.45	Blaine Tech
	4/20/2015	78.27	36.63	34.12	2.51	43.65	Blaine Tech
	10/19/2015	78.27	37.90	34.87	3.03	42.79	Blaine Tech
	11/17/2015	78.27	37.71	35.36	2.35	42.44	Kinder Morgan
	3/14/2016	78.27	39.70	---	---	38.57	Blaine Tech
	4/11/2016	78.27	37.24	---	---	41.03	Blaine Tech
	6/29/2016	78.27	38.70	---	---	39.57	Blaine Tech
	8/22/2016	78.27	38.78	---	---	39.49	Blaine Tech
	10/3/2016	78.27	39.56	---	---	38.71	Blaine Tech
	3/23/2017	78.27	36.10	---	---	42.17	CH2M
	4/17/2017	78.27	35.39	---	---	42.88	Blaine Tech
	10/2/2017	78.27	39.40	---	---	38.87	Blaine Tech
	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	
5/3/2021	78.27	37.53	---	---	40.74	Blaine Tech	
11/1/2021	78.27	38.82	---	---	39.45	Blaine Tech	
5/9/2022	78.27	37.86	---	---	40.41	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	

**Table 4. 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	9/3/2010	78.21	30.25	---	---	47.96	Kinder Morgan
	10/4/2010	78.21	30.49	---	---	47.72	Blaine Tech
	4/12/2011	78.21	29.52	---	---	48.69	Blaine Tech
	10/10/2011	78.21	29.85	---	---	48.36	Blaine Tech
	4/16/2012	78.21	NM	---	---	NC	Blaine Tech
	7/9/2012	78.21	NM	---	---	NC	Blaine Tech
	10/15/2012	78.21	32.47	---	---	45.74	Blaine Tech
	4/8/2013	78.21	32.97	32.73	0.24	45.43	Blaine Tech
	5/24/2013	78.21	32.97	32.73	0.24	45.43	Blaine Tech
	10/7/2013	78.21	NM	---	---	NC	Blaine Tech
	11/14/2013	78.21	33.80	33.21	0.59	44.88	Blaine Tech
	4/18/2014	78.21	34.20	33.65	0.55	44.45	Blaine Tech
	8/8/2014	78.21	34.06	34.05	0.01	44.16	Blaine Tech
	10/27/2014	78.21	34.25	---	---	43.96	Blaine Tech
	4/20/2015	78.21	34.52	---	---	43.69	Blaine Tech
	6/8/2015	78.21	35.17	35.00	0.17	43.18	Blaine Tech
	10/21/2015	78.21	34.56	---	---	43.65	Kinder Morgan
	3/14/2016	78.21	39.60	---	---	38.61	Blaine Tech
	4/11/2016	78.21	37.15	---	---	41.06	Blaine Tech
	6/29/2016	78.21	38.35	---	---	39.86	Blaine Tech
	8/22/2016	78.21	38.51	---	---	39.70	Blaine Tech
	10/3/2016	78.21	39.35	---	---	38.86	Blaine Tech
	4/17/2017	78.21	35.20	---	---	43.01	Blaine Tech
	10/2/2017	78.21	DRY	---	---	NC	Blaine Tech
	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	
5/3/2021	78.21	DRY	---	---	NC	Blaine Tech	
11/1/2021	78.21	DRY	---	---	NC	Blaine Tech	
5/9/2022	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

**Table 5. 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 <sub>2</sub> O)	Mass Removed (pounds) <sup>a</sup>
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
2020 Totals	127,703	1,675	--	--	--	32,070
1/1/2021	127,773	70	--	--	--	--
1/5/2021	127,872	99	252	1,411	50	425
1/12/2021	128,040	168	196	1,513	50	601
1/19/2021	128,210	170	146	1,559	50	467
1/26/2021	128,376	166	96	1,458	50	280
2/2/2021	128,543	167	116	1,508	50	352
2/9/2021	128,711	168	108	1,464	50	320
2/16/2021	128,878	167	146	1,435	50	422
2/23/2021	129,023	145	138	1,391	50	336
3/2/2021	129,164	141	134	1,319	50	301
3/9/2021	129,334	170	126	1,491	50	385
3/16/2021	129,501	167	108	1,354	50	295
3/23/2021	129,668	167	126	1,481	50	376
3/30/2021	129,835	167	108	1,604	50	349
<b>First Quarter 2021 Total</b>	<b>129,835</b>	<b>2,132</b>	--	--	--	<b>4,908</b>

**Table 5. 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 <sub>2</sub> O)	Mass Removed (pounds) <sup>a</sup>
4/6/2021	130,004	169	184	1,609	50	447
4/13/2021	130,141	137	268	1,561	50	528
4/20/2021	130,306	165	402	1,483	56	703
4/29/2021	130,526	220	288	1,960	55	911
5/4/2021	130,647	121	448	1,602	56	1,047
5/11/2021	130,812	165	394	1,626	56	1,275
5/18/2021	130,978	166	318	1,835	55	1,168
5/25/2021	131,147	169	914	1,760	55	3,279
6/1/2021	131,314	167	1,314	1,479	55	3,914
6/8/2021	131,485	171	1,040	1,445	55	3,099
6/15/2021	131,651	166	498	1,799	55	1,046
6/22/2021	131,820	169	398	1,806	55	761
6/29/2021	131,987	167	210	1,797	55	367
<b>Second Quarter 2021 Total</b>	<b>131,987</b>	<b>2,152</b>	--	--	--	<b>18,546</b>
7/6/2021	132,152	165	336	1,644	55	671
7/13/2021	132,319	167	330	1,524	55	727
7/21/2021	132,511	192	284	1,688	55	797
7/27/2021	132,657	146	279	1,747	55	443
8/3/2021	132,824	167	214	1,700	55	318
8/12/2021	132,943	119	104	1,838	55	161
8/24/2021	133,023	80	62	1,794	55	63
8/31/2021	133,187	164	180	1,663	55	361
9/7/2021	133,354	167	68	1,671	55	141
9/14/2021	133,523	169	138	1,620	55	280
9/21/2021	133,693	170	246	1,603	55	497
9/30/2021	133,909	216	172	1,579	55	435
<b>Third Quarter 2021 Total</b>	<b>133,909</b>	<b>1,922</b>	--	--	--	<b>4,894</b>
10/5/2021	134,027	118	214	1,740	55	326
10/12/2021	134,195	168	204	1,774	55	451
10/19/2021	134,361	166	226	1,756	55	488
10/26/2021	134,524	163	218	1,681	55	443
11/9/2021	134,620	96	184	1,627	55	176
11/16/2021	134,786	166	209	1,603	55	328
11/23/2021	134,957	171	222	1,740	55	389
11/30/2021	135,118	161	112	1,669	55	170
12/2/2021	135,166	48	225	1,668	56	97
12/7/2021	135,282	116	120	1,676	55	131
12/14/2021	135,446	164	116	1,668	55	181
12/21/2021	135,613	167	146	1,754	55	308
12/28/2021	135,778	165	104	1,548	55	143
<b>Fourth Quarter 2021 Total</b>	<b>135,778</b>	<b>1,869</b>	--	--	--	<b>3,630</b>

**Table 5. 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 <sub>2</sub> O)	Mass Removed (pounds) <sup>a</sup>
1/6/2022	135,847	69	52	1,840	55	56
1/13/2022	136,011	164	116	1,659	55	181
1/18/2022	136,130	119	116	1,509	55	73
1/25/2022	136,299	169	112	1,656	55	176
2/1/2022	136,466	167	126	1,532	55	198
2/8/2022	136,619	153	125	1,531	55	189
2/15/2022	136,786	167	92	1,565	55	142
2/22/2022	136,952	166	74	1,468	55	114
3/1/2022	137,121	169	58	1,701	55	110
3/8/2022	137,288	167	70	1,823	55	145
3/17/2022	137,501	213	62	1,664	55	143
3/22/2022	137,621	120	66	1,752	55	93
3/29/2022	137,790	169	84	1,788	55	167
<b>First Quarter 2022 Total</b>	<b>137,790</b>	<b>2,012</b>	--	--	--	<b>1,785</b>
04/05/22	137,914	124	28	1,958	55	43
04/12/22	138,083	169	36	1,888	55	73
04/19/22	138,194	111	32	2,045	55	40
04/26/22	138,358	164	28	2,163	55	49
05/03/22	138,526	168	24	2,032	55	48
05/10/22	138,679	153	8	1,935	55	14
05/17/22	138,845	166	36	2,164	55	71
05/24/22	139,013	168	36	2,260	55	59
05/31/22	139,181	168	20	2,498	55	35
06/02/22	139,232	51	49	1,780	55	27
06/09/22	139,397	165	16	1,623	55	30
06/14/22	139,519	122	36	1,746	55	52
06/21/22	139,684	165	8	1,772	55	16
06/28/22	139,829	145	24	1,694	55	38
<b>Second Quarter 2022 Total</b>	<b>139,829</b>	<b>2,039</b>	--	--	--	<b>595</b>

**Table 5. 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 <sub>2</sub> O)	Mass Removed (pounds) <sup>a</sup>
07/07/22	140,044	215	16	1,619	55	39
07/12/22	140,166	122	32	1,735	55	49
07/21/22	140,380	214	20	1,641	55	41
07/28/22	140,548	168	28	1,640	55	61
08/02/22	140,669	121	28	1,704	55	39
08/11/22	140,885	216	21	1,741	55	53
08/18/22	141,052	167	12	1,863	55	24
08/25/22	141,219	167	24	1,670	55	49
09/01/22	141,389	170	16	1,799	55	35
09/08/22	141,555	166	18	1,638	55	42
09/15/22	141,708	153	20	1,798	55	40
09/20/22	141,825	117	22	1,727	55	32
09/21/22	142,042	217	20	1,705	55	50
<b>Third Quarter 2022 Total</b>	<b>142,042</b>	<b>2,213</b>	--	--	--	<b>554</b>
10/6/2022	142,209	167	16	1,641	55	29
10/13/2022	142,380	171	16	1,583	55	31
10/17/2022	142,476	96	14	1,641	55	15
10/28/2022	142,736	260	24	1,531	55	62
11/3/2022	142,881	145	20	1,531	55	28
11/10/2022	143,050	169	15	1,519	55	24
11/22/2022	143,341	291	18	1,603	55	53
12/1/2022	143,596	255	20	1,640	55	48
12/8/2022	143,700	104	20	1,445	55	19
12/15/2022	143,843	143	12	1,511	55	15
12/22/2022	143,986	143	36	1,550	55	45
12/28/2022	144,133	147	20	1,500	55	27
<b>Fourth Quarter 2022 Total</b>	<b>144,133</b>	<b>2,091</b>	--	--	--	<b>396</b>
<b>Cumulative Totals</b>	<b>144,133</b>	--	--	--	--	<b>3,644,838</b>

Notes:

<sup>a</sup> 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. H<sub>2</sub>O = 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 (C<sub>4</sub> to C<sub>12</sub>)



**Figures**

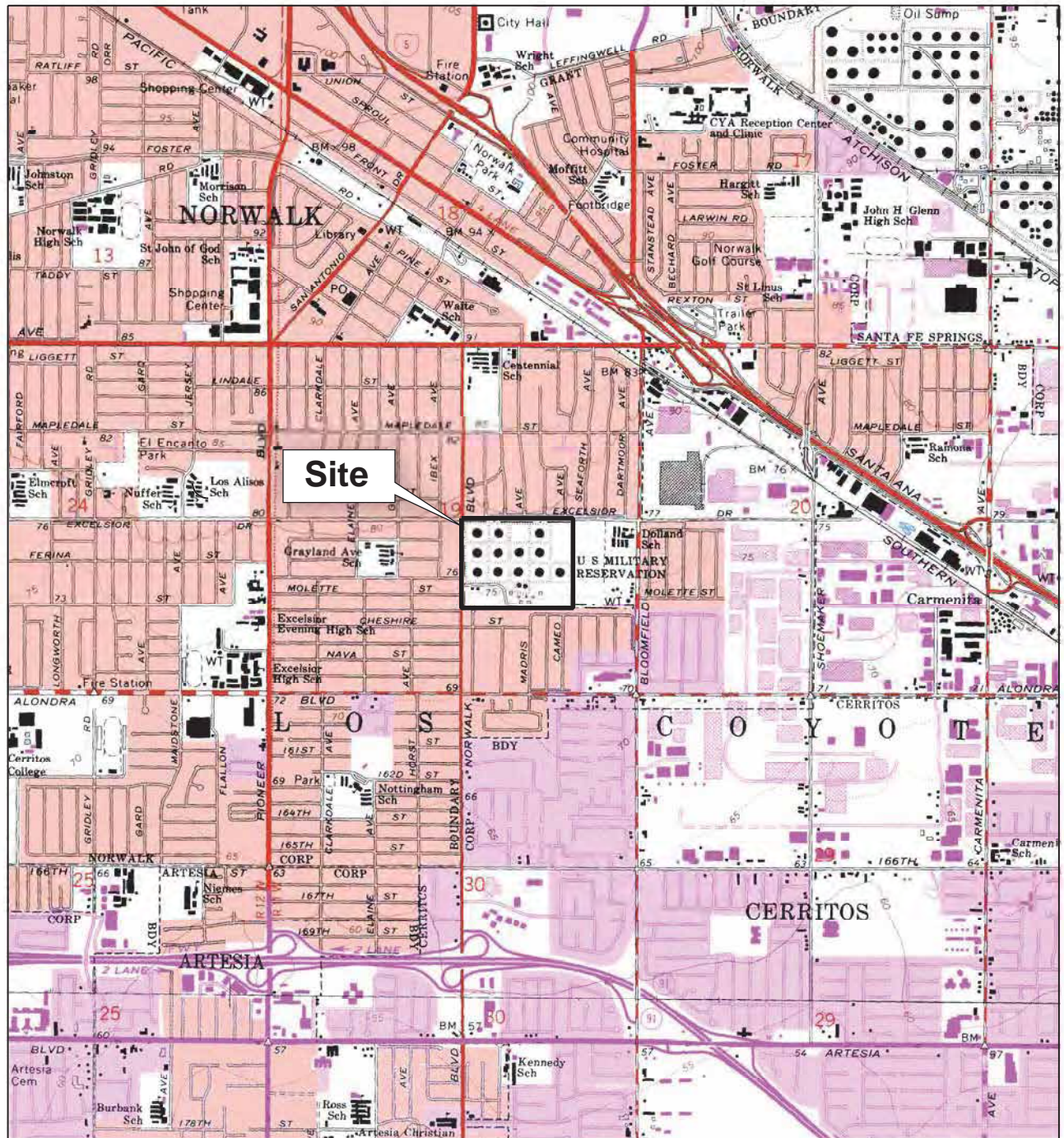
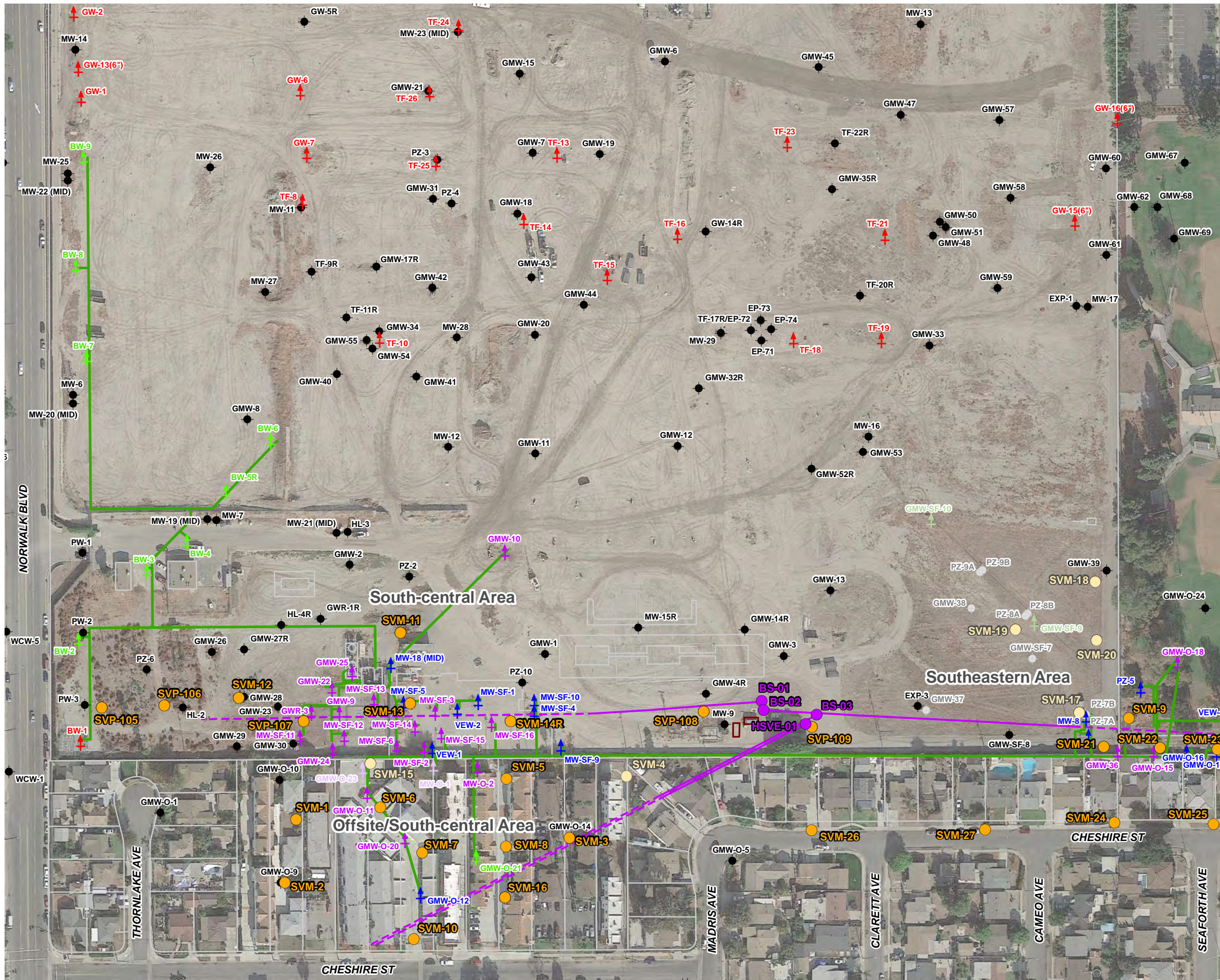


Figure 1. Site Location Map  
 SFPP Norwalk Pump Station  
 Norwalk, California

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





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

Imagery Source:  
Google Earth December 3, 2017.

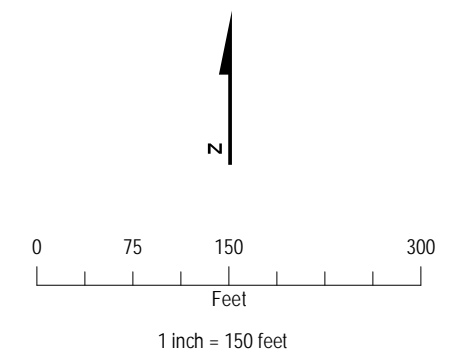
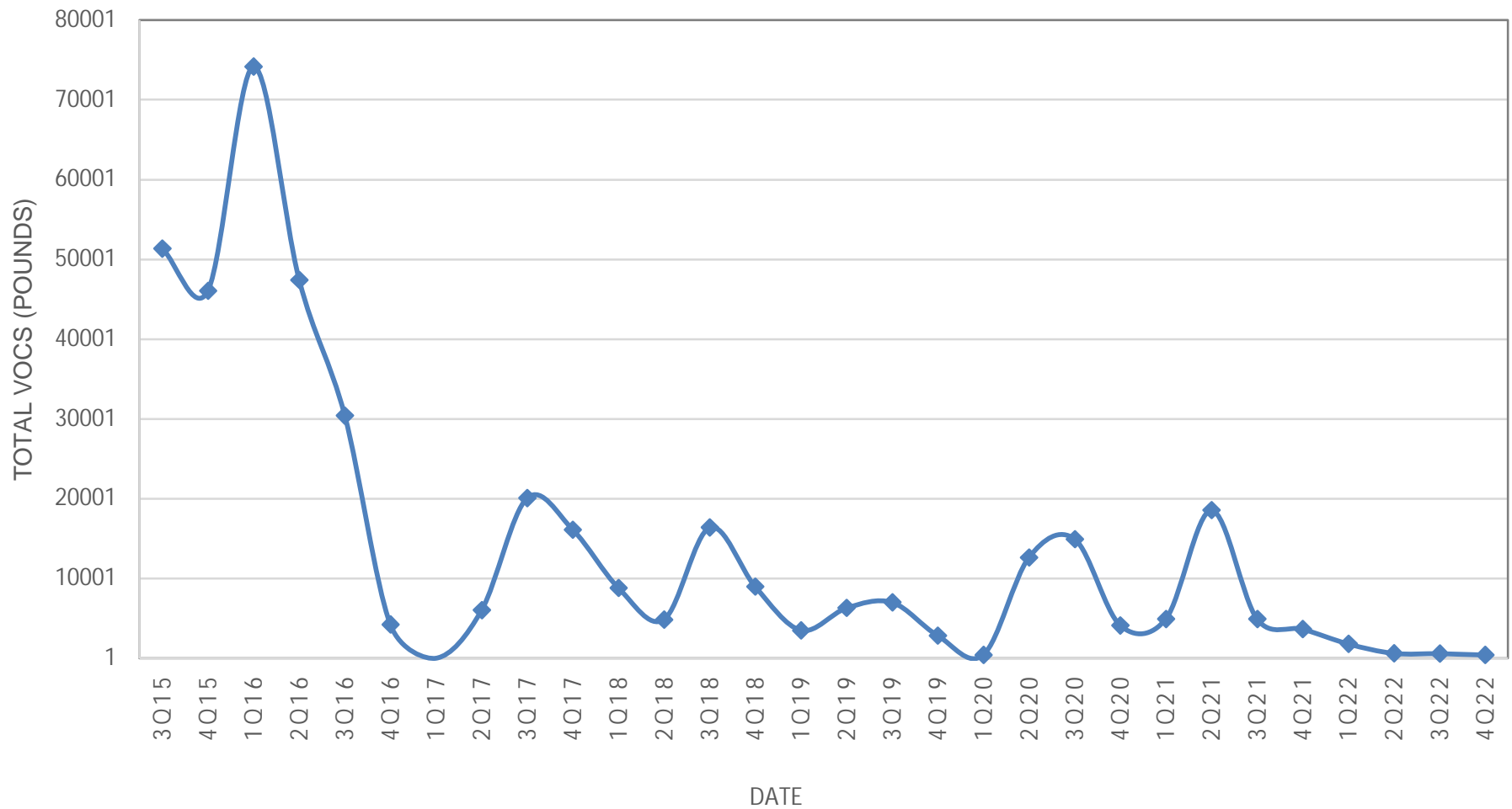
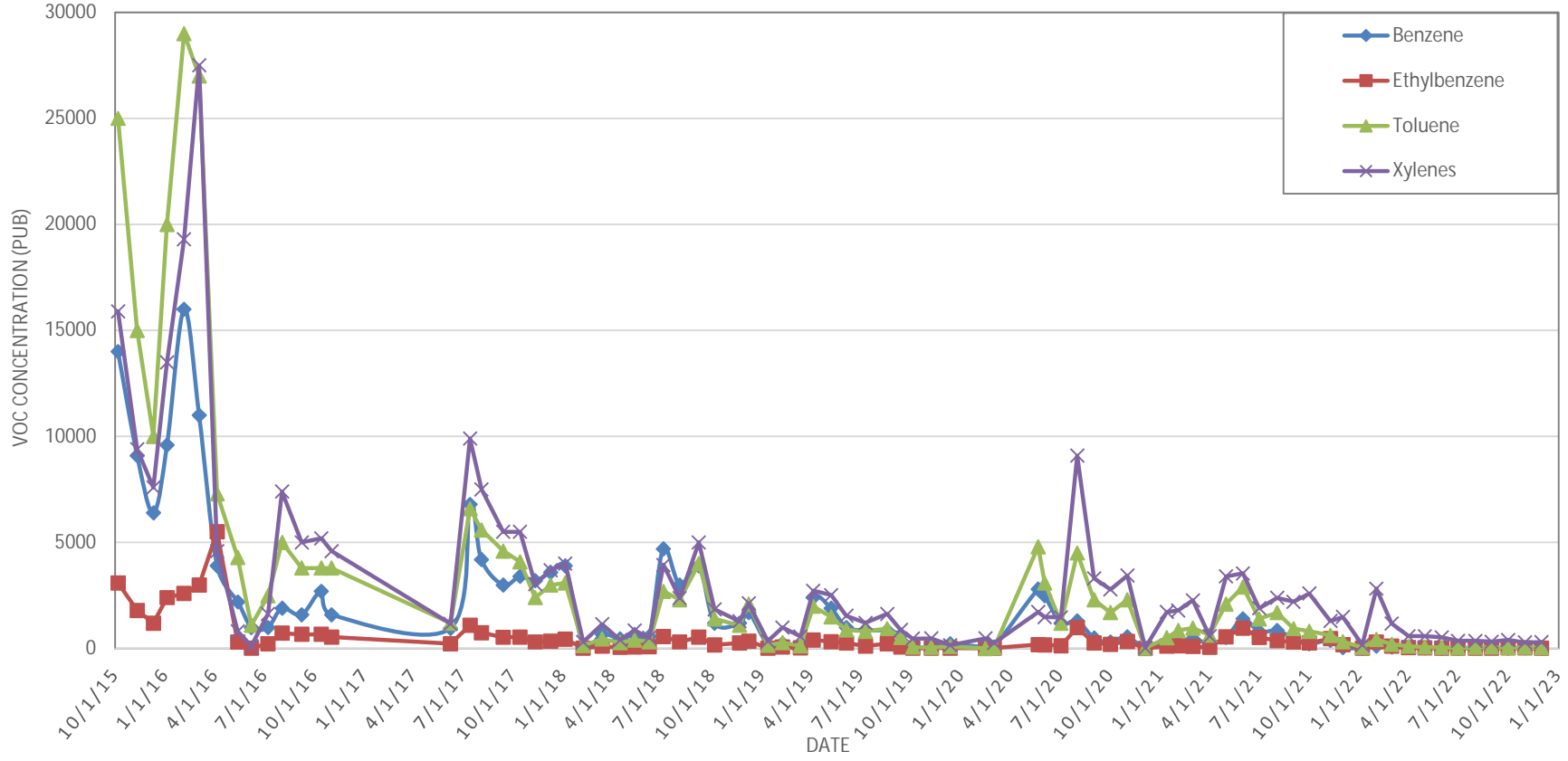


Figure 2. Current and Historical Remediation System Layout(s)  
SFP Norwalk Pump Station  
Norwalk, California



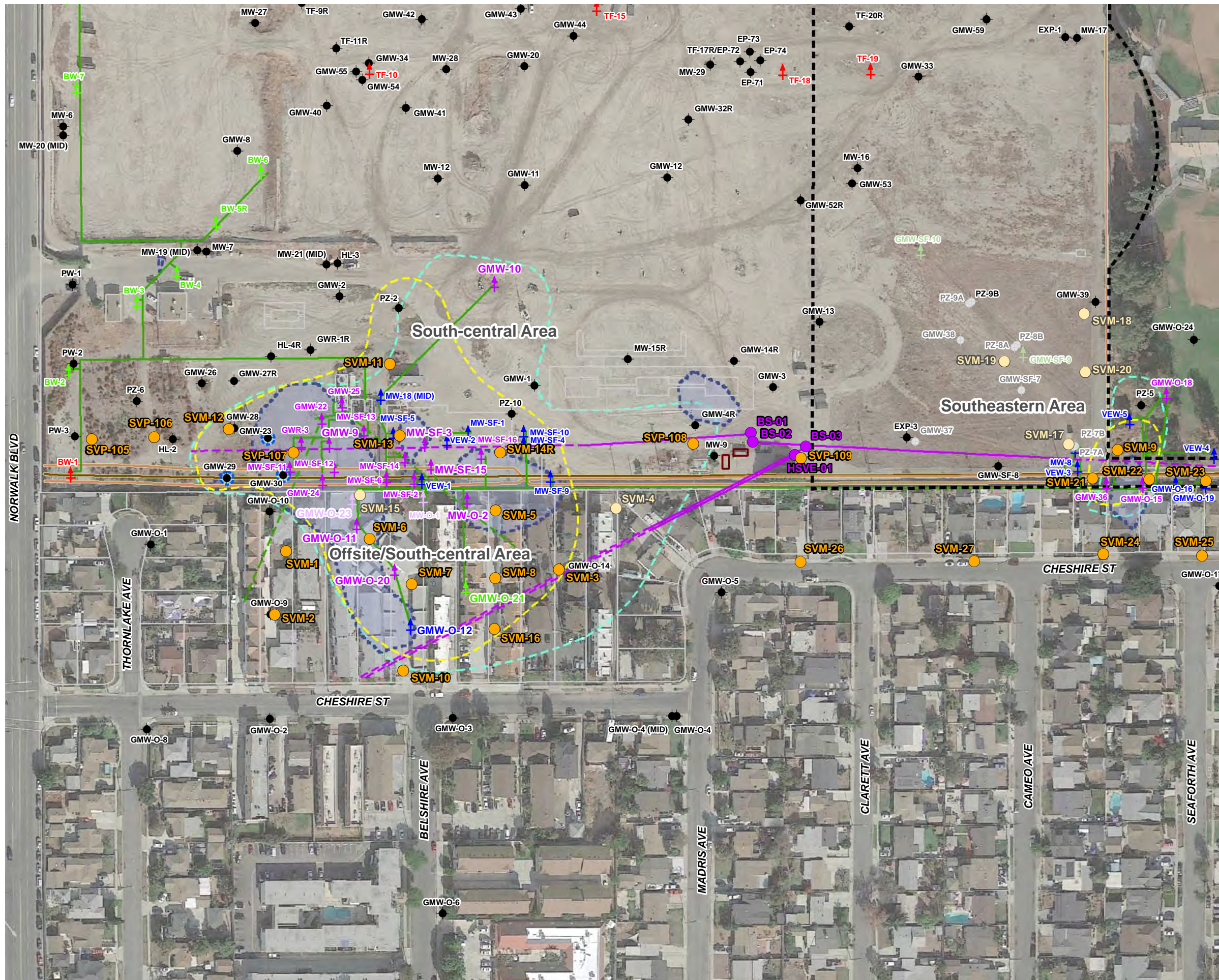
Note:  
 VOC = volatile organic compound

**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



- LEGEND**
- Soil Vapor Probe/Soil Vapor Monitoring Probe
  - Destroyed Soil Vapor Probe/Soil Vapor Monitoring Probe
  - Horizontal Biosparge Well Entry Point
  - Existing Groundwater Monitoring Well
  - Abandoned/Destroyed Groundwater Monitoring Well
  - ↑ Existing Remediation Well
  - ↑ Kinder Morgan Combined Soil Vapor and Total Fluids Extraction Wells
  - ↑ Kinder Morgan Combined Soil Vapor and Total Fluids Extraction Wells (Abandoned)
  - ↑ Kinder Morgan Soil Vapor Extraction Wells
  - ↑ Kinder Morgan Total Fluids and/or Groundwater Extraction Wells
  - ↑ Kinder Morgan Total Fluids and/or Groundwater Extraction Wells (Abandoned)
  - Kinder Morgan Remediation Piping Layout (Above Ground and Below Ground)
  - Horizontal Vapor Extraction Well Piping
  - Horizontal Biosparge Well (Dashed Line Depicts Approximate Lateral Extent of Well Screen)
  - Inferred Historical Extent of LNAPL Zone (Smear Zone) from LNAPL Characterization Work Plan (AMEC Geomatrix, 2010)
  - ▭ Air Compressor System
  - 16" Pipeline (approximate)
  - 24" Pipeline (approximate)
  - Eastern 15-Acre Property Boundary
  - Intermittent NAPL (2022)
  - Estimated Extent of Dissolved Benzene > 5 µg/L (2013)
  - Estimated Extent of Dissolved Benzene > 5 µg/L (2022)

Imagery Source:  
Google Earth December 3, 2017.

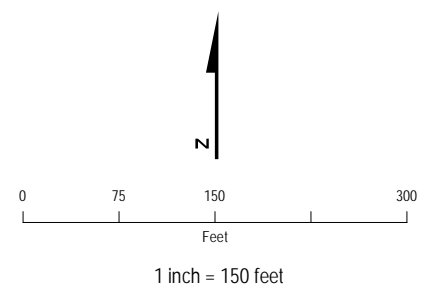


Figure 5. Current and Historical Extent of Dissolved Phase and LNAPL SFPP Norwalk Pump Station Norwalk, California

**Appendix A**  
**Laboratory Analytical Reports**



October 12, 2022

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



LA Cert #04140  
EPA Methods TO3, TO14A, TO15, 25C/3C,  
ASTM D1946, 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: N100408-01/06

Enclosed are results for sample(s) received 10/04/22 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 10/11/22.

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

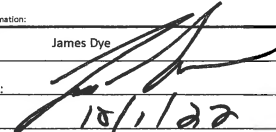
Note: The cover letter is an integral part of this analytical report.



