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Mr. Paul Cho
Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
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June 28, 2016

Subject: Results of Additional Soil and Soil Vapor Sampling and Human Health Risk Assessment to Support Shallow Soil Closure for the Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Dear Mr. Cho,

This letter has been prepared by CH2M HILL Engineers, Inc. (CH2M) on behalf of SFPP, L.P. (SFPP), an operating partner of Kinder Morgan Energy Partners, L.P. (Kinder Morgan), to provide results on the collection and analysis of additional shallow soil and soil vapor samples and human health risk assessment (HHRA) in the eastern 15-acre parcel of the Defense Fuel Support Point, Norwalk, at 15306 Norwalk Boulevard, Norwalk, California. Figure 1 shows the location of the site.

The work was performed by CH2M in response to the Regional Water Quality Control Board, Los Angeles Region (RWQCB) letters to SFPP, dated March 25, 2016, and April 12, 2016, requesting a shallow soil closure report and HHRA for the eastern 15-acre parcel. In the letters, the RWQCB requested the following:

- Lateral and vertical extents of shallow soil for no further action determination
- Soil investigation and confirmation data that demonstrate soil within the area for no further action determination meets the site's soil cleanup goals
- Soil gas survey data within the area for no further action determination
- Current and planned remedial actions for deeper soil and groundwater
- HHRA within the 15-acre parcel because the site's deeper soil and groundwater are impacted with petroleum hydrocarbons

This letter provides a summary of the background, approach, results, HHRA, and recommendation for shallow soil closure (upper 10 feet) in the area of the eastern 15-acre parcel impacted by a release from SFPP's pipeline.

Background

During discussions and email correspondence with the RWQCB in April 2016, the RWQCB indicated that the previous soil data collected by SFPP in the offsite southeastern area would not be sufficient to support shallow soil closure in the onsite eastern 15-acre parcel. The previous soil data collected by SFPP were submitted to the RWQCB in the following correspondence:

- *Request for No Further Action – Shallow Soil, SFPP Norwalk Pump Station, 15306 Norwalk Boulevard, Norwalk, California*, dated March 25, 2014 (CH2M, 2014)
- *Results of Additional Soil Sampling to Support Shallow Soil Closure, SFPP Norwalk Pump Station, Norwalk, California*, dated December 16, 2015 (CH2M, 2015)

To comply with the RWQCB's request for additional data, SFPP proposed to collect discrete-depth soil samples at five locations and discrete-depth soil vapor samples at three locations within the eastern 15-acre parcel. Soil and soil vapor samples would be collected at 5 and 10 feet below ground surface (bgs) and analyzed for total petroleum hydrocarbons (TPH) and volatile organic compounds (VOCs). At one location and depth, a soil sample would also be analyzed for total metals, polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs). The data collected from the investigation would be used to support the HHRA and soil closure request for the upper 10 feet of soil in the eastern 15-acre parcel. The proposed work was approved by the RWQCB in an email to SFPP and CH2M, dated April 15, 2016. The approach and results of the investigation are discussed in the next sections.

Approach

Pre-field Activities

CH2M performed the following field preparation activities prior to commencing soil and soil vapor sampling:

- Updated the existing site-specific health and safety plan to incorporate the planned fieldwork.
- Marked the proposed boring locations.
- Notified Dig Alert on April 27, 2016. As required by Dig Alert, the borings were called-in and marked-out in white paint at least 2 business days prior to boring advancement. Dig Alert Ticket No. A61181058 was issued.
- Performed an underground utility check using a private utility-locating subcontractor, Spectrum Geophysics.
- Coordinated with Kinder Morgan staff regarding potential conflicts with SFPP's pipelines.

Field Activities

On May 4, 2016, CH2M retained Environmental Support Technologies (EST) of Irvine, California, to advance borings using a direct-push rig to facilitate the collection of discrete-depth soil samples and the installation of nested soil vapor probes. The locations include SVM-17, SVM-18, SVM-19, SS-20, and SS-21, as shown on Figure 2. Prior to advancing the direct-push tools, each location was hand augered up to 5 feet bgs to clear for subsurface utilities. Soil samples were then collected by direct-push methods to a maximum depth of 10 feet bgs. Discrete soil samples were collected at 5 and 10 feet bgs for laboratory analysis. Nested soil vapor probes were completed at 5 and 10 feet bgs at locations SVM-17, SVM-18, and SVM-19. American Analytics of Chatsworth, California, completed sampling of the vapor probes on May 9, 2016.

Soil Sampling and Analysis

CH2M used direct-push methods to collect soil samples for lithologic logging, field screening with a photoionization detector (PID), and laboratory analysis. The lithology was described by a CH2M engineer under the direction of a State of California licensed professional geologist. Soil was described using visual manual procedures of ASTM International Method D2488, which are based on the Unified Soil Classification System for guidance. Color, moisture content, grain size, and other pertinent soil characteristics were recorded on the boring logs. Soil was screened in the field for the potential presence of VOCs using a PID. Copies of the boring logs are provided in Attachment 1.

Discrete-depth soil samples were collected at each boring location for field screening using a PID and for laboratory analysis as follows:

- Soil samples were collected at 5 and 10 feet bgs at SVM-17, SVM-18, SVM-19, SS-20, and SS-21 using a macro-core sampling device with acetate liners. Sub-core samples were immediately collected from the acetate liners using an Encore T-handle and six 5-gram Encore sample containers per depth sampled. The remaining soil was transferred from the liners to sample jars provided by the laboratory.
- For quality assurance and quality control purposes, one field duplicate soil sample was collected at the 5-foot depth at SS-21. In addition, one equipment blank (water sample) and one trip blank (water sample) were collected at the end of the day.
- Samples were placed in an ice-chilled cooler and submitted under chain-of-custody protocol to Asset Laboratories of Las Vegas, Nevada. Asset is certified under the California Environmental Laboratory Accreditation Program.

The soil samples, including the field duplicate sample, and the equipment blank sample were analyzed for the following:

- TPH-g (C4–C12), TPH-d (C13–C22), and TPH quantified as oil (TPH-o) (C23–C44) using U.S. Environmental Protection Agency (EPA) Methods 3550B and 8015M
- VOCs and fuel oxygenates using EPA Method 8260B

At the 5-foot depth in SVM-19 (located in the center of the five soil sampling locations), soil samples were also analyzed for the following:

- Metals using EPA Methods 3050B, 6010B and 7471A
- PAHs using Method 8270 SIM
- PCBs using EPA Method 8082

The trip blank sample was analyzed for the following:

- VOCs and fuel oxygenates using EPA Method 8260B

Soil Vapor Probe Installation

The soil vapor monitoring probes completed in the eastern 15-acre parcel include SVM-17, SVM-18, and SVM-19 (Figure 2). Each monitoring location consists of a soil vapor probe nest with probes installed at depths of approximately 5 and 10 feet bgs in a single borehole. Figure 3 presents a diagram of a typical nested probe.

The soil vapor probes were completed in the same borings that were used to facilitate the collection of soil samples. As stated previously, each location was hand-augered up to 5 feet bgs to clear underground utilities and other obstructions. Borings were then advanced using a direct-push rig to

approximately 10 feet bgs. At each location, soil vapor probes were installed at approximately 5 and 10 feet bgs. Each vapor probe was constructed with new ¼-inch-outside-diameter Teflon tubing with a nominal 6-inch-long stainless steel screen. A 1-foot-thick filter pack consisting of No. 3 sand was placed around each screen. A 1-foot-thick dry granular bentonite was placed on top of each filter sand pack. The boring was then backfilled to ground surface in 6-inch-thick lifts, with granular bentonite hydrated in place. A sampling valve was fitted to the end of the tubing. The valve was kept closed until purging and sampling. Each soil vapor monitoring point was completed at the surface with a flush-mounted, traffic-rated well box.

Completion details for each soil vapor probe are summarized in Table 1. Soil vapor probe completion diagrams are presented in the boring logs in Attachment 1.

Soil Vapor Probe Sampling and Analysis

Soil vapor samples were collected by American Analytics of Chatsworth, California, and analyzed onsite using its mobile laboratory under the direction of CH2M. Sampling was conducted on May 9, 2016. To allow the vadose zone to reach equilibrium prior to sample collection, SFPP's biosparge system was shut down on April 29, 2016. In addition, SVE from wells in the southeastern area (GMW-36, GMW-O-15, and GMW-O-18) was discontinued on May 5, 2016. The biosparge system and southeastern SVE wells were back online on May 10, 2016.

The soil vapor probes at each monitoring location were purged and sampled in accordance with the recommended guidelines in the California Department of Toxic Substances Control (DTSC) *Advisory for Active Soil Gas Investigations* (Advisory) (DTSC, 2015). The analytical results were evaluated by comparison with soil gas screening levels based on the most current DTSC guidance (DTSC, 2016). The soil gas screening levels are calculated from indoor air screening levels published by DTSC in its HHRA Note Number 3 (DTSC, 2016) using the default attenuation factors presented in DTSC's vapor intrusion guidance (DTSC, 2011).

As described previously, soil vapor sampling was conducted at probes SVM-17, SVM-18, and SVM-19. The soil vapor probes from each monitoring location were purged and sampled using a vacuum/pressure sampling pump calibrated to a flow rate of 200 milliliters per minute in accordance with recommended flow rates in the Advisory (DTSC, 2015). A soil vapor sample was not collected at the 10-foot depth at SVM-19 because of flow restrictions (excessive vacuum) observed during purging activities with a hand-held sampling pump.

Soil vapor samples were collected using 1.4-liter Summa canisters and were analyzed by the American Analytics onsite mobile laboratory for VOCs using EPA Method TO-15 and TPH-g using EPA Method TO-3. Included in the TO-15 list of analytes are benzene, toluene, ethylbenzene, and total xylenes (BTEX); methyl tertiary butyl ether (MTBE); naphthalene; tertiary butyl alcohol (TBA), also known as tert-butanol; 1,2-dichloroethane; 1,2,4-trimethylbenzene; 1,3,5-trimethylbenzene; n-butylbenzene; sec-butylbenzene; isopropylbenzene; n-propylbenzene; and 2-propanol (the leak test compound). These constituents were identified as contaminants of potential concern (COPCs) in the SFPP remediation areas based on the results of the 2006 soil gas investigation and HHRA (Geomatrix, 2006).

In accordance with the Advisory (DTSC, 2015), field duplicate soil vapor samples were collected at a minimum frequency of 1 per every 20 soil vapor samples collected. A duplicate soil vapor sample was collected at SVM-19 at the 5-foot depth. The duplicate sample was collected and analyzed in the same manner as the primary samples.

One ambient air sample was also collected each day of sampling and analyzed by the mobile laboratory for VOCs and TPH-g. The purpose of the ambient air sample is to quantify background concentrations of COPCs near select sampling locations.

Analytical Results

Soil Results

The soil analytical results for samples collected from SVM-17, SVM-18, SVM-19, SS-20, and SS-21 are provided in this section. A copy of the laboratory analytical report is provided in Attachment 2.

Metals

Table 2 presents a summary of metals data for the sample collected at the 5-foot depth at SVM-19. Metals data were compared with residential California Human Health Screening Levels (CHHSLs) and screening levels provided by the DTSC. For many metals, the CHHSL and DTSC screening levels are identical or similar; in these cases, both values are useable for screening. Where there are differences between the two values, the DTSC value was used because DTSC screening levels are based on more current toxicity values than the CHHSLs. For many chemicals, DTSC has not developed screening levels. In those cases, EPA Regional Screening Levels (RSLs) for soil, based on residential land use, were used. As shown in Table 2, the metals concentrations are below all screening levels with the exception of arsenic. Arsenic was measured at a concentration of 2 milligrams per kilogram (mg/kg) and is considered to be representative of background soil concentrations. As noted in DTSC (2016), the screening level in soil for arsenic (0.067 mg/kg) is well below naturally occurring background levels in soil. An upper-bound estimate of the background concentration of arsenic in soil in Southern California is estimated to be 12 mg/kg (DTSC, 2008).