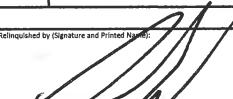
N100408-01/6

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: 10/11/22  
PAGE: 1 of 1

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:		<b>Section D</b> Sampler Information:	
Company: <b>Jacobs</b> Attention: Eric Davis		Report To: Eric Davis		Attention: Eric Davis		Sampler Name: James Dye	
Address: 1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017		Copy To: Court Reece		Company Name: Jacobs		Sampler Signature: 	
Email To: eric.davis@jacobs.com		Purchase Order No.:		Address: 1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017		Sample Date: 10/11/22	
Phone: 404-323-1600	Fax:	Project Name: SFPP Norwalk		Project Manager: Joann De La Ossa			

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G-CRAB C-COMP)	SAMPLING		TOTAL # OF CONTAINERS	Analysis Test			Comments
					DATE	TIME		TO-3 (Total VOCs as Heptane)	TO-15 (VOCs, Target Analytes)	ASTM-D 1946 (O2/Voln, CO2, CH4, H2)	
1	EFF-100122	Effluent (stack)	Vapor	G	10/11/22	1130	1	X	X		Individually Certified 6-Liter SUMMA
2	EFF-100122_D	Effluent (stack) (duplicate)	Vapor	G	10/11/22	1130	1	X	X		Individually Certified 6-Liter SUMMA
3	POST-100122	Influent (post-dilution)	Vapor	G	10/11/22	1140	1	X	X		Individually Certified 1-Liter SUMMA
4	INF-100122	Influent (pre-dilution)	Vapor	G	10/11/22	1150	1	X	X	X	Batch Certified 1-Liter Summa
5	SE-100122		V	G	10/3/22	1220				X	Target analytes includes Historical VOCs and remaining ATU list per subcontract
6	HSR-1-100122		V	G	10/3/22	1230				X	
7											
8											
9											
10											

Relinquished by (Signature and Printed Name):  Date / Time: 10/11/22 1430	Relinquished by (Signature and Printed Name): <b>FRTDEX</b> Date / Time: 10/3/22 1430	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:
Relinquished by (Signature and Printed Name): <b>Fedox</b> Date / Time: 10/4/22 14:21	Relinquished by (Signature and Printed Name): <b>Norman Macella</b> Date / Time: 10/4/22 14:21		
Relinquished by (Signature and Printed Name):	Relinquished by (Signature and Printed Name):		

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

Client: Jacobs  
 Attn: Eric Davis  
 Project Name: SFPP Norwalk  
 Project No.: NA  
 Date Received: 10/04/22  
 Matrix: Air  
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	N100408-01			N100408-02			N100408-03			N100408-04		
Client Sample I.D.:	EFF-100122			EFF-100122-D			POST-100122			INF-100122		
Date/Time Sampled:	10/1/22 11:30			10/1/22 11:30			10/1/22 11:40			10/1/22 11:50		
Date/Time Analyzed:	10/7/22 17:20			10/7/22 17:56			10/7/22 18:31			10/7/22 19:07		
QC Batch No.:	221007MS2A1			221007MS2A1			221007MS2A1			221007MS2A1		
Analyst Initials:	VM			VM			VM			VM		
Dilution Factor:	2.4			2.4			2.4			3.4		
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	0.00084 J	0.0024	0.00023	0.00071 J	0.0024	0.00023	0.019	0.0024	0.00023	0.026	0.0034	0.00033
Chloroform	ND	0.0024	0.00033	ND	0.0024	0.00034	0.00073 J	0.0024	0.00034	0.0011 J	0.0034	0.00048
Carbon Tetrachloride	ND	0.0024	0.00041	ND	0.0024	0.00042	ND	0.0024	0.00042	ND	0.0034	0.00060
1,4-Dioxane	ND	0.012	0.00041	ND	0.012	0.00042	ND	0.012	0.00042	ND	0.017	0.00060
1,4-Dichlorobenzene	ND	0.0024	0.00034	ND	0.0024	0.00035	ND	0.0024	0.00035	ND	0.0034	0.00050
1,1-Dichloroethane	ND	0.0024	0.00032	ND	0.0024	0.00033	ND	0.0024	0.00033	ND	0.0034	0.00047
Ethylbenzene	0.018	0.0024	0.00014	0.019	0.0024	0.00014	0.026	0.0024	0.00014	0.027	0.0034	0.00020
1,2-Dichloroethane	ND	0.0024	0.00017	ND	0.0024	0.00018	ND	0.0024	0.00018	ND	0.0034	0.00026
Methylene Chloride	ND	0.0024	0.00067	ND	0.0024	0.00069	ND	0.0024	0.00069	ND	0.0034	0.00098
t-Butyl Methyl Ether (MTBE)	ND	0.0024	0.00053	0.0021 J	0.0024	0.00054	ND	0.0024	0.00054	ND	0.0034	0.00077
Tetrachloroethene	ND	0.0024	0.00028	ND	0.0024	0.00029	ND	0.0024	0.00029	ND	0.0034	0.00041
1,1,2-Trichloroethane	ND	0.0024	0.00038	ND	0.0024	0.00039	ND	0.0024	0.00039	ND	0.0034	0.00056
Trichloroethene	ND	0.0024	0.00033	ND	0.0024	0.00034	ND	0.0024	0.00034	ND	0.0034	0.00049
Vinyl Chloride	ND	0.0024	0.00038	ND	0.0024	0.00039	ND	0.0024	0.00039	ND	0.0034	0.00056
Naphthalene	ND	0.012	0.00090	ND	0.012	0.00092	ND	0.012	0.00092	ND	0.017	0.0013
c-1,2-Dichloroethene	ND	0.0024	0.00045	ND	0.0024	0.00046	ND	0.0024	0.00046	ND	0.0034	0.00066
2-Butanone	0.0057	0.0024	0.0015	ND	0.0024	0.0015	0.0030	0.0024	0.0015	0.014	0.0034	0.00021
Dichlorodifluoromethane (12)	ND	0.0024	0.00036	ND	0.0024	0.00037	0.00057 J	0.0024	0.00037	0.00058 J	0.0034	0.00053
Chloromethane	ND	0.0047	0.00052	ND	0.0048	0.00053	0.0012 J	0.0048	0.00053	0.00084 J	0.0069	0.00076
1,1,1-Trichloroethane	ND	0.0024	0.00024	ND	0.0024	0.00024	ND	0.0024	0.00024	ND	0.0034	0.00034
1,2-CI-1,1,2,2-F ethane (114)	ND	0.0024	0.00047	ND	0.0024	0.00048	ND	0.0024	0.00048	ND	0.0034	0.00069
Bromomethane	ND	0.0024	0.00069	ND	0.0024	0.00071	ND	0.0024	0.00071	ND	0.0034	0.0010
Chloroethane	ND	0.0024	0.0020	ND	0.0024	0.0020	ND	0.0024	0.0020	ND	0.0034	0.0029
Trichlorofluoromethane (11)	ND	0.0024	0.00051	ND	0.0024	0.00052	ND	0.0024	0.00052	ND	0.0034	0.00074
1,2-Dichloropropane	ND	0.0024	0.00042	ND	0.0024	0.00044	ND	0.0024	0.00044	ND	0.0034	0.00062
Bromodichloromethane	ND	0.0024	0.00014	ND	0.0024	0.00014	ND	0.0024	0.00014	ND	0.0034	0.00021
c-1,3-Dichloropropene	ND	0.0024	0.00028	ND	0.0024	0.00029	ND	0.0024	0.00029	ND	0.0034	0.00041
4-Methyl-2-Pentanone	ND	0.0024	0.00016	ND	0.0024	0.00016	ND	0.0024	0.00016	ND	0.0034	0.00023
Toluene	0.010	0.0024	0.00019	0.011	0.0024	0.00019	0.039	0.0024	0.00019	0.051	0.0034	0.00027
t-1,3-Dichloropropene	ND	0.0024	0.00024	ND	0.0024	0.00025	ND	0.0024	0.00025	ND	0.0034	0.00035
1,1-Dichloroethene	ND	0.0024	0.00053	ND	0.0024	0.00055	ND	0.0024	0.00055	ND	0.0034	0.00078
1,3-Dichloropropane	ND	0.0024	0.00012	ND	0.0024	0.00012	ND	0.0024	0.00012	ND	0.0034	0.00017
Carbon Disulfide	0.022	0.012	0.00056	0.0036 J	0.012	0.00058	0.0040 J	0.012	0.00058	0.0041 J	0.017	0.00082
2-Hexanone	ND	0.0024	0.00048	ND	0.0024	0.00050	ND	0.0024	0.00050	ND	0.0034	0.00071
Dibromochloromethane	ND	0.0024	0.00043	ND	0.0024	0.00044	ND	0.0024	0.00044	ND	0.0034	0.00063
1,2-Dibromoethane	ND	0.0024	0.00021	ND	0.0024	0.00022	ND	0.0024	0.00022	ND	0.0034	0.00031
Chlorobenzene	ND	0.0024	0.00018	ND	0.0024	0.00019	0.0024 J	0.0024	0.00019	0.0038	0.0034	0.00027
1,1,2-CI 1,2,2-F ethane (113)	ND	0.0024	0.00063	ND	0.0024	0.00065	ND	0.0024	0.00065	ND	0.0034	0.00092
p,&m-Xylene	0.13	0.0024	0.00027	0.14	0.0024	0.00027	0.19	0.0024	0.00027	0.22	0.0034	0.00039



Client: Jacobs  
 Attn: Eric Davis  
 Project Name: SFPP Norwalk  
 Project No.: NA  
 Date Received: 10/04/22  
 Matrix: Air  
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	N100408-01			N100408-02			N100408-03			N100408-04		
Client Sample I.D.:	EFF-100122			EFF-100122-D			POST-100122			INF-100122		
Date/Time Sampled:	10/1/22 11:30			10/1/22 11:30			10/1/22 11:40			10/1/22 11:50		
Date/Time Analyzed:	10/7/22 17:20			10/7/22 17:56			10/7/22 18:31			10/7/22 19:07		
QC Batch No.:	221007MS2A1			221007MS2A1			221007MS2A1			221007MS2A1		
Analyst Initials:	VM			VM			VM			VM		
Dilution Factor:	2.4			2.4			2.4			3.4		
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	0.039	0.0024	0.00029	0.040	0.0024	0.00029	0.11	0.0024	0.00029	0.18	0.0034	0.00042
Styrene	0.0016 J	0.0024	0.00030	ND	0.0024	0.00031	0.0035	0.0024	0.00031	0.0053	0.0034	0.00044
Bromoform	ND	0.0024	0.00013	ND	0.0024	0.00013	ND	0.0024	0.00013	ND	0.0034	0.00019
Isopropyl benzene	0.00052 J	0.0024	0.00025	ND	0.0024	0.00025	0.0024 J	0.0024	0.00025	0.0042	0.0034	0.00036
1,1,2,2-Tetrachloroethane	ND	0.0047	0.00014	ND	0.0048	0.00015	ND	0.0048	0.00015	ND	0.0069	0.00021
Benzyl Chloride	ND	0.0024	0.00043	ND	0.0024	0.00044	0.0012 Q	0.0024	0.00044	ND	0.0034	0.00063
1,2,3-Trichloropropane	ND	0.0024	0.00063	ND	0.0024	0.00065	ND	0.0024	0.00065	ND	0.0034	0.00092
n-Propyl Benzene	0.0016 J	0.0024	0.00014	0.0017 J	0.0024	0.00014	0.0048	0.0024	0.00014	0.0086	0.0034	0.00020
4-Ethyl Toluene	0.0037	0.0024	0.00015	0.0038	0.0024	0.00015	0.040	0.0024	0.00015	0.081	0.0034	0.00022
1,3,5-Trimethylbenzene	0.0011 J	0.0047	0.00041	0.0012 J	0.0048	0.00042	0.045	0.0048	0.00042	0.095	0.0069	0.00059
4-Chlorotoluene	ND	0.0024	0.00028	ND	0.0024	0.00029	ND	0.0024	0.00029	ND	0.0034	0.00041
tert-Butylbenzene	ND	0.0024	0.00021	ND	0.0024	0.00022	ND	0.0024	0.00022	ND	0.0034	0.00031
1,2,4-Trimethylbenzene	0.0032 J	0.0047	0.00027	0.0032 J	0.0048	0.00027	0.017	0.0048	0.00027	0.032	0.0069	0.00039
sec-Butylbenzene	ND	0.0024	0.00023	ND	0.0024	0.00023	0.0011 J	0.0024	0.00023	0.0024 J	0.0034	0.00033
p-Isopropyltoluene	ND	0.0024	0.00031	0.00054 J	0.0024	0.00031	0.00098 J	0.0024	0.00031	0.0018 J	0.0034	0.00045
1,3-Dichlorobenzene	ND	0.0024	0.00029	ND	0.0024	0.00029	ND	0.0024	0.00029	ND	0.0034	0.00042
Acetone	0.19	0.012	0.00068	0.21	0.012	0.00069	0.31	0.012	0.00069	0.22	0.017	0.00099
n-Butylbenzene	ND	0.0024	0.00017	0.00020 J	0.0024	0.00018	ND	0.0024	0.00018	ND	0.0034	0.00025
1,2-Dichlorobenzene	ND	0.0024	0.00029	ND	0.0024	0.00030	ND	0.0024	0.00030	ND	0.0034	0.00043
1,2,4-Trichlorobenzene	ND	0.0047	0.00039	ND	0.0048	0.00040	ND	0.0048	0.00040	ND	0.0069	0.00057
Hexachlorobutadiene	ND	0.0024	0.00014	ND	0.0024	0.00014	ND	0.0024	0.00014	ND	0.0034	0.00020
t-Butanol	ND	0.012	0.00045	ND	0.012	0.00046	0.0024 J	0.012	0.00046	0.0037 J	0.017	0.00066
n-Hexane	ND	0.012	0.00032	ND	0.012	0.00032	0.20	0.012	0.00032	0.24	0.017	0.00046
Isopropyl ether	ND	0.012	0.00026	ND	0.012	0.00027	ND	0.012	0.00027	ND	0.017	0.00038
t-Butyl ethyl ether	ND	0.012	0.00047	ND	0.012	0.00048	ND	0.012	0.00048	ND	0.017	0.00069
2,2-Dichloropropane	ND	0.012	0.00022	ND	0.012	0.00023	ND	0.012	0.00023	ND	0.017	0.00033
t-Amyl methyl ether	ND	0.012	0.00017	ND	0.012	0.00017	ND	0.012	0.00017	ND	0.017	0.00024
t-1,2-Dichloroethene	ND	0.0024	0.00070	ND	0.0024	0.00072	ND	0.0024	0.00072	ND	0.0034	0.0010
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.  
 Q = Analyte exhibited high recovery in the continuing calibration verification. Result may contain a high bias.

Reviewed/Approved By: *Amika Stokley*  
 Mark Johnson  
 Operations Manager

Date 10-11-22

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: 10/04/22  
 Matrix: Air  
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	METHOD BLANK														
Client Sample I.D.:	--														
Date/Time Sampled:	--														
Date/Time Analyzed:	10/7/22 16:44														
QC Batch No.:	221007MS2A1														
Analyst Initials:	VM														
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-Di-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	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-Di-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: 10/04/22  
 Matrix: Air  
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	METHOD BLANK													
Client Sample I.D.:	--													
Date/Time Sampled:	--													
Date/Time Analyzed:	10/7/22 16:44													
QC Batch No.:	221007MS2A1													
Analyst Initials:	VM													
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: *Annika Setelo*  
 Mark Johnson  
 Operations Manager

Date 10-11-22

The cover letter is an integral part of this analytical report



### LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 221007MS2A1

Matrix: Air

Reporting Units: ppmv

**EPA Method TO15  
LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:		METHOD BLANK		LCS		LCSD					
Date/Time Analyzed:		10/7/22 16:44		10/7/22 14:51		10/7/22 15:27					
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	0.0104	104	0.0102	102	1.5	70	130	30.0
Methylene Chloride	ND	0.00020	0.010	0.0104	104	0.0104	104	0.6	70	130	30.0
Trichloroethene	ND	0.00020	0.010	0.0104	104	0.0101	101	2.7	70	130	30.0
Toluene	ND	0.00020	0.010	0.0111	111	0.0108	108	2.6	70	130	30.0
1,1,2,2-Tetrachloroethane	ND	0.00020	0.010	0.0110	110	0.0111	111	0.7	70	130	30.0

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By:

*Annika Seiler*  
Mark Johnson  
Operations Manager

Date:

10-11-22

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:** 10/04/22  
**Matrix:** Air  
**Reporting Units:** ppmv

**EPA METHOD TO3**

Lab No.:	N100408-01	N100408-02	N100408-03	N100408-04				
Client Sample I.D.:	EFF-100122	EFF-100122-D	POST-100122	INF-100122				
Date/Time Sampled:	10/1/22 11:30	10/1/22 11:30	10/1/22 11:40	10/1/22 11:50				
Date/Time Analyzed:	10/6/22 13:28	10/6/22 13:51	10/6/22 14:13	10/6/22 14:36				
QC Batch No.:	221006G11A1	221006G11A1	221006G11A1	221006G11A1				
Analyst Initials:	RC	RC	RC	RC				
Dilution Factor:	2.4	2.4	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	2.4	ND	2.4	10	2.4	14	2.4

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

Reviewed/Approved By: Mark Johnson  
 Mark Johnson  
 Operations Manager

Date 10-11-22

The cover letter is an integral part of this analytical report



QC Batch No: 221006GC11A1

Matrix: Air

Reporting Units: ppmv

**EPA METHOD TO3  
LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK			LCS		LCS		LCS			
Date Analyzed:	10/6/22 11:32			10/6/22 7:29		10/6/22 7:52					
Analyst Initials:	RC			RC		RC					
Dilution Factor:	1.0			1.0		1.0					
ANALYTE	Result ppmv	RL ppmv	SPIKE AMT. ppmv	Result ppmv	% Rec.	Result ppmv	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
TVOC as Hexane	ND	1.0	5.0	4.64	93	4.53	91	2.4	70	130	25

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

Reviewed/Approved By: *Annika Stiles Long*  
Mark Johnson  
Operations Manager

Date 10-11-22

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:** 10/04/22  
**Matrix:** Air  
**Reporting Units:** % v/v

**ASTM D1946**

Lab No.:	N100408-04	N100408-05	N100408-06					
Client Sample I.D.:	INF-100122	SE-100122	HSV121-100122					
Date/Time Sampled:	10/1/22 11:50	10/3/22 12:20	10/3/22 12:30					
Date/Time Analyzed:	10/7/22 11:36	10/7/22 11:06	10/7/22 11:20					
QC Batch No.:	221007GC8A1	221007GC8A1	221007GC8A1					
Analyst Initials:	RC	RC	RC					
Dilution Factor:	2.4	2.4	2.4					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v		
Carbon Dioxide	0.68	0.024	0.82	0.024	0.99	0.024		
Oxygen/Argon	21	1.2	21	1.2	20	1.2		
Nitrogen	79	2.4	79	2.4	78	2.4		
Methane	0.0026	0.0024	ND	0.0024	ND	0.0024		

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: Mark Johnson  
 Mark Johnson  
 Operations Manager

Date 10-11-22

The cover letter is an integral part of this analytical report



QC Batch No: 221007GC8A1  
 Matrix: Air  
 Reporting Units: % v/v

**ASTM D1946  
 LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK			LCS		LCSD					
Date Analyzed:	10/7/22 10:33			10/7/22 9:50		10/7/22 10:04					
Analyst Initials:	RC			RC		RC					
Dilution Factor:	1.0			1.0		1.0		Limits			
ANALYTE	Result % v/v	RL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
Carbon Dioxide	ND	0.010	10	9.71	97	9.55	95	1.7	70	130	30
Oxygen/Argon	ND	0.50	15	14.6	99	14.5	98	0.6	70	130	30
Nitrogen	ND	1.0	70	69.7	100	69.6	100	0.1	70	130	30
Methane	ND	0.0010	0.10	0.114	114	0.113	113	0.5	70	130	30

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

Reviewed/Approved By: *Mark Johnson*  
 Mark Johnson  
 Operations Manager

Date 10-11-22

The cover letter is an integral part of this analytical report





November 11, 2022

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



LA Cert #04140  
EPA Methods TO3, TO14A, TO15, 25C/3C,  
ASTM D1946, 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: N110304-01/04

Enclosed are results for sample(s) received 11/03/22 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 11/10/22.

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 that reads "Mark Johnson".

Mark Johnson  
Operations Manager  
MJohnson@AirTechLabs.com

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

N110304-01/04

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: 11/1/22  
PAGE: 1 of 1

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Source Information:		<b>Section D</b> Sampler Information:	
Company: Jacobs Attention: Eric Davis		Report To: Eric Davis		Attention: Eric Davis		Sampler Name: James Dye	
Address: 1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017		Copy To: Court Reece		Company Name: Jacobs		Sampler Signature:	
Email To: eric.davis@jacobs.com		Purchase Order No.:		Address: 1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017		Sample Date: 11/1/22	
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	TO-3 (Total VOCs as Hexane)	TO-15 (VOCs, Target Analytes)	METH-D (Meth, D2, Acetylene, CO2, CH4, H2)	Comments
					# OF CONTAINERS	VOLUME (mL)						
					PRESERVATIVE		SAMPLING					
					DATE	TIME						
1	EFF- 110122	Effluent (stack)	Vapor	G			1	X	X			Individually Certified 6-Liter SUMMA
2	EFF- 110122 D	Effluent (stack) (duplicate)	Vapor	G			1	X	X			Individually Certified 6-Liter SUMMA
3	POST- 110122	Influent (post-dilution)	Vapor	G			1	X	X		Cancelled 20 11/2/22	Individually Certified 1-Liter SUMMA
4	INF- 110122	Influent (pre-dilution)	Vapor	G			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:  JAMES DYE 11/1/22 1420	Retrieved by Signature and Printed Name: FED EX 11/1/22 1430	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: • COW-TIME FROM SMPLE ID TAGS TO 11/3/22 • CANCELLED DUE TO 0" Hg upon receipt for NOISEWORK 20
Retrieved by Signature and Printed Name:  JAMES DYE 11/3/22	Retrieved by Signature and Printed Name:  JAMES DYE 11/3/22 1402		
Retrieved by Signature and Printed Name:	Retrieved by Signature and Printed Name:		

<b>Matrix:</b>			<b>Preservatives:</b>			<b>Container Type:</b>			
W = Water	WW = Wastewater		H = HCl	N = HNO3	S = H2SO4	T = Tube	V = VOA	P = Pint	A = Amber
O = Oil	P = Product	S = Soil	Z = Zn(ACl2)	O = NaOH	T = Na2S2O3	J = Jar	B = Tedlar	G = Glass	
Others/Specify:			Others/Specify:			M = Metal P = Plastic C = Can			

Client: Jacobs  
 Attn: Eric Davis  
 Project Name: SFPP Norwalk  
 Project No.: NA  
 Date Received: 11/03/22  
 Matrix: Air  
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	N110304-01			N110304-02			N110304-04		
Client Sample I.D.:	EFF-110122			EFF-110122-D			INF-110122		
Date/Time Sampled:	11/1/22 13:00			11/1/22 13:00			11/1/22 13:20		
Date/Time Analyzed:	11/7/22 20:03			11/7/22 20:40			11/7/22 21:15		
QC Batch No.:	221107MS2A1			221107MS2A1			221107MS2A1		
Analyst Initials:	VM			VM			VM		
Dilution Factor:	2.5			2.5			2.4		
ANALYTE	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv
Benzene	0.00089 J	0.0025	0.00024	0.00079 J	0.0025	0.00024	0.029	0.0024	0.00023
Chloroform	ND	0.0025	0.00035	ND	0.0025	0.00035	0.0010 J	0.0024	0.00034
Carbon Tetrachloride	ND	0.0025	0.00044	ND	0.0025	0.00044	ND	0.0024	0.00042
1,4-Dioxane	ND	0.013	0.00044	ND	0.013	0.00044	ND	0.012	0.00042
1,4-Dichlorobenzene	ND	0.0025	0.00037	ND	0.0025	0.00037	ND	0.0024	0.00035
1,1-Dichloroethane	ND	0.0025	0.00034	ND	0.0025	0.00034	ND	0.0024	0.00033
Ethylbenzene	0.013	0.0025	0.00015	0.013	0.0025	0.00015	0.027	0.0024	0.00014
1,2-Dichloroethane	ND	0.0025	0.00019	ND	0.0025	0.00019	0.00057 J	0.0024	0.00018
Methylene Chloride	ND	0.0025	0.00072	ND	0.0025	0.00072	ND	0.0024	0.00069
t-Butyl Methyl Ether (MTBE)	0.00090 J	0.0025	0.00056	0.00082 J	0.0025	0.00056	ND	0.0024	0.00054
Tetrachloroethene	ND	0.0025	0.00030	ND	0.0025	0.00030	ND	0.0024	0.00029
1,1,2-Trichloroethane	ND	0.0025	0.00041	ND	0.0025	0.00041	ND	0.0024	0.00039
Trichloroethene	ND	0.0025	0.00036	ND	0.0025	0.00036	ND	0.0024	0.00034
Vinyl Chloride	ND	0.0025	0.00041	ND	0.0025	0.00041	ND	0.0024	0.00039
Naphthalene	ND	0.013	0.00097	ND	0.013	0.00097	ND	0.012	0.00092
c-1,2-Dichloroethene	ND	0.0025	0.00049	ND	0.0025	0.00049	ND	0.0024	0.00046
2-Butanone	0.045	0.0025	0.0016	0.046	0.0025	0.0016	0.066	0.0024	0.0015
Dichlorodifluoromethane (12)	ND	0.0025	0.00039	ND	0.0025	0.00039	0.00052 J	0.0024	0.00037
Chloromethane	ND	0.0051	0.00056	ND	0.0051	0.00056	ND	0.0048	0.00053
1,1,1-Trichloroethane	ND	0.0025	0.00025	ND	0.0025	0.00025	ND	0.0024	0.00024
1,2-CI-1,1,2,2-F ethane (114)	ND	0.0025	0.00051	ND	0.0025	0.00051	ND	0.0024	0.00048
Bromomethane	ND	0.0025	0.00074	ND	0.0025	0.00074	ND	0.0024	0.00071
Chloroethane	ND	0.0025	0.0021	ND	0.0025	0.0021	ND	0.0024	0.0020
Trichlorofluoromethane (11)	ND	0.0025	0.00054	ND	0.0025	0.00054	ND	0.0024	0.00052
1,2-Dichloropropane	ND	0.0025	0.00046	ND	0.0025	0.00046	ND	0.0024	0.00044
Bromodichloromethane	ND	0.0025	0.00015	ND	0.0025	0.00015	ND	0.0024	0.00014
c-1,3-Dichloropropene	ND	0.0025	0.00030	ND	0.0025	0.00030	ND	0.0024	0.00029
4-Methyl-2-Pentanone	ND	0.0025	0.00017	ND	0.0025	0.00017	ND	0.0024	0.00016
Toluene	0.0057	0.0025	0.00020	0.0054	0.0025	0.00020	0.056	0.0024	0.00019
t-1,3-Dichloropropene	ND	0.0025	0.00026	ND	0.0025	0.00026	ND	0.0024	0.00025
1,1-Dichloroethene	ND	0.0025	0.00057	ND	0.0025	0.00057	ND	0.0024	0.00055
1,3-Dichloropropane	ND	0.0025	0.00013	ND	0.0025	0.00013	ND	0.0024	0.00012
Carbon Disulfide	0.013	0.013	0.00061	0.0045 J	0.013	0.00061	0.017	0.012	0.00058
2-Hexanone	ND	0.0025	0.00052	ND	0.0025	0.00052	ND	0.0024	0.00050
Dibromochloromethane	ND	0.0025	0.00046	ND	0.0025	0.00046	ND	0.0024	0.00044
1,2-Dibromoethane	ND	0.0025	0.00023	ND	0.0025	0.00023	ND	0.0024	0.00022
Chlorobenzene	ND	0.0025	0.00020	ND	0.0025	0.00020	0.0041	0.0024	0.00019
1,1,2-CI 1,2,2-F ethane (113)	ND	0.0025	0.00068	ND	0.0025	0.00068	ND	0.0024	0.00065
p,&m-Xylene	0.097	0.0025	0.00029	0.097	0.0025	0.00029	0.15	0.0024	0.00027



Client: Jacobs  
 Attn: Eric Davis  
 Project Name: SFPP Norwalk  
 Project No.: NA  
 Date Received: 11/03/22  
 Matrix: Air  
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	N110304-01			N110304-02			N110304-04		
Client Sample I.D.:	EFF-110122			EFF-110122-D			INF-110122		
Date/Time Sampled:	11/1/22 13:00			11/1/22 13:00			11/1/22 13:20		
Date/Time Analyzed:	11/7/22 20:03			11/7/22 20:40			11/7/22 21:15		
QC Batch No.:	221107MS2A1			221107MS2A1			221107MS2A1		
Analyst Initials:	VM			VM			VM		
Dilution Factor:	2.5			2.5			2.4		
ANALYTE	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv
o-Xylene	0.030	0.0025	0.00031	0.029	0.0025	0.00031	0.14	0.0024	0.00029
Styrene	0.0011 J	0.0025	0.00032	0.0011 J	0.0025	0.00032	0.0042	0.0024	0.00031
Bromoform	ND	0.0025	0.00014	ND	0.0025	0.00014	ND	0.0024	0.00013
Isopropyl benzene	0.00040 J	0.0025	0.00026	ND	0.0025	0.00026	0.0038	0.0024	0.00025
1,1,2,2-Tetrachloroethane	ND	0.0051	0.00015	ND	0.0051	0.00015	ND	0.0048	0.00015
Benzyl Chloride	ND	0.0025	0.00046	ND	0.0025	0.00046	ND	0.0024	0.00044
1,2,3-Trichloropropane	ND	0.0025	0.00068	ND	0.0025	0.00068	ND	0.0024	0.00065
n-Propyl Benzene	0.00096 J	0.0025	0.00015	0.00093 J	0.0025	0.00015	0.0093	0.0024	0.00014
4-Ethyl Toluene	0.0029	0.0025	0.00016	0.0027	0.0025	0.00016	0.081	0.0024	0.00015
1,3,5-Trimethylbenzene	0.0011 J	0.0051	0.00044	0.00092 J	0.0051	0.00044	0.072	0.0048	0.00042
4-Chlorotoluene	ND	0.0025	0.00030	ND	0.0025	0.00030	ND	0.0024	0.00029
tert-Butylbenzene	ND	0.0025	0.00023	ND	0.0025	0.00023	ND	0.0024	0.00022
1,2,4-Trimethylbenzene	0.0026 J	0.0051	0.00029	0.0024 J	0.0051	0.00029	0.032	0.0048	0.00027
sec-Butylbenzene	ND	0.0025	0.00024	ND	0.0025	0.00024	0.0021 J	0.0024	0.00023
p-Isopropyltoluene	ND	0.0025	0.00033	ND	0.0025	0.00033	0.0016 J	0.0024	0.00031
1,3-Dichlorobenzene	ND	0.0025	0.00031	ND	0.0025	0.00031	ND	0.0024	0.00029
Acetone	0.11	0.013	0.00073	0.11	0.013	0.00073	0.15	0.012	0.00069
n-Butylbenzene	0.00026 J	0.0025	0.00018	ND	0.0025	0.00018	ND	0.0024	0.00018
1,2-Dichlorobenzene	ND	0.0025	0.00031	ND	0.0025	0.00031	ND	0.0024	0.00030
1,2,4-Trichlorobenzene	ND	0.0051	0.00042	ND	0.0051	0.00042	ND	0.0048	0.00040
Hexachlorobutadiene	ND	0.0025	0.00015	ND	0.0025	0.00015	ND	0.0024	0.00014
t-Butanol	ND	0.013	0.00048	ND	0.013	0.00048	ND	0.012	0.00046
n-Hexane	0.00061 J	0.013	0.00034	0.00073 J	0.013	0.00034	0.35	0.012	0.00032
Isopropyl ether	ND	0.013	0.00028	ND	0.013	0.00028	ND	0.012	0.00027
t-Butyl ethyl ether	ND	0.013	0.00050	ND	0.013	0.00050	ND	0.012	0.00048
2,2-Dichloropropane	ND	0.013	0.00024	ND	0.013	0.00024	ND	0.012	0.00023
t-Amyl methyl ether	ND	0.013	0.00018	ND	0.013	0.00018	ND	0.012	0.00017
t-1,2-Dichloroethene	ND	0.0025	0.00076	ND	0.0025	0.00076	ND	0.0024	0.00072
1,2,3-Trichlorobenzene (TIC)	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: *Annika Setilo Shyja*  
 Mark Johnson  
 Operations Manager

Date *11-09-22*

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: 11/03/22  
 Matrix: Air  
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	METHOD BLANK																	
Client Sample I.D.:	--																	
Date/Time Sampled:	--																	
Date/Time Analyzed:	11/7/22 14:19																	
QC Batch No.:	221107MS2A1																	
Analyst Initials:	VM																	
Dilution Factor:	0.20																	
ANALYTE	Result ppmv	RL ppmv	MDL ppmv															
Benzene	0.000024 J	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	0.000021 J	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	0.000084 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: **11/03/22**  
 Matrix: **Air**  
 Reporting Units: **ppmv**

**EPA Method TO15**

Lab No.:	METHOD BLANK														
Client Sample I.D.:	--														
Date/Time Sampled:	--														
Date/Time Analyzed:	11/7/22 14:19														
QC Batch No.:	221107MS2A1														
Analyst Initials:	VM														
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 *11-09-22*

The cover letter is an integral part of this analytical report





LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 221107MS2A1

Matrix: Air

Reporting Units: ppmv

EPA Method TO15  
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK		LCS		LCSD						
Date/Time Analyzed:	11/7/22 14:19		11/7/22 13:03		11/7/22 13:39						
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
I,1-Dichloroethene	ND	0.00020	0.010	0.00903	90.3	0.00888	88.8	1.7	70	130	30.0
Methylene Chloride	ND	0.00020	0.010	0.00875	87.5	0.00883	88.3	0.9	70	130	30.0
Trichloroethene	ND	0.00020	0.010	0.00784	78.4	0.00800	80.0	2.0	70	130	30.0
Toluene	ND	0.00020	0.010	0.00844	84.4	0.00841	84.1	0.5	70	130	30.0
1,1,2,2-Tetrachloroethane	ND	0.00020	0.010	0.00811	81.1	0.00863	86.3	6.1	70	130	30.0

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

Reviewed/Approved By: Mark Johnson  
Mark Johnson  
Operations Manager

Date: 11-07-22

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: 11/03/22  
 Matrix: Air  
 Reporting Units: ppmv

EPA METHOD TO3

Lab No.:	N110304-01			N110304-02			N110304-04							
Client Sample I.D.:	EFF-110122			EFF-110122-D			INF-110122							
Date/Time Sampled:	11/1/22 13:00			11/1/22 13:00			11/1/22 13:20							
Date/Time Analyzed:	11/8/22 10:28			11/8/22 10:57			11/8/22 11:20							
QC Batch No.:	221108G11A1			221108G11A1			221108G11A1							
Analyst Initials:	RC			RC			RC							
Dilution Factor:	2.5			2.5			2.4							
ANALYTE	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv	Result ppmv	RL ppmv	MDL ppmv					
TVOC as Hexane	0.78	J	2.5	0.44	0.78	J	2.5	0.44	19	2.4	0.42			

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: *11-09-22*

The cover letter is an integral part of this analytical report



QC Batch No: 221108GC11A1

Matrix: Air

Reporting Units: ppmv

**EPA METHOD TO3  
LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK				LCS		LCSD					
Date Analyzed:	11/8/22 7:39				11/8/22 7:04		11/8/22 7:27					
Analyst Initials:	RC				RC		RC					
Dilution Factor:	1.0				1.0		1.0					
ANALYTE	Result ppmv	RL ppmv	MDL ppmv	SPIKE AMT. ppmv	Result ppmv	% Rec.	Result ppmv	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
TVOC as Hexane	ND	1.0	0.18	5.0	4.42	88	4.31	86	2.5	70	130	25

MDL = Method Detection Limit

ND = Not Detected (below MDL)

RL = Reporting Limit

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

Reviewed/Approved By: *Mark Johnson*  
 Mark Johnson  
 Operations Manager

Date 11-09-22

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: 11/03/22  
 Matrix: Air  
 Reporting Units: % v/v

ASTM D1946

Lab No.:	N110304-04												
Client Sample I.D.:	INF-110122												
Date/Time Sampled:	11/1/22 13:20												
Date/Time Analyzed:	11/4/22 11:29												
QC Batch No.:	221104GC8A1												
Analyst Initials:	RC												
Dilution Factor:	2.4												
ANALYTE	Result % v/v	RL % v/v	MDL % v/v										
Carbon Dioxide	0.67	0.024	0.00020										
Oxygen/Argon	20	1.2	0.59										
Nitrogen	79	2.4	0.55										
Methane	0.0011 J	0.0024	0.00014										

Results normalized including non-methane hydrocarbons  
 MDL = Method Detection Limit  
 ND= Not Detected (below MDL)  
 RL = Reporting Limit  
 J = Trace amount. Analyte concentration between RL and MDL.

Reviewed/Approved By: *Mark Johnson*  
 Mark Johnson  
 Operations Manager

Date 11-08-22

The cover letter is an integral part of this analytical report



QC Batch No: 221104GC8A1  
 Matrix: Air  
 Reporting Units: % v/v

**ASTM D1946  
 LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK				LCS		LCSD					
Date Analyzed:	11/4/22 9:29				11/4/22 9:43		11/4/22 9:57					
Analyst Initials:	RC				RC		RC					
Dilution Factor:	1.0				1.0		1.0					
										Limits		
ANALYTE	Result % v/v	RL % v/v	MDL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
Carbon Dioxide	0.00033 J	0.010	0.000082	10	9.95	99	9.95	99	0.0	70	130	30
Oxygen/Argon	ND	0.50	0.24	15	13.8	93	13.9	94	0.4	70	130	30
Nitrogen	0.27 J	1.0	0.23	70	67.4	96	67.5	96	0.2	70	130	30
Methane	ND	0.0010	0.000059	0.10	0.121	121	0.120	120	1.2	70	130	30

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

Reviewed/Approved By: Mark Jol Mark Johnson  
 Mark Jol Mark Johnson  
 Operatio Operations Manager

Date 11-08-22

The cover letter is an integral part of this analytical report



N110903-01

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: 11/8/22  
 PAGE: 1 of 1

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Required Information:		<b>Section D</b> Sampler Information:	
Company: Jacobs	Attention: Eric Davis	Report To: Eric Davis	Copy To: Court Reece	Attention: Eric Davis	Company Name: Jacobs	Sampler Name: James Dye	Signature: <i>[Signature]</i>
Address: 1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017	Email To: eric.davis@jacobs.com	Purchase Order No.:	Project Name: SFPP Norwalk	Address: 1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017	Project Manager: Joann De La Ossa	Sample Date: 11/8/22	
Phone: 404-323-1600	Fax:						

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G-GRAB, C-COMP)	CONTAINER TYPE		TOTAL # OF CONTAINERS	Analysis Test			Comments
					# OF CONTAINERS	PRESERVATIVE		VOLUME (mL)	TO-3 (Total VOCs as Heptane)	TO-15 (VOCs, Target Analytes)	
					SAMPLING						
					DATE	TIME					
1	EFF-_____	Effluent (stack)	Vapor	G	/	/	1	X	X		Individually Certified 6-Liter SUMMA
2	EFF-_____ D	Effluent (stack) (duplicate)	Vapor	G	/	/	1	X	X		Individually Certified 6-Liter SUMMA
3	POST-110822	Influent (post-dilution)	Vapor	G	11/8/22	0745	1	X	X		Individually Certified 1-Liter SUMMA
4	INF-_____	Influent (pre-dilution)	Vapor	G	/	/	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											

Requisitioned by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 11/8/22 1430	Requisitioned by (Signature and Printed Name): <b>FEDEx</b> Date / Time: 11/8/22 1430	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:
Requisitioned by (Signature and Printed Name): <i>[Signature]</i> Date / Time: Fedex 11/9/22 13:52	Requisitioned by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 11/9/22 13:52		

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

Client: Jacobs  
 Attn: Eric Davis  
 Project Name: SFPP Norwalk  
 Project No.: NA  
 Date Received: 11/09/22  
 Matrix: Air  
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	N110903-01																			
Client Sample I.D.:	POST-110822																			
Date/Time Sampled:	11/8/22 7:45																			
Date/Time Analyzed:	11/10/22 18:11																			
QC Batch No.:	221110MS2A1																			
Analyst Initials:	VM																			
Dilution Factor:	3.6																			
ANALYTE	Result ppmv	RL ppmv	MDL ppmv																	
Benzene	0.013	0.0036	0.00035																	
Chloroform	ND	0.0036	0.00050																	
Carbon Tetrachloride	ND	0.0036	0.00063																	
1,4-Dioxane	ND	0.018	0.00063																	
1,4-Dichlorobenzene	ND	0.0036	0.00053																	
1,1-Dichloroethane	ND	0.0036	0.00049																	
Ethylbenzene	0.013	0.0036	0.00021																	
1,2-Dichloroethane	ND	0.0036	0.00027																	
Methylene Chloride	ND	0.0036	0.0010																	
t-Butyl Methyl Ether (MTBE)	ND	0.0036	0.00081																	
Tetrachloroethene	ND	0.0036	0.00043																	
1,1,2-Trichloroethane	ND	0.0036	0.00058																	
Trichloroethene	ND	0.0036	0.00051																	
Vinyl Chloride	ND	0.0036	0.00059																	
Naphthalene	ND	0.018	0.0014																	
c-1,2-Dichloroethene	ND	0.0036	0.00070																	
2-Butanone	0.097	0.0036	0.0022																	
Dichlorodifluoromethane (12)	ND	0.0036	0.00055																	
Chloromethane	ND	0.0072	0.00079																	
1,1,1-Trichloroethane	ND	0.0036	0.00036																	
1,2-CI-1,1,2,2-F ethane (114)	ND	0.0036	0.00073																	
Bromomethane	ND	0.0036	0.0011																	
Chloroethane	ND	0.0036	0.0030																	
Trichlorofluoromethane (11)	ND	0.0036	0.00078																	
1,2-Dichloropropane	ND	0.0036	0.00065																	
Bromodichloromethane	ND	0.0036	0.00022																	
c-1,3-Dichloropropene	ND	0.0036	0.00043																	
4-Methyl-2-Pentanone	ND	0.0036	0.00024																	
Toluene	0.021	0.0036	0.00029																	
t-1,3-Dichloropropene	ND	0.0036	0.00037																	
1,1-Dichloroethene	ND	0.0036	0.00082																	
1,3-Dichloropropane	ND	0.0036	0.00018																	
Carbon Disulfide	0.0053 J	0.018	0.00087																	
2-Hexanone	ND	0.0036	0.00074																	
Dibromochloromethane	ND	0.0036	0.00066																	
1,2-Dibromoethane	ND	0.0036	0.00033																	
Chlorobenzene	0.0015 J	0.0036	0.00028																	
1,1,2-CI 1,2,2-F ethane (113)	ND	0.0036	0.00097																	
p,&m-Xylene	0.086	0.0036	0.00041																	



Client: Jacobs  
 Attn: Eric Davis  
 Project Name: SFPP Norwalk  
 Project No.: NA  
 Date Received: 11/09/22  
 Matrix: Air  
 Reporting Units: ppmv

**EPA Method TO15**

Lab No.:	N110903-01
Client Sample I.D.:	POST-110822
Date/Time Sampled:	11/8/22 7:45
Date/Time Analyzed:	11/10/22 18:11
QC Batch No.:	221110MS2A1
Analyst Initials:	VM
Dilution Factor:	3.6

ANALYTE	Result ppmv	RL ppmv	MDL ppmv											
o-Xylene	0.043	0.0036	0.00044											
Styrene	0.0014 J	0.0036	0.00046											
Bromoform	ND	0.0036	0.00020											
Isopropyl benzene	0.0010 J	0.0036	0.00038											
1,1,2,2-Tetrachloroethane	ND	0.0072	0.00022											
Benzyl Chloride	ND	0.0036	0.00066											
1,2,3-Trichloropropane	ND	0.0036	0.00097											
n-Propyl Benzene	0.0021 J	0.0036	0.00021											
4-Ethyl Toluene	0.016	0.0036	0.00023											
1,3,5-Trimethylbenzene	0.016	0.0072	0.00062											
4-Chlorotoluene	ND	0.0036	0.00043											
tert-Butylbenzene	ND	0.0036	0.00033											
1,2,4-Trimethylbenzene	0.0067 J	0.0072	0.00041											
sec-Butylbenzene	0.00044 J	0.0036	0.00035											
p-Isopropyltoluene	0.0013 J	0.0036	0.00047											
1,3-Dichlorobenzene	ND	0.0036	0.00044											
Acetone	0.15	0.018	0.0010											
n-Butylbenzene	ND	0.0036	0.00026											
1,2-Dichlorobenzene	ND	0.0036	0.00045											
1,2,4-Trichlorobenzene	ND	0.0072	0.00060											
Hexachlorobutadiene	ND	0.0036	0.00021											
t-Butanol	ND	0.018	0.00069											
n-Hexane	0.19	0.018	0.00049											
Isopropyl ether	ND	0.018	0.00040											
t-Butyl ethyl ether	ND	0.018	0.00072											
2,2-Dichloropropane	ND	0.018	0.00034											
t-Amyl methyl ether	ND	0.018	0.00025											
t-1,2-Dichloroethene	ND	0.0036	0.0011											
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 *11-16-22*

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: 11/09/22  
 Matrix: Air  
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	METHOD BLANK													
Client Sample I.D.:	--													
Date/Time Sampled:	--													
Date/Time Analyzed:	11/10/22 8:43													
QC Batch No.:	221110MS2A1													
Analyst Initials:	VM													
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	0.000012											
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	0.000017											
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	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: 11/09/22  
 Matrix: Air  
 Reporting Units: ppmv

**EPA Method TO15**

Lab No.:	METHOD BLANK																			
Client Sample I.D.:	--																			
Date/Time Sampled:	--																			
Date/Time Analyzed:	11/10/22 8:43																			
QC Batch No.:	221110MS2A1																			
Analyst Initials:	VM																			
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	0.000070 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 *11-16-22*

The cover letter is an integral part of this analytical report



## LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 221110MS2A1

Matrix: Air

Reporting Units: ppmv

EPA Method TO15												
LABORATORY CONTROL SAMPLE SUMMARY												

Lab No.:	METHOD BLANK				LCS		LCSD		RPD	Low %Rec	High %Rec	Max. RPD
	Date/Time Analyzed:	Result ppmv	RL ppmv	MDL ppmv	AMT. ppmv	% Rec.	Result ppmv	% Rec.				
Analyst Initials:	11/10/22 8:43	ND	0.00020	0.000015	0.010	114	0.0113	113	1.0	70	130	30.0
Dilution Factor:	VM	ND	0.00020	0.000028	0.010	110	0.0107	107	2.5	70	130	30.0
	0.20	ND	0.00020	0.000011	0.010	103	0.0101	101	2.0	70	130	30.0
		ND	0.00020	0.000088	0.010	104	0.0103	103	0.6	70	130	30.0
		ND	0.00020	0.000020	0.010	94.5	0.00945	95.7	1.3	70	130	30.0

ND = Not Detected (below MDL)

RL = Reporting Limit

MDL = Method Detection Limit

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

Reviewed/Approved By: \_\_\_\_\_

*Mark Johnson*  
Mark Johnson  
Operations Manager

Date: \_\_\_\_\_

*11-16-22*

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:** 11/09/22  
**Matrix:** Air  
**Reporting Units:** ppmv

**EPA METHOD TO3**

<b>Lab No.:</b>	N110903-01												
<b>Client Sample I.D.:</b>	POST-110822												
<b>Date/Time Sampled:</b>	11/8/22 7:45												
<b>Date/Time Analyzed:</b>	11/10/22 11:02												
<b>QC Batch No.:</b>	221110G11A1												
<b>Analyst Initials:</b>	RC												
<b>Dilution Factor:</b>	2.5												
<b>ANALYTE</b>	<b>Result ppmv</b>	<b>RL ppmv</b>	<b>MDL ppmv</b>										
TVOC as Hexane	10	2.5	0.44										

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 11-16-22

The cover letter is an integral part of this analytical report



QC Batch No: 221110GC11A1

Matrix: Air

Reporting Units: ppmv

**EPA METHOD TO3  
LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK				LCS		LCSD					
Date Analyzed:	11/10/22 10:39				11/10/22 7:52		11/10/22 8:38					
Analyst Initials:	RC				RC		RC					
Dilution Factor:	1.0				1.0		1.0					
ANALYTE	Result ppmv	RL ppmv	MDL ppmv	SPIKE AMT. ppmv	Result ppmv	% Rec.	Result ppmv	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
TVOC as Hexane	ND	1.0	0.18	5.0	4.17	83	4.31	86	3.3	70	130	25

MDL = Method Detection Limit

ND = Not Detected (below MDL)

RL = Reporting Limit

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

Reviewed/Approved By: *Mark Johnson*  
Mark Johnson  
Operations Manager

Date 11-16-22

The cover letter is an integral part of this analytical report





December 15, 2022



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

LA Cert #04140  
EPA Methods TO3, TO14A, TO15, 25C/3C,  
ASTM D1946, 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: N120203-01/04

Enclosed are results for sample(s) received 12/02/22 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 12/09/22 (EPA TO3 and ASTM D1946) and on 12/13/22 (EPA TO15).

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 that reads "Mark Johnson".

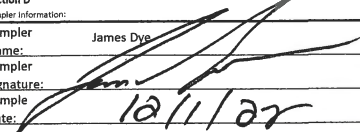
Mark Johnson  
Operations Manager  
MJohnson@AirTechLabs.com

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

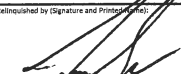
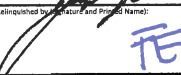

N120203-8/04

**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: 12/1/22  
PAGE: 1 of 1

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:		<b>Section D</b> Sampler Information:	
Company: <b>Jacobs</b>		Report To: <b>Eric Davis</b>		Attention: <b>Eric Davis</b>		Sampler Name: <b>James Dye</b>	
Address: <b>1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017</b>		Copy To: <b>Court Reece</b>		Company Name: <b>Jacobs</b>		Sampler Signature: 	
Email To: <b>eric.davis@jacobs.com</b>		Purchase Order No.:		Address: <b>1000 Wilshire Blvd. Suite 2100 Los Angeles, CA 90017</b>		Sample Date: <b>12/1/22</b>	
Phone: <b>404-323-1600</b> Fax:		Project Name: <b>SFPP Norwalk</b>		Project Manager: <b>Joann De La Ossa</b>			

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB, C=COMP)	CONTAINER TYPE		TOTAL # OF CONTAINERS	Analysis Test			Comments
					# OF CONTAINERS	PRESERVATIVE		VOLUME (mL)	TO-3 (Total VOCs as Hexane)	TO-15 (VOCs, Target Analytes)	
1	EFF- 120122	Effluent (stack)	Vapor	G	DATE: 12/1/22	TIME: 1315	1	X	X		Individually Certified 6-Liter SUMMA
2	EFF- 120122 D	Effluent (stack) (duplicate)	Vapor	G	DATE: 12/1/22	TIME: 1315	1	X	X		Individually Certified 6-Liter SUMMA
3	POST- 120122	Influent (post-dilution)	Vapor	G	DATE: 12/1/22	TIME: 1325	1	X	X		Individually Certified 1-Liter SUMMA
4	INF- 120122	Influent (pre-dilution)	Vapor	G	DATE: 12/1/22	TIME: 1335	1	X	X	X	Batch Certified 1-Liter Summa
5											Target analytes includes Historical VOCs and remaining ATLI list per subcontract
6											
7											
8											
9											
10											

Relinquished by (Signature and Printed Name):  Date / Time: 12/1/22 1430	Relinquished by (Signature and Printed Name): <b>FED EX</b> Date / Time: 12/1/22 1430	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:
Relinquished by (Signature and Printed Name):  Date / Time: 12/2/22	Relinquished by (Signature and Printed Name):  Date / Time: 12/2/22 1246		
Relinquished by (Signature and Printed Name): _____ Date / Time: _____	Relinquished by (Signature and Printed Name): _____ Date / Time: _____		

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

Client: Jacobs  
 Attn: Eric Davis  
 Project Name: SFPP Norwalk  
 Project No.: NA  
 Date Received: 12/02/22  
 Matrix: Air  
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	N120203-01			N120203-02			N120203-03			N120203-04		
Client Sample I.D.:	EFF-120122			EFF-120122-D			POST-120122			INF-120122		
Date/Time Sampled:	12/1/22 13:15			12/1/22 13:15			12/1/22 13:25			12/1/22 13:35		
Date/Time Analyzed:	12/12/22 14:44			12/12/22 15:19			12/12/22 17:49			12/12/22 18:24		
QC Batch No.:	221212MS2A1			221212MS2A1			221212MS2A1			221212MS2A1		
Analyst Initials:	VM			VM			VM			VM		
Dilution Factor:	2.4			2.4			2.4			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	0.00070 J	0.0024	0.00023	0.00055 J	0.0024	0.00023	0.020	0.0024	0.00023	0.027	0.0024	0.00023
Chloroform	ND	0.0024	0.00034	ND	0.0024	0.00034	0.00068 J	0.0024	0.00033	0.00092 J	0.0024	0.00034
Carbon Tetrachloride	ND	0.0024	0.00042	ND	0.0024	0.00042	ND	0.0024	0.00041	ND	0.0024	0.00042
1,4-Dioxane	ND	0.012	0.00042	ND	0.012	0.00042	ND	0.012	0.00041	ND	0.012	0.00042
1,4-Dichlorobenzene	ND	0.0024	0.00035	ND	0.0024	0.00035	ND	0.0024	0.00034	ND	0.0024	0.00035
1,1-Dichloroethane	ND	0.0024	0.00033	ND	0.0024	0.00033	ND	0.0024	0.00032	ND	0.0024	0.00033
Ethylbenzene	0.0092	0.0024	0.00014	0.0092	0.0024	0.00014	0.017	0.0024	0.00014	0.020	0.0024	0.00014
1,2-Dichloroethane	ND	0.0024	0.00018	ND	0.0024	0.00018	ND	0.0024	0.00017	0.00055 J	0.0024	0.00018
Methylene Chloride	ND	0.0024	0.00069	ND	0.0024	0.00069	ND	0.0024	0.00067	ND	0.0024	0.00069
t-Butyl Methyl Ether (MTBE)	ND	0.0024	0.00054	0.00059 J	0.0024	0.00054	ND	0.0024	0.00053	ND	0.0024	0.00054
Tetrachloroethene	ND	0.0024	0.00029	ND	0.0024	0.00029	ND	0.0024	0.00028	ND	0.0024	0.00029
1,1,2-Trichloroethane	ND	0.0024	0.00039	ND	0.0024	0.00039	ND	0.0024	0.00038	ND	0.0024	0.00039
Trichloroethene	ND	0.0024	0.00034	ND	0.0024	0.00034	ND	0.0024	0.00033	ND	0.0024	0.00034
Vinyl Chloride	ND	0.0024	0.00039	ND	0.0024	0.00039	ND	0.0024	0.00038	ND	0.0024	0.00039
Naphthalene	ND	0.012	0.00092	ND	0.012	0.00092	0.0041 J	0.012	0.00090	ND	0.012	0.00092
c-1,2-Dichloroethene	ND	0.0024	0.00046	ND	0.0024	0.00046	ND	0.0024	0.00045	ND	0.0024	0.00046
2-Butanone	0.034	0.0024	0.0015	0.034	0.0024	0.0015	0.037	0.0024	0.0015	0.037	0.0024	0.0015
Dichlorodifluoromethane (12)	ND	0.0024	0.00037	ND	0.0024	0.00037	0.00044 J	0.0024	0.00036	0.00038 J	0.0024	0.00037
Chloromethane	ND	0.0048	0.00053	ND	0.0048	0.00053	ND	0.0047	0.00052	0.00066 J	0.0048	0.00053
1,1,1-Trichloroethane	ND	0.0024	0.00024	ND	0.0024	0.00024	ND	0.0024	0.00024	ND	0.0024	0.00024
1,2-CI-1,1,2,2-F ethane (114)	ND	0.0024	0.00048	ND	0.0024	0.00048	ND	0.0024	0.00047	ND	0.0024	0.00048
Bromomethane	ND	0.0024	0.00071	ND	0.0024	0.00071	ND	0.0024	0.00069	ND	0.0024	0.00071
Chloroethane	ND	0.0024	0.0020	ND	0.0024	0.0020	ND	0.0024	0.0020	ND	0.0024	0.0020
Trichlorofluoromethane (11)	ND	0.0024	0.00052	ND	0.0024	0.00052	ND	0.0024	0.00051	ND	0.0024	0.00052
1,2-Dichloropropane	ND	0.0024	0.00044	ND	0.0024	0.00044	ND	0.0024	0.00042	ND	0.0024	0.00044
Bromodichloromethane	ND	0.0024	0.00014	ND	0.0024	0.00014	ND	0.0024	0.00014	ND	0.0024	0.00014
c-1,3-Dichloropropene	ND	0.0024	0.00029	ND	0.0024	0.00029	ND	0.0024	0.00028	ND	0.0024	0.00029
4-Methyl-2-Pentanone	ND	0.0024	0.00016	ND	0.0024	0.00016	ND	0.0024	0.00016	ND	0.0024	0.00016
Toluene	0.0050	0.0024	0.00019	0.0052	0.0024	0.00019	0.032	0.0024	0.00019	0.045	0.0024	0.00019
t-1,3-Dichloropropene	ND	0.0024	0.00025	ND	0.0024	0.00025	ND	0.0024	0.00024	ND	0.0024	0.00025
1,1-Dichloroethene	ND	0.0024	0.00055	ND	0.0024	0.00055	ND	0.0024	0.00053	ND	0.0024	0.00055
1,3-Dichloropropane	ND	0.0024	0.00012	ND	0.0024	0.00012	ND	0.0024	0.00012	ND	0.0024	0.00012
Carbon Disulfide	0.0094 J	0.012	0.00058	0.0071 J	0.012	0.00058	0.010 J	0.012	0.00056	0.0065 J	0.012	0.00058
2-Hexanone	ND	0.0024	0.00050	ND	0.0024	0.00050	ND	0.0024	0.00048	ND	0.0024	0.00050
Dibromochloromethane	ND	0.0024	0.00044	ND	0.0024	0.00044	ND	0.0024	0.00043	ND	0.0024	0.00044
1,2-Dibromoethane	ND	0.0024	0.00022	ND	0.0024	0.00022	ND	0.0024	0.00021	ND	0.0024	0.00022
Chlorobenzene	ND	0.0024	0.00019	ND	0.0024	0.00019	0.0026	0.0024	0.00018	ND	0.0024	0.00019
1,1,2-CI 1,2,2-F ethane (113)	ND	0.0024	0.00065	ND	0.0024	0.00065	ND	0.0024	0.00063	ND	0.0024	0.00065
p,&m-Xylene	0.063	0.0024	0.00027	0.063	0.0024	0.00027	0.090	0.0024	0.00027	0.099	0.0024	0.00027





Client: **Jacobs**  
 Attn: **Eric Davis**  
 Project Name: **SFPP Norwalk**  
 Project No.: **NA**  
 Date Received: **12/02/22**  
 Matrix: **Air**  
 Reporting Units: **ppmv**

EPA Method TO15

Lab No.:	N120203-01			N120203-02			N120203-03			N120203-04		
Client Sample I.D.:	EFF-120122			EFF-120122-D			POST-120122			INF-120122		
Date/Time Sampled:	12/1/22 13:15			12/1/22 13:15			12/1/22 13:25			12/1/22 13:35		
Date/Time Analyzed:	12/12/22 14:44			12/12/22 15:19			12/12/22 17:49			12/12/22 18:24		
QC Batch No.:	221212MS2A1			221212MS2A1			221212MS2A1			221212MS2A1		
Analyst Initials:	VM			VM			VM			VM		
Dilution Factor:	2.4			2.4			2.4			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	0.018	0.0024	0.00029	0.019	0.0024	0.00029	0.083	0.0024	0.00029	0.11	0.0024	0.00029
Styrene	0.00083 J	0.0024	0.00031	0.00075 J	0.0024	0.00031	0.0027	0.0024	0.00030	0.0034	0.0024	0.00031
Bromoform	ND	0.0024	0.00013	ND	0.0024	0.00013	ND	0.0024	0.00013	ND	0.0024	0.00013
Isopropyl benzene	0.00027 J	0.0024	0.00025	0.00027 J	0.0024	0.00025	0.0025	0.0024	0.00025	0.0032	0.0024	0.00025
1,1,2,2-Tetrachloroethane	ND	0.0048	0.00015	ND	0.0048	0.00015	ND	0.0047	0.00014	ND	0.0048	0.00015
Benzyl Chloride	ND	0.0024	0.00044	ND	0.0024	0.00044	ND	0.0024	0.00043	0.00046 J	0.0024	0.00044
1,2,3-Trichloropropane	ND	0.0024	0.00065	ND	0.0024	0.00065	ND	0.0024	0.00063	ND	0.0024	0.00065
n-Propyl Benzene	0.00078 J	0.0024	0.00014	0.00090 J	0.0024	0.00014	0.0063	0.0024	0.00014	0.0093	0.0024	0.00014
4-Ethyl Toluene	0.0023 J	0.0024	0.00015	0.0021 J	0.0024	0.00015	0.056	0.0024	0.00015	0.071	0.0024	0.00015
1,3,5-Trimethylbenzene	0.00069 J	0.0048	0.00042	0.00066 J	0.0048	0.00042	0.043	0.0047	0.00041	0.054	0.0048	0.00042
4-Chlorotoluene	ND	0.0024	0.00029	ND	0.0024	0.00029	ND	0.0024	0.00028	ND	0.0024	0.00029
tert-Butylbenzene	ND	0.0024	0.00022	ND	0.0024	0.00022	ND	0.0024	0.00021	ND	0.0024	0.00022
1,2,4-Trimethylbenzene	0.0018 J	0.0048	0.00027	0.0018 J	0.0048	0.00027	0.017	0.0047	0.00027	0.027	0.0048	0.00027
sec-Butylbenzene	ND	0.0024	0.00023	ND	0.0024	0.00023	0.0013 J	0.0024	0.00023	0.0022 J	0.0024	0.00023
p-Isopropyltoluene	ND	0.0024	0.00031	ND	0.0024	0.00031	0.0033	0.0024	0.00031	0.0023 J	0.0024	0.00031
1,3-Dichlorobenzene	ND	0.0024	0.00029	ND	0.0024	0.00029	ND	0.0024	0.00029	ND	0.0024	0.00029
Acetone	0.068	0.012	0.00069	0.059	0.012	0.00069	0.062	0.012	0.00068	0.058	0.012	0.00069
n-Butylbenzene	ND	0.0024	0.00018	ND	0.0024	0.00018	ND	0.0024	0.00017	ND	0.0024	0.00018
1,2-Dichlorobenzene	ND	0.0024	0.00030	ND	0.0024	0.00030	ND	0.0024	0.00029	ND	0.0024	0.00030
1,2,4-Trichlorobenzene	ND	0.0048	0.00040	ND	0.0048	0.00040	ND	0.0047	0.00039	ND	0.0048	0.00040
Hexachlorobutadiene	ND	0.0024	0.00014	ND	0.0024	0.00014	ND	0.0024	0.00014	ND	0.0024	0.00014
t-Butanol	0.00097 J	0.012	0.00046	ND	0.012	0.00046	ND	0.012	0.00045	ND	0.012	0.00046
n-Hexane	ND	0.012	0.00032	ND	0.012	0.00032	0.26	0.012	0.00032	0.33	0.012	0.00032
Isopropyl ether	ND	0.012	0.00027	ND	0.012	0.00027	ND	0.012	0.00026	ND	0.012	0.00027
t-Butyl ethyl ether	ND	0.012	0.00048	ND	0.012	0.00048	ND	0.012	0.00047	ND	0.012	0.00048
2,2-Dichloropropane	ND	0.012	0.00023	ND	0.012	0.00023	ND	0.012	0.00022	ND	0.012	0.00023
t-Amyl methyl ether	ND	0.012	0.00017	ND	0.012	0.00017	ND	0.012	0.00017	ND	0.012	0.00017
t-1,2-Dichloroethene	ND	0.0024	0.00072	ND	0.0024	0.00072	ND	0.0024	0.00070	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: 12/13/22

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: 12/02/22  
 Matrix: Air  
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	METHOD BLANK														
Client Sample I.D.:	--														
Date/Time Sampled:	--														
Date/Time Analyzed:	12/12/22 10:56														
QC Batch No.:	221212MS2A1														
Analyst Initials:	VM														
Dilution Factor:	0.20														
ANALYTE	Result ppmv	RL ppmv	MDL ppmv												
Benzene	0.000020 J	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	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: 12/02/22  
 Matrix: Air  
 Reporting Units: ppmv

EPA Method TO15

Lab No.:	METHOD BLANK														
Client Sample I.D.:	--														
Date/Time Sampled:	--														
Date/Time Analyzed:	12/12/22 10:56														
QC Batch No.:	221212MS2A1														
Analyst Initials:	VM														
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	0.00016 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 12/13/22

The cover letter is an integral part of this analytical report



LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 221212MS2A1

Matrix: Air

Reporting Units: ppmv

EPA Method TO15  
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK			LCS		LCSD					
Date/Time Analyzed:	12/12/22 10:56			12/12/22 9:44		12/12/22 10:19					
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	0.00865	86.5	0.00852	85.2	1.4	70	130	30.0
Methylene Chloride	ND	0.00020	0.010	0.00938	93.8	0.00968	96.8	3.1	70	130	30.0
Trichloroethene	ND	0.00020	0.010	0.00788	78.8	0.00774	77.4	1.9	70	130	30.0
Toluene	ND	0.00020	0.010	0.00893	89.3	0.00870	87.0	2.6	70	130	30.0
1,1,1,2-Tetrachloroethane	ND	0.00020	0.010	0.00855	85.5	0.00844	84.4	1.2	70	130	30.0

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: \_\_\_\_\_

Mark Johnson  
Operations Manager

Date: \_\_\_\_\_

12/13/22

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: 12/02/22  
 Matrix: Air  
 Reporting Units: ppmv

EPA METHOD TO3

Lab No.:	N120203-01			N120203-02			N120203-03			N120203-04		
Client Sample I.D.:	EFF-120122			EFF-120122-D			POST-120122			INF-120122		
Date/Time Sampled:	12/1/22 13:15			12/1/22 13:15			12/1/22 13:25			12/1/22 13:35		
Date/Time Analyzed:	12/7/22 16:34			12/7/22 16:57			12/7/22 17:19			12/7/22 17:42		
QC Batch No.:	221207G11A1			221207G11A1			221207G11A1			221207G11A1		
Analyst Initials:	RC			RC			RC			RC		
Dilution Factor:	2.4			2.4			2.4			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
TVOC as Hexane	1.2 J	2.4	0.42	1.3 J	2.4	0.42	17	2.4	0.41	23	2.4	0.42

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 12-09-22

The cover letter is an integral part of this analytical report



QC Batch No: 221207GC11A1

Matrix: Air

Reporting Units: ppmv

**EPA METHOD TO3  
LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK				LCS		LCSD					
Date Analyzed:	12/7/22 15:50				12/7/22 14:52		12/7/22 15:05					
Analyst Initials:	RC				RC		RC					
Dilution Factor:	1.0				1.0		1.0					
ANALYTE	Result ppmv	RL ppmv	MDL ppmv	SPIKE AMT. ppmv	Result ppmv	% Rec.	Result ppmv	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
TVOC as Hexane	ND	1.0	0.18	5.0	5.10	102	5.31	106	4.0	70	130	25

MDL = Method Detection Limit

ND = Not Detected (below MDL)

RL = Reporting Limit

J = Trace amount. Analyte concentration between RL and MDL

Reviewed/Approved By: *Mark Johnson*  
**Mark Johnson**  
**Operations Manager**

Date: 12-09-22

The cover letter is an integral part of this analytical report



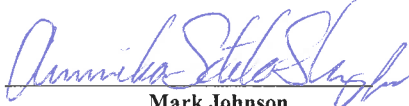
Client: Jacobs  
 Attn: Eric Davis  
 Project Name: SFPP Norwalk  
 Project No.: NA  
 Date Received: 12/02/22  
 Matrix: Air  
 Reporting Units: % v/v

ASTM D1946

Lab No.:	N120203-04									
Client Sample I.D.:	INF-120122									
Date/Time Sampled:	12/1/22 13:35									
Date/Time Analyzed:	12/5/22 23:15									
QC Batch No.:	221205GC8A2									
Analyst Initials:	RC									
Dilution Factor:	2.4									
ANALYTE	Result % v/v	RL % v/v	MDL % v/v							
Carbon Dioxide	0.60	0.024	0.00020							
Oxygen/Argon	20	1.2	0.59							
Nitrogen	78	2.4	0.55							
Methane	0.0063	0.0024	0.00014							

Results normalized including non-methane hydrocarbons

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

Reviewed/Approved By:   
 Mark Johnson  
 Operations Manager

Date: 

The cover letter is an integral part of this analytical report



QC Batch No: 221205GC8A2  
 Matrix: Air  
 Reporting Units: % v/v

**ASTM D1946  
 LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK				LCS		LCSD					
Date Analyzed:	12/5/22 19:23				12/5/22 19:38		12/5/22 19:52					
Analyst Initials:	RC				RC		RC					
Dilution Factor:	1.0				1.0		1.0		Limits			
ANALYTE	Result % v/v	RL % v/v	MDL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
Carbon Dioxide	0.0013 J	0.010	0.000082	10	10.2	102	10.1	101	0.5	70	130	30
Oxygen/Argon	ND	0.50	0.24	15	13.8	93	13.9	94	0.3	70	130	30
Nitrogen	0.27 J	1.0	0.23	70	67.8	96	67.8	97	0.1	70	130	30
Methane	0.00016 J	0.0010	0.000059	0.10	0.107	106	0.105	105	1.5	70	130	30

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

Reviewed/Approved By: Mark Job Mark Johnson  
 Mark Job Mark Johnson  
 Operatio Operations Manager

Date: 12-09-22

The cover letter is an integral part of this analytical report





**Appendix B**  
**BS-02 Narrative and Operations Data**

Appendix B. BS-02 Narrative and Operations Data  
SFPP Norwalk Pump Station, Norwalk, California

Date	Operational Data						VOC Mass Removal				O2 Calculations					
	SVE Influent Max of CO2 (%)	SVE Influent Max of O2 (%)	SVE Influent Max of VOCs (ppmv)	Max of SVE Influent Flow (scfm)	Operational Efficiency	Corrected SVE Flow (scfm)	Removal Rate (VOC ppm/ft3/minute)	VOC Mass Removal Rate (lb/minute)	VOC Mass Removal Rate (lb/day)	Cumulative Equivalent Mass Removed (lbs)	O2 Depletion (%)	O2 Depletion (lbs/minute)	Equivalent Mass Consumed by O2 (lbs/minute)	Equivalent Mass Consumed by O2 (lbs/day)	Cumulative Equivalent Mass Consumed by O2 (lbs)	Difference O2 vs CO2
5/15/20 11:30	2.40	17.20	0.00	196.00	0.00	0.31	0.00	0.00000	0.00	0	5.3	0.00	0.00	0.51	0	0
5/15/20 12:46	2.70	17.70	263.50	188.00	0.00	0.29	77.40	0.00002	0.02	0	4.8	0.00	0.00	0.44	0	0
5/18/20 8:20	2.20	19.30	563.00	166.00	0.00	0.26	146.03	0.00003	0.05	0	3.2	0.00	0.00	0.26	1	0
5/18/20 8:20	2.20	19.30	0.00	166.00	0.00	0.26	0.00	0.00000	0.00	0	3.2	0.00	0.00	0.26	1	0
5/18/20 11:58	1.60	19.20	655.00	160.00	0.00	0.25	163.75	0.00004	0.05	0	3.3	0.00	0.00	0.26	1	0
5/20/20 8:25	1.70	18.20	403.00	168.00	1.00	168.00	67704.00	0.01488	21.42	20	4.3	0.55	0.16	225.61	210	-209
5/20/20 8:25	1.70	18.20	0.00	168.00	1.00	168.00	0.00	0.00000	0.00	20	4.3	0.55	0.16	225.61	210	-209
5/20/20 11:18	1.50	18.80	252.00	168.00	1.00	168.00	42336.00	0.00930	13.40	21	3.7	0.48	0.13	194.13	235	-223
5/22/20 14:15	1.30	18.80	533.00	179.00	1.00	179.00	95407.00	0.02097	30.19	67	3.7	0.51	0.14	206.84	661	-472
5/22/20 14:15	1.30	18.80	0.00	179.00	1.00	179.00	0.00	0.00000	0.00	67	3.7	0.51	0.14	178.89	661	-472
5/26/20 8:46	1.10	18.70	526.00	168.00	1.00	168.00	88368.00	0.01942	27.96	120	3.8	0.49	0.14	199.38	1427	-949
5/26/20 14:18	1.00	18.50	397.00	177.00	1.00	177.00	70269.00	0.01544	22.24	126	4.0	0.54	0.15	221.11	1476	-984
5/27/20 8:10	1.20	18.90	383.00	168.00	1.00	168.00	64344.00	0.01414	20.36	141	3.6	0.46	0.13	188.88	1628	-1093
5/29/20 9:13	1.20	19.20	368.00	168.00	1.00	167.22	61537.78	0.01352	19.47	182	3.3	0.42	0.12	172.34	1997	-1326
6/3/20 14:48	5.40	19.20	1129.00	172.00	1.00	172.00	194188.00	0.04267	61.45	394	3.3	0.43	0.12	177.27	2912	-1895
6/4/20 10:08	0.80	19.90	687.10	180.00	1.00	180.00	123678.00	0.02718	39.14	434	2.6	0.36	0.10	146.16	3042	-1779
6/5/20 13:00	1.10	19.00	1300.00	180.00	1.00	180.00	234000.00	0.05142	74.05	498	3.5	0.48	0.14	196.75	3234	-1918
6/5/20 13:00	1.10	19.00	0.00	180.00	1.00	180.00	0.00	0.00000	0.00	498	3.5	0.48	0.14	196.75	3234	-1918
6/10/20 10:45	1.10	19.00	1050.00	224.00	1.00	224.00	235200.00	0.05168	74.43	680	3.5	0.60	0.17	244.85	4317	-2681
6/23/20 10:30	1.80	18.40	323.00	206.00	1.00	205.18	66273.96	0.01456	20.97	1300	4.1	0.64	0.18	262.73	7614	-4923
6/24/20 11:20	1.00	18.90	650.00	205.00	0.99	203.78	132456.85	0.02911	41.91	1332	3.6	0.56	0.16	229.11	7869	-5052
6/26/20 7:45	1.30	17.80	706.00	212.00	0.99	210.74	148781.10	0.03269	47.08	1415	4.7	0.76	0.21	309.33	8367	-5426
6/30/20 12:49	1.50	19.10	560.00	202.92	1.00	202.92	113635.20	0.02497	35.96	1590	3.4	0.53	0.15	215.47	9472	-6150
7/6/20 11:34	1.10	19.20	575.00	209.00	1.00	209.00	120175.00	0.02641	38.03	1810	3.3	0.53	0.15	215.40	10753	-6835
7/8/20 13:02	1.20	18.50	98.80	208.00	0.95	197.18	19481.08	0.00428	6.16	1855	4.0	0.60	0.17	246.32	11229	-7155
7/10/20 14:30	0.90	19.00	638.50	209.68	0.95	198.77	126914.32	0.02789	40.16	1903	3.5	0.53	0.15	217.27	11707	-7472
7/14/20 10:30	0.70	19.30	699.10	205.70	0.95	195.00	136322.12	0.02996	43.14	2000	3.2	0.48	0.14	194.88	12529	-7996
7/17/20 8:13	0.70	19.30	699.10	205.70	0.95	195.00	136322.12	0.02996	43.14	2184	3.2	0.48	0.14	194.88	13095	-8464
7/24/20 13:30	0.80	19.60	675.00	210.00	0.97	204.54	138062.09	0.03034	43.69	2497	2.9	0.45	0.13	185.25	14468	-9511
8/4/20 13:35	1.00	17.30	152.60	226.83	0.95	216.52	33040.88	0.00726	10.46	2795	5.2	0.86	0.24	351.63	17421	-11872
8/21/2020 15:25	0.80	19.70	340.00	150.00	1.00	149.56	50850.00	0.01117	16.09	3022	2.8	0.32	0.09	130.78	21540	-14772
9/17/2020 8:10	0.80	19.50	320.00	200.00	0.96	191.74	61358.20	0.01348	19.42	3496	3.0	0.44	0.12	179.65	25684	-17864
9/29/2020 13:30	0.30	21.50	70.00	221.00	0.99	219.85	15389.80	0.00338	4.87	3644	1.0	0.17	0.05	68.66	27202	-18764
10/15/2020 10:30	0.70	19.80	801.00	169.00	0.92	155.02	124171.81	0.02729	39.29	3994	2.7	0.32	0.09	130.72	28784	-20012
10/30/2020 12:20	1.10	19.20	1346.00	230.43	0.85	195.01	262487.41	0.05768	83.06	4917	3.3	0.49	0.14	200.98	31285	-21962
11/4/2020 9:12	0.80	19.80	354.50	273.22	1.00	273.22	96856.49	0.02128	30.65	5194	2.7	0.56	0.16	230.39	32335	-22660
12/30/20 11:16	0.30	20.30	144.50	272.29	0.76	206.28	29807.73	0.00655	9.43	6318	2.2	0.35	0.10	141.73	42770	-28970
1/5/21 9:00	1.30	19.60	373.00	225.00	0.97	218.25	81407.25	0.01789	25.76	6422	2.9	0.48	0.14	197.67	43773	-29836
2/23/21 10:00	1.00	20.90	106.00	229.33	0.97	222.45	23579.71	0.00518	7.46	7236	1.6	0.27	0.08	111.16	51345	-32234
5/5/21 8:30	0.00	18.00	380.00	205.00	0.97	198.24	75329.30	0.01655	23.84	8346	4.5	0.7	0.19	278.60	65169	-40190
5/27/21 8:55	1.40	19.43	255.06	257.40	0.98	250.97	64011.04	0.01407	20.26	8832	3.1	0.6	0.17	241.00	70889	-45910
6/22/21 8:10	0.90	19.60	219.50	220.00	1.00	219.34	48145.13	0.01058	15.23	9292	2.9	0.5	0.14	198.66	76598	-48231
7/9/21 9:08	0.90	18.70	336.00	140.00	0.99	138.60	46569.60	0.01023	14.74	9548	3.8	0.4	0.11	164.49	79692	-50074
8/4/21 12:05	--	--	220.00	130.00	0.63	81.90	18018.00	0.00396	5.70	9815	0.0	--	--	--	--	--
9/24/21 14:30	0.30	22.50	190.20	129.00	1.00	129.00	24535.80	0.00539	7.76	10159	0.0	0.0	0.00	0.00	86043	-54055
10/7/21 11:25	0.60	20.80	415.00	180.00	0.99	178.20	73953.00	0.01625	23.40	10359	1.7	0.2	0.10	95.00	86652	-54463
10/14/21 8:05	--	19.10	230.00	202.00	0.99	199.98	45995.40	0.01011	14.55	10490	3.4	0.5	0.10	212.00	87705	-55220
12/9/21 11:59	0.30	19.80	38.00	280.00	0.71	198.80	7554.40	0.00166	2.39	10965	2.7	0.4	0.10	168.00	98376	-65890
12/15/21 13:35	0.60	20.20	20.10	320.00	0.92	294.40	5917.44	0.00130	1.87	10978	2.3	0.5	0.10	211.00	99525	-66894
12/23/21 7:45	0.80	20.20	16.50	225.00	0.97	218.25	3601.13	0.00079	1.14	10990	2.3	0.4	0.10	157.00	100954	-67769
12/30/21 8:00	0.90	20.30	22.00	233.00	1.00	233.00	5126.00	0.00113	1.62	11000	2.2	0.4	0.10	160.00	102064	-68386