PAHs and PCBs

Table 3 presents a summary of PAH and PCB results for the sample collected at the 5-foot depth at SVM-19. RSLs based on residential and industrial land use were used for screening PAH and PCB soil data. As shown in Table 3, all PAHs and PCBs were nondetect in the SVM-19 soil sample. The laboratory minimum detection limits (MDLs) are below screening levels under residential and commercial scenarios.

TPH and VOCs

Table 4 presents a summary of TPH and VOC results for samples collected at SVM-17, SVM-18, SVM-19, SS-20, and SS-21. DLA Energy's soil cleanup goals for 0.5, 5, and 10-foot depths are also provided in the table for comparison purposes. Parsons, DLA Energy's consultant, calculated soil cleanup goals for the site according to the methods provided in the RWQCB Interim Site Assessment and Cleanup Guidebook (Guidebook) (RWQCB, 1996). These goals were approved by the RWQCB in its letter to DLA Energy, dated July 12, 2012 (RWQCB, 2012). The RWQCB also approved DLA Energy's modification of soil cleanup goals for TPH in its letter to DLA Energy, dated July 16, 2015 (RWQCB, 2015). In its letter to the RWQCB, dated January 14, 2013, SFPP provided conditional concurrence with some shallow soil cleanup goals (0.5 foot to 10 feet) that are relevant to SFPP's former releases (CH2M, 2013a).

As shown in Table 4, TPH-g and TPH-o were detected in all samples generally at J-flagged (estimated) concentrations above the laboratory MDLs and below the laboratory reporting limits (RLs). The only positive (non-J-flagged) detection was reported at the 5-foot depth in SVM-17, where TPH-o was 20 mg/kg. All TPH-g and TPH-o detections were below soil cleanup goals. TPH-d was nondetect in all samples.

Toluene, bromomethane, chloroform, and chloromethane were the only VOCs detected in soil samples; detections were J-flagged at concentrations above the laboratory MDLs and below the laboratory RLs. Of these, toluene is the only VOC considered to be a COPC for SFPP's remediation areas. Toluene detections ranged between 0.12 J microgram per kilogram ($\mu\text{g}/\text{kg}$) in the 10-foot depth at SS-20 to

0.18 J $\mu\text{g}/\text{kg}$ at the 5-foot depth in SS-21. All toluene detections were below soil cleanup goals. Bromomethane was detected in SS-20 and SS-21 and concentrations ranged between 0.85 J $\mu\text{g}/\text{kg}$ at the 10-foot depth in SS-21 to 1.3 J $\mu\text{g}/\text{kg}$ at the 5-foot depth in SS-20. All detections were below their respective cleanup goals. Bromomethane was nondetect in SVM-17, SVM-18, and SVM-19. Chloroform was detected at the 10-foot depth in SVM-17, SVM-19, and SS-20 and at the 5-foot depth in SS-21 but at J-flagged concentrations. Concentrations ranged from 0.14 J $\mu\text{g}/\text{kg}$ at the 10-foot depth in SVM-17 to 0.28 J $\mu\text{g}/\text{kg}$ at the 5-foot depth in SS-21. All J-flagged detections were above DLA Energy soil cleanup goals; however, chloroform is not believed to be a contaminant of concern for SFPP. Although there were J-flagged detections of chloroform, the presence of this chemical cannot be confirmed with the available data because these trace concentrations were below the laboratory RLs. Chloromethane was detected in SVM-17, SVM-18, SVM-19, and SS-21 at concentrations ranging from 0.31 J $\mu\text{g}/\text{kg}$ at the 10-foot depth in SVM-19 to 0.64 J $\mu\text{g}/\text{kg}$ at the 5-foot depth in SS-21. Chloromethane was nondetect in SS-20. There are no established soil cleanup goals for chloromethane.

Equipment and Trip Blank Results

Table 5 presents a summary of detected TPH and VOCs in the equipment and trip blank samples. As shown in the table, TPH-g (41 J micrograms per liter [$\mu\text{g}/\text{L}$]) and TPH-d (19 J $\mu\text{g}/\text{L}$) were detected in the equipment blank sample; VOCs were nondetect. These J-flagged TPH detections are below the laboratory RLs and likely did not have any impact on soil analytical results. Acetone, carbon disulfide, chloromethane, and methylene chloride were detected in the trip blank sample. With the exception of methylene chloride (9.6 $\mu\text{g}/\text{L}$), all detections were J-flagged. It is likely that these low level detections are a result of laboratory handling or cross contamination of trip blank water or laboratory equipment.

Soil Vapor Results

Table 6 presents a summary of mobile laboratory analytical results for soil vapor samples collected from SVM-17, SVM-18, and SVM-19. A copy of the laboratory analytical report is presented in Attachment 3. As shown in the table, TPH-g and all COPCs were nondetect. The laboratory RLs used were below screening levels under residential and commercial scenarios. An isolated detection of acetone (0.029 $\mu\text{g}/\text{L}$) was reported at the 5-foot depth in SVM-17. This detection is below screening levels under commercial and residential scenarios. Ethanol was detected at the 5-foot depth in SVM-17 (0.32 $\mu\text{g}/\text{L}$) and SVM-18 (0.07 $\mu\text{g}/\text{L}$) and in the ambient blank sample (0.021 $\mu\text{g}/\text{L}$). There are no established screening levels for ethanol.

Human Health Risk Assessment

This section provides the HHRA results within the area of the eastern 15-acre parcel impacted by SFPP, as requested by the RWQCB because the site's deeper soil and groundwater are impacted with petroleum hydrocarbons. This HHRA is based on data previously collected during SFPP's investigation and remediation of its areas of impact at the site, with RWQCB oversight, and the new data collected for the 15-acre parcel as documented previously in this report. An overview of the conceptual site model (CSM) is provided before the HHRA results.

Conceptual Site Model

The CSM is presented in a report titled, *Conceptual Site Model and Proposed Alternate Interim Remedy for Soil, Groundwater, and LNAPL, Defense Fuel Support Point, Norwalk, California* (CH2M, 2013b). This report addresses the hydrocarbons present in soil and groundwater from the former pipeline operations by SFPP at the site. This report provides an updated CSM, incorporating data from historical and new investigations, along with data from subsequent routine groundwater monitoring events.

Exposure Evaluation

The CSM (CH2M, 2013b) provides a conceptual model of exposure pathways that describes what is known about chemical sources, migration pathways, exposure routes, and possible current and future exposure scenarios. Figure 3-20 in the CSM (CH2M, 2013b) depicts the potential exposure pathways (exposure CSM). The CSM should be referenced for a complete description of land uses, exposure media, and potential exposure pathways and receptors (CH2M, 2013b).

Overview of Hydrocarbon Impacts and Remediation

As described in the CSM (CH2M, 2013b), light nonaqueous phase liquids (LNAPL) and dissolved-phase hydrocarbons occur in deeper soil (generally greater than 15 feet bgs) and shallow groundwater at the southeastern area of the Norwalk site. This area generally includes the southern portion of the eastern 15-acre parcel and offsite in the southwestern portion of Holifield Park. These impacts occurred from a historical release from SFPP's "southeastern 24-inch block valve" in this area (Figure 2) and are limited to the uppermost groundwater zone, which occurs at a depth of approximately 30 feet bgs to approximately 50 feet bgs. The uppermost groundwater zone is underlain by finer-grained materials that impede groundwater flow and impacts from dissolved-phase hydrocarbons to deeper groundwater zones. Previous site assessments in the southeastern area have shown impacts from COPCs, including TPH, BTEX, MTBE, and TBA, to deeper soil. Soil impacts are generally limited to depths below 15 feet bgs. Groundwater impacts are generally limited to 50 feet bgs.

To address the south-central and southeastern areas of the site, SFPP operates remediation systems consisting of soil vapor extraction (SVE), total fluids extraction (TFE; extraction of free product and/or groundwater using a top-loading pump), groundwater extraction (GWE; extraction of groundwater using a bottom-loading pump), and treatment of extracted soil vapors and groundwater. The objectives of the remediation systems are to contain and control the migration of hydrocarbon constituents in groundwater and soil vapor and to remove hydrocarbon mass from soil and groundwater.

The CSM (CH2M, 2013b) identified horizontal biosparging with SVE as the alternate interim-remedy for the south-central and southeastern areas of the site. The purpose of the biosparge system is to enhance mass removal of hydrocarbon constituents in deeper soil and groundwater. SVE operations will continue for mass removal and to control potential offgassing of VOCs. TFE is proposed to be operated in parallel with biosparging and SVE operations until LNAPL is no longer measurable in the extraction wells and dissolved phase concentrations decrease to asymptotic levels. SFPP is currently performing pilot testing of a horizontal biosparge well in the south-central area of the site. Pilot testing will continue through 2017 to evaluate the feasibility of system expansion to the southeastern area.

The following subsections provide a description of the LNAPL, groundwater, soil, and soil vapor conditions in the southeastern area, which includes the southern portion of the eastern 15-acre parcel.

LNAPL

LNAPL above and below the top of the water table in the uppermost groundwater zone is a recognized feature of the CSM for the southeastern area. Historical groundwater levels in the uppermost groundwater zone have ranged from approximately 20 to 35 feet bgs since 1996. LNAPL thicknesses measured in the monitoring wells have ranged from a sheen (less than the smallest measurable thickness of 0.01 foot using an optical oil/water interface probe) to as much as 6 feet (GMW-O-15 in the southeastern area in 1996). Groundwater, free product (i.e., in-well LNAPL), and SVE activities implemented since the 1990s have substantially reduced the areal distribution and in-well thickness of the free product. Groundwater levels and LNAPL thickness are measured in wells across the site semiannually; the data are reported in semiannual groundwater monitoring reports submitted to the RWQCB.

In April 2016, LNAPL was present in one southeastern area well, GMW-36 (0.27-foot thickness). Historically, LNAPL has been present in GMW-36 and GMW-O-15, both remediation extraction wells located in the immediate vicinity of the southeastern 24-inch block valve release. In 2014, LNAPL was also present in remediation extraction well GMW-SF-9 at a maximum thickness of 1.04 feet. GMW-SF-9 is located in the southern portion of the 15-acre parcel. LNAPL has not been present in GMW-SF-9 since 2014. LNAPL has not been detected in any other wells in the southern portion of the eastern 15-acre parcel. Historical groundwater levels and LNAPL thickness for wells in the southern portion of the eastern 15-acre parcel are presented in Attachment 4.

An LNAPL-specific investigation was performed by SFPP in October 2011 to characterize LNAPL in the uppermost groundwater zone and the top of the Bellflower aquitard in the south-central, southeastern, and southern offsite areas of the Norwalk site. One of the objectives of this investigation was to evaluate the vertical distribution of LNAPL in the uppermost groundwater zone. This evaluation was performed in part by advancing a cone penetrometer testing/laser-induced fluorescence (CPT/LIF) tool into the top of the Bellflower aquitard to assess lithology and vertical LNAPL distribution. The location of the CPT/LIF boring advanced in the southeastern area (CPTLIF-5) is shown on Figure 2. The LIF data showed that the LNAPL in the southeastern area was limited to within a narrow vertical interval, between approximately 22 and 32 feet bgs, near the water table. This interval is also known as the "smear zone." Additional details of this investigation are presented in the report titled, *Results of LNAPL Characterization in Uppermost Groundwater Zone and Top of Bellflower Aquitard* (CH2M, 2012a).