**Appendix B. BS-02 Narrative and Operations Data**  
 SFPP Norwalk Pump Station, Norwalk, California

Date	Operational Data						VOC Mass Removal				O2 Calculations					
	SVE Influent Max of CO2 (%)	SVE Influent Max of O2 (%)	SVE Influent Max of VOCs (ppmv)	Max of SVE Influent Flow (scfm)	Operational Efficiency	Corrected SVE Flow (scfm)	Removal Rate (VOC ppm/ft3/minute)	VOC Mass Removal Rate (lb/minute)	VOC Mass Removal Rate (lb/day)	Cumulative Equivalent Mass Removed (lbs)	O2 Depletion (%)	O2 Depletion (lbs/minute)	Equivalent Mass Consumed by O2 (lbs/minute)	Equivalent Mass Consumed by O2 (lbs/day)	Cumulative Equivalent Mass Consumed by O2 (lbs)	Difference O2 vs CO2
1/6/22 0:00	0.00	20.9	0.00	0.00	0.00	0.00	0.00	0.00000	0.00	11005	1.6	0.0	0.00	0.00	102598	-68356
1/13/22 9:50	0.00	--	--	0.00	0.00	0.00	0.00	0.00000	0.00	11005	0.0	0.0	0.00	0.00	102598	-68356
1/26/22 12:00	0.00	--	--	0.00	0.00	0.00	0.00	0.00000	0.00	11005	0.0	0.0	0.00	0.00	102598	-68356
3/3/22 11:45	0.00	16.80	6.50	457.00	0.00	0.00	0.00	0.00000	0.00	11005	5.7	0.0	0.00	0.00	102598	-68356
3/8/22 9:08	0.00	19.50	29.00	361.00	0.71	256.31	7432.99	0.00163	2.35	11011	3.0	0.6	0.20	240.00	103185	-68943
3/10/22 16:05	0.80	20.90	6.00	86.90	0.71	61.70	370.19	0.00008	0.12	11014	1.6	0.1	0.00	31.00	103495	-69253
3/24/22 9:01	0.2	19.4	48	215	1.00	215	10320.00	0.00227	3.27	11037	3.1	0.5	0.10	208.00	105133	-70618
4/7/22 11:16	0.8	19.3	9.1	457	0.75	342.75	3119.03	0.00069	0.99	11067	3.2	0.8	0.20	343.00	109014	-74254
5/4/22 13:20		20.1	26.5	457	0.99	452.43	11989.40	0.00263	3.79	11132	2.4	0.8	0.20	339.00	118246	-80489
5/11/22 11:40	0.4	19.9	23.5	427	0.90	384.30	9031.05	0.00198	2.86	11155	2.6	0.8	0.20	312.00	120502	-82745
5/12/22 15:00	0.6	19.4	14.3	134.5	0.90	121.05	1731.02	0.00038	0.55	11157	3.1	0.3	0.10	117.00	120746	-82919
5/25/22 12:15	0.1	20.5	14.7	395	1.00	395.00	5806.50	0.00128	1.84	11172	2.0	0.6	0.20	247.00	123091	-84886
6/9/22 9:15	0.8	20.1	45	650	0.98	637.00	28665.00	0.00630	9.07	11253	2.4	1.2	0.30	477.00	128477	-90035
6/15/22 9:40		20.9	25.8	395	0.99	391.05	10089.09	0.00222	3.19	11290	1.6	0.5	0.10	195.00	130502	-90822
7/21/22 8:45			142.9	209	0.99	206.91	29567.44	0.00650	9.36	11516	0.0	0.0	0.00	0.00	134015	-94335
7/28/22 14:05	0.5	20.5	23.5	107.5	0.99	106.43	2500.99	0.00055	0.79	11552	2.0	0.2	0.00	66.00	134255	-94575
8/5/22 9:10	0.4	20.1	48.5	178.5	1.00	178.50	8657.25	0.00190	2.74	11566	2.4	0.3	0.10	134.00	135036	-95189
8/16/22 9:20	0.4	20.3	34.9	806	0.99	797.94	27848.11	0.00612	8.81	11630	2.2	1.3	0.40	548.00	138789	-98625
9/23/22 9:05	0.6	20	24.9	202	0.97	195.94	4878.91	0.00107	1.54	11826	2.5	0.4	0.10	153.00	152109	-107052
10/4/22 9:58	0.7	20.9	57.20	142	1.00	142.00	8122.40	0.00178	2.57	11849	1.6	0.2	0.05	70.96	153345	-107764
10/6/22 13:15	0.2	20.9	24.00	168	1.00	168.00	4032.00	0.00089	1.28	11853	1.6	0.2	0.06	83.95	153510	-107846
<b>BS-02 Air Sparge and South East Area Vapor Extraction Operations Stopped on 10/6/2022</b>																

**Appendix B. BS-02 Narrative and Operations Data**  
 SFPP Norwalk Pump Station, Norwalk, California

Date	Biodegradation				Cumulative Mass Removed	Flow			
	CO2		C14 Correction Applied						
	CO2 Production (scf/minute)	CO2 Production (lbs/minute)	C14 Correction Factor Based on BaCO3	Equivalent Mass Biodegraded by CO2 (lbs/minute) C14 Corrected	Equivalent Mass Biodegraded by CO2 (lbs/day) C14 Corrected	Cumulative Equivalent Mass Consumed by CO2 (lbs)	Total Biodegraded Mass (lbs) C14 Corrected	Cumulative Overall Mass Removal (lbs)	BS-02 Flow (scfm)
5/15/20 11:30	0.01	0.00	0.57	0.00	0.24	0	0	0	0
5/15/20 12:46	0.01	0.00	0.57	0.00	0.26	0	0	0	26
5/18/20 8:20	0.01	0.00	0.57	0.00	0.19	1	1	1	23
5/18/20 8:20	0.01	0.00	0.57	0.00	0.19	1	1	1	30
5/18/20 11:58	0.00	0.00	0.57	0.00	0.13	1	1	1	70
5/20/20 8:25	2.86	0.35	0.57	0.07	94.10	1	175	195	70
5/20/20 8:25	2.86	0.35	0.57	0.07	94.10	1	175	195	100
5/20/20 11:18	2.52	0.31	0.57	0.06	83.03	12	185	206	100
5/22/20 14:15	2.33	0.29	0.57	0.05	76.67	189	348	415	100
5/22/20 14:15	2.33	0.29	0.57	0.05	76.67	189	348	415	135
5/26/20 8:46	1.85	0.23	0.57	0.04	60.89	478	577	697	135
5/26/20 14:18	1.77	0.22	0.57	0.04	58.32	492	591	716	135
5/27/20 8:10	2.02	0.25	0.57	0.05	66.42	535	640	782	135
5/29/20 9:13	2.01	0.25	0.57	0.05	66.11	671	775	957	135
6/3/20 14:48	9.29	1.14	0.57	0.21	306.01	1017	2376	2770	135
6/4/20 10:08	1.44	0.18	0.57	0.03	47.44	1263	2415	2849	135
6/5/20 13:00	1.98	0.24	0.57	0.05	65.23	1317	2488	2985	135
6/5/20 13:00	1.98	0.24	0.57	0.05	65.23	1317	2488	2985	100
6/10/20 10:45	2.46	0.30	0.57	0.06	81.18	1637	2886	3566	100
6/23/20 10:30	3.69	0.45	0.57	0.08	121.68	2691	4467	5766	3
6/24/20 11:20	2.04	0.25	0.57	0.05	67.14	2817	4536	5868	70
6/26/20 7:45	2.74	0.34	0.57	0.06	90.26	2941	4703	6118	100
6/30/20 12:49	3.04	0.37	0.57	0.07	100.28	3321	5125	6715	100
7/6/20 11:34	2.30	0.28	0.57	0.05	75.75	3918	5576	7386	100
7/8/20 13:02	2.37	0.29	0.57	0.05	77.96	4074	5737	7592	105
7/10/20 14:30	1.79	0.22	0.57	0.04	58.94	4235	5858	7761	129
7/14/20 10:30	1.36	0.17	0.57	0.03	44.97	4533	6031	8031	160
7/17/20 8:13	1.36	0.17	0.57	0.03	44.97	4632	6161	8345	185
7/24/20 13:30	1.64	0.20	0.57	0.04	53.91	4956	6550	9047	180
8/4/20 13:35	2.17	0.27	0.57	0.05	71.34	5550	7335	10130	162
8/21/2020 15:25	1.20	0.15	0.57	0.03	39.42	6768	8008	11030	170
9/17/2020 8:10	1.53	0.19	0.57	0.04	50.54	7820	9358	12853	180
9/29/2020 13:30	0.66	0.08	0.55	0.01	21.08	8438	9615	13259	180
10/15/2020 10:30	1.09	0.13	0.58	0.03	36.52	8773	10195	14190	180
10/30/2020 12:20	2.15	0.26	0.58	0.05	72.19	9323	11284	16200	83
11/4/2020 9:12	2.19	0.27	0.58	0.05	73.56	9675	11642	16835	188
12/30/20 11:16	0.62	0.08	0.65	0.02	23.01	13801	12933	19250	170
1/5/21 9:00	2.84	0.35	0.65	0.07	105.52	13936	13556	19977	170
2/23/21 10:00	2.22	0.27	0.65	0.06	82.73	19111	17613	24849	170
5/5/21 8:30	0.00	0.00	0.65	0.00	0.00	24980	17613	25959	170
5/27/21 8:55	3.51	0.43	0.65	0.09	130.44	24980	20485	29316	170
6/22/21 8:10	1.97	0.24	0.65	0.05	73.41	28367	22391	31684	180
7/9/21 9:08	1.25	0.15	0.65	0.03	46.39	29618	23182	32730	160
8/4/21 12:05	--	--	0.65	--	--	--	--	--	170
9/24/21 14:30	0.39	0.05	0.70	0.01	15.62	31988	23980	34139	185
10/7/21 11:25	1.07	0.13	0.70	0.03	43.15	32189	24535	34895	180
10/14/21 8:05	0.00	0.00	0.70	0.00	0.00	32485	24535	35025	180
12/9/21 11:59	0.60	0.07	0.70	0.02	24.07	32485	25887	36852	160
12/15/21 13:35	1.77	0.22	0.70	0.05	71.28	32631	26319	37298	170
12/23/21 7:45	1.75	0.21	0.70	0.05	70.46	33184	26866	37856	165
12/30/21 8:00	2.10	0.26	0.70	0.06	84.62	33678	27459	38459	168

**Appendix B. BS-02 Narrative and Operations Data**  
 SFPP Norwalk Pump Station, Norwalk, California

Date	Biodegradation							Cumulative Mass Removed (lbs)	Flow (scfm)
	CO2			C14 Correction Applied					
	CO2 Production (scf/minute)	CO2 Production (lbs/minute)	C14 Correction Factor Based on BaCO3	Equivalent Mass Biodegraded by CO2 (lbs/minute) C14 Corrected	Equivalent Mass Biodegraded by CO2 (lbs/day) C14 Corrected	Cumulative Equivalent Mass Consumed by CO2 (lbs)	Total Biodegraded Mass (lbs) C14 Corrected	Cumulative Overall Mass Removal (lbs)	BS-02 Flow (scfm)
1/6/22 0:00	0.00	0.00	0.70	0.00	0.00	34242	27459	38464	0
1/13/22 0:00	0.00	0.00	0.70	0.00	0.00	34242	27459	38464	0
1/26/22 0:00	0.00	0.00	0.70	0.00	0.00	34242	27459	38464	0
3/3/22 0:00	0.00	0.00	0.70	0.00	0.00	34242	27459	38464	150
3/8/22 0:00	0.00	0.00	0.70	0.00	0.00	34242	27459	38470	70
3/10/22 0:00	0.49	0.06	0.70	0.01	19.92	34242	27505	38518	155
3/24/22 0:00	0.43	0.05	0.70	0.01	17.35	34515	27742	38779	128
4/7/22 11:16	2.74	0.34	0.70	0.08	110.65	34760	29302	40369	153
5/4/22 13:20	0.00	0.00	0.70	0.00	0.00	37757	29302	40433	151
5/11/22 11:40	1.54	0.19	0.70	0.04	62.03	37757	29732	40886	180
5/12/22 15:00	0.73	0.09	0.70	0.02	29.31	37828	29765	40922	180
5/25/22 12:15	0.40	0.05	0.70	0.01	15.94	38205	29970	41142	181
6/9/22 9:15	5.10	0.63	0.70	0.14	205.64	38442	33029	44282	180
6/15/22 9:40	0.00	0.00	0.70	0.00	0.00	39680	33029	44319	182
7/21/22 8:45	0.00	0.00	0.70	0.00	0.00	39680	33029	44545	180
7/28/22 14:05	0.53	0.07	0.70	0.01	21.47	39680	33184	44737	185
8/5/22 9:10	0.71	0.09	0.70	0.02	28.81	39847	33409	44975	180
8/16/22 9:20	3.19	0.39	0.70	0.09	128.80	40164	34827	46456	177
9/23/22 9:05	1.18	0.14	0.70	0.03	47.44	45057	36629	48455	180
10/4/22 9:58	0.97	0.12	0.70	0.04	53.75	45581	37059	48908	142
10/6/22 13:15	0.34	0.04	0.70	0.01	13.56	45664	37088	48941	168

BS-02 Air Sparge and South East Area Vapor Extraction Operations Stopped on 10/6/2022.

**Appendix C**  
**HSVE-01 and BS-03 Narrative and Operations Data**

**Appendix C.1. HSVE-01 Narrative and Operations Data**

*SFPF Norwalk Pump Station, Norwalk, California*

Location	Date	Time	Biosparge Flow (scfm)	SVE VOC (ppmv)	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	SVE Flow (scfm)	SVE Vacuum (in H2O)	Comment
HSVE-1	4/6/2021	12:25	0	381	13.4	6	1	323	28.3	Step 1
HSVE-1	4/6/2021	16:00	0	405	13.4	6.2	1.1	323	29.0	Step 1
HSVE-1	4/7/2021	7:35	0	406.6	15.5	5.6	0.8	323	24.3	Step 1
HSVE-1	4/7/2021	12:45	0	421.5	15.6	4.7	0.8	512	47.1	Step 2
HSVE-1	4/7/2021	15:25	0	418	16.2	4.4	0.8	512	48.1	Step 2
HSVE-1	4/8/2021	7:35	0	425	17.1	4	0.6	512	48.2	Step 2
HSVE-1	4/8/2021	11:00	0	401.1	17.5	3.4	0.6	512	48.2	Step 2
HSVE-1	4/8/2021	12:00	0	398.1	17	3.4	0.6	560	55.0	Step 3
HSVE-1	4/8/2021	15:00	0	414.2	17.9	3.3	0.6	560	55.0	Step 3
HSVE-1	4/15/2021	9:00	0	421	17.7	3.5	0.6	560	55.0	
HSVE-1	4/21/2021	13:00	0	408	17.5	3.4	0.5	560	55.0	
HSVE-1	4/28/2021	11:00	0	340	19.9	1.4	0.5	550	55.0	Step 3 continued
HSVE-1	5/5/2021	9:00	0	390	18.9	1.3	0.5	550	55.0	
HSVE-1	5/5/2021	15:45	0	418	18.9	1.3	0.5	550	55.0	
HSVE-1	5/11/2021	16:45	45	1200	20.1	0.8	0.5	560	56.0	
HSVE-1	5/12/2021	8:15	45	422	19.9	1.3	0.1	500	56.0	
HSVE-1	5/12/2021	15:00	100	2000	20.2	1	0.5	500	56.0	
HSVE-1	5/13/2021	9:00	100	431.8	19.8	1.3	1.1	457	54.0	
HSVE-1	5/13/2021	14:52	100	5000	19.8	1	1	457	55.0	
HSVE-1	5/14/2021	8:30	50	5000	19.9	1.1	0.4	457	55.0	
HSVE-1	5/14/2021	14:18	50	4852	19.8	0.2	0.8	457	55.0	
HSVE-1	5/18/2021	9:00	50	1410	17.4	1.9	1	500	55.0	
HSVE-1	5/18/2021	12:52	50	1900	18.7	1.2	0.5	500	55.0	
HSVE-1	5/18/2021	15:30	50	2650	19.5	1.2	0.5	500	55.0	
HSVE-1	5/19/2021	9:30	50	440	19.7	1.2	1.1	457	49.0	
HSVE-1	5/19/2021	13:10	100	4830	20	0.9	0.6	470	49.0	
HSVE-1	5/19/2021	16:15	100	390	19.9	0.8	0.6	485	49.0	
HSVE-1	5/20/2021	9:30	100	455	19.6	1.4	1.2	500	56.0	
HSVE-1	5/20/2021	11:49	100	475	19.5	0.9	0.8	500	56.0	
HSVE-1	5/26/2021	11:02	100	415	19.3	1.2	1.1	460	54.0	
HSVE-1	5/26/2021	12:15	150	395	18.9	1.1	1.2	460	54.0	
HSVE-1	5/26/2021	14:01	150	418	19.4	0.9	0.9	530	54.0	
HSVE-1	5/27/2021	7:48	150	374.2	19.5	1.2	1.3	600	56.0	
HSVE-1	5/27/2021	11:20	200	379.1	19.2	1	1	600	54.5	
HSVE-1	5/28/2021	10:15	100	335	18.5	1.3	1.1	510	53.5	
HSVE-1	5/28/2021	11:30	100	421	18.7	1	1.2	510	55.6	
HSVE-1	6/1/2021	12:40	100	386.2	18.5	1.2	1	600	56.0	SVE flow was between 500-600.
HSVE-1	6/1/2021	14:45	100	360.1	18.8	1	0.5	600	56.0	SVE flow was between 500-600.
HSVE-1	6/10/2021	10:35	200	468.3	18	1.3	0.8	600	56.0	SVE flow was between 500-600.
HSVE-1	6/10/2021	12:58	200	472.5	18.1	1.4	0.8	600	55.0	SVE flow was between 500-600.
HSVE-1	6/10/2021	15:09	200	442.5	18.5	1	0.6	600	55.0	SVE flow was between 500-600.
HSVE-1	6/11/2021	7:55	300	441	19.4	1.4	1	600	56.0	SVE flow was between 500-600.
HSVE-1	6/11/2021	10:28	300	468	19.1	0.9	0.6	600	56.0	SVE flow was between 500-600.

**Appendix C.1. HSVE-01 Narrative and Operations Data**

*SFPP Norwalk Pump Station, Norwalk, California*

Location	Date	Time	Biosparge Flow (scfm)	SVE VOC (ppmv)	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	SVE Flow (scfm)	SVE Vacuum (in H2O)	Comment
HSVE-1	6/22/2021	7:55	200	344.9	18.8	1.3	0.4	600	56.0	SVE flow was between 500-600.
HSVE-1	6/25/2021	8:45	250	354	16.6	1.6	0.6	510	54.5	SVE flow was between 460-510.
HSVE-1	6/25/2021	11:02	250	405	19.2	1	0.5	550	55.1	SVE flow was between 450-550.
HSVE-1	6/28/2021	11:00	250	422	18.4	1.1	0.5	600	56.0	SVE flow was between 450-600.
HSVE-1	6/28/2021	11:10	250	424	18.3	1.1	0.5	600	56.0	SVE flow was between 450-600.
HSVE-1	6/28/2021	13:50	250	415	18.4	1	0.6	600	56.0	SVE flow was between 450-600.
HSVE-1	7/23/2021	8:00	130	421	19.7	1.3	0.3	600	56	SVE flow was between 500-600.
HSVE-1	7/23/2021	9:00	130	408	19.8	1.3	0.2	600	56	SVE flow was between 500-600.
HSVE-1	8/6/2021	9:25	275	365	19.1	--	--	555	56.45	SVE flow was between 470 and 555.
HSVE-1	8/31/2021	7:45	200	52.1	19.6	0.9	0.2	450	51.5	Check Drip Legs. Low VOCs.
HSVE-1	8/31/2021	10:45	250	408	18.4	1.1	0.4	500	51.5	Jame Dye Drained DLs for HSVE-1. BS-03 up to 250 scfm @ 8:30.
HSVE-1	9/1/2021	7:45	250	195	19.5	1	0.2	450	51.4	DL could be full again, to be cleared Thursday (9/2).
HSVE-1	9/1/2021	8:00	250	202	19.5	1.1	0.1	450	51.5	
HSVE-1	9/9/2021	9:05	150	208	19.5	1.1	0.1	500	51.3	
HSVE-1	9/9/2021	12:45	150	215	19.4	1.1	0.1	500	51.5	
HSVE-1	9/16/2021	11:00	275	238.9	19.3	1.6	0.2	550	53.5	BS-03 Flow recovering from 250-300 scfm. Avg. 225 scfm.
HSVE-1	9/21/2021	13:45	200	72.4	21	0.8	0	200	54.5	Variable flow (100-200;450-500). James Dye removed 12 gal (total) in 2 rounds of DL clearing. 6 gal total from DL #1.
HSVE-1	9/21/2021	14:45	200	1100	19.4	0.8	0.1	500	54	Water in tedlar & sample line
HSVE-1	9/21/2021	14:55	200	1090	19.6	1.2	0.3	500	54.5	Water in tedlar & sample line
HSVE-1	9/30/2021	16:30	250	1312	20.1	0.6	0.05	400	52	400 scfm average flow (varied from 160-530 scfm)
HSVE-1	10/1/2021	8:55	250	1260	19.6	0.6	0.08	400	52.5	400 scfm average flow (varied from 0-510 scfm)
HSVE-1	10/7/2021	11:05	260	382	20.7	0.2	0	460	52.24	400 scfm average flow (varied from 0-510 scfm)
HSVE-1	10/14/2021	8:03	305	950	19.4	NM	0	328	50.5	Driplegs cleared 10/5 & 10/7. Water in tedlar bag. Cleared out pilot tube.
HSVE-1	10/19/2021	14:25	200	326	19.7	0.9	0.1	427	50.53	Methane LEL, Diff P = 0.5 in WC; water in sample line, and water in DL 90 deg elbow
HSVE-1	11/10/2021	12:05	195	185	19.9	NM	NM	430	52.4	Drained drip lgs and restarted
HSVE-1	11/15/2021	14:07	192	337	19.5	0.9	0.1	400	53.32	BS-02 off
HSVE-1	12/2/2021	14:01	200	250	19.6	NM	NM	450	53.3	
HSVE-1	12/9/2021	12:52	280	153	19.2	0.6	0	395	51.6	
HSVE-1	12/15/2021	13:30	320	421	19.4	0.9	0	400	53.1	Flow measured at 9:00 was 395, 0.45 aprox 700 with velocicalc. High moisture
HSVE-1	12/17/2021	14:30	250	102	19.9	0.5	0	450	49.3	



**Appendix C.1. HSVE-01 Narrative and Operations Data**

*SFPF Norwalk Pump Station, Norwalk, California*

Location	Date	Time	Biosparge Flow (scfm)	SVE VOC (ppmv)	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	SVE Flow (scfm)	SVE Vacuum (in H2O)	Comment
HSVE-1	12/23/2021	7:45	240	260	19.9	0.9	0	360	55	Collin Previously Drained 25 gallons from drip legs Jacobs drained manifold 83 gallons (EQ tank at 1600 approx 200_ from 12/16)
HSVE-1	12/30/2021	7:55	245	272	19.8	0.8	0	400	56	Drip legs + manifold had not been cleared @ time of monitoring
HSVE-1	1/6/2022	12:52	0	69.5	19.3	NM	NM	361	52	Shutdown SVE & AS @ 1010 for the weekend because of high precip & no availability to vlear manifold + drip legs due to holiday.
HSVE-1	1/13/2022	9:45	0	221	19.3	0.8	0	625	55.4	BS-02 and BS-03 systems off due to rain (approximately 5.7")
HSVE-1	1/20/2022	11:05	147	238	19.1	NM	NM	395	54.5	BS-02 system will remain off, BS-03 restarted at 150 scfm at noon.
HSVE-1	1/26/2022	9:20	172	188	19.7	1.1	0.1	375	56	
HSVE-1	2/8/2022	8:55	245	250	18.4	0	0	395	53.7	0.4-0.6" DP
HSVE-1	2/15/2022	11:15	313	320	19.2	1.3	0.1	395	51.9	Condensate removal completed at 8AM, system off 7-8AM and 930 to 1030 for condensate and RO calibration.
HSVE-1	2/24/2022	9:20	250	202.3	19.2	1.1	0	450	56	diff p range from 0.7 to 1.2 in WC
HSVE-1	2/24/2022	11:20	250	204.9	19.1	1	0	450	56	
HSVE-1	3/1/2022	13:50	247	520	18.9	0.8	0	459	52.7	SVE Flow range was 395-459
HSVE-1	3/3/2022	10:30	215	226	19.8	NM	NM	457	54	SE restarted at 10:22; 0.4"-0.8"
HSVE-1	3/8/2022	9:05	219	192	19.8	NM	NM	361	52.1	0.1-0.5" DP
HSVE-1	3/24/2022	8:55	189	198	19.8	0.3	0.1	610	56	
HSVE-1	4/7/2022	11:20	235	177	19	0.9	0	457	55	DP = 0.1-0.8" H2O
HSVE-1	4/28/2022	9:00	203	73.5	19.8	0.5	0	235	52.5	0-0.4" (median 0.25")
HSVE-1	5/4/2022	13:15	262	126	19.8	NM	NM	457	53.4	
HSVE-1	5/11/2022	11:35	237	165	19.3	0.7	0	427	53.6	0.7" DP
HSVE-1	5/25/2022	12:10	248	110	20.3	0.3	0	395	56.6	0.1-0.7 = 0.6"
HSVE-1	6/9/2022	9:11	200	115	20	1	0	650	56	BS-03 flow increased to 225 scfm
HSVE-1	6/15/2022	9:30	227	71.5	20.3	NM	NM	395	52.5	0.6"wc DP
HSVE-1	6/30/2022	10:05	165	57	20.3	0.5	0	427	56	
HSVE-1	7/21/2022	8:40	200	135.7	NM	NM	NM	430	54.5	GEM not available for measurements, PID used
HSVE-1	8/5/2022	9:05	250	75.7	20.1	0.3	0	427	53.7	
HSVE-1	8/16/2022	9:05	250	55.1	20.2	0.5	0	457	52.3	Vac 49.7"-54.9" DP 0.2"-1.0" ~ 0.8"
HSVE-1	9/23/2022	8:59	200	24.9	20.1	0.7	0	528	55.0	
HSVE-1	10/4/2022	9:58	202	151.6	20	0.9	NM	395	55.0	GEM not available for methane measurements
HSVE-1	10/6/2022	7:00	205	36	19.8	1.3	2	806	55.0	
HSVE-1	10/13/2022	7:00	241	16	20.7	0.4	1	836	57.0	
HSVE-1	10/17/2022	12:30	239	14	20.7	0.3	1	806	54.6	
HSVE-1	10/28/2022	7:00	244	24	20.3	0.5	0	736	59.3	

**Appendix C.1. HSVE-01 Narrative and Operations Data**

*SFPP Norwalk Pump Station, Norwalk, California*

Location	Date	Time	Biosparge Flow (scfm)	SVE VOC (ppmv)	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	SVE Flow (scfm)	SVE Vacuum (in H <sub>2</sub> O)	Comment
HSVE-1	11/3/2022	8:30	255	20	20.9	0.4	0	710	55.7	
HSVE-1	11/10/2022	9:40	279	15	20.9	0.1	0	716	55.2	
HSVE-1	11/22/2022	12:50	272	18	20.6	0.3	0	761	54.7	
HSVE-1	12/1/2022	12:55	148	20	20.9	0	0	704	55.1	
HSVE-1	12/8/2022	7:00	305	20	20.7	0.4	0	693	54.5	
HSVE-1	12/15/2022	7:10	352	12	20.9	0.3	0	673	53.4	
HSVE-1	12/22/2022	10:00	200	12	20.9	0.4	NM	594	52.8	GEM not available for methane measurements
HSVE-1	12/28/2022	13:00	282	20	20.8	--	0	552	55.7	MultiRae carbon dioxide sensor failed

**Appendix C.2. Soil Vapor Field Monitoring Data**

*SFPP Norwalk Pump Station, Norwalk, California*

Well/ Location	Approximate Distance to HSVE-01 (ft) (negative upgradient)	Date	Time	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	VOC's (ppmv)	Ambient Oxygen (%)
SVM-06D	180	4/6/2021	13:32	18.5	0.2	0		
SVM-06S	180	4/6/2021	13:30	19.9	0.1	0		
SVM-06D	180	4/7/2021	13:42	20	0.1	0	4	21.1
SVM-06S	180	4/7/2021	13:45	19.7	0.1	0	2.4	21.1
SVM-06D	180	4/8/2021	13:29	21.1	0.1	0	0.1	20.9
SVM-06S	180	4/8/2021	13:29	20.3	0.1	0	0.1	20.9
SVM-06D	180	4/15/2021	10:55	20.1	0.2	0	0.1	21.2
SVM-06S	180	4/15/2021	10:52	20.3	0.2	0	0.1	21.2
SVM-06D	180	4/21/2021	11:48	21.1	0.2	0	0.1	21.4
SVM-06S	180	4/21/2021	11:45	21.2	0.2	0	0.1	21.4
SVM-06D	180	4/28/2021	13:00	21.1	0.1	0	0.4	20.9
SVM-06S	180	4/28/2021	12:55	21.1	0.2	0	0.6	20.9
SVM-06D	180	5/5/2021	13:22	20.5	0.1	0	0.1	20.9
SVM-06S	180	5/5/2021	13:24	20.2	0.1	0	0	20.9
SVM-06D	180	5/11/2021	15:22	20.5	0.1	0	0	21.7
SVM-06S	180	5/11/2021	15:23	20.6	0.1	0	0.1	21.7
SVM-06D	180	5/11/2021	12:20	19.6	0.2	0	0	21.3
SVM-06S	180	5/11/2021	12:30	20.5	0.4	0	0.3	21.3
SVM-06D	180	5/12/2021	14:18	20.9	0.2	0	0	20.9
SVM-06S	180	5/12/2021	14:30	21	0.2	0	0	20.9
SVM-06D	180	5/12/2021	9:15	20.6	0.2	0	0.3	n/a
SVM-06S	180	5/12/2021	9:16	20.7	0.2	0	0.2	n/a
SVM-06D	180	5/13/2021	11:16	21.2	0.2	0	0	20.9
SVM-06S	180	5/13/2021	11:18	21.3	0.2	0	0.4	20.9
SVM-06D	180	5/13/2021	13:18	20.8	0.2	0	0.3	n/a
SVM-06S	180	5/13/2021	13:19	20.8	0.2	0	5.8	n/a
SVM-06D	180	5/14/2021	12:17	19.6	0.1	0	0	21.3
SVM-06S	180	5/14/2021	12:19	19.6	0.1	0	0	21.3
SVM-06D	180	5/18/2021	14:28	19.8	0.1	0	0	20.9
SVM-06S	180	5/18/2021	14:30	19.9	0.1	0	0	20.9
SVM-06D	180	5/18/2021	11:41	19.6	0.2	0	0.1	20.9
SVM-06S	180	5/18/2021	11:43	19.7	0.2	0	0	20.9
SVM-06D	180	5/19/2021	15:40	21.4	0	0	0.2	21.5
SVM-06S	180	5/19/2021	15:45	21.2	0.1	0	0.1	21.5
SVM-06D	180	5/20/2021	11:17	20.2	0.1	0	0.2	21.5
SVM-06S	180	5/20/2021	11:19	20	0.2	0	0.3	21.5
SVM-06D	180	5/26/2021	13:28	20.5	0.1	0	0.2	20.9

**Appendix C.2. Soil Vapor Field Monitoring Data**

*SFPP Norwalk Pump Station, Norwalk, California*

Well/ Location	Approximate Distance to HSVE-01 (ft) (negative upgradient)	Date	Time	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	VOC's (ppmv)	Ambient Oxygen (%)
SVM-06S	180	5/26/2021	13:32	20.4	0.1	0	0.1	20.9
SVM-06D	180	5/27/2021	10:46	21.2	0.1	0	0	21.5
SVM-06S	180	5/27/2021	10:49	21.2	0.1	0	0	21.5
SVM-06D	180	6/1/2021	13:52	20.2	0.1	0	0.2	20.9
SVM-06S	180	6/1/2021	13:54	20.2	0	0	0.1	20.9
SVM-06D	180	6/10/2021	10:58	18.8	0.1	0	0.1	21.1
SVM-06S	180	6/10/2021	11:00	19.2	0.1	0	0	21.1
SVM-06D	180	6/10/2021	14:10	19	0	0	0	20.5
SVM-06S	180	6/10/2021	14:11	19.3	0.1	0	0	20.5
SVM-06D	180	6/11/2021	8:52	20.4	0.1	0	0	21
SVM-06S	180	6/11/2021	8:53	20.3	0.2	0	0.1	21
SVM-06D	180	6/22/2021	8:40	19.8	0.3	0	0	21.4
SVM-06S	180	6/22/2021	8:42	20.1	0.3	0	0	21.4
SVM-06D	180	6/25/2021	10:18	21.1	0	0	0	20.9
SVM-06S	180	6/25/2021	10:21	21	0.1	0	0	20.9
SVM-06D	180	6/28/2021	12:15	18.8	0.1	0	0.3	21.1
SVM-06S	180	6/28/2021	12:17	18.8	0.1	0	0.2	21.1
SVM-06D	180	7/23/2021	8:50	20	0	0	0	21.1
SVM-06S	180	7/23/2021	8:51	20.1	0.1	0	0.1	21.1
SVM-06D	180	8/6/2021	10:15	18.7	--	--	0.1	20.9
SVM-06S	180	8/6/2021	10:17	19.6	--	--	0	20.9
SVM-06D	180	8/31/2021	8:50	16.9	0.2	0	0	21.1
SVM-06S	180	8/31/2021	8:52	19.6	0.4	0	0	21.1
SVM-06D	180	9/1/2021	9:05	17.4	0.3	0	0	21.1
SVM-06S	180	9/1/2021	9:07	20.1	0.6	0	0	21.1
SVM-06D	180	9/9/2021	12:53	17.8	0.3	0	0	20.9
SVM-06S	180	9/9/2021	12:55	20.3	0.5	0	0	20.9
SVM-06D	180	9/16/2021	11:50	11	0.3	0	0.4	20.9
SVM-06S	180	9/16/2021	11:51	18.5	0.4	0	0	20.9
SVM-06D	180	9/21/2021	14:34	16.9	0.1	0	0	21.2
SVM-06S	180	9/21/2021	14:36	17.2	0.1	0	0	21.2
SVM-06D		10/1/2021	9:53	20.9	0	0	0.4	20.9
SVM-06S		10/1/2021	9:55	20.9	0.1	0	0	20.9
SVM-06D	180	10/1/2021	9:53	20.9	0	0	0.4	20.9
SVM-06S	180	10/1/2021	9:55	20.9	0.1	0	0	20.9
SVM-06D	180	10/7/2021	9:53	19	0.1	0	0	20.9
SVM-06S	180	10/7/2021	9:56	19.4	0.3	0	0	20.9

**Appendix C.2. Soil Vapor Field Monitoring Data**

*SFPP Norwalk Pump Station, Norwalk, California*

Well/ Location	Approximate Distance to HSVE-01 (ft) (negative upgradient)	Date	Time	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	VOC's (ppmv)	Ambient Oxygen (%)
SVM-06D	180	10/14/2021	8:52	10.1	NM	0	0	20.9
SVM-06S	180	10/14/2021	8:55	18.7	NM	0	0	20.9
SVM-06D	180	10/19/2021	13:30	14.5	0.1	0	0	20.9
SVM-06S	180	10/19/2021	13:35	18.5	0.2	0	0	20.9
SVM-06D	180	11/10/2021	13:38	5.8	NM	NM	0.2	20.9
SVM-06S	180	11/10/2021	12:42	17	NM	NM	0	20.9
SVM-06D	180	11/15/2021	14:48	14.1	0.2	0	0	20.9
SVM-06S	180	11/15/2021	14:50	17.6	0.3	0	0	20.9
SVM-06D	180	12/2/2021	14:39	10.9	NM	NM	0.1	20.9
SVM-06S	180	12/2/2021	14:42	20.2	NM	NM	0	20.9
SVM-06D	180	12/9/2021	10:29	17.1	0.1	0	0	20.9
SVM-06S	180	12/9/2021	10:31	19	0.1	0	0	20.9
SVM-06D	180	12/15/2021	14:34	1	2	7	5000	20.9
SVM-06S	180	12/15/2021	14:32	18.3	0	0	7.9	20.9
SVM-06D	180	12/17/2021	15:03	0.6	1.7	7	5000	20.9
SVM-06S	180	12/17/2021	15:05	13.7	0.3	1	24.4	20.9
SVM-06D	180	12/23/2021	8:25	16.4	0.9	0.6	5000	20.9
SVM-06S	180	12/23/2021	8:27	18.1	0.2	0	112	20.9
SVM-06D	180	12/30/2021	8:30	17.1	0.8	0.4	4210	21
SVM-06S	180	12/30/2021	8:33	18.3	0.1	0	98	21
SVM-06D	180	1/6/2022	12:05	6.7	NM	NM	3340	20.9
SVM-06S	180	1/6/2022	12:07	12.3	NM	NM	1305	20.9
SVM-06D	180	1/13/2022	10:43	10.6	2.3	0	379.8	21
SVM-06S	180	1/13/2022	10:45	16.8	0.3	0	118.7	21
SVM-06D	180	1/20/2022	10:44	9.4	NM	NM	8.6	20.9
SVM-06S	180	1/20/2022	10:46	16.8	NM	NM	44	20.9
SVM-06D	180	1/26/2022	12:00	12.7	2.3	0.1	23.2	20.9
SVM-06S	180	1/26/2022	12:05	16.8	0.3	0	15.4	20.9
SVM-06D	180	2/8/2022	10:27	10	0	0	3.6	20.9
SVM-06S	180	2/8/2022	10:29	13.1	0	0	0.8	20.9
SVM-06D	180	2/15/2022	12:25	5.4	6	20.1	5000	20.9
SVM-06S	180	2/15/2022	12:27	15.3	0.1	0	10.1	20.9
SVM-06D	180	2/24/2022	10:38	8.7	4.8	9	2193	21
SVM-06S	180	2/24/2022	10:36	12.6	0.3	0.3	1000	21
SVM-06D	180	3/1/2022	13:31	11.4	4	14	2360	21
SVM-06S	180	3/1/2022	13:33	13.3	0.2	0.5	1320	21
SVM-06D	180	3/3/2022	11:20	0.7	NM	NM	5000	20.9

**Appendix C.2. Soil Vapor Field Monitoring Data**

*SFPP Norwalk Pump Station, Norwalk, California*

Well/ Location	Approximate Distance to HSVE-01 (ft) (negative upgradient)	Date	Time	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	VOC's (ppmv)	Ambient Oxygen (%)
SVM-06S	180	3/3/2022	11:22	9.8	NM	NM	1230	20.9
SVM-06D	180	3/8/2022	10:11	1	NM	NM	1000	20.9
SVM-06S	180	3/8/2022		11.6	NM	NM	332	20.9
SVM-06D	180	3/24/2022	9:18	16.8	1.9	0.9	455.5	21
SVM-06S	180	3/24/2022	9:20	18.8	0.2	0	21.2	21
SVM-06D	180	4/7/2022	9:50	11.2	4.4	1.1	410	21
SVM-06S	180	4/7/2022	9:54	14.8	0.3	0	2	21
SVM-06D	180	4/28/2022	10:26	6.4	0	0	4	21
SVM-06S	180	4/28/2022	10:29	14.6	0.1	0	0	21
SVM-06D	180	5/4/2022	14:08	6.2	NM	NM	126	21
SVM-06S	180	5/4/2022	14:10	13.9	NM	NM	0.4	21
SVM-06D	180	5/11/2022	10:07	8.3	6.4	0	6.5	21
SVM-06S	180	5/11/2022	10:10	14.6	0.5	0	0	21
SVM-06S	180	5/25/2022	14:25	16.2	0	0	0	21
SVM-06D	180	5/25/2022	14:21	12.5	3.9	4.9	1,975	21
SVM-06S	180	6/9/2022	10:40	12	0.5	0.1	0	20.9
SVM-06D	180	6/9/2022	10:45	11	0.9	0.2	367.5	20.9
SVM-06S	180	6/15/2022	10:08	11.8	NM	NM	0	20.9
SVM-06D	180	6/15/2022	10:05	3.7	NM	NM	1155	20.9
SVM-06D	180	6/30/2022	9:45	15	3.3	0	1.5	20.9
SVM-06S	180	6/30/2022	9:50	14.5	0.6	0	0	20.9
SVM-06D	180	7/21/2022	9:10	NM	NM	NM	0.9	NM
SVM-06S	180	7/21/2022	9:05	NM	NM	NM	0.2	NM
SVM-06S	180	8/5/2022	10:40	13.1	4.6	0	0	20.9
SVM-06D	180	8/5/2022	10:45	11.5	0.5	3.6	585	20.9
SVM-06D	180	8/16/2022	10:57	12.5	5.8	3.8	1850	20.9
SVM-06S	180	8/16/2022	11:02	11.8	0.5	0.2	439	20.9
SVM-06D	180	9/23/2022	9:20	10.2	7.2	3.1	12.9	20.9
SVM-06S	180	9/23/2022	9:25	12.8	0.3	0.2	0.7	20.9
SVM-06D	180	10/4/2022	9:50	0.6	--	2	2580	20.9
SVM-06S	180	10/4/2022	9:50	0.7	--	6	3995	20.9
SVM-06D	180	10/28/2022	9:00	3.2	--	--	3	20.9
SVM-06S	180	10/28/2022	9:00	3.5	--	--	0.5	20.9
SVM-06D	180	11/4/2022	9:00	5.4	--	--	1.8	20.9
SVM-06S	180	11/4/2022	9:00	5.2	--	--	0.2	20.9
SVM-06D	180	11/23/2022	9:00	9.2	--	--	0	20.9
SVM-06S	180	11/23/2022	9:00	8.7	--	--	0	20.9

**Appendix C.2. Soil Vapor Field Monitoring Data***SFPP Norwalk Pump Station, Norwalk, California*

<b>Well/ Location</b>	<b>Approximate Distance to HSVE-01 (ft) (negative upgradient)</b>	<b>Date</b>	<b>Time</b>	<b>Oxygen (%)</b>	<b>Carbon Dioxide (%)</b>	<b>Methane (%)</b>	<b>VOC's (ppmv)</b>	<b>Ambient Oxygen (%)</b>
SVM-06D	180	12/8/2022	9:00	8.8	--	--	0.1	20.9
SVM-06S	180	12/8/2022	9:00	6.5	--	--	0	20.9
SVM-06D	180	12/22/2022	9:00	10.8	--	--	0	20.9
SVM-06S	180	12/22/2022	9:00	9.7	--	--	0	20.9
SVM-06D	180	12/28/2022	9:00	8.2	--	--	0.1	20.9
SVM-06S	180	12/28/2022	9:00	7.1	--	--	0	20.9





**Appendix C.3. ROI Data**  
 SFPP Norwalk Pump Station, Norwalk, California

					Higher Priority Vacuum Monitoring Locations (Vacuum [in of H2O])																Lower Priority Vacuum Monitoring Locations (Vacuum [in of H2O])																
					Approximate Distance to HSVE-01 (ft) (negative upgradient)																																
					20	20	20	20	20	10	10	25	40	40	40	80	80	90	120	130	130	130	150	160	160	160	180	180	200	230	230	250	250	250	250	10	
					Monitoring ID																																
Date	Start Time	End Time	HSVE-1 Date and Flow (SCFM)	HSVE-1 Vacuum (in of H2O)	Comment																																HSVE-1 Flow (SCFM)
7/23/2021	8:00	8:51	7/23/21 600	56.00	Bumped BS-03 flow to 250scfm @ 10:05am; Bumped BS02 flow to 175cfm @ 10:05am; monitoring was limited to locations sensitive to vac/pressure. BS-03 was operating at 130cfm after the AS shutdown.																																600
8/6/2021	9:25	10:25	8/6/21 555	56.45	BS-03 275 scfm																																555
8/31/2021	7:45	10:45	8/31/21 500	51.50	BS-03 200 scfm																																500
9/1/2021	7:45	9:49	9/1/21 450	51.50	BS-03 250 scfm																																450
9/9/2021	9:05	12:45	9/9/21 500	51.50	BS-03 150 scfm; Increased BS-03 to 250scfm. Increased BS-02 to 180scfm at 13:50.																																500
9/16/2021	11:00	12:22	9/16/21 550	53.50	BS-03 Flow recovering from 250-300 scfm. Avg. 225 scfm																																550
9/21/2021	13:45	14:55	9/21/21 500	54.50	Variable HSVE-01 flow (100-200; 450-500)																																500
9/30/2021	16:30	16:45	9/30/21 400	52.00	400 scfm average flow (varied from 160-530 scfm)																																400
10/1/2021	8:55	16:30	10/1/21 400	52.50																																	400
10/7/2021	11:05		10/7/21 460	52.24																																	460
10/14/2021	8:03	8:05	10/14/21 328	50.50																																	328
10/19/2021	9:15	14:25	10/19/21 395	49.93																																	395
11/10/2021	12:05		11/10/21 430	52.40																																	430
11/15/2021	14:07		11/15/21 400	53.32																																	400
12/2/2021	14:01		12/2/21 450	53.30																																	450
12/9/2021	9:00	11:52	12/9/21 395	51.60																																	395
12/15/2021	13:30		12/15/21 400	53.10																																	400
12/17/2021	14:30	15:51	12/17/21 450	49.30																																	450
12/23/2021	7:45	9:34	12/23/21 360	55.00																																	360
12/30/2021	7:55	9:33	12/30/21 400	56.00																																	400
1/6/2022	11:48	12:52	1/6/22 361	52.00	BS-03 system off																																361
1/13/2022	10:30	11:35	1/13/22 625	55.40	BS-02/BS-03 systems off																																625
2/24/2022	9:20	11:20	2/24/22 450	56.00	BS-02 system off																																450
3/1/2022	13:50		3/1/22 450	52.70																																	459
3/3/2022	10:30		3/3/22 459	54.00																																	457
3/8/2022	9:05		3/8/22 457	52.10																																	361
3/24/2022	8:55		3/24/22 361	56.00																																	610
4/7/2022	9:50	11:20	4/7/22 610	55.00																																	457
4/28/2022	9:00	10:29	4/28/22 457	52.50																																	323
5/4/2022	13:15	14:10	5/4/22 323	53.40																																	457
5/11/2022	9:55	11:36	5/11/22 457	53.60																																	1100
5/25/2022	12:10	14:18	5/25/22 1100	56.60																																	395
6/9/2022	9:11		6/9/22 395	56.00																																	650
6/15/2022	9:30		6/15/22 650	52.50																																	395
6/30/2022	10:05		6/30/22 395	56.00																																	427
7/21/2022	8:40	9:15	7/21/22 427	54.50																																	430
8/5/2022	9:05	10:45	8/5/22 430	53.70																																	427
8/16/2022	9:05	11:11	8/16/22 427	54.90																																	457
9/23/2022	8:59	9:25	9/23/22 528	55.00																																	528
10/4/2022	9:25	9:58	10/4/22 395	53.00																																	395
<b>Average</b>					0.1	1.3	3.0	1.6	0.0	0.9	0.1	4.8	0.6	0.0	4.0	0.1	0.0	0.5	0.3	0.6	0.1	0.0	1.6	NM	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.1	-0.1	0.0	17.3	485.30667

**Appendix C.4. Startup GWE Data**

SFPP Norwalk Pump Station, Norwalk, California

Well	Approximate Distance to HSVE-01 (ft) (negative upgradient)	Date	Time	Manual Measurements		Sheen/Odor	Field Calculations	PID
				Depth to Water (ft. BTOC)	Depth to Product (ft. BTOC)	Yes/No	Apparent Product Thickness (ft)	VOC's (ppm)
GMW-O-11	200	4/6/2021	14:00	32	31.9	y	0.1	0.5
GMW-O-12	25	4/6/2021	14:15	31.19	32.02	y	1	36.4
GMW-O-20	120	4/6/2021	14:10	31.78	n/a	n	0	n/a
GMW-O-11	200	4/7/2021	9:34	32.1	32	y	0.1	1.1
GMW-O-12	25	4/7/2021	9:40	32.25	31.87	y	<1.0	6.3
GMW-O-20	120	4/7/2021	9:43	31.78	n/a	n	0	n/a
GMW-O-3	-90	4/7/2021	10:45	31.35	n/a	n	0	9.3
GMW-O-5	-150	4/7/2021	10:56	31.42	n/a	n	0	0.3
MW-SF-9	130	4/7/2021	11:05	n/a	n/a	n/a	n/a	n/a
GMW-O-11	200	4/7/2021	14:36	32.05	n/a	y	0.1	n/a
GMW-O-12	25	4/7/2021	14:20	31.28	31.97	y	<1.0	n/a
GMW-O-20	120	4/7/2021	14:32	31.85	n/a	n	0	n/a
GMW-O-3	-90	4/7/2021	14:47	31.37	n/a	n	0	n/a
GMW-O-5	-150	4/7/2021	14:55	31.38	n/a	n	0	n/a
MW-SF-9	130	4/7/2021	15:05	n/a	n/a	n/a	n/a	n/a
GMW-O-11	200	4/8/2021	14:00	32.05	n/a	n	n/a	0.5
GMW-O-12	25	4/8/2021	14:38	31.28	31.95	y	0.71	7.4
GMW-O-20	120	4/8/2021	14:20	31.85	n/a	n	0	n/a
GMW-O-3	-90	4/8/2021	14:12	31.37	n/a	n	0	0.9
GMW-O-5	-150	4/8/2021	12:50	31.38	n/a	n	0	4.9
GMW-O-11	200	4/15/2021	11:15	32.1	n/a	n	n/a	0
GMW-O-12	25	4/15/2021	11:30	32.04	n/a	n	n/a	0.8
GMW-O-2	160	4/15/2021	n/a	n/a	n/a	n/a	n/a	n/a
GMW-O-20	120	4/15/2021	11:25	31.95	n/a	n	0	0
GMW-O-21	40	4/15/2021	n/a	n/a	n/a	n/a	n/a	n/a
GMW-O-3	-90	4/15/2021	9:40	31.9	n/a	y	0	0
GMW-O-5	-150	4/15/2021	9:20	31.56	n/a	n	n/a	0
MW-SF-9	130	4/15/2021	12:05	32.53	n/a	n	0	n/a
GMW-O-11	200	4/21/2021	12:10	31.95	n/a	n	n/a	0.1
GMW-O-12	25	4/21/2021	12:33	31.63	n/a	n	n/a	0.1
GMW-O-2	160	4/21/2021	12:26	31.07	n/a	n	n/a	0.9

**Appendix C.4. Startup GWE Data**

SFPP Norwalk Pump Station, Norwalk, California

Well	Approximate Distance to HSVE-01 (ft) (negative upgradient)	Date	Time	Manual Measurements		Sheen/Odor	Field Calculations	PID
				Depth to Water (ft. BTOC)	Depth to Product (ft. BTOC)	Yes/No	Apparent Product Thickness (ft)	VOC's (ppm)
GMW-O-20	120	4/21/2021	12:18	31.65	n/a	n	n/a	0
GMW-O-21	40	4/21/2021	n/a	n/a	n/a	n/a	n/a	n/a
GMW-O-3	-90	4/21/2021	10:00	31.5	n/a	n	0	0.3
GMW-O-5	-150	4/21/2021	9:45	31.5	n/a	n	0	0
MW-SF-9	130	4/21/2021	n/a	n/a	n/a	n/a	n/a	n/a
GMW-O-11	200	4/28/2021	12:40	n/a	NA	N	NA	1.2
GMW-O-12	25	4/28/2021	n/a	n/a	n/a	n/a	n/a	2.5
GMW-O-2	160	4/28/2021	11:59	31.66	n/a	n	NA	0.9
GMW-O-20	120	4/28/2021	n/a	n/a	n/a	n/a	n/a	0.8
GMW-O-21	40	4/28/2021	n/a	n/a	n/a	n/a	n/a	0.2
GMW-O-3	-90	4/28/2021	n/a	n/a	n/a	n/a	n/a	0.4
GMW-O-5	-150	4/28/2021	n/a	n/a	n/a	n/a	n/a	0
GMW-O-11	200	5/5/2021	13:40	31.9	n/a	n/a	n/a	3.8
GMW-O-12	25	5/5/2021	13:50	31.06	n/a	n/a	n/a	3.9
GMW-O-2	160	5/5/2021	13:01	31.69	n/a	n/a	n/a	0
GMW-O-20	120	5/5/2021	13:45	31.37	n/a	n/a	n/a	0.9
GMW-O-21	40	5/5/2021	14:43	31.13	n/a	n/a	n/a	0.9
GMW-O-3	-90	5/5/2021	14:06	31.3	n/a	n/a	n/a	1.5
GMW-O-5	-150	5/5/2021	15:00	31.22	n/a	n/a	n/a	0.5
MW-SF-9	130	5/5/2021	n/a	n/a	n/a	n/a	n/a	n/a
GMW-O-14	n/a	5/5/2021	n/a	23.9	n/a	n/a	n/a	n/a
GMW-O-11	200	5/11/2021	12:40	30.85	n/a	n/a	0	0.3
GMW-O-12	25	5/11/2021	12:55	28.47	n/a	n/a	0	0.1
GMW-O-2	160	5/11/2021	11:35	31.35	n/a	n/a	0	0.1
GMW-O-20	120	5/11/2021	12:48	29.52	n/a	n/a	0	0.3
GMW-O-21	40	5/11/2021	13:28	29.05	n/a	n/a	0	0
GMW-O-3	-90	5/11/2021	11:50	29.45	n/a	n/a	0	0.2
GMW-O-5	-150	5/11/2021	13:40	29.09	n/a	n/a	0	n/a
GMW-O-11	200	5/11/2021	15:30	30.79	n/a	n/a	0	0
GMW-O-12	25	5/11/2021	15:43	29.74	n/a	n/a	0	0.1
GMW-O-2	160	5/11/2021	15:03	31.03	n/a	n/a	0	0.1

**Appendix C.4. Startup GWE Data**

SFPP Norwalk Pump Station, Norwalk, California

Well	Approximate Distance to HSVE-01 (ft) (negative upgradient)	Date	Time	Manual Measurements		Sheen/Odor	Field Calculations	PID
				Depth to Water (ft. BTOC)	Depth to Product (ft. BTOC)	Yes/No	Apparent Product Thickness (ft)	VOC's (ppm)
GMW-O-20	120	5/11/2021	15:37	30.03	n/a	n/a	0	0.1
GMW-O-21	40	5/11/2021	16:09	30.04	n/a	n/a	0	0
GMW-O-3	-90	5/11/2021	15:08	29.53	n/a	n/a	0	0.2
GMW-O-5	-150	5/11/2021	16:27	29.5	n/a	n/a	0	0
GMW-O-11	200	5/12/2021	14:40	30.35	n/a	n/a	0	0
GMW-O-12	25	5/12/2021	14:50	27.65	n/a	n/a	0	0.2
GMW-O-2	160	5/12/2021	13:32	31.25	n/a	n/a	0	0.2
GMW-O-20	120	5/12/2021	14:45	28.74	n/a	n/a	0	0.1
GMW-O-21	40	5/12/2021	14:16	27.54	n/a	n/a	0	0
GMW-O-3	-90	5/12/2021	13:38	28.65	n/a	n/a	0	1
GMW-O-5	-150	5/12/2021	13:46	28.82	n/a	n/a	0	n/a
GMW-O-11	200	5/12/2021	9:43	30.69	n/a	n/a	0	0.3
GMW-O-12	25	5/12/2021	10:00	32.09	n/a	n/a	0	8.1
GMW-O-2	160	5/12/2021	8:45	31.55	n/a	n/a	0	0.2
GMW-O-20	120	5/12/2021	9:48	31.5	n/a	n/a	0	0.5
GMW-O-21	40	5/12/2021	10:48	31.75	n/a	n/a	0	0.7
GMW-O-3	-90	5/12/2021	9:00	30.82	n/a	n/a	0	1.2
GMW-O-5	-150	5/12/2021	11:15	29.55	n/a	n/a	0	0.1
GMW-O-11	200	5/13/2021	11:30	30.38	n/a	n/a	n/a	0.6
GMW-O-12	25	5/13/2021	11:45	29.75	n/a	n/a	n/a	5000
GMW-O-2	160	5/13/2021	9:41	30.87	n/a	n/a	n/a	0.4
GMW-O-20	120	5/13/2021	11:37	29.73	n/a	n/a	n/a	0.3
GMW-O-21	40	5/13/2021	10:59	29.66	n/a	n/a	n/a	0.9
GMW-O-3	-90	5/13/2021	9:56	29.05	n/a	n/a	n/a	1.1
GMW-O-5	-150	5/13/2021	10:05	29.33	n/a	n/a	n/a	0.7
GMW-O-14	n/a	5/13/2021	10:18	28.7	n/a	n/a	n/a	3.2
GMW-O-11	200	5/13/2021	n/a	n/a	n/a	n/a	n/a	n/a
GMW-O-12	25	5/13/2021	14:37	n/a	n/a	n/a	n/a	5000
GMW-O-2	160	5/13/2021	n/a	n/a	n/a	n/a	n/a	n/a
GMW-O-20	120	5/13/2021	13:31	29.87	n/a	n/a	n/a	n/a
GMW-O-21	40	5/13/2021	14:22	29.83	n/a	n/a	n/a	2.4

**Appendix C.4. Startup GWE Data**

SFPP Norwalk Pump Station, Norwalk, California

Well	Approximate Distance to HSVE-01 (ft) (negative upgradient)	Date	Time	Manual Measurements		Sheen/Odor	Field Calculations	PID
				Depth to Water (ft. BTOC)	Depth to Product (ft. BTOC)	Yes/No	Apparent Product Thickness (ft)	VOC's (ppm)
GMW-O-3	-90	5/13/2021	13:38	29.28	n/a	n/a	n/a	5.2
GMW-O-5	-150	5/13/2021	13:45	29.5	n/a	n/a	n/a	n/a
GMW-O-14	n/a	5/13/2021	13:57	28.75	n/a	n/a	n/a	4.9
GMW-O-11	200	5/18/2021	12:02	31.55	n/a	n	n/a	0.7
GMW-O-12	25	5/18/2021	n/a	n/a	n/a	n/a	n/a	n/a
GMW-O-2	160	5/18/2021	12:30	31.4	n/a	n	n/a	0
GMW-O-20	120	5/18/2021	12:10	31.11	n/a	n	n/a	0.6
GMW-O-21	40	5/18/2021	11:04	30.4	n/a	n	n/a	0.3
GMW-O-3	-90	5/18/2021	12:20	31.71	n/a	n	n/a	0
GMW-O-5	-150	5/18/2021	10:11	31.3	n/a	n	n/a	0.8
GMW-O-11	200	5/18/2021	14:50	31.52	n/a	n	n/a	0.1
GMW-O-12	25	5/18/2021	15:05	31.52	n/a	n	n/a	3.6
GMW-O-2	160	5/18/2021	15:19	31.41	n/a	n	n/a	0
GMW-O-20	120	5/18/2021	14:55	30.46	n/a	n	n/a	0.2
GMW-O-21	40	5/18/2021	14:20	30.85	n/a	n	n/a	0.2
GMW-O-3	-90	5/18/2021	15:12	31.88	n/a	n	n/a	0
GMW-O-5	-150	5/18/2021	13:30	31.31	n/a	n	n/a	0.7
GMW-O-11	200	5/14/2021	12:34	31.97	n/a	n	n/a	0.1
GMW-O-12	25	5/14/2021	12:50	n/a	n/a	n	n/a	0
GMW-O-2	160	5/14/2021	11:48	31.69	n/a	n	n/a	5000
GMW-O-20	120	5/14/2021	12:42	31.95	n/a	n	n/a	0
GMW-O-21	40	5/14/2021	13:11	30.15	n/a	n	n/a	2.3
GMW-O-3	-90	5/14/2021	11:57	31.36	n/a	n	n/a	0
GMW-O-5	-150	5/14/2021	13:28	30.11	n/a	n	n/a	0
GMW-O-11	200	5/19/2021	n/a	n/a	n/a	n/a	n/a	n/a
GMW-O-12	25	5/19/2021	11:55	31.91	n/a	n/a	n/a	11
GMW-O-2	160	5/19/2021	n/a	n/a	n/a	n/a	n/a	n/a
GMW-O-20	120	5/19/2021	11:45	31.36	n/a	n/a	n/a	0.4
GMW-O-21	40	5/19/2021	11:09	31.71	n/a	n/a	n/a	0.7
GMW-O-3	-90	5/19/2021	9:50	30.83	n/a	n/a	n/a	5.4
GMW-O-5	-150	5/19/2021	10:02	31.18	n/a	n/a	n/a	0.2

**Appendix C.4. Startup GWE Data**

SFPP Norwalk Pump Station, Norwalk, California

Well	Approximate Distance to HSVE-01 (ft) (negative upgradient)	Date	Time	Manual Measurements		Sheen/Odor	Field Calculations	PID
				Depth to Water (ft. BTOC)	Depth to Product (ft. BTOC)	Yes/No	Apparent Product Thickness (ft)	VOC's (ppm)
GMW-O-11	200	5/19/2021	n/a	n/a	n/a	n/a	n/a	n/a
GMW-O-12	25	5/19/2021	16:05	29.58	n/a	n/a	n/a	n/a
GMW-O-2	160	5/19/2021	n/a	n/a	n/a	n/a	n/a	17.4
GMW-O-20	120	5/19/2021	15:50	29.49	n/a	n/a	n/a	0.4
GMW-O-21	40	5/19/2021	14:47	29.05	n/a	n/a	n/a	0.1
GMW-O-3	-90	5/19/2021	13:40	29.71	n/a	n/a	n/a	1.3
GMW-O-5	-150	5/19/2021	13:48	30.59	n/a	n/a	n/a	0.3
GMW-O-11	200	5/20/2021	11:25	30.49	n/a	n/a	n/a	0.3
GMW-O-12	25	5/20/2021	n/a	n/a	n/a	n/a	n/a	n/a
GMW-O-2	160	5/20/2021	n/a	n/a	n/a	n/a	n/a	n/a
GMW-O-20	120	5/20/2021	11:38	29.92	n/a	n/a	n/a	0.3
GMW-O-21	40	5/20/2021	11:06	29.93	n/a	n/a	n/a	0.3
GMW-O-3	-90	5/20/2021	10:47	29.98	n/a	n/a	n/a	0.3
GMW-O-5	-150	5/20/2021	10:38	30.65	n/a	n/a	n/a	0.1
GMW-O-2	160	5/25/2021	9:48	31.05	n/a	n/a	n/a	n/a
GMW-O-3	-90	5/25/2021	9:45	29.36	n/a	n/a	n/a	n/a
GMW-O-11	200	5/25/2021	9:28	30.95	n/a	n/a	n/a	n/a
GMW-O-12	25	5/25/2021	9:40	31.34	n/a	n/a	n/a	n/a
GMW-O-20	120	5/25/2021	9:32	29.89	n/a	n/a	n/a	n/a
GMW-O-21	40	5/25/2021	10:12	29.11	n/a	n/a	n/a	n/a
GMW-O-2	160	5/25/2021	14:39	31.11	n/a	n/a	n/a	n/a
GMW-O-3	-90	5/25/2021	14:29	29.74	n/a	n/a	n/a	n/a
GMW-O-5	-150	5/25/2021	13:10	32.94	n/a	n/a	n/a	n/a
GMW-O-11	200	5/25/2021	13:56	31.15	n/a	n/a	n/a	n/a
GMW-O-12	25	5/25/2021	14:20	31.44	n/a	n/a	n/a	n/a
GMW-O-20	120	5/25/2021	14:06	30.15	n/a	n/a	n/a	n/a
GMW-O-21	40	5/25/2021	13:31	30.85	n/a	n/a	n/a	n/a
GMW-O-3	-90	5/26/2021	13:05	29.69	n/a	n/a	n/a	0
GMW-O-2	160	5/27/2021	9:45	30.81	n/a	n/a	n/a	0
GMW-O-3	-90	5/27/2021	9:48	28.95	n/a	n/a	n/a	0
GMW-O-5	-150	5/27/2021	9:55	30.05	n/a	n/a	n/a	0

**Appendix C.4. Startup GWE Data**

SFPP Norwalk Pump Station, Norwalk, California

Well	Approximate Distance to HSVE-01 (ft) (negative upgradient)	Date	Time	Manual Measurements		Sheen/Odor	Field Calculations	PID
				Depth to Water (ft. BTOC)	Depth to Product (ft. BTOC)	Yes/No	Apparent Product Thickness (ft)	VOC's (ppm)
GMW-O-11	200	5/27/2021	10:59	29.98	n/a	n/a	n/a	0
GMW-O-12	25	5/27/2021	11:10	n/a	n/a	n/a	n/a	535
GMW-O-14	10	5/27/2021	10:01	n/a	n/a	n/a	n/a	0
GMW-O-20	120	5/27/2021	11:04	n/a	n/a	n/a	n/a	405
GMW-O-21	40	5/27/2021	10:30	28.74	n/a	n/a	n/a	0
GMW-O-3	-90	6/1/2021	13:39	30.44	n/a	n/a	n/a	n/a
GMW-O-5	-150	6/1/2021	12:43	31.15	n/a	n/a	n/a	n/a
GMW-O-11	200	6/1/2021	14:15	30.25	n/a	n/a	n/a	n/a
GMW-O-12	25	6/1/2021	13:38	37.75	n/a	n/a	n/a	n/a
GMW-O-14	10	6/1/2021	12:52	n/a	n/a	n/a	n/a	n/a
GMW-O-20	120	6/1/2021	14:22	30.17	n/a	n/a	n/a	n/a
GMW-O-21	40	6/1/2021	13:33	30.66	n/a	n/a	n/a	n/a
GMW-O-11	200	6/10/2021	11:15	30.72	n/a	n/a	n/a	n/a
GMW-O-12	25	6/10/2021	11:25	28	n/a	n/a	n/a	n/a
GMW-O-11	200	6/10/2021	14:27	30.63	n/a	n/a	n/a	n/a
GMW-O-12	25	6/10/2021	14:37	27.95	n/a	n/a	n/a	n/a
GMW-O-3	-90	6/11/2021	10:18	28.03	n/a	n/a	n/a	n/a
GMW-O-5	-150	6/11/2021	10:10	29.23	n/a	n/a	n/a	n/a
GMW-O-11	200	6/11/2021	9:04	30.25	n/a	n/a	n/a	n/a
GMW-O-20	120	6/11/2021	9:10	28.61	n/a	n/a	n/a	n/a
GMW-O-21	40	6/11/2021	9:50	28.45	n/a	n/a	n/a	n/a
GMW-O-3	-90	6/22/2021	10:20	30.49	n/a	n/a	n/a	n/a
GMW-O-5	-150	6/22/2021	10:08	30.36	n/a	n/a	n/a	n/a
GMW-O-21	40	6/22/2021	9:45	31.34	n/a	n/a	n/a	n/a
GMW-O-3	-90	6/28/2021	13:08	30.55	n/a	n/a	n/a	n/a
GMW-O-5	-150	6/28/2021	13:30	30.45	n/a	n/a	n/a	n/a
GMW-O-11	200	6/28/2021	12:30	30.59	n/a	n/a	n/a	n/a
GMW-O-21	40	6/28/2021	12:59	30.91	n/a	n/a	n/a	n/a