Groundwater (Dissolved-Phase) Conditions

Groundwater monitoring conducted since 1996 shows that dissolved-phase fuel constituents are present in groundwater in the uppermost groundwater zone beneath the southern portion of the eastern 15-acre parcel. The COPCs detected in groundwater beneath the area include TPH, BTEX, 1,2-DCA, MTBE, and TBA. Although 1,2-DCA has been detected, detections have been isolated. 1,2-DCA has generally been associated with the western portion of the Norwalk site. Chemical distribution maps for TPH, benzene, 1,2-DCA, MTBE, and TBA in the uppermost groundwater zone are presented in semiannual groundwater monitoring reports that are submitted to the RWQCB. Copies of the maps prepared by SFPP from the April 2015 event are included in Attachment 5. Chemical distribution maps for SFPP's most recent sampling event in April 2016 are currently unavailable. As shown in the April 2015 maps, TPH, benzene, MTBE, and TBA plumes are interpreted to be present in the southern portion of the eastern 15-acre parcel. Historical groundwater analytical results for wells in the southern portion of the eastern 15-acre parcel are presented in Attachment 6.

Time series charts of hydrocarbon constituents in groundwater for select wells in the southern portion of the eastern 15-acre parcel are provided in Attachment 7. TPH, benzene, 1,2-DCA, MTBE, and TBA concentrations are plotted against time. Annual precipitation and measured LNAPL thickness are also displayed. As shown in several of the charts, hydrocarbon constituent concentrations generally follow a declining trend with time. Declining trends for MTBE are most apparent in wells GMW-37, GMW-38, GMW-39, GMW-SF-7, GMW-SF-8, and MW-8. Decreasing concentrations of hydrocarbon constituents over time are indicative of effective mass removal by SFPP's TFE and SVE systems, as well as natural attenuation of hydrocarbons in the subsurface.

Soil Conditions

Recent soil data collected in the southern portion of the eastern 15-acre parcel show that the upper 10 feet of soil has not been impacted by hydrocarbon constituents. Detected COPCs were below site cleanup goals. Trace (J-flagged) detections of some non-COPCs were reported but were generally near the laboratory MDL.

Deeper soil conditions in the southeastern area were previously documented in a 2012 soil boring investigation, where two soil borings (SB-8 and SB-9; Figure 2) were advanced offsite (in Holifield Park) immediately adjacent to the source area in the vicinity of the southeastern 24-inch block valve. The results are presented in the report titled, *Results of Soil Boring Investigation, SFPP Norwalk Pump Station, 15306 Norwalk Boulevard, Norwalk, California* (CH2M, 2012b). The analytical results show that petroleum hydrocarbon impacts in soil are generally limited to depths below 18 feet bgs, the approximate depth of the top of the smear zone. TPH and VOC concentrations in soil samples shallower than 18 feet bgs were below the laboratory RLs. Maximum TPH, BTEX, and MTBE concentrations were reported at depths between 22 and 24 feet bgs, within the smear zone. TBA was the only other fuel oxygenate detected and was present at a depth approximately 25 feet bgs.

Soil Vapor Conditions

As presented earlier in this report, soil vapor samples collected from probes SVM-17, SVM-18, SVM-19, located in the southern portion of the eastern 15-acre parcel, were nondetect for COPCs in the 5-foot and 10-foot depths. Deeper soil vapor data has also been collected from dual nested probe SVM-9 on an annual basis since 2012. SVM-9 is located offsite but in the immediate vicinity of the southeastern 24-inch block valve (Figure 2). SVM-9 has probes completed at 5 and 15 feet bgs. Since 2012, target COPCs have generally been nondetect or (J-flagged) and below screening levels under residential and commercial scenarios. SFPP's latest results from SVM-9 were provided to the RWQCB in the report titled, *Results of September 2015 Soil Vapor Monitoring at the South-Central and Southeastern Areas of the SFPP Norwalk Pump Station, Norwalk, California* (CH2M, 2016).

Human Health Risk Assessment Results

As described in the CSM for the site (CH2M, 2013b), residual and limited amounts of free-phase LNAPL are found at the southeastern corner of the 15-acre parcel (for example, in GMW-36 and GMW-O-15). The residual and limited amounts of free-phase LNAPL occur within a smear zone at the water table. Dissolved-phase hydrocarbons occur in groundwater from dissolution of the LNAPL. The water table at the site occurs at approximately 30 feet bgs. Soil impacts from petroleum hydrocarbon constituents are limited to depths greater than 15 feet bgs. Soil vapor sampling previously conducted at shallower depths (to 15 feet bgs) indicate there are minimal soil vapor impacts and that soils are sufficiently oxygenated to form a zone of aerobic biodegradation for petroleum hydrocarbons. Previously completed HHRAs have concluded there are no significant human health risks associated with vapor intrusion with the current structures.

The results from previous investigations and this current investigation indicate that aerobic biodegradation in the vadose zone appears to limit the potential occurrence of vapor intrusion of petroleum hydrocarbon constituents or petroleum vapor intrusion (PVI). There appears to be the recommended necessary vertical separation between petroleum hydrocarbon constituents in soil or groundwater that potential PVI impacts do not require further evaluation. EPA's PVI guidance (EPA, 2015) recommends a minimum vertical separation of 6 feet between dissolved vapor sources or 15 feet for LNAPL sources as necessary for PVI impacts to be precluded in overlying buildings. The vertical distances between petroleum hydrocarbon-impacted soil or groundwater and current buildings at the site are larger than EPA's recommended minimum values.

Dissolved-phase petroleum hydrocarbon constituents were not detected in the central portion of the eastern 15-acre parcel in April 2016, the most recent semiannual groundwater sampling event. However, hydrocarbon constituents were detected in groundwater samples collected from wells GMW-36 and GMW-O-15 located near the source area, where there has been a historical presence of free-phase LNAPL.

As previously discussed, TPH and VOCs were not detected in soil vapor beneath the central portion of the 15-acre parcel, except for non-COPCs acetone and/or ethanol, which were detected at the 5-foot depth of SVM-17 and SVM-18 (see Table 6). The acetone detection was below screening levels under residential and commercial scenarios. There are no established screening levels for ethanol. While residual and limited amounts of free-phase LNAPL are found in groundwater in the southeastern corner of the eastern 15-acre parcel, near the source area, the concentrations in overlying soil vapor (in SVM-9) have been non-detect or below screening levels in soil vapor.

In addition to the measured concentrations, a modeling evaluation was performed to further assess potential vapor intrusion risks under current and potential future land uses. Modeling of vapor intrusion risks from VOCs in groundwater typically is performed using the Johnson and Ettinger model. The standard Johnson and Ettinger model, as provided by the DTSC, is not considered appropriate for petroleum hydrocarbon constituents as it does not include biodegradation. EPA's PVI guidance (EPA, 2015) provides attenuation factors for assessing PVI based on the vertical separation distance between the petroleum hydrocarbon source and the building, and the source concentration in soil vapor. Soil vapor concentrations were calculated from the most recent and highest detected concentrations in groundwater (well GMW-O-15, sampled April 14, 2016) using the vapor pressures and Raoult's Law, which is used in cases where residual or free-phase hydrocarbons are present. The modeled indoor air concentrations were compared with residential screening levels (DTSC, 2016), as shown in Table 7. The modeled indoor air concentrations from the concentrations in groundwater in GMW-O-15 are lower than residential screening levels.

Conclusions and Recommendations

As presented previously, the shallow soil and soil vapor data for COPCs collected as part of the eastern 15-acre investigation were below soil cleanup goals and human health screening levels, respectively. The lack of significant hydrocarbon concentrations in shallow soil to 10 feet bgs (above the smear zone) is consistent with the CSM of the historical hydrocarbon release mechanisms and fate of the hydrocarbons since their release. The historical fuel release at the southeastern 24-inch block valve area migrated downward and spread on the water table, where these hydrocarbons have been contained and controlled and are being removed by SFPP's current remediation systems and naturally occurring processes, including biodegradation. The overlying soil proposed for soil closure is above this zone.

Based on the risk assessment presented in this report, there is no human health risk in the upper 10 feet of soil in the southern portion of the eastern 15-acre parcel. Therefore, SFPP recommends that the RWQCB proceed with issuing shallow soil closure for this area. SFPP will continue to operate its current remediation systems in the southeastern area, including SVE and total fluids extraction, for continued hydrocarbon mass removal and groundwater containment in the uppermost groundwater zone. SFPP will also continue to evaluate the feasibility of biosparge system expansion to the southeastern area as a long-term remediation strategy for enhanced hydrocarbon mass removal in deeper soil and groundwater.

If you have any questions regarding this letter report, please contact Mr. Dan Jablonski of CH2M at (213) 228-8271 or Mr. Steve Defibaugh of Kinder Morgan at (714) 560-4802.

Regards,
CH2M HILL Engineers, Inc.



Dan Jablonski
Project Manager



John Lowe, CIH
Vapor Intrusion Consultant

Attachments:

References

- Table 1 – Soil Vapor Monitoring Probe Completion Details
- Table 2 – Summary of Soil Metals Results
- Table 3 – Summary of Soil PAHs and PCBs Results
- Table 4 – Summary of Soil TPH and VOC Results
- Table 5 – Summary of Detected TPH and VOCs in Equipment and Trip Blank Samples
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- Figure 1 – Site Location Map
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- Figure 3 – Soil Vapor Monitoring Probe Completion Diagram
- Attachment 1 – Soil Boring Logs
- Attachment 2 – Soil Laboratory Analytical Report
- Attachment 3 – Soil Vapor Laboratory Analytical Report
- Attachment 4 – Historical Groundwater Levels and LNAPL Thickness
- Attachment 5 – Chemical Distribution Maps for TPH, Benzene, 1,2-DCA, MTBE, and TBA
- Attachment 6 – Historical Analytical Results for COPCs and Miscellaneous VOCs Detected in Groundwater
- Attachment 7 – Time Series Charts

Distribution:

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Tables

Table 1

Soil Vapor Monitoring Probe Completion Details

Eastern 15-acre Parcel, Defense Fuel Support Point, Norwalk, California

Probe	Zone	Installation Method	Borehole Diameter (inches)	Boring Total Depth (feet bgs)	Screen Interval (feet bgs)		Filter Pack Top (feet bgs)	Filter Pack Bottom (feet bgs)	Dry Bentonite Top (feet bgs)	Dry Bentonite Bottom (feet bgs)	Hydrated Bentonite Top (feet bgs)	Hydrated Bentonite Bottom (feet bgs)
					From	To						
SVM-17	Shallow	Geoprobe	1.5	---	4.5	5	4.5	5.5	3.5	4.5	0.5	3.5
SVM-17	Deep	Geoprobe	1.5	10	9.5	10	9	10	8	9	5.5	8
SVM-18	Shallow	Geoprobe	1.5	---	4.5	5	4.5	5.5	3.5	4.5	0.5	3.5
SVM-18	Deep	Geoprobe	1.5	10	9.5	10	9	10	8	9	5.5	8
SVM-19	Shallow	Geoprobe	2.25	---	4.5	5	4.5	5.5	3.5	4.5	0.5	3.5
SVM-19	Deep	Geoprobe	2.25	10.5	9.5	10	9	10.5	8	9	5.5	8

Notes:

--- = does not apply

bgs = below ground surface

Filter pack consists of #3 Monterey fine sand.