**Appendix C.5. HSVE-01 Cumulative Mass Removed**  
 SFPP Norwalk Pump Station, Norwalk, California

Date	Operational Data						VOC Mass Removal				O2 Calculations					
	SVE Influent Max of CO2 (%)	SVE Influent Max of O2 (%)	SVE Influent Max of VOCs (ppmv)	Max of SVE Influent Flow (scfm)	Operational Efficiency	Corrected SVE Flow (scfm)	Removal Rate (VOC ppm/ft3/minute)	VOC Mass Removal Rate (lb/minute)	VOC Mass Removal Rate (lb/day)	Cumulative Equivalent Mass Removed (lbs)	O2 Depletion (%)	O2 Depletion (lbs/minute)	Equivalent Mass Consumed by O2 (lbs/minute)	Equivalent Mass Consumed by O2 (lbs/day)	Cumulative Equivalent Mass Consumed by O2 (lbs)	Difference O2 vs CO2
4/6/2021 12:25	6	13.4	381	323	1.00	323	0.00	0.00	0.00	0.00	7.6	1.88	0.53	766.66	0.00	0.00
4/6/2021 16:00	6.2	13.4	405	323	1.00	323	130815.00	0.03	41.39	6.18	7.6	1.88	0.53	766.66	114.47	-6.04
4/7/2021 7:35	5.6	15.5	406.6	323	1.00	323	131331.80	0.03	41.56	33.16	5.5	1.36	0.39	554.82	612.26	-16.61
4/7/2021 12:45	4.7	15.6	421.5	512	1.00	512	215808.00	0.05	68.29	47.87	5.4	2.12	0.60	863.47	731.70	9.86
4/7/2021 15:25	4.4	16.2	418	512	1.00	512	214016.00	0.05	67.72	55.39	4.8	1.88	0.53	767.53	827.64	14.11
4/8/2021 7:35	4	17.1	425	512	1.00	512	217600.00	0.05	68.86	101.77	3.9	1.53	0.43	623.62	1344.66	65.71
4/8/2021 11:00	3.4	17.5	401.1	512	1.00	512	205363.20	0.05	64.98	111.02	3.5	1.37	0.39	559.66	1433.44	86.18
4/8/2021 12:00	3.4	17	398.1	560	1.00	560	222936.00	0.05	70.54	113.96	4	1.71	0.49	699.57	1456.75	90.04
4/8/2021 15:00	3.3	17.9	414.2	560	1.00	560	231952.00	0.05	73.40	123.14	3.1	1.33	0.38	542.17	1544.20	91.77
4/15/2021 9:00	3.5	17.7	421	560	1.00	560	235760.00	0.05	74.60	626.71	3.3	1.41	0.40	577.15	5203.83	1106.20
4/21/2021 13:00	3.4	17.5	408	560	0.73	408.8	166790.40	0.04	52.78	952.17	3.5	1.09	0.31	446.85	8762.90	2076.07
4/28/2021 11:00	1.4	19.9	340	550	1.00	550	187000.00	0.04	59.17	1361.45	1.1	0.46	0.13	188.95	11853.62	2587.61
5/5/2021 9:00	1.3	18.9	390	550	1.00	550	214500.00	0.05	67.88	1830.92	2.1	0.88	0.25	360.72	13160.50	3276.35
5/5/2021 15:45	1.3	18.9	418	550	1.00	550	229900.00	0.05	72.75	1851.38	2.1	0.88	0.25	360.72	13261.96	3250.25
5/11/2021 16:45	0.8	20.1	1200	560	0.98	548.8	658560.00	0.14	208.39	3110.42	0.9	0.38	0.11	154.26	15441.28	2689.56
5/12/2021 8:15	1.3	19.9	422	500	0.98	490	206780.00	0.05	65.43	3152.67	1.1	0.41	0.12	168.33	15540.91	2696.19
5/12/2021 15:00	1	20.2	2000	500	0.98	490	980000.00	0.22	310.11	3239.89	0.8	0.30	0.09	122.42	15588.25	2715.97
5/13/2021 9:00	1.3	19.8	431.8	457	0.98	447.86	193385.95	0.04	61.19	3285.79	1.2	0.41	0.12	167.84	15680.07	2761.86
5/13/2021 14:52	1	19.8	5000	457	0.98	447.86	2239300.00	0.49	708.59	3459.00	1.2	0.41	0.12	167.84	15721.10	2774.16
5/14/2021 8:30	1.1	19.9	5000	457	0.98	447.86	2239300.00	0.49	708.59	3979.62	1.1	0.38	0.11	153.86	15844.42	2774.14
5/14/2021 14:18	0.2	19.8	4852	457	0.98	447.86	2173016.72	0.48	687.62	4145.79	1.2	0.41	0.12	167.84	15881.60	2781.57
5/18/2021 9:00	1.9	17.4	1410	500	0.98	490	690900.00	0.15	218.62	4972.01	3.6	1.35	0.38	550.91	16515.91	2274.09
5/18/2021 12:52	1.2	18.7	1900	500	0.98	490	931000.00	0.20	294.60	5019.47	2.3	0.86	0.24	351.97	16604.67	2241.54
5/18/2021 15:30	1.2	19.5	2650	500	0.98	490	1298500.00	0.29	410.89	5064.56	1.5	0.56	0.16	229.55	16643.29	2227.09
5/19/2021 9:30	1.2	19.7	440	457	0.98	447.86	197058.40	0.04	62.36	5111.33	1.3	0.45	0.13	181.83	16815.45	2220.18
5/19/2021 13:10	0.9	20	4830	470	0.98	460.6	2224698.00	0.49	703.97	5218.88	1	0.35	0.10	143.85	16843.23	2223.16
5/19/2021 16:15	0.8	19.9	390	485	0.98	475.3	185367.00	0.04	58.66	5226.41	1.1	0.40	0.11	163.28	16861.71	2224.64
5/20/2021 9:30	1.4	19.6	455	500	0.98	490	222950.00	0.05	70.55	5277.12	1.4	0.52	0.15	214.24	16979.07	2209.68
5/20/2021 11:49	0.9	19.5	475	500	0.98	490	232750.00	0.05	73.65	5284.23	1.5	0.56	0.16	229.55	16999.75	2213.82
5/26/2021 11:02	1.2	19.3	415	460	0.93	427.8	177537.00	0.04	56.18	5619.47	1.7	0.56	0.16	227.13	18369.54	1830.10
5/26/2021 12:15	1.1	18.9	395	460	0.93	427.8	168981.00	0.04	53.47	5622.18	2.1	0.69	0.19	280.57	18381.06	1828.34
5/26/2021 14:01	0.9	19.4	418	530	0.93	492.9	206032.20	0.05	65.20	5626.98	1.6	0.60	0.17	246.30	18401.71	1820.67
5/27/2021 7:48	1.2	19.5	374.2	600	0.93	558	208803.60	0.05	66.07	5675.94	1.5	0.64	0.18	261.40	18584.21	1761.33
5/27/2021 11:20	1	19.2	379.1	600	0.93	558	211537.80	0.05	66.94	5685.79	1.8	0.77	0.22	313.68	18622.69	1759.79
5/28/2021 10:15	1.3	18.5	335	510	0.93	474.3	158890.50	0.03	50.28	5733.80	2.5	0.91	0.26	370.32	18922.22	1659.91
5/28/2021 11:30	1	18.7	421	510	0.93	474.3	199680.30	0.04	63.19	5737.09	2.3	0.83	0.24	340.69	18941.51	1652.66
6/1/2021 12:40	1.2	18.5	386.2	600	0.99	594	229402.80	0.05	72.59	6030.98	2.5	1.14	0.32	463.78	20320.84	992.85
6/1/2021 14:45	1	18.8	360.1	600	0.99	594	213899.40	0.05	67.69	6036.86	2.2	1.00	0.28	408.12	20361.10	975.77
6/10/2021 10:35	1.3	18	468.3	600	1.00	600	280980.00	0.06	88.91	6821.63	3	1.38	0.39	562.16	23963.37	-661.97
6/10/2021 12:58	1.4	18.1	472.5	600	1.00	600	283500.00	0.06	89.71	6830.54	2.9	1.33	0.38	543.42	24019.20	-688.77
6/10/2021 15:09	1	18.5	442.5	600	1.00	600	265500.00	0.06	84.01	6838.18	2.5	1.15	0.33	468.46	24068.63	-709.57
6/11/2021 7:55	1.4	19.4	441	600	1.00	600	264600.00	0.06	83.73	6896.68	1.6	0.73	0.21	299.82	24395.91	-879.78
6/11/2021 10:28	0.9	19.1	468	600	1.00	600	280800.00	0.06	88.85	6906.12	1.9	0.87	0.25	356.03	24427.76	-878.19
6/22/2021 7:55	1.3	18.8	344.9	600	0.99	594	204870.60	0.05	64.83	7612.34	2.2	1.00	0.28	408.12	28306.28	-2552.47
6/25/2021 8:45	1.6	16.6	354	510	0.99	504.9	178734.60	0.04	56.56	7783.98	4.4	1.70	0.48	693.81	29544.83	-2912.92
6/25/2021 11:02	1	19.2	405	550	0.99	544.5	220522.50	0.05	69.78	7790.61	1.8	0.75	0.21	306.09	29610.84	-2950.13
6/28/2021 11:00	1.1	18.4	422	600	0.99	594	250668.00	0.06	79.32	8028.46	2.6	1.18	0.33	482.33	30528.69	-3256.19
6/28/2021 11:10	1.1	18.3	424	600	0.99	594	251856.00	0.06	79.70	8029.02	2.7	1.23	0.35	500.88	30532.04	-3257.84
6/28/2021 13:50	1	18.4	415	600	0.99	594	246510.00	0.05	78.00	8037.69	2.6	1.18	0.33	482.33	30587.70	-3286.29



**Appendix C.5. HSVE-01 Cumulative Mass Removed**  
 SFPP Norwalk Pump Station, Norwalk, California

Date	Operational Data						VOC Mass Removal				O2 Calculations					
	SVE Influent Max of CO2 (%)	SVE Influent Max of O2 (%)	SVE Influent Max of VOCs (ppmv)	Max of SVE Influent Flow (scfm)	Operational Efficiency	Corrected SVE Flow (scfm)	Removal Rate (VOC ppm/ft3/minute)	VOC Mass Removal Rate (lb/minute)	VOC Mass Removal Rate (lb/day)	Cumulative Equivalent Mass Removed (lbs)	O2 Depletion (%)	O2 Depletion (lbs/minute)	Equivalent Mass Consumed by O2 (lbs/minute)	Equivalent Mass Consumed by O2 (lbs/day)	Cumulative Equivalent Mass Consumed by O2 (lbs)	Difference O2 vs CO2
7/23/2021 8:00	1.3	19.7	421	600	0.74	444	186924.00	0.04	59.15	9502.04	1.3	0.44	0.13	180.26	42528.70	-9717.03
7/23/2021 9:00	1.3	19.8	408	600	0.74	444	181152.00	0.04	57.32	9504.43	1.2	0.41	0.12	166.40	42536.21	-9715.53
8/6/2021 9:25		19.1	365	555	1.00	555	202575.00	0.04	64.10	10402.97	1.9	0.81	0.23	329.33	44868.67	-9016.32
8/31/2021 7:45	0.9	19.6	52.1	450	0.70	315	16411.50	0.00	5.19	10532.43	1.4	0.34	0.10	137.73	53079.04	-17226.68
8/31/2021 10:45	1.1	18.4	408	500	0.70	350	142800.00	0.03	45.19	10538.08	2.6	0.70	0.20	284.20	53096.25	-17230.62
9/1/2021 7:45	1	19.5	195	450	0.68	306	59670.00	0.01	18.88	10554.60	1.5	0.35	0.10	143.35	53344.93	-17353.07
9/1/2021 8:00	1.1	19.5	202	450	0.68	306	61812.00	0.01	19.56	10554.81	1.5	0.35	0.10	143.35	53346.42	-17353.37
9/9/2021 9:05	1.1	19.5	208	500	0.69	345	71760.00	0.02	22.71	10737.49	1.5	0.40	0.11	161.62	54499.69	-17491.94
9/9/2021 12:45	1.1	19.4	215	500	1.00	500	107500.00	0.02	34.02	10742.69	1.6	0.61	0.17	249.85	54524.38	-17494.90
9/16/2021 11:00	1.6	19.3	238.9	550	1.00	550	131395.00	0.03	41.58	11030.70	1.7	0.72	0.20	292.01	56255.09	-17798.03
9/21/2021 13:45	0.8	21	72.4	200	1.00	200	14480.00	0.00	4.58	11054.14	0	0.00	0.00	0.00	57748.60	-17605.05
9/21/2021 14:45	0.8	19.4	1100	500	1.00	500	550000.00	0.12	174.04	11061.39	1.6	0.61	0.17	249.85	57748.60	-17602.55
9/21/2021 14:55	1.2	19.6	1090	500	1.00	500	545000.00	0.12	172.46	11062.59	1.4	0.54	0.15	218.62	57750.33	-17603.24
9/30/2021 16:30	0.6	20.1	1312	400	1.00	400	524800.00	0.12	166.06	12568.13	0.9	0.28	0.08	112.43	59732.30	-17546.97
10/1/2021 8:55	0.6	19.6	1260	400	0.98	392	493920.00	0.11	156.29	12675.04	1.4	0.42	0.12	171.39	59809.20	-17562.36
10/7/2021 11:05	0.2	20.7	382	460	1.00	460	175720.00	0.04	55.60	13013.68	0.3	0.11	0.03	43.10	60853.05	-18069.47
10/19/2021 9:15	0.5	20.1	102	395	0.98	387.1	39484.20	0.01	12.49	13162.66	0.9	0.27	0.08	108.81	61366.94	-18172.32
10/19/2021 14:25	0.9	19.7	326	427	0.63	269.01	87697.26	0.02	27.75	13168.63	1.3	0.27	0.08	109.22	61390.36	-18180.13
11/15/2021 14:07	0.9	19.5	337	400	0.98	392	132104.00	0.03	41.80	14296.77	1.5	0.45	0.13	183.64	64337.89	-18679.37
12/9/2021 11:52	0.6	19.2	153	395	1.00	395	60435.00	0.01	19.12	14753.95	1.8	0.54	0.15	222.05	68727.98	-19909.15
12/15/2021 13:30	0.9	19.4	421	400	0.91	364	153244.00	0.03	48.49	15048.20	1.6	0.45	0.13	181.89	70075.40	-20717.69
12/17/2021 14:30	0.5	19.9	102	450	0.91	409.5	41769.00	0.01	13.22	15075.18	1.1	0.34	0.10	140.68	70446.75	-20838.43
12/23/2021 7:45	0.9	19.9	260	360	0.78	280.8	73008.00	0.02	23.10	15207.30	1.1	0.24	0.07	96.47	71251.26	-21204.19
12/30/2021 7:55	0.8	19.8	272	400	1.00	400	108800.00	0.02	34.43	15448.53	1.2	0.37	0.10	149.91	71927.19	-21216.60
1/6/2022 12:52		19.3	69.5	361	0.77	277.97	19318.92	0.00	6.11	15492.59	1.7	0.36	0.10	147.58	73007.47	-21432.80
1/13/2022 9:45	0.8	19.3	221	625	0.77	481.25	106356.25	0.02	33.65	15723.80	1.7	0.63	0.18	255.51	74021.37	-22446.71
1/20/2022 11:05		19.1	238	395	0.77	304.15	72387.70	0.02	22.91	15885.42	1.9	0.44	0.13	180.48	75824.12	-23231.61
1/26/2022 9:20	1.1	19.7	188	375	0.77	288.75	54285.00	0.01	17.18	15987.23	1.3	0.29	0.08	117.23	76893.83	-24301.32
2/8/2022 8:55	0	18.4	250	395	0.97	383.15	95787.50	0.02	30.31	16380.74	2.6	0.76	0.22	311.12	78415.82	-24278.18
2/15/2022 11:15	1.3	19.2	320	395	0.97	383.15	122608.00	0.03	38.80	16656.09	1.8	0.53	0.15	215.39	80623.90	-26486.25
2/24/2022 11:20	1	19.1	204.9	450	0.97	436.5	89438.85	0.02	28.30	16910.91	1.9	0.63	0.18	259.01	82563.16	-26745.12
3/1/2022 13:50	0.8	18.9	520	459	1.00	459	238680.00	0.05	75.53	17296.41	2.1	0.74	0.21	301.03	83885.20	-27232.33
3/3/2022 10:30	0	19.8	226	457	1.00	457	103282.00	0.02	32.68	17357.23	1.2	0.42	0.12	171.27	84445.46	-27536.52
3/8/2022 9:05	0	19.8	192	361	0.99	357.39	68618.88	0.02	21.71	17464.52	1.2	0.33	0.09	133.94	85291.70	-28382.76
3/24/2022 8:55	0.3	19.8	198	610	0.99	603.9	119572.20	0.03	37.84	18069.64	1.2	0.55	0.16	226.32	87433.80	-30524.85
4/7/2022 11:20	0.9	19	177	457	0.75	342.75	60666.75	0.01	19.20	18340.33	2	0.52	0.15	214.09	90625.12	-32758.95
4/28/2022 9:00	0.5	19.8	73.5	235	0.98	230.3	16927.05	0.00	5.36	18452.30	1.2	0.21	0.06	86.31	95100.15	-34817.88
5/4/2022 13:15	0	19.8	126	457	0.99	452.43	57006.18	0.01	18.04	18563.72	1.2	0.42	0.12	169.56	95633.29	-35084.50
5/11/2022 11:35	0.7	19.3	165	427	0.98	418.46	69045.90	0.02	21.85	18715.15	1.7	0.54	0.15	222.17	96808.41	-36259.63
5/25/2022 12:10	0.3	20.3	110	395	0.94	371.3	40843.00	0.01	12.92	18896.40	0.7	0.20	0.06	81.17	99924.20	-37836.12
6/9/2022 9:11	1	20	115	650	0.98	637	73255.00	0.02	23.18	19241.22	1	0.49	0.14	198.94	101131.70	-38422.72
6/15/2022 9:30	0	20.3	71.5	395	0.96	379.2	27112.80	0.01	8.58	19292.81	0.7	0.20	0.06	82.90	102327.97	-38183.72
6/30/2022 10:05	0.5	20.3	57	427	0.86	367.22	20931.54	0.00	6.62	19392.33	0.7	0.20	0.06	80.28	103573.47	-39429.22
7/21/22 8:40			135.7	430	0.99	426	57767.49	0.01	18.28	19775.12	0.0	0.00	0.00	0.00	105254.61	-39669.64
8/5/22 9:05	0.4	20.1	75.7	427	1.00	427	32323.90	0.01	10.23	19928.72	0.9	0.29	0.08	120.02	105254.61	-38636.45
8/16/22 9:05	0.5	20.2	55.1	457	0.99	452	24928.89	0.01	7.89	20015.49	0.8	0.28	0.08	113.04	106574.84	-39956.67
9/23/22 9:05	0.7	20.1	24.9	528	0.97	512	12752.78	0.00	4.04	20168.84	0.9	0.35	0.10	143.96	110870.29	-41820.14
10/4/2022 9:58	0.9	20	151.6	395	1.00	395	59882.00	0.01	18.95	20377.97	1.0	0.30	0.09	123.36	112459.11	-42473.44
10/6/2022 7:00	1.3	19.8	36	806	1.00	806	29016.00	0.01	9.18	20395.20	1.2	0.74	0.21	302.06	112690.59	-42452.85

**Appendix C.5. HSVE-01 Cumulative Mass Removed**  
 SFPP Norwalk Pump Station, Norwalk, California

Date	Operational Data						VOC Mass Removal				O2 Calculations					
	SVE Influent Max of CO2 (%)	SVE Influent Max of O2 (%)	SVE Influent Max of VOCs (ppmv)	Max of SVE Influent Flow (scfm)	Operational Efficiency	Corrected SVE Flow (scfm)	Removal Rate (VOC ppm/ft3/minute)	VOC Mass Removal Rate (lb/minute)	VOC Mass Removal Rate (lb/day)	Cumulative Equivalent Mass Removed (lbs)	O2 Depletion (%)	O2 Depletion (lbs/minute)	Equivalent Mass Consumed by O2 (lbs/minute)	Equivalent Mass Consumed by O2 (lbs/day)	Cumulative Equivalent Mass Consumed by O2 (lbs)	Difference O2 vs CO2
10/13/2022 7:00	0.4	20.7	16	836	1.00	836	13376.00	0.00	4.23	20424.83	0.3	0.19	0.05	78.33	114805.04	-43634.85
10/17/2022 12:30	0.3	20.7	14	806	1.00	806	11284.00	0.00	3.57	20439.93	0.3	0.18	0.05	75.52	115136.30	-42305.67
10/28/2022 7:00	0.5	20.3	24	736	0.99	725	17399.04	0.00	5.51	20499.23	0.7	0.39	0.11	158.49	115949.67	-41769.45
11/3/2022 8:30	0.4	20.9	20	710	1.00	708	14157.40	0.00	4.48	20526.39	0.1	0.05	0.02	22.11	116910.50	-42181.00
11/10/2022 9:40	0.1	20.9	15	716	1.00	716	10740.00	0.00	3.40	20550.35	0.1	0.05	0.02	22.36	117066.33	-41379.46
11/22/2022 12:50	0.3	20.6	18	761	1.00	760	13684.30	0.00	4.33	20602.88	0.4	0.23	0.07	94.97	117337.62	-40363.58
12/1/2022 12:55	0	20.9	20	704	1.00	703	14065.92	0.00	4.45	20642.95	0.1	0.05	0.02	21.96	118192.69	-40977.11
12/8/2022 7:00	0.4	20.7	20	693	0.65	447	8939.70	0.00	2.83	20662.06	0.3	0.10	0.03	41.88	118341.03	-40548.29
12/15/2022 7:10	0.3	20.9	12	673	0.85	572	6864.60	0.00	2.17	20677.28	0.1	0.04	0.01	17.87	118634.47	-40841.74
12/22/2022 10:00	0.4	20.9	12	594	0.84	497	5966.14	0.00	1.89	20690.72	0.1	0.04	0.01	15.53	118761.64	-40492.03
12/28/2022 13:00	0.4	20.8	20	552	1.00	551	11028.96	0.00	3.49	20712.09	0.2	0.08	0.02	34.44	118856.75	-40193.27

**Appendix C.5. HSVE-01 Cumulative Mass Removed**  
 SFPP Norwalk Pump Station, Norwalk, California

Date	Biodegradation							Cumulative Mass Removed	Flow
	CO2			C14 Correction Applied					
	CO2 Production (scf/minute)	CO2 Production (lbs/minute)	C14 Correction Factor Based on BaCO3	Equivalent Mass Biodegraded by CO2 (lbs/minute C14 Corrected)	Equivalent Mass Biodegraded by CO2 (lbs/day C14 Corrected)	Cumulative Equivalent Mass Consumed by CO2 (lbs)	Total Biodegraded Mass (lbs) C14 Corrected	Cumulative Overall Mass Removal (lbs)	BS-03 Flow (scfm)
4/6/2021 12:25	19.38	2.38	0.65	0.50	726.18	0	0	0	0
4/6/2021 16:00	20.03	2.46	0.65	0.52	750.38	108	112	118	0
4/7/2021 7:35	18.09	2.22	0.65	0.47	677.77	596	552	585	0
4/7/2021 12:45	24.06	2.95	0.65	0.63	901.69	742	746	794	0
4/7/2021 15:25	22.53	2.76	0.65	0.59	844.13	842	840	895	0
4/8/2021 7:35	20.48	2.51	0.65	0.53	767.40	1410	1357	1459	0
4/8/2021 11:00	17.41	2.14	0.65	0.45	652.29	1520	1450	1561	0
4/8/2021 12:00	19.04	2.34	0.65	0.50	713.44	1547	1480	1593	0
4/8/2021 15:00	18.48	2.27	0.65	0.48	692.45	1636	1566	1689	0
4/15/2021 9:00	19.60	2.40	0.65	0.51	734.42	6310	6523	7150	0
4/21/2021 13:00	13.90	1.70	0.65	0.36	520.81	10839	9735	10687	0
4/28/2021 11:00	7.70	0.94	0.65	0.20	288.52	14441	11731	13092	0
5/5/2021 9:00	7.15	0.88	0.65	0.19	267.91	16437	13584	15415	0
5/5/2021 15:45	7.15	0.88	0.65	0.19	267.91	16512	13659	15511	0
5/11/2021 16:45	4.39	0.54	0.65	0.11	164.51	18131	14653	17763	45
5/12/2021 8:15	6.37	0.78	0.65	0.17	238.69	18237	14807	17960	45
5/12/2021 15:00	4.90	0.60	0.65	0.13	183.61	18304	14859	18099	100
5/13/2021 9:00	5.82	0.71	0.65	0.15	218.16	18442	15022	18308	100
5/13/2021 14:52	4.48	0.55	0.65	0.12	167.82	18495	15063	18522	100
5/14/2021 8:30	4.93	0.60	0.65	0.13	184.60	18619	15199	19179	50
5/14/2021 14:18	0.90	0.11	0.65	0.02	33.56	18663	15207	19353	50
5/18/2021 9:00	9.31	1.14	0.65	0.24	348.85	18790	16526	21498	50
5/18/2021 12:52	5.88	0.72	0.65	0.15	220.33	18846	16561	21581	50
5/18/2021 15:30	5.88	0.72	0.65	0.15	220.33	18870	16585	21650	50
5/19/2021 9:30	5.37	0.66	0.65	0.14	201.38	19036	16736	21848	50
5/19/2021 13:10	4.15	0.51	0.65	0.11	155.33	19066	16760	21979	100
5/19/2021 16:15	3.80	0.47	0.65	0.10	142.48	19086	16778	22005	100
5/20/2021 9:30	6.86	0.84	0.65	0.18	257.05	19189	16963	22240	100
5/20/2021 11:49	4.41	0.54	0.65	0.11	165.24	19214	16979	22263	100
5/26/2021 11:02	5.13	0.63	0.65	0.13	192.36	20200	18127	23746	100
5/26/2021 12:15	4.71	0.58	0.65	0.12	176.33	20209	18136	23758	150
5/26/2021 14:01	4.44	0.54	0.65	0.12	166.22	20222	18148	23775	150
5/27/2021 7:48	6.70	0.82	0.65	0.17	250.90	20346	18334	24010	150
5/27/2021 11:20	5.58	0.68	0.65	0.15	209.09	20382	18365	24051	200
5/28/2021 10:15	6.17	0.76	0.65	0.16	231.04	20582	18585	24319	100
5/28/2021 11:30	4.74	0.58	0.65	0.12	177.72	20594	18595	24332	100
6/1/2021 12:40	7.13	0.87	0.65	0.19	267.09	21314	19676	25707	100
6/1/2021 14:45	5.94	0.73	0.65	0.15	222.57	21337	19695	25732	100
6/10/2021 10:35	7.80	0.96	0.65	0.20	292.27	23301	22275	29097	200
6/10/2021 12:58	8.40	1.03	0.65	0.22	314.75	23330	22306	29137	200
6/10/2021 15:09	6.00	0.74	0.65	0.16	224.82	23359	22327	29165	200
6/11/2021 7:55	8.40	1.03	0.65	0.22	314.75	23516	22547	29443	300
6/11/2021 10:28	5.40	0.66	0.65	0.14	202.34	23550	22568	29474	300
6/22/2021 7:55	7.72	0.95	0.65	0.20	289.35	25754	25720	33332	200
6/25/2021 8:45	8.08	0.99	0.65	0.21	302.70	26632	26639	34423	250
6/25/2021 11:02	5.45	0.67	0.65	0.14	204.03	26661	26658	34449	250
6/28/2021 11:00	6.53	0.80	0.65	0.17	244.83	27273	27392	35421	250
6/28/2021 11:10	6.53	0.80	0.65	0.17	244.83	27274	27394	35423	250
6/28/2021 13:50	5.94	0.73	0.65	0.15	222.57	27301	27419	35456	250

**Appendix C.5. HSVE-01 Cumulative Mass Removed**  
 SFPP Norwalk Pump Station, Norwalk, California

Date	Biodegradation							Cumulative Mass Removed	Flow
	CO2			C14 Correction Applied					
	CO2 Production (scf/minute)	CO2 Production (lbs/minute)	C14 Correction Factor Based on BaCO3	Equivalent Mass Biodegraded by CO2 (lbs/minute C14 Corrected)	Equivalent Mass Biodegraded by CO2 (lbs/day C14 Corrected)	Cumulative Equivalent Mass Consumed by CO2 (lbs)	Total Biodegraded Mass (lbs) C14 Corrected	Cumulative Overall Mass Removal (lbs)	BS-03 Flow (scfm)
7/23/2021 8:00	5.77	0.71	0.65	0.15	216.28	32812	32773	42275	130
7/23/2021 9:00	5.77	0.71	0.65	0.15	216.28	32821	32782	42287	130
8/6/2021 9:25	0.00	0.00	0.65	0.00	0.00	35852	32782	43185	275
8/31/2021 7:45	2.84	0.35	0.65	0.07	106.23	35852	35431	45963	200
8/31/2021 10:45	3.85	0.47	0.65	0.10	144.26	35866	35449	45987	250
9/1/2021 7:45	3.06	0.38	0.65	0.08	114.66	35992	35549	46104	250
9/1/2021 8:00	3.37	0.41	0.65	0.09	126.13	35993	35550	46105	250
9/9/2021 9:05	3.80	0.47	0.65	0.10	142.20	37008	36694	47432	150
9/9/2021 12:45	5.50	0.67	0.65	0.14	206.09	37029	36726	47468	150
9/16/2021 11:00	8.80	1.08	0.65	0.23	329.74	38457	39010	50041	275
9/21/2021 13:45	1.60	0.20	0.65	0.04	59.95	40144	39316	50371	200
9/21/2021 14:45	4.00	0.49	0.65	0.10	149.88	40146	39323	50384	200
9/21/2021 14:55	6.00	0.74	0.65	0.16	224.82	40147	39324	50387	200
9/30/2021 16:30	2.40	0.29	0.65	0.06	89.93	42185	40140	52708	250
10/1/2021 8:55	2.35	0.29	0.65	0.06	88.13	42247	40200	52875	250
10/7/2021 11:05	0.92	0.11	0.65	0.02	34.47	42784	40410	53424	260
10/19/2021 9:15	1.94	0.24	0.65	0.05	72.52	43195	41275	54437	300
10/19/2021 14:25	2.42	0.30	0.65	0.06	90.72	43210	41294	54463	200
11/15/2021 14:07	3.53	0.43	0.65	0.09	132.20	45659	44862	59159	192
12/9/2021 11:52	2.37	0.29	0.65	0.06	88.81	48819	46985	61739	280
12/15/2021 13:30	3.28	0.40	0.65	0.09	122.75	49358	47730	62778	320
12/17/2021 14:30	2.05	0.25	0.65	0.05	76.72	49608	47886	62961	250
12/23/2021 7:45	2.53	0.31	0.65	0.07	94.70	50047	48428	63635	240
12/30/2021 7:55	3.20	0.39	0.65	0.08	119.91	50711	49268	64716	245
1/6/2022 12:52	0.00	0.00	0.65	0.00	0.00	51575	49268	64761	0
1/13/2022 9:45	3.85	0.47	0.65	0.10	144.26	51575	50259	65983	0
1/20/2022 11:05	0.00	0.00	0.65	0.00	0.00	52593	50259	66144	147
1/26/2022 9:20	3.18	0.39	0.65	0.08	119.02	52593	50964	66952	172
2/8/2022 8:55	0.00	0.00	0.65	0.00	0.00	54138	50964	67345	245
2/15/2022 11:15	4.98	0.61	0.65	0.13	186.64	54138	52289	68945	313
2/24/2022 11:20	4.37	0.54	0.65	0.11	163.56	55818	53762	70673	250
3/1/2022 13:50	3.67	0.45	0.65	0.10	137.59	56653	54464	71760	247
3/3/2022 10:30	0.00	0.00	0.65	0.00	0.00	56909	54464	71821	215
3/8/2022 9:05	0.00	0.00	0.65	0.00	0.00	56909	54464	71928	219
3/24/2022 8:55	1.81	0.22	0.65	0.05	67.89	56909	55550	73619	189
4/7/2022 11:20	3.08	0.38	0.65	0.08	116	57866	57180	75520	235
4/28/2022 9:00	1.15	0.14	0.65	0.03	43	60282	58081	76534	203
5/4/2022 13:15	0.00	0.00	0.65	0.00	0	60549	58081	76645	262
5/11/2022 11:35	2.93	0.36	0.65	0.08	110	60549	58842	77557	237
5/25/2022 12:10	1.11	0.14	0.65	0.03	42	62088	59427	78324	248
6/9/2022 9:11	6.37	0.78	0.65	0.17	239	62709	62978	82219	200
6/15/2022 9:30	0.00	0.00	0.65	0.00	0	64144	62978	82271	227
6/30/2022 10:05	1.84	0.23	0.65	0.05	69	64144	64012	83404	165
7/21/22 8:40	0.00	0.00	0.65	0.00	0.00	65585	64012	83787	165
8/5/22 9:05	1.71	0.21	0.65	0.04	64.00	66618	64973	84902	250
8/16/22 9:05	2.26	0.28	0.65	0.06	84.76	66618	64944	84960	251
9/23/22 9:05	3.59	0.44	0.65	0.09	134.34	69050	70078	90246	252
10/4/2022 9:58	3.56	0.44	0.65	0.09	133.21	69986	72480	92858	201.5
10/6/2022 7:00	10.48	1.29	0.65	0.27	392.62	70238	73217	93612	205

**Appendix C.5. HSVE-01 Cumulative Mass Removed**  
*SFPP Norwalk Pump Station, Norwalk, California*

	Biodegradation						Cumulative Mass Removed	Flow	
	CO2		C14 Correction Applied						
Date	CO2 Production (scf/minute)	CO2 Production (lbs/minute)	C14 Correction Factor Based on BaCO3	Equivalent Mass Biodegraded by CO2 (lbs/minute C14 Corrected)	Equivalent Mass Biodegraded by CO2 (lbs/day C14 Corrected)	Cumulative Equivalent Mass Consumed by CO2 (lbs)	Total Biodegraded Mass (lbs) C14 Corrected	Cumulative Overall Mass Removal (lbs)	BS-03 Flow (scfm)
10/13/2022 7:00	3.34	0.41	0.65	0.09	125.30	71170	74094	94519	241
10/17/2022 12:30	2.42	0.30	0.65	0.06	90.60	72831	74477	94917	239
10/28/2022 7:00	3.62	0.44	0.65	0.09	135.82	74180	75940	96439	244
11/3/2022 8:30	2.83	0.35	0.65	0.07	106.10	74730	76583	97110	255
11/10/2022 9:40	0.72	0.09	0.65	0.02	26.83	75687	76772	97323	279
11/22/2022 12:50	2.28	0.28	0.65	0.06	85.46	76974	77809	98412	272
12/1/2022 12:55	0.00	0.00	0.65	0.00	0.00	77216	77809	98452	148
12/8/2022 7:00	1.79	0.22	0.65	0.05	66.99	77793	78262	98924	305
12/15/2022 7:10	1.72	0.21	0.65	0.04	64.30	77793	78712	99390	352
12/22/2022 10:00	1.99	0.24	0.65	0.05	74.52	78270	79243	99933	200
12/28/2022 13:00	2.21	0.27	0.65	0.06	82.65	78663	79749	100461	282

**Appendix D**  
**API Workbook (GMW-23)**

Well Designation: GMW-23 Beckett and Lyverse (2002)  
 Date: 31-Aug-21

Ground Surface Elev (ft msl)	0.0	Enter These Data	r <sub>e1</sub>	Drawdown Adjustment (ft)	0
Top of Casing Elev (ft msl)	0.0				
Well Casing Radius, r <sub>c</sub> (ft):	0.167				
Well Radius, r <sub>w</sub> (ft):	0.500	Calculated Parameters	8.80	6.00	
LNAPL Specific Yield, S <sub>y</sub> :	0.175				
LNAPL Density Ratio, ρ <sub>r</sub> :	0.780				
Top of Screen (ft bgs):	25.0				
Bottom of Screen (ft bgs):	60.0				
LNAPL Baildown Vol. (gal.):	6.00				
Effective Radius, r <sub>e3</sub> (ft):	0.258				
Effective Radius, r <sub>e2</sub> (ft):	0.243				
Initial Casing LNAPL Vol. (gal.):	3.67				
Initial Filter LNAPL Vol. (gal.):	5.14				

Submerged Screen	No
Radius of Influence Ratio	30.00
Theim Transmissivity (ft <sup>2</sup> /day)	NA
Constant Discharge (ft <sup>3</sup> /day)	NA
Constant Confined Drawdown (ft)	NA
LNAPL Behavior (Perched, Unconfined, or Confined)	unconfined
Confining Layer Depth (ft bgs)	NA
Perched Confining Layer Depth (ft bgs)	NA
Formation Thickness (ft)	4.00

borehole recharge

LNAPL Transmissivity (ft <sup>2</sup> /day)			
B&R Method	C&J Method	CB&P	Theim Method
0.003	0.005	0.005	NA

Recovery Rate Estimates	
Average Transmissivity (ft <sup>2</sup> /day)	0.004
Skimming Systems	
Maximum Skimming Drawdown (ft)	0.76
Estimated Skimming Recovery Rate (gpd)	0.05
Enhanced Skimming System	
Drawdown Enhancement (Vacuum or Water) (ft H)	1.00
Estimated Enhanced Skimming Recovery Rate (gp)	0.12

Enter Data Here						Water Table Depth (ft)	LNAPL Drawdown s <sub>n</sub> (ft)
Time (min)	DTP (ft btoc)	DTW (ft btoc)	DTP (ft bgs)	DTW (ft bgs)			
8/31/2021 10:00:00	0	33.27	38.89	33.27	38.89	34.51	

LNAPL				
Average Time (min)	Discharge Q <sub>n</sub> (ft <sup>3</sup> /d)	s <sub>n</sub> (ft)	b <sub>n</sub> (ft)	r <sub>e</sub> (ft)
				5.62