Bentonite is granular bentonite

Table 2

Summary of Soil Metals Results

Eastern 15-acre Parcel, Defense Fuel Support Point, Norwalk, California

Analyte	Result	MDL	RL	Residential CHHSL ^a	Residential DTSC Screening Level ^b	Residential EPA RSLs ^c	Comments
Antimony	ND	0.19	2.0	30	---	31	---
Arsenic	2	0.22	1.0	0.07	0.067	0.68	Detected result is consistent with background levels in soil; EPA and DTSC use different toxicity values for arsenic (which is the reason for the ~10-fold higher screening level from EPA).
Barium	41	0.043	1.0	5,200	---	15,000	Screening levels have been updated since publication of the CHHSLs.
Beryllium	ND	0.038	1.0	16	15	160	Screening levels have been updated since publication of the CHHSLs.
Cadmium	0.24 J	0.037	1.0	1.7	5.2	71	Screening levels have been updated since publication of the CHHSLs.
Chromium	6.8	0.041	1.0	100,000	36,000	120,000	DTSC uses additional exposure pathways than EPA to obtain the lower screening level.
Cobalt	4.5	0.037	1.0	660	---	23	Screening levels have been updated since publication of the CHHSLs.
Copper	6.6	0.04	2.0	3,000	---	3,100	---
Lead	0.91 J	0.04	1.0	80	---	400	DTSC uses different methods than EPA for assessing lead risks in soil.
Mercury	0.035 J	0.012	1.2	18	--	0.31	Screening levels have been updated since publication of the CHHSLs.
Molybdenum	ND	0.036	1.0	380	---	390	Screening levels have been updated since publication of the CHHSLs.
Nickel	5.2	0.042	1.0	1,600	490	1,500	DTSC uses additional exposure pathways than EPA to obtain the lower screening level.
Selenium	ND	0.16	1.0	380	---	390	---
Silver	ND	0.041	1.0	380	---	390	---
Thallium	1 J	0.16	2.0	5	---	0.78	---
Vanadium	14	0.037	1.0	530	---	390	---
Zinc	20	0.063	1.0	23,000	---	23,000	---

Notes:

^a Office of Environmental Health Hazard Assessment (OEHHA), 2010. http://oehha.ca.gov/media/downloads/risk-assessment/california-human-health-screening-levels-chhsls/chhslstableall_0.pdf.

CHHSLs generally are used for all chemicals, except when they have been superseded as discussed below.

^b Department of Toxic Substances Control (DTSC), 2016. <https://www.dtsc.ca.gov/AssessingRisk/upload/HHRA-Note-3-2016-01.pdf>. DTSC screening levels for some chemicals are more current than CHHSLs.

If no value is available, DTSC recommends using Regional Screening Levels (RSLs).

^c Per EPA Region 9 Web site, RSL Table (November 2015 Update) <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2015>.

Results are expressed in milligrams per liter (mg/kg)

2.0 Analyte concentration detected above CHHSL, DTSC, and EPA screening level.

Results have been compared to CHHSLs (OEHHA, 2010)¹, screening levels recommended by DTSC (DTSC, 2016)² and EPA (EPA, 2015)³ based on residential land use.

--- no value is available.

CHHSL = California Human Health Screening Level

DTSC = California Department of Toxic Substances Control

EPA = U.S. Environmental Protection Agency

EPA RSLs = U.S. Environmental Protection Agency Region 9 Regional Screening Levels for Residential Soils

J = estimated, result is above laboratory minimum detection limit but below laboratory reporting limit

MDL = laboratory minimum detection limit

mg/kg = milligram(s) per kilogram (dry weight)

ND = not detected above the laboratory minimum detection limit

RL = reporting limit

RSL = Regional Screening Level

Table 3

Summary of Soil PAHs and PCBs Results

Eastern 15-acre Parcel, Defense Fuel Support Point, Norwalk, California

Boring Location	Sample Date	Sample ID	Sample Depth Interval (feet bgs)	PAHs (EPA Method 8270 SIM)																	PCBs (EPA Method 8082)							
				1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
SVM-19	5/4/2016	SVM-19-05-050416	5-5.5	<1	<1.7	<0.83	<0.80	<1	<1.7	<1.4	<1.5	<1.7	<1.7	<1.7	<1.3	<1.3	<1.2	<1.6	<1.2	<1.3	<1.3	<5	<5.5	<11	<8.2	<2.8	<5	<3.2
		EPA RSLs^a	Residential	18,000	240,000	3,600,000	---	18,000,000	160	16	160	---	1,600	16,000	16	2,400,000	2,400,000	160	3,800	---	1,800,000	4,100	200	170	230	230	240	240
			Industrial	73,000	3,000,000	45,000,000	---	230,000,000	2,900	290	2,900	---	29,000	290,000	290	30,000,000	30,000,000	2,900	17,000	---	23,000,000	27,000	830	720	950	950	970	990

Notes:

^a EPA Region 9 Regional Screening Levels for Residential and Industrial Soils. Per EPA Region 9 Web site, RSL Table (November 2015 Update) <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2015>

DTSC does not provide screening levels in soil for PAHs or PCBs (DTSC, 2015).

Results and PRGs are expressed in units of micrograms per kilogram (µg/kg).

<1 = not detected at or above the laboratory minimum detection limit shown.

--- = not available

bgs = below ground surface

DTSC = California Department of Toxic Substances Control

EPA = U.S. Environmental Protection Agency

J = estimated; result detected above laboratory minimum detection limit but below laboratory reporting limit

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

RSL = Regional Screening Level

Table 4
 Summary of Soil TPH and VOC Results
 Eastern 15-acre Parcel, Defense Fuel Support Point, Norwalk, California

General Area	Sample Location	Sample Date	Sample ID	Sample Depth Interval (feet bgs)	TPH-g (mg/kg)	TPH-d (mg/kg)	TPH-o (mg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethyl-benzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	TBA (µg/kg)	DIPE (µg/kg)	1,1,1,2-Tetrachloroethane (µg/kg)	1,1,2-Trichloroethane (µg/kg)	1,2,3-Trichlorobenzene (µg/kg)
Eastern 15-Acre Parcel	SVM-17	5/4/2016	SVM-17-05	5-5.5	0.068 J	<2.9	20	<0.12	<0.11	<0.15	<0.15	<0.23	<1.5	<0.11	<0.19	<0.25	<0.061
		5/4/2016	SVM-17-10	10-10.5	0.13 J	<2.9	7.1 J	<0.11	0.15 J	<0.13	<0.13	<0.21	<1.4	<0.096	<0.17	<0.23	<0.055
	SVM-18	5/4/2016	SVM-18-05	5-5.5	0.11 J	<2.9	6.9 J	<0.12	0.14 J	<0.14	<0.14	<0.23	<1.5	<0.11	<0.18	<0.25	<0.061
		5/4/2016	SVM-18-10	10-10.5	0.073 J	<2.9	8.3 J	<0.11	0.15 J	<0.14	<0.14	<0.22	<1.4	<0.10	<0.17	<0.24	<0.057
	SVM-19	5/4/2016	SVM-19-05	5-5.5	0.059 J	<2.9	8.1 J	<0.12	0.17 J	<0.15	<0.15	<0.23	<1.5	<0.11	<0.19	<0.26	<0.062
		5/4/2016	SVM-19-10	10-10.5	0.056 J	<2.9	8.3 J	<0.11	0.15 J	<0.13	<0.13	<0.21	<1.4	<0.097	<0.17	<0.23	<0.055
	SS-20	5/4/2016	SS-20-05	5-5.5	0.095 J	<2.9	8.4 J	<0.14	0.17 J	<0.17	<0.17	<0.27	<1.7	<0.12	<0.21	<0.29	<0.070
		5/4/2016	SS-20-10	10-10.5	0.093 J	<2.9	8.8 J	<0.11	0.12 J	<0.13	<0.13	<0.20	<1.3	<0.095	<0.16	<0.22	<0.054
	SS-21	5/4/2016	SS-21-05	5-5.5	0.076 J	<2.9	9.0 J	<0.13	0.16 J	<0.16	<0.16	<0.25	<1.6	<0.11	<0.20	<0.27	<0.065
		5/4/2016	SS-21-05D	5-5.5	0.066 J	<2.9	8.9 J	<0.14	0.18 J	<0.17	<0.17	<0.26	<1.7	<0.12	<0.21	<0.29	<0.070
		5/4/2016	SS-21-10	10-10.5	0.063 J	<3.4	11 J	<0.10	0.14 J	<0.13	<0.13	<0.20	<1.3	<0.092	<0.16	<0.22	<0.052
	DLA Energy Soil Cleanup Goals				0.5 Feet	500	1,000	10,000	15	614	2,070	5,550	0.907	1.0	449	2.3	3.2
5 Feet					500	1,000	10,000	13	440	1,440	3,770	0.910	1.2	424	2.0	2.9	63.4
10 Feet					100	100	1,000	12	391	1,190	3,090	0.843	1.3	364	1.5	2.3	46.7

Notes:
 The total xylenes result is the sum of m,p-xylenes and o-xylenes when detected.
20 **Bold font** represents data detected above the laboratory minimum detection limit.
 <1.4 = not detected at or above the laboratory minimum detection limit shown.
 J qualifier indicates that the result was detected above the laboratory minimum detection limit, but below the laboratory reporting limit
 --- = not available
 µg/kg = microgram(s) per kilogram
 bgs = below ground surface
 DIPE = di-isopropyl ether
 ETBE = ethyl tertiary butyl ether
 mg/kg = milligram(s) per kilogram
 MTBE = methyl tertiary butyl ether
 TAME = tertiary amyl methyl ether
 TBA = tertiary butyl alcohol
 TPH-d = total extractable petroleum hydrocarbons quantified using a diesel standard (C13-C22)
 TPH-g = total purgeable petroleum hydrocarbons quantified using a gasoline standard (C4-C12)
 TPH-o = total extractable petroleum hydrocarbons quantified using a motor oil standard (C23-C44)

Table 4

Summary of Soil TPH and VOC Results
 Eastern 15-acre Parcel, Defense Fuel Support Point, Norwalk, California

General Area	Sample Location	Sample Date	Sample ID	Sample Depth Interval (feet bgs)	1,2,3-Trichloropropane (µg/kg)	1,2,4-Trimethylbenzene (µg/kg)	1,2-Dibromo-3-Chloropropane (DBCP) (µg/kg)	1,2-Dibromoethane (EDB) (µg/kg)	1,2-Dichloroethane (µg/kg)	1,3,5-Trimethylbenzene (µg/kg)	2-Butanone (MEK) (µg/kg)	2-Chlorotoluene (µg/kg)	2-Hexanone (mg/L)	4-Chlorotoluene (µg/kg)	Acetone (µg/kg)	
Eastern 15-Acre Parcel	SVM-17	5/4/2016	SVM-17-05	5-5.5	<0.26	<0.069	<0.50	<0.17	<0.13	<0.087	<1.8	<0.10	<1.5	<0.19	<2.0	
		5/4/2016	SVM-17-10	10-10.5	<0.24	<0.062	<0.45	<0.15	<0.12	<0.078	<1.6	<0.092	<1.4	<0.17	<1.8	
	SVM-18	5/4/2016	SVM-18-05	5-5.5	<0.26	<0.068	<0.50	<0.17	<0.13	<0.086	<1.8	<0.10	<1.5	<0.19	<2.0	
		5/4/2016	SVM-18-10	10-10.5	<0.25	<0.064	<0.47	<0.16	<0.12	<0.081	<1.7	<0.095	<1.4	<0.18	<1.9	
	SVM-19	5/4/2016	SVM-19-05	5-5.5	<0.27	<0.070	<0.51	<0.17	<0.13	<0.088	<1.8	<0.10	<1.5	<0.19	<2.0	
		5/4/2016	SVM-19-10	10-10.5	<0.24	<0.062	<0.45	<0.15	<0.12	<0.078	<1.6	<0.092	<1.4	<0.17	<1.8	
	SS-20	5/4/2016	SS-20-05	5-5.5	<0.30	<0.079	<0.57	<0.19	<0.15	<0.10	<0.077	<1.6	<0.12	<1.8	<0.22	<2.3
		5/4/2016	SS-20-10	10-10.5	<0.23	<0.061	<0.44	<0.15	<0.12	<0.077	<1.6	<0.090	<1.4	<0.17	<1.8	
	SS-21	5/4/2016	SS-21-05	5-5.5	<0.28	<0.073	<0.53	<0.18	<0.14	<0.092	<1.9	<0.11	<1.6	<0.20	<2.1	
		5/4/2016	SS-21-05D	5-5.5	<0.30	<0.079	<0.57	<0.19	<0.15	<0.10	<0.077	<1.6	<0.12	<1.8	<0.22	<2.3
			5/4/2016	SS-21-10	10-10.5	<0.23	<0.059	<0.43	<0.15	<0.11	<0.075	<1.6	<0.087	<1.3	<0.16	<1.7
	DLA Energy Soil Cleanup Goals				0.5 Feet	0.000874	2,100	0.250	0.00305	0.1060	2,060	557	558	7.3	547	994
5 Feet					0.000766	1,800	0.219	0.00278	0.1040	1,770	607	481	7.2	472	1,170	
10 Feet					0.000587	1,340	0.168	0.00227	0.0937	1,310	617	358	6.5	351	1,280	

Notes:

The total xylenes result is the sum of m,p-xylenes and o-xylenes when detected.
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Table 4
 Summary of Soil TPH and VOC Results
 Eastern 15-acre Parcel, Defense Fuel Support Point, Norwalk, California

General Area	Sample Location	Sample Date	Sample ID	Sample Depth Interval (feet bgs)	Bromomethane (µg/kg)	Carbon Disulfide (µg/kg)	Chlorobenzene (µg/kg)	Chloroethane (µg/kg)	Chloroform (µg/kg)	Chloromethane (µg/kg)	Dichloro-difluoromethane (µg/kg)	Dichloromethane (µg/kg)	Isopropylbenzene (µg/kg)	Naphthalene (µg/kg)	n-Butylbenzene (µg/kg)	
Eastern 15-Acre Parcel	SVM-17	5/4/2016	SVM-17-05	5-5.5	<0.39	<0.17	<0.099	<0.53	<0.16	0.47 J	<0.20	<1.1	<0.082	<0.12	<0.11	
		5/4/2016	SVM-17-10	10-10.5	<0.35	<0.16	<0.089	<0.48	0.14 J	0.39 J	<0.18	<0.98	<0.073	<0.10	<0.095	
	SVM-18	5/4/2016	SVM-18-05	5-5.5	<0.39	<0.17	<0.098	<0.53	<0.16	0.42 J	<0.20	<1.1	<0.081	<0.11	<0.10	
		5/4/2016	SVM-18-10	10-10.5	<0.36	<0.16	<0.092	<0.50	<0.15	<0.18	<0.19	<1.0	<0.076	<0.11	<0.098	
	SVM-19	5/4/2016	SVM-19-05	5-5.5	<0.39	<0.17	<0.10	<0.54	<0.16	0.39 J	<0.20	<1.1	<0.083	<1.2	<0.11	
		5/4/2016	SVM-19-10	10-10.5	<0.35	<0.16	<0.089	<0.48	0.16 J	0.31 J	<0.18	<0.98	<0.073	<0.10	<0.095	
	SS-20	5/4/2016	SS-20-05	5-5.5	1.3 J	<0.20	<0.11	<0.61	<0.18	<0.22	<0.23	<1.2	<0.094	<0.13	<0.12	
		5/4/2016	SS-20-10	10-10.5	1.0 J	<0.15	<0.087	<0.47	0.18 J	<0.17	<0.18	<0.96	<0.072	<0.10	<0.093	
	SS-21	5/4/2016	SS-21-05	5-5.5	1.2 J	<0.18	<0.10	<0.56	0.28 J	0.43 J	<0.21	<1.2	<0.087	<0.12	<0.11	
		5/4/2016	SS-21-05D	5-5.5	1.2 J	<0.20	<0.11	<0.61	<0.18	<0.23	<0.23	<1.2	<0.093	<0.13	<0.12	
			5/4/2016	SS-21-10	10-10.5	0.85 J	<0.15	<0.085	<0.45	<0.13	0.53 J	<0.17	<0.93	<0.070	<0.099	<0.090
	DLA Energy Soil Cleanup Goals				0.5 Feet	1.5	49	119	2,230	0.0738	---	984	0.778	5,560	270	3,970
5 Feet					1.4	46	104	2,470	0.0682	---	868	0.799	4,780	231	3,400	
10 Feet					1.3	39	79	2,550	0.0567	---	672	0.761	3,530	170	2,500	

Notes:
 The total xylenes result is the sum of m,p-xylenes and o-xylenes when detected.
20 **Bold font** represents data detected above the laboratory minimum detection limit.
 <1.4 = not detected at or above the laboratory minimum detection limit shown.
 J qualifier indicates that the result was detected above the laboratory minimum detection limit, but below the laboratory reporting limit
 --- = not available
 µg/kg = microgram(s) per kilogram
 bgs = below ground surface
 DIPE = di-isopropyl ether
 ETBE = ethyl tertiary butyl ether
 mg/kg = milligram(s) per kilogram
 MTBE = methyl tertiary butyl ether
 TAME = tertiary amyl methyl ether
 TBA = tertiary butyl alcohol
 TPH-d = total extractable petroleum hydrocarbons quantified using a diesel standard (C13-C22)
 TPH-g = total purgeable petroleum hydrocarbons quantified using a gasoline standard (C4-C12)
 TPH-o = total extractable petroleum hydrocarbons quantified using a motor oil standard (C23-C44)

Table 4

Summary of Soil TPH and VOC Results
 Eastern 15-acre Parcel, Defense Fuel Support Point, Norwalk, California

General Area	Sample Location	Sample Date	Sample ID	Sample Depth Interval (feet bgs)	n-Propylbenzene (µg/kg)	p-Isopropyltoluene (µg/kg)	sec-Butylbenzene (µg/kg)	Styrene (µg/kg)	tert-Butylbenzene (µg/kg)	Trichloroethene (µg/kg)
Eastern 15-Acre Parcel	SVM-17	5/4/2016	SVM-17-05	5-5.5	<0.12	<0.11	<0.099	<0.21	<0.13	<0.12
		5/4/2016	SVM-17-10	10-10.5	<0.11	<0.096	<0.089	<0.19	<0.12	<0.11
	SVM-18	5/4/2016	SVM-18-05	5-5.5	<0.12	<0.11	<0.098	<0.21	<0.13	<0.12
		5/4/2016	SVM-18-10	10-10.5	<0.11	<0.099	<0.092	<0.20	<0.12	<0.11
	SVM-19	5/4/2016	SVM-19-05	5-5.5	<0.12	<0.11	<0.10	<0.21	<0.13	<0.12
		5/4/2016	SVM-19-10	10-10.5	<0.11	<0.096	<0.089	<0.19	<0.12	<0.11
	SS-20	5/4/2016	SS-20-05	5-5.5	<0.14	<0.12	<0.11	<0.24	<0.15	<0.14
		5/4/2016	SS-20-10	10-10.5	<0.11	<0.094	<0.087	<0.19	<0.11	<0.10
	SS-21	5/4/2016	SS-21-05	5-5.5	<0.13	<0.11	<0.10	<0.22	<0.14	<0.13
		5/4/2016	SS-21-05D	5-5.5	<0.14	<0.12	<0.11	<0.24	<0.15	<0.14
		5/4/2016	SS-21-10	10-10.5	<0.10	<0.091	<0.085	<0.18	<0.11	<0.10
	DLA Energy Soil Cleanup Goals				0.5 Feet	2,180	2,820	2,590	463	2,070
5 Feet					1,870	2,420	2,220	399	1,780	6.1
10 Feet					1,390	1,790	1,640	296	1,320	4.7

Notes:

The total xylenes result is the sum of m,p-xylenes and o-xylenes when detected.

20 **Bold font** represents data detected above the laboratory minimum detection limit.

<1.4 = not detected at or above the laboratory minimum detection limit shown.

J qualifier indicates that the result was detected above the laboratory minimum detection limit, but below the laboratory reporting limit

--- = not available

µg/kg = microgram(s) per kilogram

bgs = below ground surface

DIPE = di-isopropyl ether

ETBE = ethyl tertiary butyl ether

mg/kg = milligram(s) per kilogram

MTBE = methyl tertiary butyl ether

TAME = tertiary amyl methyl ether

TBA = tertiary butyl alcohol

TPH-d = total extractable petroleum hydrocarbons quantified using a diesel standard (C13-C22)

TPH-g = total purgeable petroleum hydrocarbons quantified using a gasoline standard (C4-C12)

TPH-o = total extractable petroleum hydrocarbons quantified using a motor oil standard (C23-C44)

Table 5

Summary of Detected TPH and VOCs in Equipment and Trip Blank Samples

Eastern 15-acre Parcel, Defense Fuel Support Point, Norwalk, California

Sample Location	Sample Date	Sample ID	TPH-g (µg/L)	TPH-d (µg/L)	Acetone (µg/L)	Carbon Disulfide (µg/L)	Chloromethane (µg/L)	Methylene Chloride (µg/L)
Equipment Blank	5/4/2016	EB-050416	41 J	19 J	<1.1	<0.025	<0.12	<0.28
Trip Blank	5/4/2016	TB-050416	---	---	2.5 J	0.03 J	0.17 J	9.6

Notes:

9.6 **Bold font** represents data detected above the laboratory reporting limit.

<1.1 = not detected at or above the laboratory reporting limit shown.

J qualifier indicates that the result was detected above the laboratory minimum detection limit but below the laboratory reporting limit

--- = not analyzed

µg/L = microgram(s) per liter

TPH-d = total extractable petroleum hydrocarbons quantified using a diesel standard (C13-C22)

TPH-g = total purgeable petroleum hydrocarbons quantified using a gasoline standard (C4-C12)

Table 6

Summary of Soil Vapor Results

Eastern 15-acre Parcel, Defense Fuel Support Point, Norwalk, California

Analyte Type	Analyte	Unit	Current Residential Soil Gas Screening Level ^{1,2}	Current Commercial Soil Gas Screening Level ^{1,2}	SVM-17-5 5/9/2016 SVM-17 5-5.5	SVM-17-10 5/9/2016 SVM-17 10-10.5	SVM-18-5 5/9/2016 SVM-18 5-5.5	SVM-18-10 5/9/2016 SVM-18 10-10.5	SVM-19-5 5/9/2016 SVM-19 5-5.5	SVM-19-5 DUP 5/9/2016 SVM-19 5-5.5	Ambient Air 5/9/2016
COPCs ⁴	1,2,4-Trimethylbenzene	µg/L	7.3	31	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	1,2-Dichloroethane	µg/L	0.11	0.47	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	1,3,5-Trimethylbenzene	µg/L	---	---	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	2-Propanol (leak test compound)	µg/L	---	---	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Benzene	µg/L	0.097	0.42	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Ethylbenzene	µg/L	1.1	4.9	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Isopropylbenzene	µg/L	---	---	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	m,p-Xylenes	µg/L	100	440	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Methyl tert-butyl ether (MTBE)	µg/L	11	47	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Naphthalene	µg/L	0.083	0.36	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	n-Butylbenzene	µg/L	---	---	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	n-Propylbenzene	µg/L	1000	4400	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	o-Xylene	µg/L	100	440	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	sec-Butylbenzene	µg/L	---	---	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	tert-Butanol (TBA)	µg/L	---	---	<20	<20	<20	<20	<20	<20	<20
Toluene	µg/L	310	1300	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Other Detected Compounds	Acetone	µg/L	32000	140000	0.029	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Ethanol	µg/L	---	---	0.32	<0.02	0.07	<0.02	<0.02	<0.02	0.021
	TPH-g (C4-C12)	µg/L	630 ³	2600 ³	<20	<20	<20	<20	<20	<20	<20

Notes:

¹ Source for the Indoor Air Screening Levels: DTSC. 2016. Human Health Risk Assessment (HHRA) Note Number 3: DTSC Recommended Methodology for use of U.S. EPA Regional Screening Levels (RSLs) in the Human Health Risk Assessment Process at Hazardous Waste Sites and Permitted Facilities. <https://www.dtsc.ca.gov/AssessingRisk/upload/HHRA-Note-3-2016-01.pdf>

² Attenuation factor for current land use = 0.001. Source for the attenuation factors: DTSC. 2011. Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance). October. http://www.dtsc.ca.gov/AssessingRisk/upload/Final_VIG_Oct_2011.pdf

³ TPH aliphatic low screening level used for TPH-g screening levels

⁴ Chemicals of potential concern identified from 2006 soil gas investigation and human health risk assessment (Geomatrix, 2006)

--- = not available

0.32 **Bold font** represents data detected above the laboratory reporting limit.