8/31/2021 11:30:00	30.00	41.26	41.41	41.26	41.41	41.293	7.990				0.15	
9/1/2021 9:15:00	1335.00	33.98	34.87	33.98	34.87	34.176	1.410	682.5	0.1710	4.70	0.89	0.258
9/9/2021 14:20:00	13160.00	34.35	36.03	34.35	36.03	34.720	1.236	7247.5	0.0201	1.32	1.68	0.258
9/16/2021 10:10:00	22990.00	33.33	35.48	33.33	35.48	33.803	1.133	18075.0	0.0144	1.18	2.15	0.258
9/23/2021 13:00:00	33240.00	34.12	36.33	34.12	36.33	34.606	1.120	28115.0	0.0018	1.13	2.21	0.258
10/7/2021 11:55	53335.00	33.70	36.41	33.70	36.41	34.296	1.010	43287.5	0.0075	1.06	2.71	0.258
11/1/2021 9:48	89208.00	34.74	38.57	34.74	38.57	35.583	0.763	71271.5	0.0094	0.89	3.83	0.258
12/9/2021 8:30	143850.00	33.53	38.21	33.53	38.21	34.560	0.576	116529.0	0.0047	0.67	4.68	0.258
1/6/2022 11:45	184365.00	34.49	39.81	34.49	39.81	35.660	0.436	164107.5	0.0048	0.51	5.32	0.258
2/24/2022 11:30	254910.00	33.84	39.73	33.84	39.73	35.136	0.310	219637.5	0.0024	0.37	5.89	0.258
3/10/2022 9:21:00	274941.00	33.97	39.89	33.97	39.89	35.272	0.304	264925.5	0.0005	0.31	5.92	0.258
5/9/2022 13:01:00	361561.00	33.58	39.84	33.58	39.84	34.957	0.229	318251.0	0.0012	0.27	6.26	0.258
8/24/2022 0:00:00	514860.00	33.42	40.72	33.42	40.72	35.026	0.114	438210.5	0.0020	0.17	7.30	0.258
10/31/2022 0:00:00	612780.00	33.54	40.77	33.54	40.77	35.131	0.057	563820.0	-0.0002	0.09	7.23	0.258

Figure 1

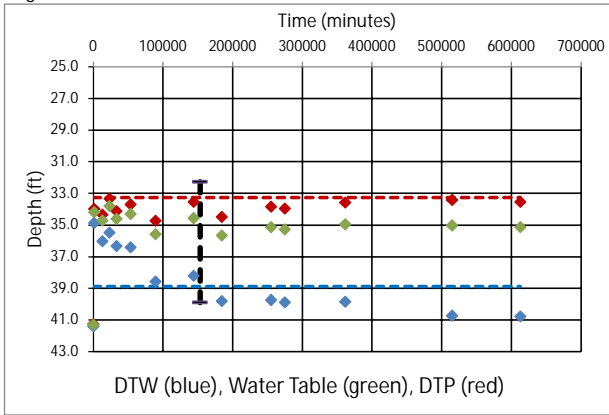
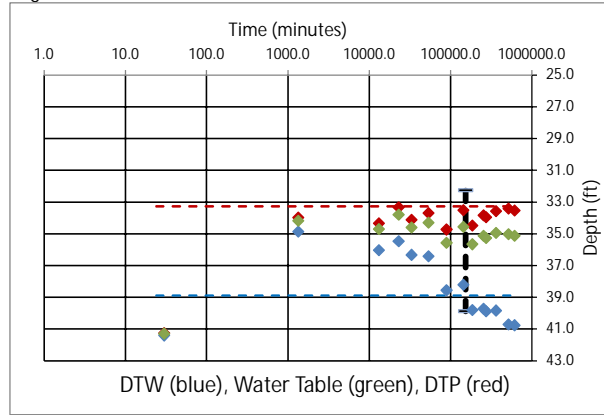


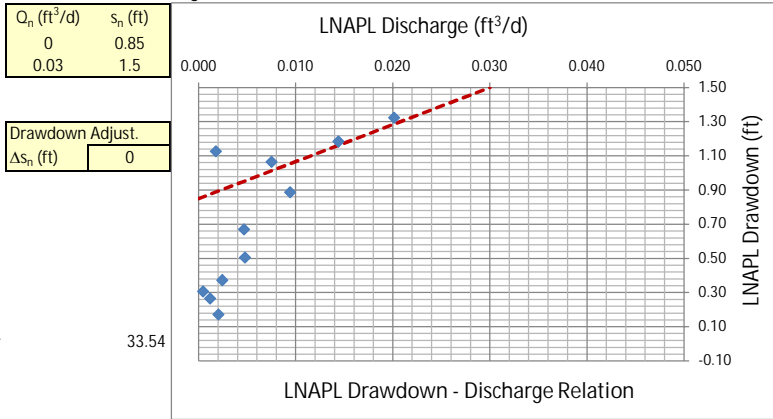
Figure 2



24.0	33.27
612780	33.27
24.0	38.89
612780	38.89

153195.0	32.27
153195.0	39.9

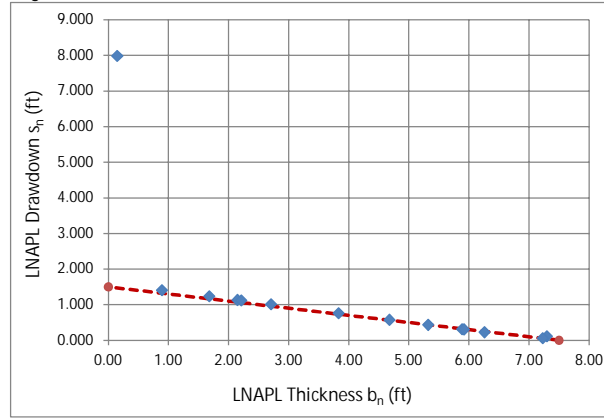
Figure 3



#####

33.54

Figure 4



$b_n$	$s_n$
7.5	0
0	1.5

J-ratio	-0.200
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Figure 5

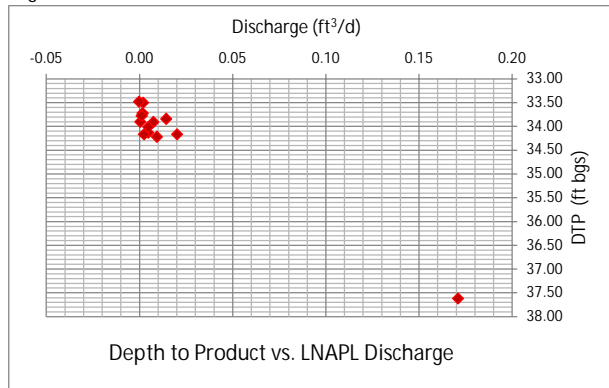


Figure 6

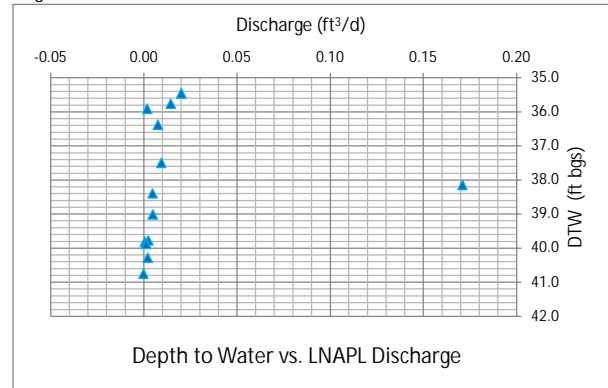


Figure 7

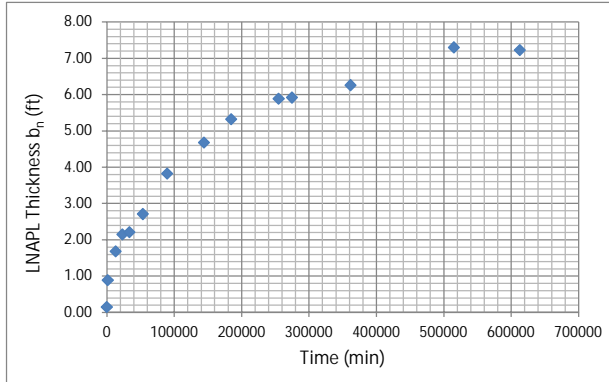


Figure 8

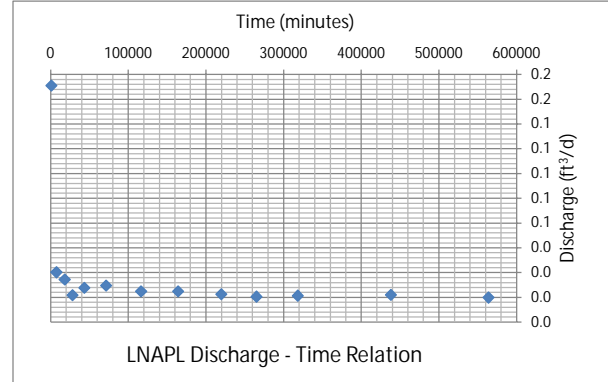


Figure 9

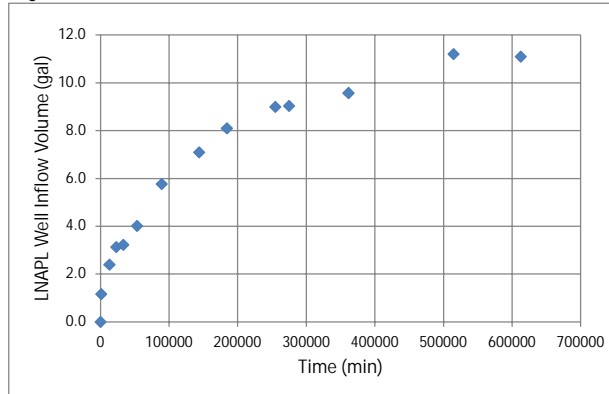
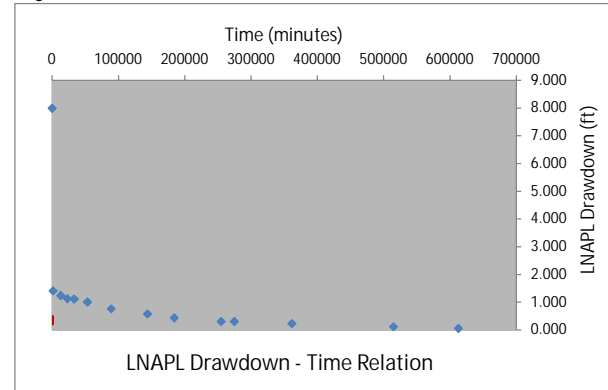


Figure 10



t (min)	$s_n$ (ft)
10	0.48
10	0

Generalized Bouwer and Rice (1976)

Well Designation:	GMW-23
Date:	31-Aug-21

$$T_n = \frac{r_e^2 \ln(R/r_e) \ln(s_n(t_1)/s_n(t))}{2(-J)(t-t_1)}$$

Enter early time cut-off for least-squares model fit

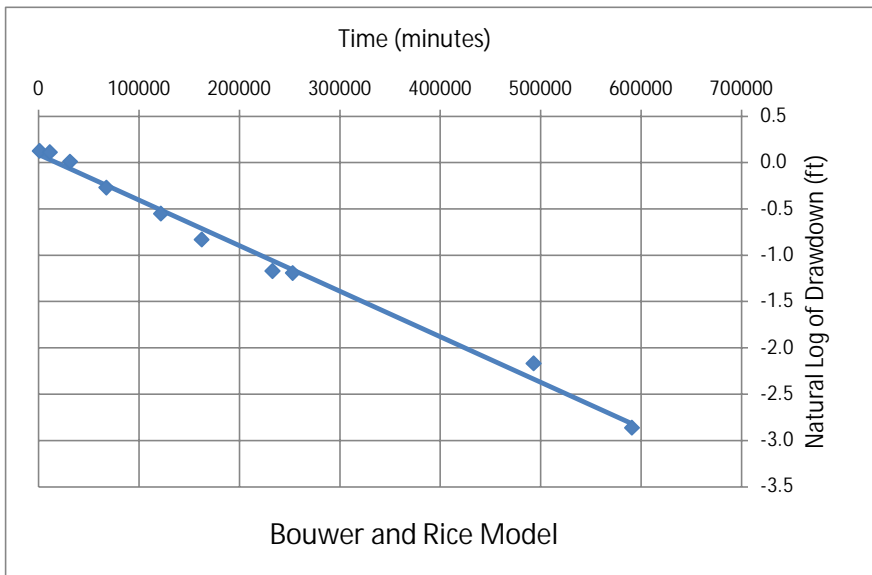
Time<sub>cut</sub>  <- Enter or change value here

Model Results:  $T_n$  (ft<sup>2</sup>/d) =  +/-  ft<sup>2</sup>/d

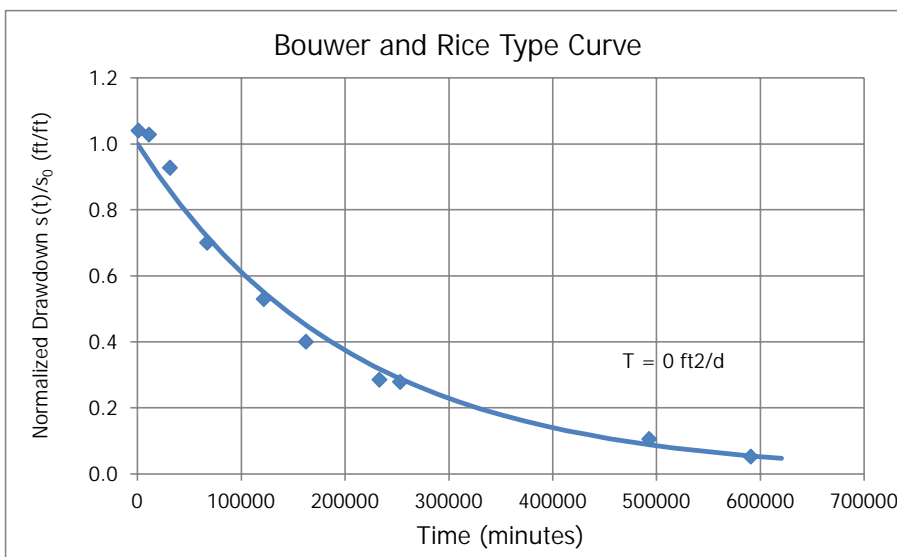
$L_e/r_e$	21.8
C	1.66
$R/r_e$	10.05

J-Ratio	-0.200
---------	--------

Coef. Of Variation	0.03
--------------------	------



C coefficient calculated from Eq. 6.5(c) of Butler, The Design, Performance, and  
 ##### C coefficie      33.54      40.77



Cooper and Jacob (1946)

Well Designation:	GMW-23
Date:	31-Aug-21

$$V_n(t_i) = \sum_j^i \frac{4\pi T_n S_j}{\ln\left(\frac{2.25 T_n t_j}{r_e^2 S_n}\right)} \Delta t_j$$

Enter early time cut-off for least-squares model fit

Time <sub>cut</sub> (min):	22000	<- Enter or change values here
Time Adjustment (min):	15000	

Trial S<sub>n</sub>:  <- Enter d for default or enter S<sub>n</sub> value

Root-Mean-Square Error:  <- Minimize this using "Solver"

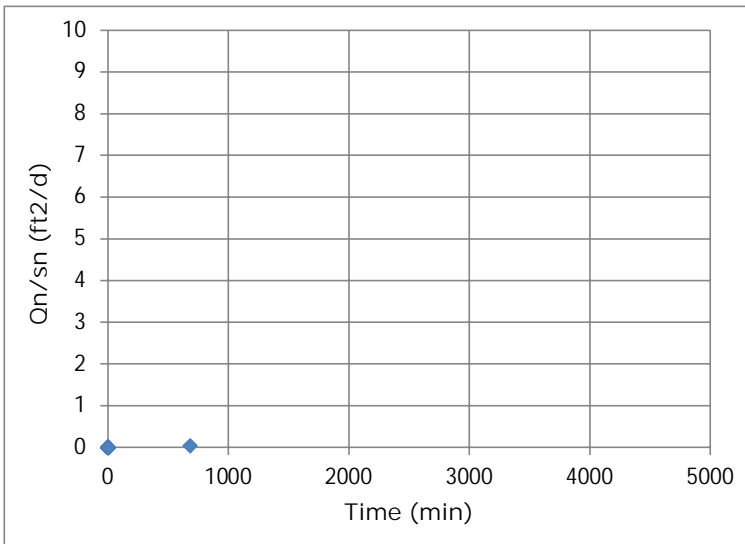
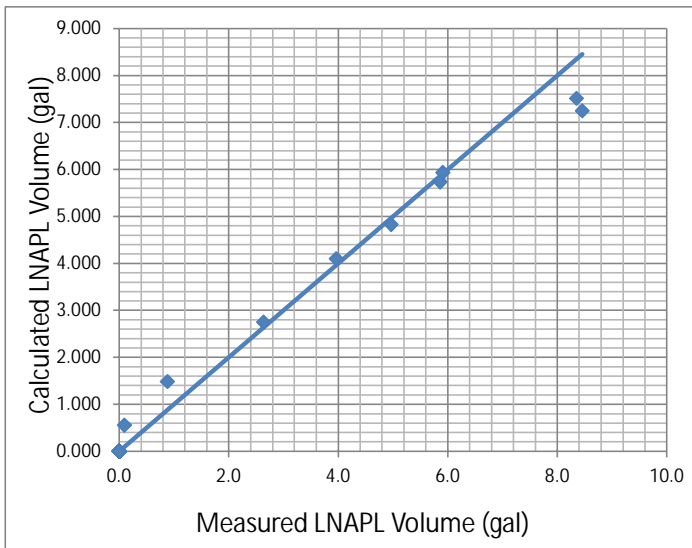
<- Working S<sub>n</sub>

Trial T<sub>n</sub> (ft<sup>2</sup>/d):  <- By changing T<sub>n</sub> through "Solver"

Add constraint T<sub>n</sub> > 0.00001

Model Result:

#####



Height

Cooper, Bredehoeft and Papadopoulos (1967)

Well Designation:	GMW-23
Date:	31-Aug-21

Enter early time cut-off for least-squares model fit

Time <sub>cut</sub> (min):	22000	<- Enter or change values here
Initial Drawdown s <sub>n</sub> (ft):	1.12	

Trial S<sub>n</sub>: d <- Enter d for default

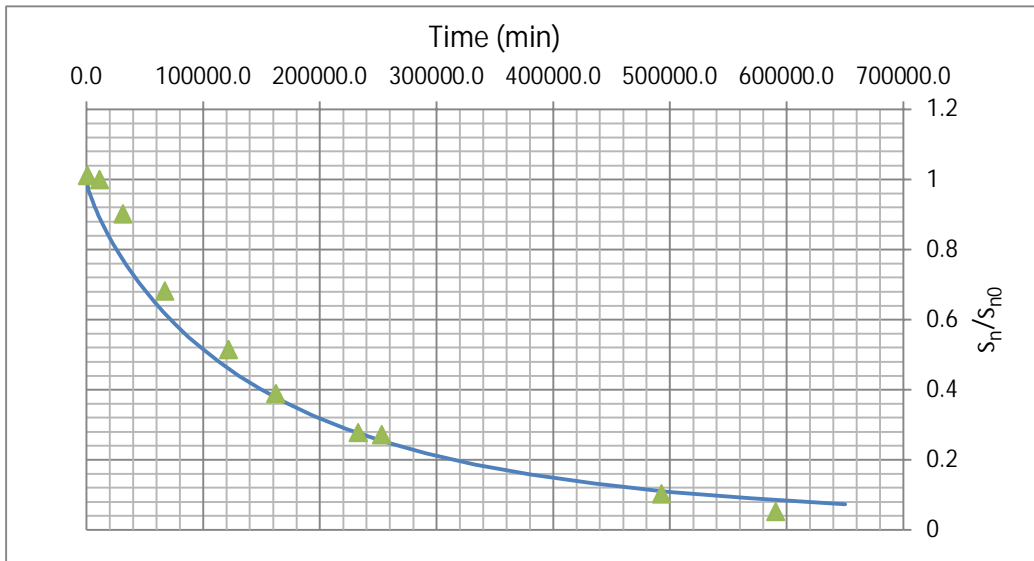
Root-Mean-Square Error: 0.197 <- Minimize this using "Solver"

Trial T<sub>n</sub> (ft<sup>2</sup>/d): 0.005 <- By changing T<sub>n</sub> through "Solver"

0.002 <- Working S<sub>n</sub> Add constraint T<sub>n</sub> > 0.00001

Model Result: T<sub>n</sub> (ft<sup>2</sup>/d) = 0.005

T <sub>min</sub>	1
T <sub>max</sub>	650000



J-Ratio  
-0.200

Bouwer and Rice Short Term LNAPL Mobility Test Type Curves

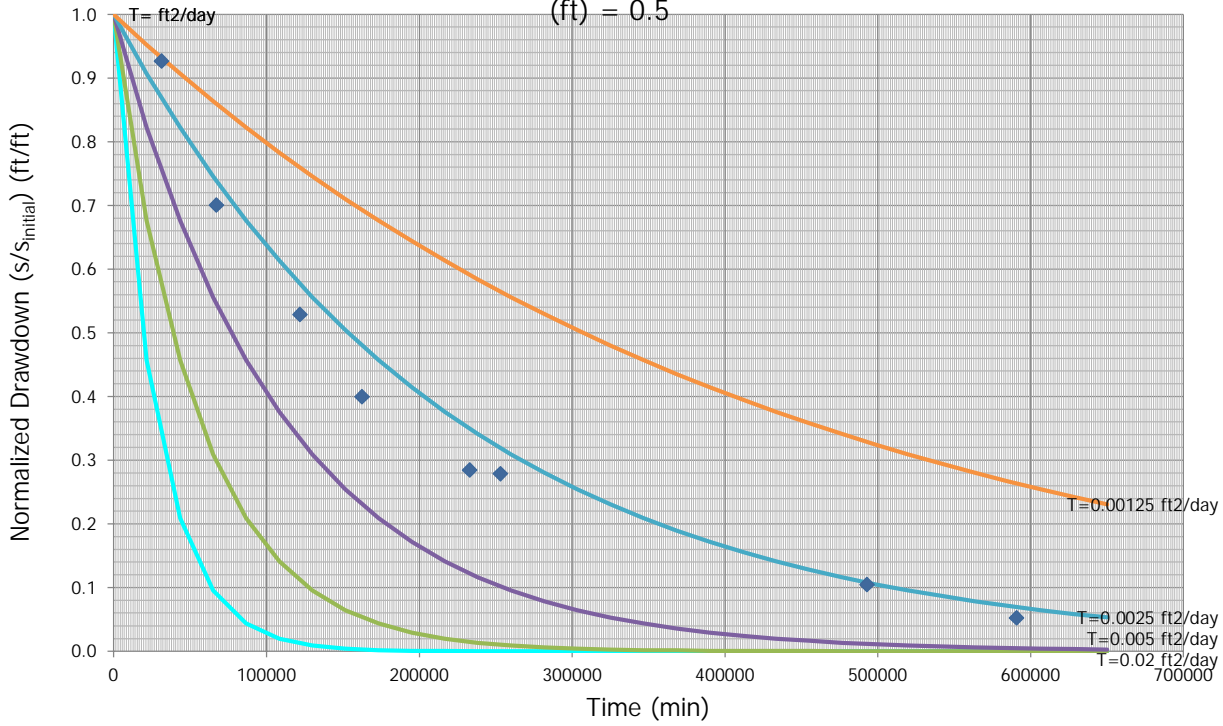
B&R Type Curves: Casing Rad. (ft) = 0.166666666666667 ; Borehole Rad. (ft) = 0.5

Enter these values

Type Curve ID	Type Curve Name	Notes	Max Time (min)	Transmissivity (ft <sup>2</sup> /day)
1	T=0.02 ft <sup>2</sup> /day		650000	0.02
2	T=0.01 ft <sup>2</sup> /day		650000	0.01
3	T=0.005 ft <sup>2</sup> /day		650000	0.005
4	T=0.0025 ft <sup>2</sup> /day		650000	0.0025
5	T=0.00125 ft <sup>2</sup> /day		650000	0.00125
6	T= ft <sup>2</sup> /day			
7	T= ft <sup>2</sup> /day			

J-Ratio	
-0.200	<-- If uncertain use
	-0.22

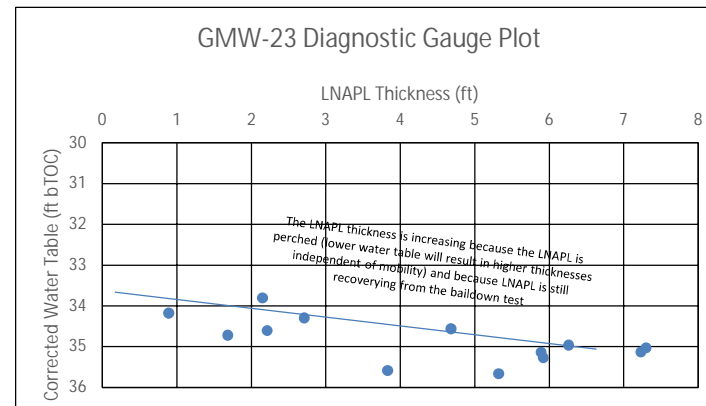
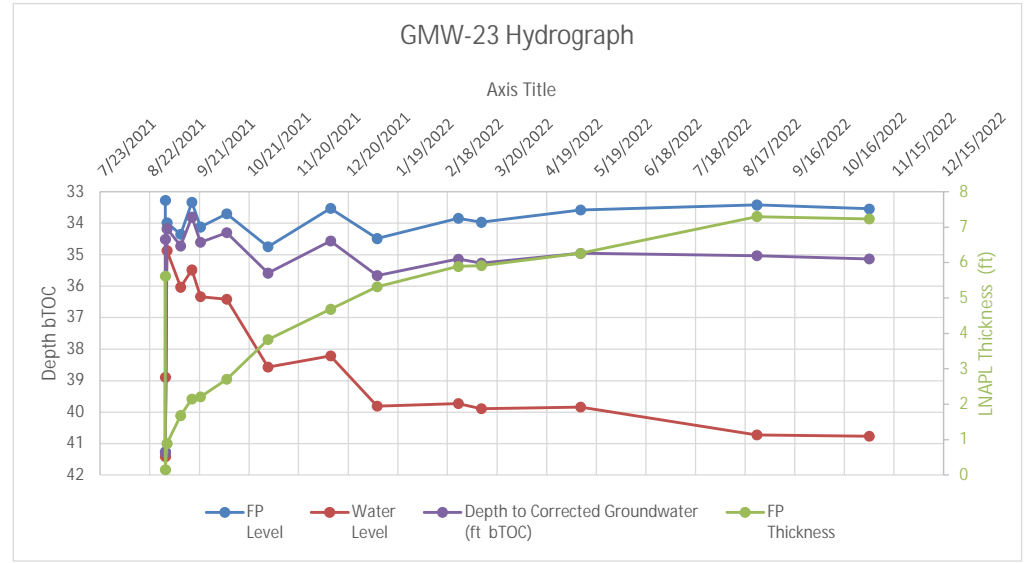
B&R Type Curves: Casing Rad. (ft) = 0.166666666666667 ; Borehole Rad. (ft) = 0.5



	Date	FP Level	Water Level	FP Thickness	Notes
GMW-23	8/31/2021 10:00	33.27	38.89	5.62	Bailed approx 6 gallons
	8/31/2021 11:30	41.26	41.41	0.15	NA
	9/1/2021 9:15	33.98	34.87	0.89	NA
	9/9/2021 14:20	34.35	36.03	1.68	NA
	9/16/2021 10:10	33.33	35.48	2.15	NA
	9/21/2021 13:00	34.12	36.33	2.21	NA
	10/7/2021 11:55	33.7	36.41	2.71	NA
	11/1/2021 9:48	34.74	38.57	3.83	BTS gauged
	12/9/2021 8:30	33.53	38.21	4.68	NA
		1/6/2022 11:45	34.49	39.81	5.32
	2/24/2022 11:30	33.84	39.73	5.89	
	3/10/22 9:21	33.97	39.89	5.92	
	5/9/2022 13:01	33.58	39.84	6.26	NA
	8/24/2022 0:00:00	33.42	40.72	7.3	NA
	10/31/2022 0:00:00	33.54	40.77	7.23	NA

Depth to Corrected Groundwater (ft bTOC)

34.5064  
41.293  
34.1758  
34.7196  
33.803  
34.6062  
34.2962  
35.5826  
34.5596  
35.6604  
35.1358  
35.2724  
34.9572  
35.026  
35.1306



**Appendix D.2**  
**Vacuum Enhanced Recovery Data**

**Appendix D.2. LNAPL Recovery Data**  
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date	Time	Depth to Product (feet)	Depth to Water (feet)	Free Product Thickness (feet)	Water Volume Recovered in Well During Measurement Period (Gallons)	Water Recovery Rate During Measurement Period (Gallons/Minute)	Comment
GMW-23	12/19/2022	7:00:00 AM	33.51	40.55	7.04	--	--	Measured before vacuum enhanced recovery
GMW-23	12/19/2022	9:35:00 AM	36.5	36.5	0	--	--	Measured after vacuum enhanced recovery
GMW-23	12/19/2022	9:35:30 AM	36.45	36.45	0	0.033	0.065	
GMW-23	12/19/2022	9:36:00 AM	36.35	36.35	0	0.065	0.130	
GMW-23	12/19/2022	9:36:30 AM	36.05	36.07	0.02	0.183	0.365	
GMW-23	12/19/2022	9:37:00 AM	35.89	35.91	0.02	0.104	0.209	
GMW-23	12/19/2022	9:37:30 AM	35.83	35.85	0.02	0.039	0.078	
GMW-23	12/19/2022	9:38:00 AM	35.78	35.8	0.02	0.033	0.065	
GMW-23	12/19/2022	9:38:30 AM	35.71	35.73	0.02	0.046	0.091	
GMW-23	12/19/2022	9:39:00 AM	35.64	35.66	0.02	0.046	0.091	
GMW-23	12/19/2022	9:39:30 AM	35.61	35.64	0.03	0.013	0.026	
GMW-23	12/19/2022	9:40:00 AM	35.59	35.62	0.03	0.013	0.026	
GMW-23	12/19/2022	9:40:30 AM	35.55	35.58	0.03	0.026	0.052	
GMW-23	12/19/2022	9:41:00 AM	35.53	35.56	0.03	0.013	0.026	
GMW-23	12/19/2022	9:42:00 AM	35.48	35.5	0.02	0.039	0.039	
GMW-23	12/19/2022	9:43:00 AM	35.42	35.45	0.03	0.033	0.033	
GMW-23	12/19/2022	9:44:00 AM	35.39	35.43	0.04	0.013	0.013	
GMW-23	12/19/2022	9:45:00 AM	35.35	35.37	0.02	0.039	0.039	
GMW-23	12/19/2022	9:46:00 AM	35.33	35.36	0.03	0.007	0.007	
GMW-23	12/19/2022	9:47:00 AM	35.31	35.34	0.03	0.013	0.013	
GMW-23	12/19/2022	9:48:00 AM	35.31	35.34	0.03	0.000	0.000	
GMW-23	12/19/2022	9:49:00 AM	35.3	35.34	0.04	0.000	0.000	
GMW-23	12/19/2022	9:50:00 AM	35.29	35.33	0.04	0.007	0.007	
GMW-23	12/19/2022	9:56:00 AM	35.26	35.3	0.04	0.020	0.003	
GMW-23	12/19/2022	10:01:00 AM	35.24	35.28	0.04	0.013	0.003	
GMW-23	12/19/2022	10:06:00 AM	35.23	35.27	0.04	0.007	0.001	
GMW-23	12/19/2022	11:00:00 AM	35.22	35.34	0.12	-0.046	-0.001	
GMW-23	12/19/2022	11:01:00 AM	35.22	35.34	0.12	0.000	0.000	Resumed vacuum enhanced recovery
GMW-23	12/19/2022	12:24:00 PM	35.81	35.81	0	--	--	Measured after vacuum enhanced recovery
GMW-23	12/19/2022	12:24:30 PM	35.75	35.75	0	0.005	0.010	
GMW-23	12/19/2022	12:25:00 PM	35.7	35.71	0.01	0.003	0.007	
GMW-23	12/19/2022	12:25:30 PM	35.66	35.67	0.01	0.003	0.007	
GMW-23	12/19/2022	12:26:00 PM	35.64	35.65	0.01	0.002	0.003	
GMW-23	12/19/2022	12:26:30 PM	35.62	35.63	0.01	0.002	0.003	
GMW-23	12/19/2022	12:27:00 PM	35.59	35.6	0.01	0.003	0.005	
GMW-23	12/19/2022	12:27:30 PM	35.57	35.59	0.02	0.001	0.002	
GMW-23	12/19/2022	12:28:00 PM	35.55	35.58	0.03	0.001	0.002	
GMW-23	12/19/2022	12:28:30 PM	35.54	35.56	0.02	0.002	0.003	
GMW-23	12/19/2022	12:29:00 PM	35.51	35.54	0.03	0.002	0.003	
GMW-23	12/19/2022	12:33:00 PM	35.48	35.5	0.02	0.003	0.001	
GMW-23	12/19/2022	12:36:00 PM	35.47	35.49	0.02	0.001	0.000	
GMW-23	12/19/2022	12:42:00 PM	35.45	35.47	0.02	0.002	0.000	
GMW-23	12/19/2022	12:45:00 PM	35.44	35.46	0.02	0.001	0.000	
GMW-23	12/19/2022	12:50:00 PM	35.43	35.49	0.06	-0.003	-0.001	
GMW-23	12/19/2022	1:06:00 PM	35.42	35.5	0.08	-0.001	0.000	
GMW-23	12/19/2022	1:30:00 PM	35.41	35.58	0.17	-0.007	0.000	
GMW-23	12/20/2022	7:11:00 AM	36.25	37.56	1.31	-0.173	0.000	
GMW-23	12/20/2022	11:35:00 AM	36.29	37.71	1.42	-0.013	0.000	



**Appendix D.2. LNAPL Recovery Data**  
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date	Time	Depth to Product (feet)	Depth to Water (feet)	Free Product Thickness (feet)	Water Volume Recovered in Well During Measurement Period (Gallons)	Water Recovery Rate During Measurement Period (Gallons/Minute)	Comment
GMW-23	12/21/2022	7:13:00 AM	35.68	36.99	1.31	0.063	0.000	Measured before vacuum enhanced recovery
GMW-23	12/21/2022	8:45:00 AM	--	--	--	--	--	Completed vacuum enhanced recovery at 10:20 AM
GMW-23	12/21/2022	12:35:00 PM	35.88	35.88	0.00	--	--	
GMW-23	12/22/2022	7:45:00 AM	35.55	35.71	0.16	--	--	Began vacuum enhanced recovery at 8:45 AM
GMW-23	12/22/2022	10:10:00 AM	--	--	--	--	--	Completed vacuum enhanced recovery
GMW-23	12/22/2022	11:10:00 AM	--	--	--	--	--	Began vacuum enhanced recovery at 11:10 AM
GMW-23	12/22/2022	12:20:00 PM	36.15	36.15	0.00	--	--	Completed vacuum enhanced recovery at 12:10 PM
GMW-23	12/22/2022	12:25:00 PM	36.06	36.06	0.00	0.008	0.002	
GMW-23	12/22/2022	12:35:00 PM	35.93	35.93	0.00	0.011	0.001	
GMW-23	12/22/2022	12:55:00 PM	35.81	35.81	0.00	0.010	0.001	
GMW-23	12/22/2022	1:25:00 PM	35.75	35.75	0.00	0.005	0.000	
GMW-29	12/20/2022	7:25:00 AM	35.67	36.65	0.98	--	--	Measured before vacuum enhanced recovery
GMW-29	12/20/2022	9:33:00 AM	40.19	40.19	0.00	--	--	Measured after vacuum enhanced recovery
GMW-29	12/20/2022	9:33:30 AM	39.94	39.94	0.00	0.163	0.326	
GMW-29	12/20/2022	9:34:00 AM	39.82	39.82	0.00	0.078	0.157	
GMW-29	12/20/2022	9:34:30 AM	39.73	39.73	0.00	0.059	0.117	
GMW-29	12/20/2022	9:35:00 AM	39.63	39.63	0.00	0.065	0.130	
GMW-29	12/20/2022	9:35:30 AM	39.51	39.51	0.00	0.078	0.157	
GMW-29	12/20/2022	9:36:00 AM	39.44	39.44	0.00	0.046	0.091	
GMW-29	12/20/2022	9:36:30 AM	39.36	39.36	0.00	0.052	0.104	
GMW-29	12/20/2022	9:37:00 AM	39.29	39.29	0.00	0.046	0.091	
GMW-29	12/20/2022	9:37:30 AM	39.21	39.21	0.00	0.052	0.104	
GMW-29	12/20/2022	9:38:00 AM	39.12	39.12	0.00	0.059	0.117	
GMW-29	12/20/2022	9:38:30 AM	39.04	39.04	0.00	0.052	0.104	
GMW-29	12/20/2022	9:39:00 AM	38.97	38.97	0.00	0.046	0.091	
GMW-29	12/20/2022	9:40:00 AM	38.88	38.88	0.00	0.059	0.059	
GMW-29	12/20/2022	9:41:00 AM	38.63	38.63	0.00	0.163	0.163	
GMW-29	12/20/2022	9:42:00 AM	38.48	38.48	0.00	0.098	0.098	
GMW-29	12/20/2022	9:43:00 AM	38.33	38.33	0.00	0.098	0.098	
GMW-29	12/20/2022	9:44:00 AM	38.22	38.22	0.00	0.072	0.072	
GMW-29	12/20/2022	9:45:00 AM	38.1	38.1	0.00	0.078	0.078	
GMW-29	12/20/2022	10:20:00 AM	36.34	36.34	0.00	1.148	0.033	
GMW-29	12/20/2022	10:40:00 AM	36.1	36.1	0.00	0.157	0.008	
GMW-29	12/20/2022	11:00:00 AM	36.03	36.03	0.00	0.046	0.002	
GMW-29	12/20/2022	11:30:00 AM	35.97	35.97	0.00	0.039	0.001	
GMW-29	12/21/2022	7:19:00 AM	35.69	35.69	0.00	0.183	-0.001	
GMW-29	12/21/2022	12:31:00 PM	35.67	35.73	0.06	-0.026	0.000	
GMW-29	12/22/2022	9:10:00 AM	35.51	35.59	0.08	--	--	
GMW-30	12/20/2022	9:30:00 AM	36.83	37.17	0.34	--	--	Measured before vacuum enhanced recovery
GMW-30	12/20/2022	11:45:00 AM	40.69	40.69	0.00	--	--	Measured after vacuum enhanced recovery
GMW-30	12/20/2022	11:45:30 AM	40.58	40.58	0.00	0.161	0.323	
GMW-30	12/20/2022	11:46:00 AM	40.48	40.48	0.00	0.147	0.294	
GMW-30	12/20/2022	11:46:30 AM	40.39	40.39	0.00	0.132	0.264	
GMW-30	12/20/2022	11:47:00 AM	40.32	40.32	0.00	0.103	0.205	
GMW-30	12/20/2022	11:47:30 AM	40.24	40.24	0.00	0.117	0.235	
GMW-30	12/20/2022	11:48:00 AM	40.15	40.15	0.00	0.132	0.264	
GMW-30	12/20/2022	11:48:30 AM	40.07	40.07	0.00	0.117	0.235	
GMW-30	12/20/2022	11:49:00 AM	39.97	39.97	0.00	0.147	0.294	

**Appendix D.2. LNAPL Recovery Data**  
*SFPP Norwalk Pump Station, Norwalk, California*

Well ID	Date	Time	Depth to Product (feet)	Depth to Water (feet)	Free Product Thickness (feet)	Water Volume Recovered in Well During Measurement Period (Gallons)	Water Recovery Rate During Measurement Period (Gallons/Minute)	Comment
GMW-30	12/20/2022	11:49:30 AM	39.89	39.89	0.00	0.117	0.235	
GMW-30	12/20/2022	11:50:00 AM	39.82	39.82	0.00	0.103	0.205	
GMW-30	12/20/2022	11:51:00 AM	39.66	39.66	0.00	0.235	0.235	
GMW-30	12/20/2022	11:52:00 AM	39.52	39.52	0.00	0.205	0.205	
GMW-30	12/20/2022	11:53:00 AM	39.37	39.37	0.00	0.220	0.220	
GMW-30	12/20/2022	11:54:00 AM	39.24	39.24	0.00	0.191	0.191	
GMW-30	12/20/2022	11:55:00 AM	39.09	39.09	0.00	0.220	0.220	
GMW-30	12/20/2022	12:00:00 PM	38.53	38.53	0.00	0.822	0.164	
GMW-30	12/20/2022	12:05:00 PM	38.23	38.23	0.00	0.440	0.088	
GMW-30	12/20/2022	12:10:00 PM	37.91	37.91	0.00	0.470	0.094	
GMW-30	12/20/2022	12:20:00 PM	37.59	37.59	0.00	0.470	0.047	
GMW-30	12/20/2022	12:40:00 PM	37.22	37.22	0.00	0.543	0.027	
GMW-30	12/21/2022	7:16:00 AM	36.05	36.05	0.00	1.717	-0.005	
GMW-30	12/21/2022	12:27:00 PM	36.01	36.03	0.02	0.029	0.000	
GMW-30	12/22/2022	8:58:00 AM	35.74	35.75	0.01	--	--	
GMW-O-12	12/21/2022	10:35:00 AM	33.70	33.73	0.03	--	--	Measured before vacuum enhanced recovery
GMW-O-12	12/21/2022	10:52:00 AM	--	--	--	--	--	
GMW-O-12	12/21/2022	12:08:00 PM	33.65	33.65	0.00	--	--	Measured after vacuum enhanced recovery
GMW-O-12	12/22/2022	10:00:00 AM	34.55	34.55	0.00	--	--	

**Appendix E**  
**Statistical Analysis Summary Data**









**Appendix E. Statistical Analysis Summary Data**

SFPP Norwalk Pump Station, Norwalk, California

Mann-Kendall Test Data Preparation (All Data)																							
Location	Analyte	COUNT	DET	CEN	PER.DET	MIN.CEN	MAX.CEN	MIN.DET	MAX.DET	MEAN	MEDIAN	SD	CV	LASTVALUE	LASTDATE	DIFF	S	PVAL	SLOPE	RESULT	TREND	STABILITY	MIN.LAG
WCW-7	TPH-g	75	4	71	5.33	50	500	53	140	52.4589	61	12.2099	0.2328	ND (50)	May-2021	64%	-14	0.439131707	---	56.1% (-)	No Trend	>50% ND	47
WCW-8	TPH-g	58	5	53	8.62	50	500	55	750	65.5398	72.5	91.6416	1.3983	ND (50)	Nov-2022	93%	-199	0.003087735	0	99.7% (sig -)	Decreasing	---	51
WCW-9	TPH-g	12	0	12	0	50	500	---	---	295.8333	300	128.7322	0.4352	ND (300)	Apr-2002	N/A	0	0.527	---	47.3% (+)	No Trend	>50% ND	134

Notes:

- ND Non-Detect
- N/A Not Applicable
- IS Insufficient Data for trend analysis (valid statistical trend analysis requires 3 or more observations)
- >50% ND Valid statistical trend analysis requires 3 or more observations, with less than 50% nondetect values per well
- Stable CV is <1.0
- Not Stable CV is >1.0
- No Trend Trend in well is not statistically significant in a positive or negative direction
- Increasing Statistically significant increasing trend observed in the data over time
- Decreasing Statistically significant decreasing trend observed in the data over time
- COUNT Count of Sample Results
- DET Number of Detections
- CEN Number of Non-Detections
- PER.DET Percent Detections
- MIN.CEN Minimum Non-Detect Value in Dataset
- MAX.CEN Maximum Non-Detect Value in Dataset
- MIN.DET Minimum Detected Value in Dataset
- MAX.DET Maximum Detected Value in Dataset
- SD Standard Deviation
- CV Coefficient of Variation
- LASTVALUE Last Analytical Result Value
- LASTDATE Last Analytical Result Date
- DIFF Difference (%) from Maximum Result to Last Result
- S S Statistic for Mann-Kendall Analysis
- PVAL Probability Value
- MIN.LAG Minimum Spacing Between Consecutive Measurements in Dataset (Days)



Appendix E. Statistical Analysis Summary Data

SFPP Norwalk Pump Station, Norwalk, California

Mann-Kendall Test Data Preparation (2016 to Present)																							
Location	Analyte	COUNT	DET	CEN	PER.DET	MIN.CEN	MAX.CEN	MIN.DET	MAX.DET	MEAN	MEDIAN	SD	CV	LASTVALUE	LASTDATE	DIFF	S	PVAL	SLOPE	RESULT	TREND	STABILITY	MIN.LAG
EXP-1	TPH-g	17	0	17	0	50	100	---	---	91	100	19.6476	0.2155	ND (100)	Nov-22	N/A	0	0.516	---	48.4% (+)	No Trend	>50% ND	1
EXP-2	TPH-g	17	0	17	0	50	100	---	---	91	100	19.6476	0.2155	ND (100)	Nov-22	N/A	0	0.516	---	48.4% (+)	No Trend	>50% ND	1
EXP-3	TPH-g	17	0	17	0	50	100	---	---	91	100	19.6476	0.2155	ND (100)	Oct-22	N/A	0	0.516	---	48.4% (+)	No Trend	>50% ND	1
EXP-4	TPH-g	14	0	14	0	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	0.522	---	47.8% (+)	No Trend	>50% ND	162
EXP-5	TPH-g	14	0	14	0	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	0.522	---	47.8% (+)	No Trend	>50% ND	162
GMW-1	TPH-g	9	2	7	22	50	100	55	57	51.5	50	2.6458	0.0514	ND (50)	Nov-22	12%	-5	0.3435	---	65.6% (-)	No Trend	>50% ND	30
GMW-10	TPH-g	8	3	5	38	200	500	240	250	228	250	23.1517	0.1015	250	Nov-22	0%	5	0.317	---	68.3% (+)	No Trend	>50% ND	64
GMW-11	TPH-g	1	0	1	0	100	100	---	---	100	100	---	---	ND (100)	Apr-16	N/A	IS	IS	IS	IS	IS	IS	---
GMW-12	TPH-g	14	0	14	0	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	0.522	---	47.8% (+)	No Trend	>50% ND	1
GMW-13	TPH-g	14	0	14	0	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	0.522	---	47.8% (+)	No Trend	>50% ND	161
GMW-14R	TPH-g	13	0	13	0	50	100	---	---	53.8462	50	13.8675	0.2575	ND (50)	Nov-22	N/A	0	0.524	---	47.6% (+)	No Trend	>50% ND	6
GMW-15	TPH-g	13	0	13	0	100	100	---	---	100	100	0	0	ND (100)	May-22	N/A	0	0.524	---	47.6% (+)	No Trend	>50% ND	158
GMW-16	TPH-g	12	0	12	0	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	0.527	---	47.3% (+)	No Trend	>50% ND	160
GMW-17R	TPH-g	10	3	7	30	100	100	550	1300	319	100	381.3778	1.1955	ND (100)	Nov-22	92%	-20	0.045	0	95.5% (sig -)	Decreasing	---	166
GMW-18	TPH-g	7	1	6	14	100	100	120	120	103	100	7.5593	0.0735	ND (100)	Nov-22	17%	-2	0.443	---	55.7% (-)	No Trend	>50% ND	168
GMW-19	TPH-g	12	3	9	25	100	100	160	220	121	100	38.3967	0.3178	ND (100)	Nov-22	55%	-6	0.369	---	63.1% (-)	No Trend	>50% ND	165
GMW-20	TPH-g	2	0	2	0	100	100	---	---	100	100	0	0	ND (100)	Apr-17	N/A	IS	IS	IS	IS	IS	IS	195
GMW-21	TPH-g	13	3	10	23	100	100	130	180	114	100	27.3266	0.24	ND (100)	Nov-22	44%	-29	0.044	0	95.6% (sig -)	Decreasing	---	158
GMW-23	TPH-g	8	8	0	100.00	---	---	59	19000	2913.625	180	6580.1921	2.2584	19000	Aug-21	0%	11	0	---	88.6% (+)	No Trend	Not Stable	44
GMW-25	TPH-g	15	9	6	60.00	50	500	56	950	155.159	70	230.5753	1.4861	ND (50)	Nov-22	95%	-30	0	---	92.3% (-)	No Trend	Not Stable	44
GMW-26	TPH-g	17	0	17	0.00	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	48.4% (+)	No Trend	>50% ND	30
GMW-28	TPH-g	21	8	13	38.10	50	50	58	600	113.1429	50	150.5764	1.3309	ND (50)	Nov-22	92%	-98	0	-8.9788	99.9% (sig -)	Decreasing	---	31
GMW-29	TPH-g	2	2	0	100.00	---	---	2200	74000	38100	38100	50770.2669	1.3326	2200	Aug-21	97%	IS	IS	IS	IS	IS	IS	1995
GMW-3	TPH-g	1	0	1	0.00	50	50	---	---	50	50	---	---	ND (50)	Nov-22	N/A	IS	IS	IS	IS	IS	IS	---
GMW-30	TPH-g	11	8	3	72.73	50	100	99.00	14000	2385.0303	280	4464.3901	1.8718	ND (50)	Nov-20	100%	-50	0	-131.3599	100% (sig -)	Decreasing	---	31
GMW-31	TPH-g	12	0	12	0.00	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	1	---	47.3% (+)	No Trend	>50% ND	160
GMW-35R	TPH-g	11	8	3	72.73	100	100	160	1200	351.8182	190	329.0708	0.9353	ND (100)	Nov-22	92%	-5	0	---	61.9% (-)	No Trend	Stable	161
GMW-36	TPH-g	15	8	7	53	50	200	68	16000	1811	160	4167	2	ND (50)	Nov-22	100%	-59	0	-117.3355	99.9% (sig -)	Decreasing	---	63
GMW-37	TPH-g	13	0	13	0.00	50	50	---	---	50	50	0	0	ND (50)	May-22	N/A	0	1	---	47.6% (+)	No Trend	>50% ND	161
GMW-38	TPH-g	13	0	13	0	50	50	---	---	50	50	0	0	ND (50)	May-22	N/A	0	1	---	47.6% (+)	No Trend	>50% ND	162
GMW-39	TPH-g	14	0	14	0	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	0.522	---	47.8% (+)	No Trend	>50% ND	162
GMW-40	TPH-g	1	0	1	0	100	100	---	---	100	100	---	---	ND (100)	Oct-16	N/A	IS	IS	IS	IS	IS	IS	---
GMW-41	TPH-g	12	0	12	0	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	0.527	---	47.3% (+)	No Trend	>50% ND	162
GMW-42	TPH-g	12	0	12	0	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	0.527	---	47.3% (+)	No Trend	>50% ND	160
GMW-43	TPH-g	11	0	11	0	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	0.5313	---	46.9% (+)	No Trend	>50% ND	164
GMW-44	TPH-g	13	1	12	8	100	100	160	160	104.6154	100	16.641	0.1591	ND (100)	Nov-22	38%	-6	0.383	---	61.7% (-)	No Trend	>50% ND	164
GMW-45	TPH-g	9	8	1	88.89	100	100	230	4300	1777.7778	1500	1424.0535	0.801	ND (100)	Nov-22	98%	-24	0	-786.9934	99.4% (sig -)	Decreasing	---	168
GMW-47	TPH-g	15	6	9	40.00	100	100	130.00	440	145.3333	100	87.7015	0.6035	160	Nov-22	64%	59	0	18.6399	99.9% (sig +)	Increasing	---	18
GMW-48	TPH-g	13	5	8	38.46	100	100	150.00	530	198.4615	100	149.607	0.7538	ND (100)	Nov-22	81%	-50	0	-64.8857	99.9% (sig -)	Decreasing	---	154
GMW-4R	TPH-g	13	4	9	31	50	100	51	120	62.1923	50	22.7701	0.3661	ND (50)	Nov-22	58%	-14	0	---	78.2% (-)	No Trend	>50% ND	1
GMW-50	TPH-g	1	0	1	0.00	100	100	---	---	100	100	---	---	ND (100)	Apr-16	N/A	IS	IS	IS	IS	IS	IS	---
GMW-54	TPH-g	1	0	1	0.00	100	100	---	---	100	100	---	---	ND (100)	Apr-17	N/A	IS	IS	IS	IS	IS	IS	---
GMW-56	TPH-g	13	0	13	0.00	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	1	---	47.6% (+)	No Trend	>50% ND	162
GMW-57	TPH-g	13	1	12	8	100	100	430	430	125	100	91.5255	0.73	ND (100)	Nov-22	77%	2	0.476	---	52.4% (+)	No Trend	>50% ND	160
GMW-58	TPH-g	9	2	7	22.22	100	100	150.00	390.00	137.7778	100	90.5266	0.657	ND (100)	Nov-22	74%	-11	0	---	84.5% (-)	No Trend	>50% ND	164
GMW-59	TPH-g	13	3	10	23.08	100	100	210.00	470	160	100	121.592	0.76	ND (100)	Nov-22	79%	-33	0	0	97.5% (sig -)	Decreasing	---	160
GMW-6	TPH-g	14	0	14	0.00	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	158
GMW-60	TPH-g	14	2	12	14.29	100	100	110	220	109.2857	100	30.8138	0.282	ND (100)	Nov-22	55%	-21	0	---	86% (-)	No Trend	>50% ND	158
GMW-61	TPH-g	14	1	13	7	100	100	140	140	103	100	11	0	ND (100)	Nov-22	29%	-9	0	---	66.6% (-)	No Trend	>50% ND	160
GMW-62	TPH-g	9	9	0	100	---	---	510	17000	4312	2100	5322.7431	1.2343	4300	Oct-22	75%	-16	0	---	94% (-)	No Trend	Not Stable	161
GMW-63	TPH-g	14	0	14	0.00	100	100	---	---	100	100	0	0	ND (100)	Oct-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	161
GMW-64	TPH-g	14	0	14	0.00	100	100	---	---	100	100	0	0	ND (100)	Oct-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	161

Appendix E. Statistical Analysis Summary Data

SFPP Norwalk Pump Station, Norwalk, California

Mann-Kendall Test Data Preparation (2016 to Present)																							
Location	Analyte	COUNT	DET	CEN	PER.DET	MIN.CEN	MAX.CEN	MIN.DET	MAX.DET	MEAN	MEDIAN	SD	CV	LASTVALUE	LASTDATE	DIFF	S	PVAL	SLOPE	RESULT	TREND	STABILITY	MIN.LAG
GMW-65	TPH-g	14	0	14	0	100	100	---	---	100	100	0	0	ND (100)	Oct-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	161
GMW-66R	TPH-g	14	0	14	0	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	162
GMW-67	TPH-g	14	5	9	35.71	100	100	110	310	132.1429	100	66.1361	0.5005	ND (100)	Oct-22	68%	0	1	---	47.8% (+)	No Trend	>50% ND	161
GMW-68	TPH-g	3	3	0	100.00	---	---	1900	15000	7500	5600	6753.5176	0.9005	1900	Oct-22	87%	IS	IS	IS	IS	IS	IS	175
GMW-69	TPH-g	14	13	1	92.86	100	100	130	3600	1205.7143	850	1007.6048	0.8357	ND (100)	Oct-22	97%	-50	0	-310.8516	99.8% (sig -)	Decreasing	---	161
GMW-7	TPH-g	12	12	0	100.00	---	---	150.00	790	443.3333	465	220.8798	0.4982	790	Nov-22	0%	31	0	103.0508	98.1% (sig +)	Increasing	---	161
GMW-8	TPH-g	15	0	15	0	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	48% (+)	No Trend	>50% ND	29
GMW-9	TPH-g	14	4	10	29	50	50	67	750	122	50	185.4948	1.5178	ND (50)	Nov-22	93%	-32	0	0	95.5% (sig -)	Decreasing	---	44
GMW-O-1	TPH-g	17	0	17	0	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	48.4% (+)	No Trend	>50% ND	29
GMW-O-10	TPH-g	17	4	13	24	50	50	73	910	107.0588	50	201.2682	1.88	ND (50)	Nov-22	95%	-50	0	0	97.9% (sig -)	Decreasing	---	30
GMW-O-11	TPH-g	8	3	5	38	50	100	95	290	106	100	74.0117	0.7007	ND (50)	Aug-22	83%	12	0	---	91.1% (+)	No Trend	>50% ND	63
GMW-O-12	TPH-g	1	1	0	100	---	---	5300	5300	5300.00	5300	---	---	5300	Aug-21	0%	IS	IS	IS	IS	IS	IS	175
GMW-O-14	TPH-g	23	17	6	73.91	50	50	330	32000	6182.6087	1400.00	9069.7841	1.467	ND (50)	Nov-22	100%	-136	0	-972.215	100% (sig -)	Decreasing	---	3
GMW-O-15	TPH-g	5	4	1	80	1000	1000	4400	370000	79120	9200	145482.733	1.8388	ND (1000)	Nov-20	100%	-8	0	-10412.4111	95.8% (sig -)	Decreasing	---	182
GMW-O-16	TPH-g	14	2	12	14	50	50	66	320	70.4286	50	69.3405	0.9846	ND (50)	Nov-22	84%	-3	0	---	54.3% (-)	No Trend	>50% ND	162
GMW-O-17	TPH-g	14	0	14	0.00	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	160
GMW-O-18	TPH-g	9	9	0	100	---	---	1600.00	11000000	1226100	3600.00	3665213.351	2.9893	1600	Nov-22	100%	-23	0	-1612.0134	99.1% (sig -)	Decreasing	---	175
GMW-O-19	TPH-g	14	1	13	7.14	50	50	52	52	50.1429	50	0.5345	0.0107	ND (50)	Nov-22	4%	-9	0	---	66.6% (-)	No Trend	>50% ND	162
GMW-O-2	TPH-g	16	0	16	0	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	48.2% (+)	No Trend	>50% ND	29
GMW-O-20	TPH-g	18	16	2	88.89	100	100	82	35000	4867	625	9292.8185	1.9094	ND (100)	Aug-22	100%	-108	0	-687.1697	100% (sig -)	Decreasing	---	45
GMW-O-21	TPH-g	18	10	8	55.56	50	8000	140	18000	3730.8889	2550	4738.0845	1.27	ND (50)	Nov-22	100%	-69	0	-667.0386	99.6% (sig -)	Decreasing	---	63
GMW-O-23	TPH-g	17	11	6	65	50	100	57	17000	1828	100	4327	2	ND (50)	May-22	100%	-60	0	-73.6433	99.3% (sig -)	Decreasing	---	45
GMW-O-24	TPH-g	14	0	14	0.00	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	62
GMW-O-3	TPH-g	17	7	10	41.18	50	50	60	450	112.3529	50	108.5481	0.9661	ND (50)	Nov-22	89%	14	0	---	70.1% (+)	No Trend	>50% ND	29
GMW-O-4	TPH-g	17	0	17	0	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	48.4% (+)	No Trend	>50% ND	30
GMW-O-5	TPH-g	16	0	16	0	50	50	---	---	50.00	50	0	0	ND (50)	Nov-22	N/A	0	1	---	48.2% (+)	No Trend	>50% ND	30
GMW-O-9	TPH-g	17	0	17	0	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	48.4% (+)	No Trend	>50% ND	29
GMW-SF-7	TPH-g	13	0	13	0	50	50	---	---	50	50	0	0	ND (50)	May-22	N/A	0	1	---	47.6% (+)	No Trend	>50% ND	161
GMW-SF-8	TPH-g	14	0	14	0	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	162
GW-1	TPH-g	2	0	2	0	100	100	---	---	100	100	0	0	ND (100)	Apr-17	N/A	IS	IS	IS	IS	IS	IS	196
GW-13(6")	TPH-g	14	0	14	0	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	0.522	---	47.8% (+)	No Trend	>50% ND	161
GW-14R	TPH-g	4	2	2	50.00	100	100	140	1400	435	120	557.3823	1.2813	ND (100)	Nov-22	93%	-5	0	---	89.5% (-)	No Trend	Not Stable	165
GW-15(6")	TPH-g	13	4	9	30.77	100	100	190	8700	878.4615	100	2273.1505	2.5876	ND (100)	Nov-22	99%	-40	0	-28.906	99.3% (sig -)	Decreasing	---	4
GW-16(6")	TPH-g	14	0	14	0.00	100	100	---	---	100	100	0	0.00	ND (100)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	158
GW-2	TPH-g	14	0	14	0.00	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	161
GW-3	TPH-g	14	0	14	0.00	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	160
GW-4	TPH-g	1	0	1	0.00	100	100	---	---	100	100	---	---	ND (100)	Oct-16	N/A	IS	IS	IS	IS	IS	IS	197
GW-6	TPH-g	13	0	13	0.00	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	1	---	47.6% (+)	No Trend	>50% ND	160
GW-7	TPH-g	2	0	2	0	100	100	---	---	100	100	0	0	ND (100)	Apr-17	N/A	IS	IS	IS	IS	IS	IS	190
GW-8	TPH-g	13	0	13	0.00	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	1	---	47.6% (+)	No Trend	>50% ND	158
GWR-1R	TPH-g	12	0	12	0.00	50	100	---	---	54.1667	50	14.4338	0.2665	ND (50)	Nov-22	N/A	0	1	---	47.3% (+)	No Trend	>50% ND	2
HL-2	TPH-g	14	0	14	0	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	0.522	---	47.8% (+)	No Trend	>50% ND	162
HL-3	TPH-g	16	1	15	6	50	50	130	130	55	50	20	0.3636	ND (50)	Nov-22	62%	-15	0	---	73.2% (-)	No Trend	>50% ND	30
MW-10	TPH-g	1	0	1	0	100	100	---	---	100	100	---	---	ND (100)	Apr-16	N/A	IS	IS	IS	IS	IS	IS	197
MW-12	TPH-g	14	0	14	0.00	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	163
MW-13	TPH-g	14	0	14	0	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	158
MW-14	TPH-g	2	0	2	0	100	100	---	---	100	100	0	0	ND (100)	Apr-17	N/A	IS	IS	IS	IS	IS	IS	197
MW-15R	TPH-g	12	5	7	41.67	50	100	53.00	130	62.1667	51.5	22.2925	0.3586	ND (50)	Nov-22	62%	1	1	---	50% (+)	No Trend	>50% ND	161
MW-16	TPH-g	14	0	14	0	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	161
MW-17	TPH-g	14	0	14	0	100	100	---	---	100	100	0	0.00	ND (100)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	161
MW-18 (MID)	TPH-g	16	4	12	25.00	50	100	150.00	390	108.125	50	114.4672	1.0587	ND (100)	Nov-22	74%	-51	0	0	98.9% (sig -)	Decreasing	---	29
MW-19 (MID)	TPH-g	14	1	13	7.14	50	50	54.00	54.00	50.2857	50	1.069	0.0213	ND (50)	Nov-22	7%	-11	0	---	70.5% (-)	No Trend	>50% ND	162

**Appendix E. Statistical Analysis Summary Data**

SFPP Norwalk Pump Station, Norwalk, California

Mann-Kendall Test Data Preparation (2016 to Present)																								
Location	Analyte	COUNT	DET	CEN	PER.DET	MIN.CEN	MAX.CEN	MIN.DET	MAX.DET	MEAN	MEDIAN	SD	CV	LASTVALUE	LASTDATE	DIFF	S	PVAL	SLOPE	RESULT	TREND	STABILITY	MIN.LAG	
MW-20 (MID)	TPH-g	14	0	14	0.00	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	162	
MW-21 (MID)	TPH-g	15	3	12	20.00	50	100	57	2300	201.7949	50	560.7897	2.779	ND (50)	Nov-22	98%	-23	0	---	85.9% (-)	No Trend	>50% ND	1	
MW-22 (MID)	TPH-g	14	0	14	0.00	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	0.522	---	47.8% (+)	No Trend	>50% ND	160	
MW-24	TPH-g	12	0	12	0	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	1	---	47.3% (+)	No Trend	>50% ND	160	
MW-25	TPH-g	1	0	1	0	100	100	---	---	100	100	---	---	ND (100)	Nov-19	N/A	IS	IS	IS	IS	IS	IS	IS	IS
MW-26	TPH-g	14	4	10	29	100	100	130	240	125	100	45.3163	0.3625	ND (100)	Nov-22	58%	-40	0.0155	0	98.5% (sig -)	Decreasing	---	160	
MW-27	TPH-g	14	0	14	0.00	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	160	
MW-28	TPH-g	1	0	1	0.00	100	100	---	---	100	100	---	---	ND (100)	Apr-17	N/A	IS	IS	IS	IS	IS	IS	IS	IS
MW-29	TPH-g	14	0	14	0.00	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	164	
MW-6	TPH-g	14	0	14	0.00	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	161	
MW-7	TPH-g	14	0	14	0.00	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	162	
MW-8	TPH-g	14	1	13	7.14	50	50	1200.00	1200	132.1429	50	307.3504	2.3259	ND (50)	Nov-22	96%	1	1	---	50% (+)	No Trend	>50% ND	161	
MW-9	TPH-g	15	6	9	40.00	50	100	53	260	85.1	68	64.893	0.7626	ND (50)	Nov-22	81%	-59	0	-12.7725	99.9% (sig -)	Decreasing	---	1	
MW-O-1	TPH-g	2	0	2	0	50	50	---	---	50.00	50	0	0	ND (50)	Feb-21	N/A	IS	IS	IS	IS	IS	IS	IS	189
MW-O-2	TPH-g	15	14	1	93	5000	5000	520	73000	10395	5300	17716	2	610	Nov-22	99%	-40	0	-3864.9295	97.4% (sig -)	Decreasing	---	63	
MW-SF-1	TPH-g	15	2	13	13.33	50	500	55	260	66.5476	100	53.7021	0.807	ND (500)	Nov-22	N/A	-25	0	---	88% (-)	No Trend	>50% ND	45	
MW-SF-13	TPH-g	14	5	9	36	50	200	78	5300	633.3061	155	1392.8006	2.1993	110	Nov-22	98%	-15	0	---	77.5% (-)	No Trend	>50% ND	45	
MW-SF-14	TPH-g	1	1	0	100	---	---	370.00	370	370	370	---	---	370	Apr-16	0%	IS	IS	IS	IS	IS	IS	IS	IS
MW-SF-15	TPH-g	14	7	7	50.00	100	500	110.00	300	134.7692	130.00	53.9546	0.4003	ND (200)	Nov-22	33%	-41	0	-18.8015	98.7% (sig -)	Decreasing	---	45	
MW-SF-4	TPH-g	13	1	12	8	50	500	540	540	149.2308	100	170.0716	1.1397	ND (100)	Nov-22	81%	-12	0	---	74.5% (-)	No Trend	>50% ND	45	
MW-SF-6	TPH-g	14	7	7	50	200	200	110	13000	1852.5	200	3754.6606	2.0268	110	Nov-22	99%	-40	0	-270.6522	98.5% (sig -)	Decreasing	---	45	
MW-SF-9	TPH-g	1	1	0	100	---	---	2300	2300	2300	2300	---	---	2300	Apr-16	0%	IS	IS	IS	IS	IS	IS	IS	IS
PW-1	TPH-g	1	0	1	0	100	100	---	---	100	100	---	---	ND (100)	Nov-19	N/A	IS	IS	IS	IS	IS	IS	IS	IS
PW-3	TPH-g	14	0	14	0.00	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	163	
PZ-10	TPH-g	1	0	1	0.00	200	200	---	---	200	200.00	---	---	ND (200)	Apr-16	N/A	IS	IS	IS	IS	IS	IS	IS	IS
PZ-2	TPH-g	17	8	9	47.06	50	100	53	2300	435.4902	53	638.6412	1.4665	ND (50)	Nov-22	98%	-72	0	-105.0002	99.9% (sig -)	Decreasing	---	29	
PZ-3	TPH-g	11	5	6	45.45	100	100	210	910	346.3636	100	311.7188	0.9	ND (100)	Nov-22	89%	-19	0	---	91.8% (-)	No Trend	>50% ND	158	
PZ-5	TPH-g	14	14	0	100	---	---	120	16000	1985	820	4107.7595	2.0694	120	Nov-22	99%	-54	0	-204.7727	99.9% (sig -)	Decreasing	---	160	
RTF-18-N	TPH-g	1	1	0	100	---	---	25000	25000	25000.00	25000	---	---	25000	Apr-17	0%	IS	IS	IS	IS	IS	IS	IS	IS
RTF-18-NNW	TPH-g	1	1	0	100	---	---	30000	30000	30000	30000	---	---	30000	Apr-17	0%	IS	IS	IS	IS	IS	IS	IS	IS
TF-15	TPH-g	6	6	0	100.00	---	---	160	2300	1373.3333	1500	810.8925	0.5905	2300	Nov-22	0%	1	1	---	50% (+)	No Trend	Stable	166	
TF-16	TPH-g	6	6	0	100.00	---	---	170	3400	1191.6667	1005	1177.0712	0.9878	1200	Nov-22	65%	1	1	---	50% (+)	No Trend	Stable	167	
TF-17R	TPH-g	6	6	0	100.00	---	---	1500	8600	4233	3900	2902	1	1500	Nov-22	83%	-9	0	---	93.2% (-)	No Trend	Stable	168	
TF-18	TPH-g	7	6	1	86	100	100	450	54000	14435.7143	6300	18240.3539	1.2636	ND (100)	Nov-22	100%	-13	0	-6667.7943	96.5% (sig -)	Decreasing	---	168	
TF-19	TPH-g	1	1	0	100.00	---	---	710.00	710	710	710	---	---	710	Nov-18	0%	IS	IS	IS	IS	IS	IS	IS	IS
TF-20R	TPH-g	11	7	4	63.64	100	100	170	1300	475.4545	410	391.7412	0.8239	ND (100)	Nov-22	92%	-45	0	-230.7797	100% (sig -)	Decreasing	---	158	
TF-21	TPH-g	13	7	6	53.85	100	100	110	1300	267.6923	110	318.7995	1.1909	ND (100)	Nov-22	92%	-59	0	-68.9798	100% (sig -)	Decreasing	---	161	
TF-23	TPH-g	8	8	0	100	---	---	160	1900	751.25	610	534.4273	0.7114	1900	Nov-22	0%	12	0	---	91.1% (+)	No Trend	Stable	165	
TF-24	TPH-g	13	0	13	0.00	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	1	---	47.6% (+)	No Trend	>50% ND	158	
TF-8	TPH-g	14	0	14	0.00	100	100	---	---	100	100	0	0	ND (100)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	160	
TF-9R	TPH-g	11	3	8	27.27	100	100	750	1500	413.6364	100	544.4309	1.3162	ND (100)	Nov-22	93%	-24	0	0	96.4% (sig -)	Decreasing	---	158	
WCW-12	TPH-g	14	0	14	0.00	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	161	
WCW-13	TPH-g	14	0	14	0.00	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	161	
WCW-14	TPH-g	14	0	14	0.00	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	162	
WCW-2	TPH-g	14	0	14	0	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	161	
WCW-3	TPH-g	14	0	14	0	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	161	
WCW-4	TPH-g	14	0	14	0	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	1	---	47.8% (+)	No Trend	>50% ND	162	
WCW-5	TPH-g	14	0	14	0	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	0.522	---	47.8% (+)	No Trend	>50% ND	162	
WCW-6	TPH-g	14	0	14	0	50	50	---	---	50	50	0	0	ND (50)	Nov-22	N/A	0	0.522	---	47.8% (+)	No Trend	>50% ND	162	

**Appendix E. Statistical Analysis Summary Data**

SFPP Norwalk Pump Station, Norwalk, California

Mann-Kendall Test Data Preparation (2016 to Present)																							
Location	Analyte	COUNT	DET	CEN	PER.DET	MIN.CEN	MAX.CEN	MIN.DET	MAX.DET	MEAN	MEDIAN	SD	CV	LASTVALUE	LASTDATE	DIFF	S	PVAL	SLOPE	RESULT	TREND	STABILITY	MIN.LAG
WCW-7	TPH-g	9	0	9	0	50	100	---	---	56	50	16.6667	0.3	ND (50)	May-21	N/A	0	0.54	--	46% (+)	No Trend	>50% ND	162
WCW-8	TPH-g	14	0	14	0	50	50	---	---	50.00	50.00	0	0	ND (50)	Nov-22	N/A	0	0.522	--	47.8% (+)	No Trend	>50% ND	162

Notes:

- ND Non-Detect
- N/A Not Applicable
- IS Insufficient Data for trend analysis (valid statistical trend analysis requires 3 or more observations)
- >50% ND Valid statistical trend analysis requires 3 or more observations, with less than 50% nondetect values per well
- Stable CV is <1.0
- Not Stable CV is >1.0
- No Trend Trend in well is not statistically significant in a positive or negative direction
- Increasing Statistically significant increasing trend observed in the data over time
- Decreasing Statistically significant decreasing trend observed in the data over time
- COUNT Count of Sample Results
- DET Number of Detections
- CEN Number of Non-Detections
- PER.DET Percent Detections
- MIN.CEN Minimum Non-Detect Value in Dataset
- MAX.CEN Maximum Non-Detect Value in Dataset
- MIN.DET Minimum Detected Value in Dataset
- MAX.DET Maximum Detected Value in Dataset
- SD Standard Deviation
- CV Coefficient of Variation
- LASTVALUE Last Analytical Result Value
- LASTDATE Last Analytical Result Date
- DIFF Difference (%) from Maximum Result to Last Result
- S S Statistic for Mann-Kendall Analysis
- PVAL Probability Value
- MIN.LAG Minimum Spacing Between Consecutive Measurements in Dataset (Days)