<0.02 = not detected at the laboratory minimum reporting limit

µg/L = microgram(s) per liter

COPC = chemical of potential concern

DUP = field duplicate

TPH-g = total petroleum hydrocarbons quantified as gasoline

5-5.5 = sample depth in feet below ground surface

5/9/2016 = sample date

SVM-17 = sample location

SVM-17-5 = sample ID

TABLE 7

Assessment of Potential Vapor Intrusion Impacts from LNAPL in Groundwater
 Eastern 15-acre Parcel, Defense Fuel Support Point, Norwalk, California

Chemical	Groundwater Concentration (µg/L)	Molecular Weight	Molar Concentration	Mole Fraction	Vapor Pressure (mm Hg)	Vapor Pressure (atm)	Partial Pressure (atm)	Calculated Soil Vapor Concentration (µg/m ³)	Attenuation Factor	Calculated Indoor Air Concentration (µg/m ³)	Screening Level in Indoor Air (µg/m ³)
TPH-g	370,000	86	4.302E-03	7.64E-01	1.50E+02	1.97E-01	1.51E-01	5.31E+08	1.00E-08	5.31E+00	6.30E+02
TPH-d	82,000	130	6.308E-04	1.12E-01	4.50E+00	5.92E-03	6.63E-04	3.53E+06	1.00E-08	3.53E-02	1.00E+02
Benzene	5,700	78	7.308E-05	1.30E-02	9.50E+01	1.25E-01	1.62E-03	5.18E+06	1.00E-08	5.18E-02	9.70E-02
Toluene	15,000	92	1.630E-04	2.90E-02	2.80E+01	3.68E-02	1.07E-03	4.02E+06	1.00E-08	4.02E-02	3.10E+02
Ethylbenzene	4,600	106	4.340E-05	7.71E-03	9.60E+00	1.26E-02	9.74E-05	4.22E+05	1.00E-08	4.22E-03	1.10E+00
Xylenes	36,000	106	3.396E-04	6.03E-02	8.00E+00	1.05E-02	6.35E-04	2.75E+06	1.00E-08	2.75E-02	1.00E+02
MTBE	2,800	88	3.182E-05	5.65E-03	2.50E+02	3.29E-01	1.86E-03	6.69E+06	1.00E-08	6.69E-02	1.10E+01
TBA	3,400	74	4.595E-05	8.16E-03	1.80E+01	2.37E-02	1.93E-04	5.85E+05	1.00E-08	5.85E-03	3.10E+04

Total Molar
 Conc.

5.63E-03

Total VOCs

5.54E+08 µg/m³
 5.54E+02 mg/L

Notes:

µg/L = microgram(s) per liter

µg/m³ = microgram(s) per cubic meter

atm = atmosphere

mg/L = milligram(s) per liter

mm Hg = millimeter(s) of mercury

MTBE = methyl tertiary butyl ether

TBA = tertiary butyl alcohol

TPH-g = total purgeable petroleum hydrocarbons quantified using a gasoline standard

TPH-d = total extractable petroleum hydrocarbons quantified using a diesel standard

VOC = volatile organic compound

Groundwater concentration: Based on concentrations detected in GMW-O-15, sampled on April 14, 2016.

Molecular weight: Source is EPA's VISL table (EPA, 2015b). Value for TPH-g is based on TPH (aliphatic low); value for TPH-d is based on TPH (aliphatic medium)

Molar concentration: Calculated as follows: groundwater concentration (µg/L)/(1E+06 µg/g x molecular weight (g/mole))

Mole fraction: Used for Raoult's Law calculation of partial pressure of a mixture of volatile substances. Calculated as: molar concentration/total molar concentration

Vapor pressure: Source is EPA's VISL table.

Partial pressure: Calculated using Raoult's Law. Calculated as: mole fraction x vapor pressure

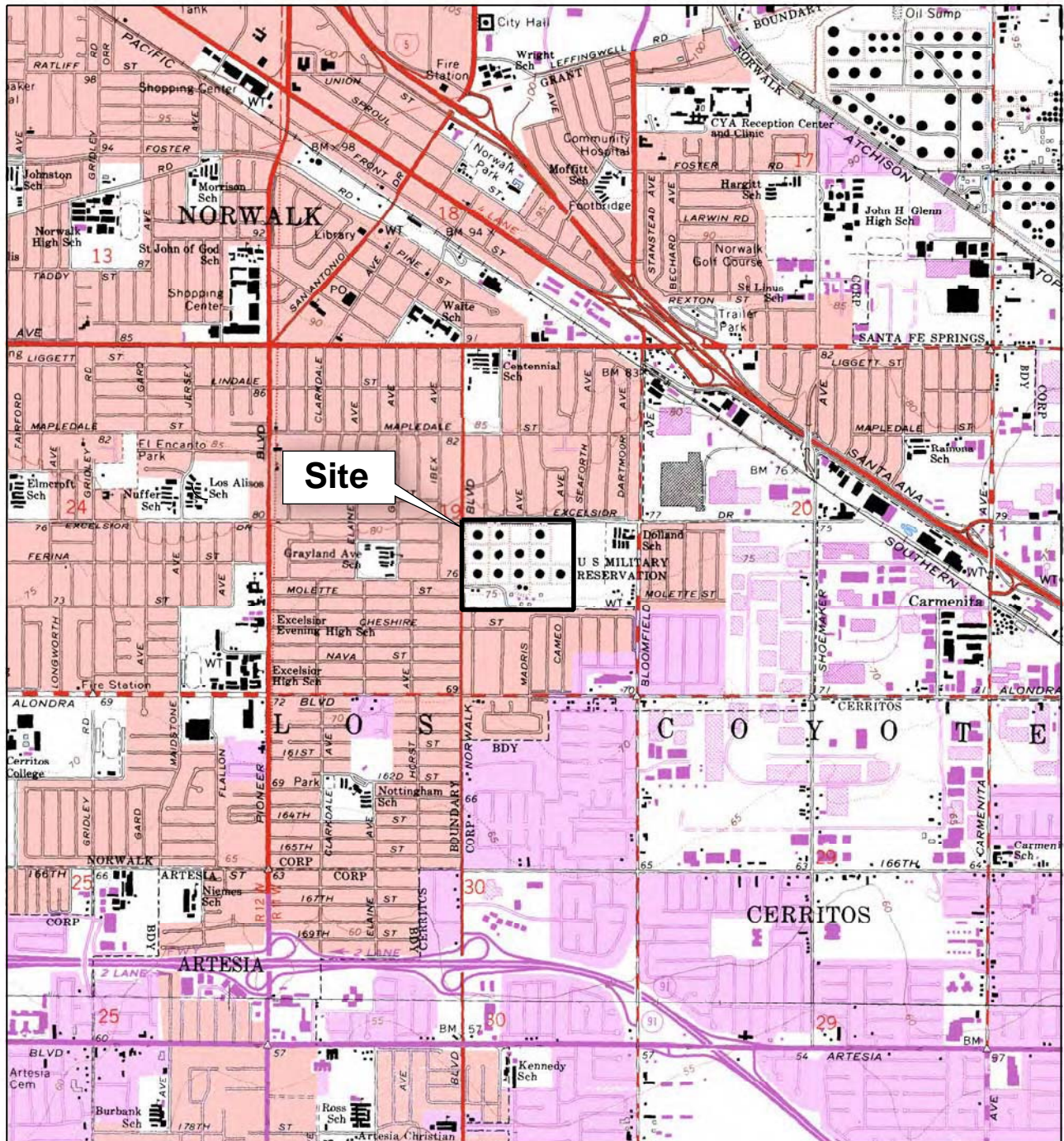
05 atm-m³/mole-deg K, T is temperature, 298 deg K. Calculated concentration in mole/m³ is then converted as follows: mole/m³ x molecular weight (g/mole) x 1E+06 ug/g

Attenuation factor: See Figures 9 and 10, EPA, 2015a. Relationship Between Source Vapor Concentration and Vapor Intrusion Attenuation Factor as a Function of Vertical Separation Depth Between Contaminant Source and Base of Building.

Screening level in indoor air: residential indoor air concentrations (DTSC, 2016).

Chemical properties and screening level for TBA are derived from parameters for sec-butyl alcohol.

Figures



Site

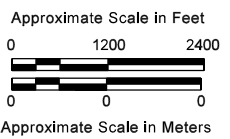
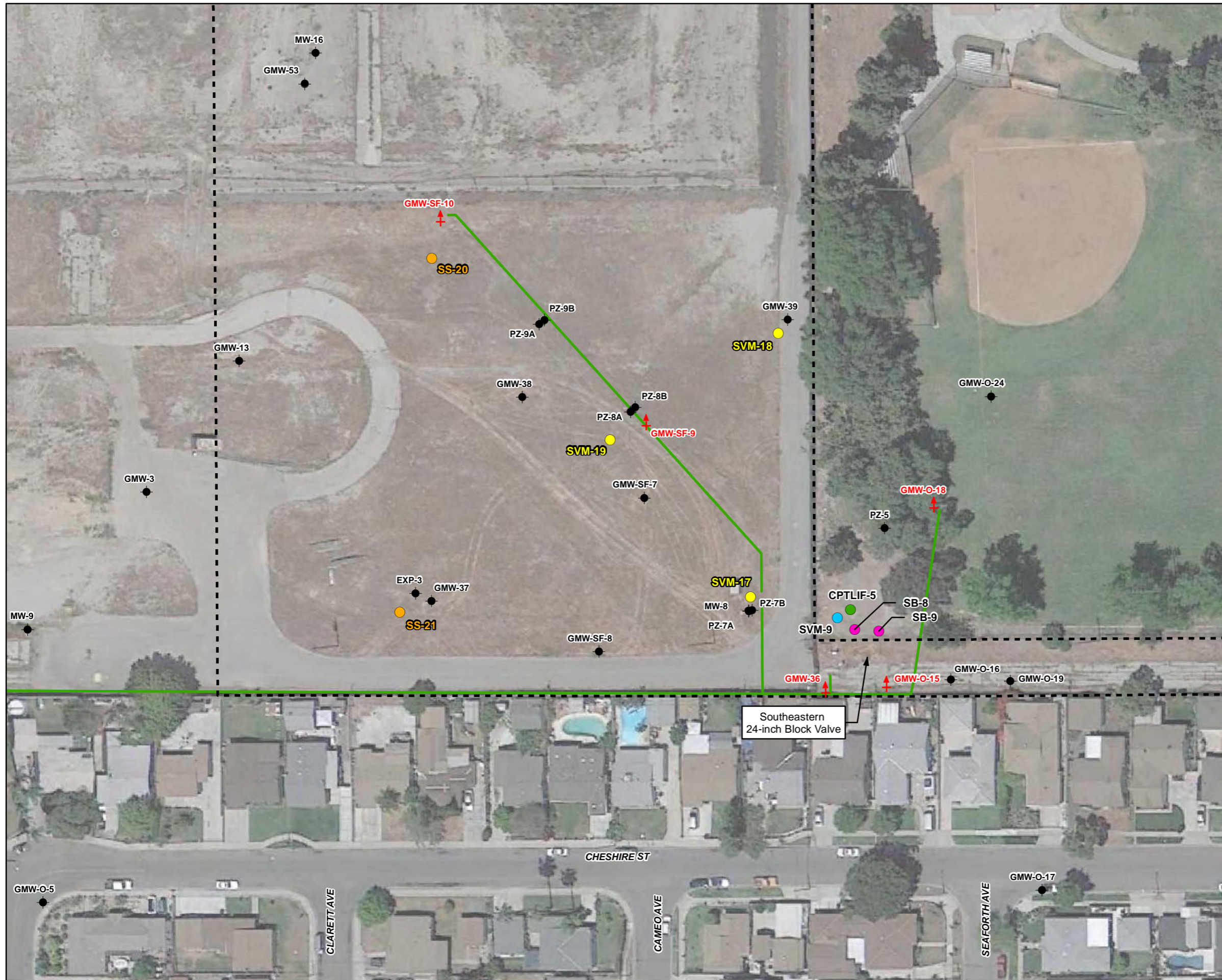


Figure 1
Site Location Map
 Defense Fuel Support Point, Norwalk
 Norwalk, California

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**
- Eastern 15-Acre Soil Sample Location
 - Eastern 15-Acre Soil Vapor Monitoring Probe Location
 - Offsite Soil Vapor Monitoring Probe Location
 - 2011 CPT/LIF Boring
 - 2012 Soil Boring Location
 - Existing Groundwater Monitoring Well
 - ⊕ Existing Remediation Well
 - KMEP Remediation Piping Layout (above ground and below ground)
 - - - Proposed Eastern 15-Acre Property Boundary

Imagery Source:
Google Earth April 17, 2013.

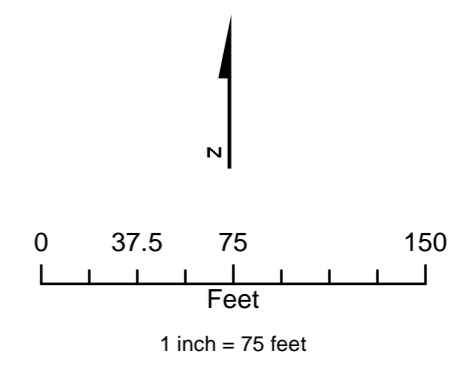
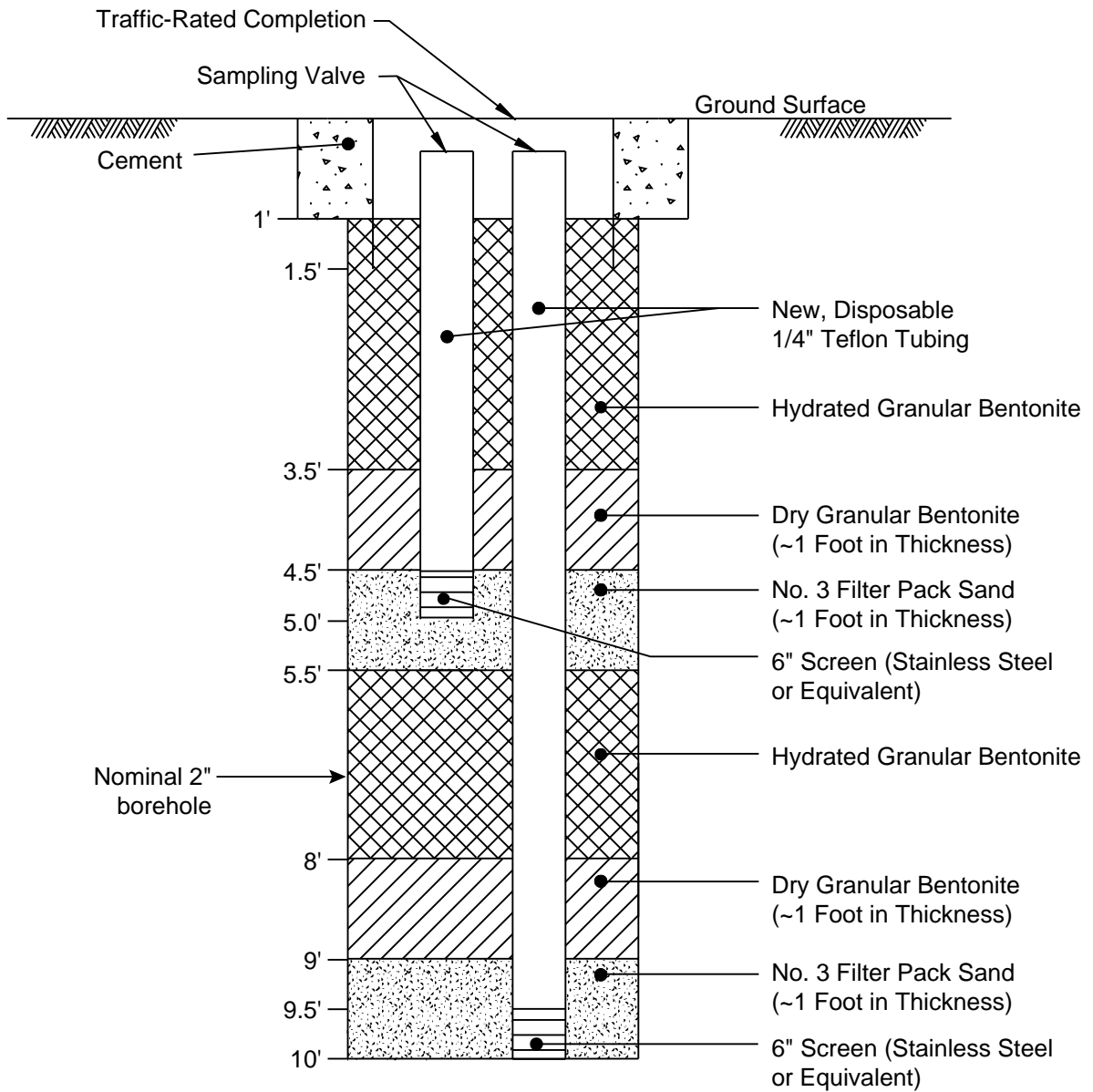


Figure 2
Soil and Soil Vapor Monitoring
Probe Locations, Eastern 15-Acre Property
Defense Fuel Support Point, Norwalk
Norwalk, California





Not to Scale

Figure 3
Soil Vapor Monitoring Probe Completion Diagram
 Defense Fuel Support Point, Norwalk
 Norwalk, California



Attachment 1

Soil Boring Logs



PROJECT NUMBER
671334.PM.02

BORING NUMBER
SVM-17

SHEET 1 OF 1

SOIL BORING LOG

PROJECT : SFPP Norwalk Pump Station, 15-acre Parcel

LOCATION : 1782923.52 N, 6541165.40 E

DATE: 5/4/16

WEATHER: Cloudy, 60 F, light wind

DRILLING CONTRACTOR Environment Support Technologies (EST)

DRILLING METHOD AND EQUIPMENT USED : Truck mounted DPT rig; SST hand auger 3.5" bucket; MiniRae PID; Trimble Handheld GPS

WATER LEVELS n/a

START : 0' 0"

END : 10' 0"

LOGGER : D. Jablonski

DEPTH BELOW SURFACE (FT)		STANDARD PENETRATION TEST RESULTS	CORE DESCRIPTION	Soil Vapor Probe Completion	
LAB SAMPLE (FT)	SAMPLE INTERVAL (FT)			Details	Comments
	#/TYPE	6"-6"-6"-6" (N)	SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.		
1					Flush mount traffic rated well box
2					Hydrated bentonite
3					
4					Dry bentonite
5	SVM-17-05-050416 4.5-5.0	DPT	Poorly graded sand (SP), pale brown (10YR 6/3), dry, fine grained, salt and pepper appearance, no staining or odor, PID = 1.5 ppmv	Filter sand	Vapor probe 4.5 to 5 feet
6					Hydrated bentonite
7					
8					Dry bentonite
9					Filter sand
10	SVM-17-10-050416 9.5-10.0	DPT	Silty sand (SM), very dark grayish brown (10YR 3/2), moist, 60% fine sand, 40% fines, low plasticity, no odor or staining, PID = 0.4 ppmv TD = 10 feet		Vapor probe 9.5 to 10 feet
Soil samples analyzed for VOCs, TPH-g, TPH-d, TPH-o				1.5" diameter borehole	
				Hand augered to 6' using 3.5" bucket hole collapsed at 3' Stepped over for SVP boring using 1.5" diam. push rod	

Sampler Signature: _____

Date: _____



PROJECT NUMBER
671334.PM.02

BORING NUMBER
SVM-18

SHEET 1 OF 1

SOIL BORING LOG

PROJECT : SFPP Norwalk Pump Station, 15-acre Parcel

LOCATION : 1783125.76 N, 6541186.47 E

DATE: 5/4/16

WEATHER: Cloudy, 60 F, light wind

DRILLING CONTRACTOR Environment Support Technologies (EST)

DRILLING METHOD AND EQUIPMENT USED : Truck mounted DPT rig; SST hand auger 3.5" bucket; MiniRae PID; Trimble Handheld GPS

WATER LEVELS n/a

START : 0' 0"

END : 10' 0"

LOGGER : D. Jablonski

DEPTH BELOW SURFACE (FT)	LAB SAMPLE (FT)		STANDARD PENETRATION TEST RESULTS	CORE DESCRIPTION	Soil Vapor Probe Completion	
	SAMPLE INTERVAL (FT)	#/TYPE			Details	Comments
1						Flush mount traffic rated well box
2						Hydrated bentonite
3						
4						Dry bentonite
5	SVM-18-05-050416 4.5-5.0	DPT		Poorly graded sand (SP), light brownish gray (10YR 6/2), dry, fine grained, salt and pepper appearance, no odor or staining, PID = 1.3 ppmv	◆	Filter sand Vapor probe 4.5 to 5 feet
6						Hydrated bentonite
7						
8						Dry bentonite
9						Filter sand
10	SVM-18-10-050416 9.5-10.0	DPT		Silty sand (SM), brown (10YR 4/3), moist 70% fine sand, 30% fines, low plasticity no odor or staining, PID = 0.4 ppmv TD = 10 feet	◆	Vapor probe 9.5 to 10 feet
	Soil samples analyzed for VOCs, TPH-g, TPH-d, TPH-o					1.5" diameter borehole Hand augered to 5' using 3.5" bucket hole collapsed at 3' Stepped over for SVP boring using 1.5" diam. push rod

Sampler Signature: _____

Date: _____



PROJECT NUMBER
671334.PM.02

BORING NUMBER
SVM-19

SHEET 1 OF 1

SOIL BORING LOG

PROJECT : SFPP Norwalk Pump Station, 15-acre Parcel LOCATION : 1783044.00 N, 6541057.93 E DATE : 5/4/16

WEATHER: Cloudy, 60 F, light wind DRILLING CONTRACTOR Environment Support Technologies (EST)

DRILLING METHOD AND EQUIPMENT USED : Truck mounted DPT rig; SST hand auger 3.5" bucket; MiniRae PID; Trimble Handheld GPS

WATER LEVELS n/a START : 0' 0" END : 10' 6" LOGGER : D. Jablonski

DEPTH BELOW SURFACE (FT)	LAB SAMPLE (FT)		STANDARD PENETRATION TEST RESULTS	CORE DESCRIPTION	Soil Vapor Probe Completion	
	SAMPLE INTERVAL (FT)	#/TYPE			Details	Comments
1						Flush mount traffic rated well box
2						Hydrated bentonite
3						
4						Dry bentonite
5	SVM-19-05-050416	4.5-5.0	DPT	Poorly graded sand (SP), pale brown (10YR 6/3), dry, fine grained, salt and pepper appearance, no staining or odor, PID = 0.2 ppmv	◆	Filter sand Vapor probe 4.5 to 5 feet
6						Hydrated bentonite
7						
8						Dry bentonite
9						Filter sand
10	SVM-19-10-050416	9.5-10.0	DPT	Silty sand (SM), dark brown (10YR 3/3), moist 60% fine sand, 40% fines, low plasticity, no staining or odor, PID = 1.3 ppmv TD = 10.5 feet	◆	Vapor probe 9.5 to 10 feet
Soil samples analyzed for VOCs, TPH-g, TPH-d, TPH-o metals, PCBs, PAHs					3.5" diameter borehole from 0 to 3.5' 2.25" diameter borehole from 3.5 to 10.5' Hand augered to 3.5' using 3.5" bucket; hole collapsed at 3.5' Used 2.25" macrocore to advance SVP boring from 3.5' to 10.5'	

Sampler Signature: _____

Date: _____



PROJECT NUMBER
671334.PM.02

BORING NUMBER
SS-20

SHEET 1 OF 1

SOIL BORING LOG

PROJECT : SFPP Norwalk Pump Station, 15-acre Parcel LOCATION : 1783182.85 N, 6540921.32 E DATE: 5/4/16

WEATHER: Cloudy, 60 F, light wind DRILLING CONTRACTOR: Environment Support Technologies (EST)

DRILLING METHOD AND EQUIPMENT USED : Truck mounted DPT rig; SST hand auger 3.5" bucket; MiniRae PID; Trimble Handheld GPS

WATER LEVELS n/a START : 0' 0" END : 10' 0" LOGGER : D. Jablonski

DEPTH BELOW SURFACE (FT)	LAB SAMPLE (FT)		STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N)	CORE DESCRIPTION	COMMENTS
	SAMPLE INTERVAL (FT)	#/TYPE			
1_					
2_					
3_					
4_					
5_	SS-20-05-050416 4.5-5.0	DPT		Poorly graded sand (SP), pale brown (10YR 6/3), dry, fine grained, salt and pepper appearance, no staining or odor	Hand augered to 3.5', hole collapsed at 3.5' Used 2.25" macrocore to advance to 10' PID = 4.1 ppmv
6_					
7_					
8_					
9_					
10_	SS-20-10-050416 9.5-10.0	DPT		Silty sand (SM), dark brown (10YR 3/3), moist 75% fine sand, 25% fines, low plasticity, iron oxide staining, no odors TD = 10 feet	PID = 1.8 ppmv
	Soil samples analyzed for VOCs, TPH-g, TPH-d, TPH-o				

Sampler Signature: _____

Date: _____



PROJECT NUMBER
671334.PM.02

BORING NUMBER
SS-21

SHEET 1 OF 1

SOIL BORING LOG

PROJECT : SFPP Norwalk Pump Station, 15-acre Parcel LOCATION : 1782911.84 N, 6540896.77 E DATE: 5/4/16

WEATHER: Cloudy, 60 F, light wind DRILLING CONTRACTOR: Environment Support Technologies (EST)

DRILLING METHOD AND EQUIPMENT USED : Truck mounted DPT rig; SST hand auger 3.5" bucket; MiniRae PID; Trimble Handheld GPS

WATER LEVELS n/a START : 0' 0" END : 10' 0" LOGGER : D. Jablonski

DEPTH BELOW SURFACE (FT)	LAB SAMPLE (FT)		STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N)	CORE DESCRIPTION	COMMENTS
	SAMPLE INTERVAL (FT)	#/TYPE			
1_					
2_					
3_					
4_					
5_	SS-21-05-050416 4.5-5.0	DPT		Poorly graded sand (SP), pale brown (10YR 6/3), dry, fine grained, salt and pepper appearance, no staining or odor	Hand augered to 2.5', hole collapsed at 2.5' Used 2.25" macrocore to advance to 10' PID = 0.0 ppmv
6_	SS-21-05D-050416				
7_					
8_					
9_					
10_	SS-21-10-050416 9.5-10.0	DPT		Silty sand (SM), dark brown (10YR 3/3), moist 70% fine sand, 30% fines, low plasticity, iron oxide staining, no odors TD = 10 feet	PID = 0.0 ppmv
Soil samples analyzed for VOCs, TPH-g, TPH-d, TPH-o Field duplicate collected at 5'					

Sampler Signature: _____

Date: _____

Attachment 2
Soil Laboratory Analytical Report

May 23, 2016

Dan Jablonski
CH2MHill
1000 Wilshire Blvd.
Los Angeles, CA 90017

CA-ELAP No.:2676
NV Cert. No.:NV-00922

TEL:

FAX:

Workorder No.: N019635

RE: SFPP - Norwalk Site

Attention: Dan Jablonski

Enclosed are the results for sample(s) received on May 05, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,



Glen Gesmundo
QA Manager

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



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3151 W. Post Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

"Serving Clients with Passion and Professionalism"

CLIENT: CH2Mhill
Project: SFPP - Norwalk Site
Lab Order: N019635

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

Samples were received intact with proper chain of custody documentation.

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

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

Samples were analyzed within method holding time.

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

Analytical Comments for EPA 6010B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria on QC samples N019625-001A-MS and N019625-001A-MSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 8260B Soil :

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

Analytical Comments for EPA 8260B Water :

For sample N019635-013 the methylene chloride detected in the sample is possibly due to laboratory contamination. Methylene Chloride is a common solvent used in the laboratory for semivolatle organic extraction.

Dibromofluoromethane surrogate recovery biased high for sample N019635-014. The associated analytes were non-detect (ND) therefore reanalysis of the sample was not necessary.



ASSET Laboratories

Date: 23-May-16

CLIENT: CH2MHill
Project: SFPP - Norwalk Site
Lab Order: N019635
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N019635-001A	SVM-17-05-050416	SOIL	5/4/2016 7:50:00 AM	5/5/2016	5/17/2016
N019635-001B	SVM-17-05-050416	SOIL	5/4/2016 7:50:00 AM	5/5/2016	5/17/2016
N019635-001C	SVM-17-05-050416	SOIL	5/4/2016 7:50:00 AM	5/5/2016	5/17/2016
N019635-001D	SVM-17-05-050416	SOIL	5/4/2016 7:50:00 AM	5/5/2016	5/17/2016
N019635-001E	SVM-17-05-050416	SOIL	5/4/2016 7:50:00 AM	5/5/2016	5/17/2016
N019635-001F	SVM-17-05-050416	SOIL	5/4/2016 7:50:00 AM	5/5/2016	5/17/2016
N019635-002A	SVM-17-10-050416	SOIL	5/4/2016 8:00:00 AM	5/5/2016	5/17/2016
N019635-002B	SVM-17-10-050416	SOIL	5/4/2016 8:00:00 AM	5/5/2016	5/17/2016
N019635-002C	SVM-17-10-050416	SOIL	5/4/2016 8:00:00 AM	5/5/2016	5/17/2016
N019635-002D	SVM-17-10-050416	SOIL	5/4/2016 8:00:00 AM	5/5/2016	5/17/2016
N019635-002E	SVM-17-10-050416	SOIL	5/4/2016 8:00:00 AM	5/5/2016	5/17/2016
N019635-002F	SVM-17-10-050416	SOIL	5/4/2016 8:00:00 AM	5/5/2016	5/17/2016
N019635-003A	SVM-18-05-050416	SOIL	5/4/2016 9:45:00 AM	5/5/2016	5/17/2016
N019635-003B	SVM-18-05-050416	SOIL	5/4/2016 9:45:00 AM	5/5/2016	5/17/2016
N019635-003C	SVM-18-05-050416	SOIL	5/4/2016 9:45:00 AM	5/5/2016	5/17/2016
N019635-003D	SVM-18-05-050416	SOIL	5/4/2016 9:45:00 AM	5/5/2016	5/17/2016
N019635-003E	SVM-18-05-050416	SOIL	5/4/2016 9:45:00 AM	5/5/2016	5/17/2016
N019635-003F	SVM-18-05-050416	SOIL	5/4/2016 9:45:00 AM	5/5/2016	5/17/2016
N019635-004A	SVM-18-10-050416	SOIL	5/4/2016 9:50:00 AM	5/5/2016	5/17/2016
N019635-004B	SVM-18-10-050416	SOIL	5/4/2016 9:50:00 AM	5/5/2016	5/17/2016
N019635-004C	SVM-18-10-050416	SOIL	5/4/2016 9:50:00 AM	5/5/2016	5/17/2016
N019635-004D	SVM-18-10-050416	SOIL	5/4/2016 9:50:00 AM	5/5/2016	5/17/2016
N019635-004E	SVM-18-10-050416	SOIL	5/4/2016 9:50:00 AM	5/5/2016	5/17/2016
N019635-004F	SVM-18-10-050416	SOIL	5/4/2016 9:50:00 AM	5/5/2016	5/17/2016
N019635-005A	SVM-19-05-050416	SOIL	5/4/2016 10:50:00 AM	5/5/2016	5/17/2016
N019635-005B	SVM-19-05-050416	SOIL	5/4/2016 10:50:00 AM	5/5/2016	5/17/2016
N019635-005C	SVM-19-05-050416	SOIL	5/4/2016 10:50:00 AM	5/5/2016	5/17/2016
N019635-005D	SVM-19-05-050416	SOIL	5/4/2016 10:50:00 AM	5/5/2016	5/17/2016
N019635-005E	SVM-19-05-050416	SOIL	5/4/2016 10:50:00 AM	5/5/2016	5/17/2016



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"Serving Clients with Passion and Professionalism"

CLIENT: CH2MHill
Project: SFPP - Norwalk Site
Lab Order: N019635
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N019635-005F	SVM-19-05-050416	SOIL	5/4/2016 10:50:00 AM	5/5/2016	5/17/2016
N019635-006A	SVM-19-10-050416	SOIL	5/4/2016 11:00:00 AM	5/5/2016	5/17/2016
N019635-006B	SVM-19-10-050416	SOIL	5/4/2016 11:00:00 AM	5/5/2016	5/17/2016
N019635-006C	SVM-19-10-050416	SOIL	5/4/2016 11:00:00 AM	5/5/2016	5/17/2016
N019635-006D	SVM-19-10-050416	SOIL	5/4/2016 11:00:00 AM	5/5/2016	5/17/2016
N019635-006E	SVM-19-10-050416	SOIL	5/4/2016 11:00:00 AM	5/5/2016	5/17/2016
N019635-006F	SVM-19-10-050416	SOIL	5/4/2016 11:00:00 AM	5/5/2016	5/17/2016
N019635-007A	SS-20-05-050416	SOIL	5/4/2016 11:50:00 AM	5/5/2016	5/17/2016
N019635-007B	SS-20-05-050416	SOIL	5/4/2016 11:50:00 AM	5/5/2016	5/17/2016
N019635-007C	SS-20-05-050416	SOIL	5/4/2016 11:50:00 AM	5/5/2016	5/17/2016
N019635-007D	SS-20-05-050416	SOIL	5/4/2016 11:50:00 AM	5/5/2016	5/17/2016
N019635-007E	SS-20-05-050416	SOIL	5/4/2016 11:50:00 AM	5/5/2016	5/17/2016
N019635-007F	SS-20-05-050416	SOIL	5/4/2016 11:50:00 AM	5/5/2016	5/17/2016
N019635-008A	SS-20-10-050416	SOIL	5/4/2016 12:00:00 PM	5/5/2016	5/17/2016
N019635-008B	SS-20-10-050416	SOIL	5/4/2016 12:00:00 PM	5/5/2016	5/17/2016
N019635-008C	SS-20-10-050416	SOIL	5/4/2016 12:00:00 PM	5/5/2016	5/17/2016
N019635-008D	SS-20-10-050416	SOIL	5/4/2016 12:00:00 PM	5/5/2016	5/17/2016
N019635-008E	SS-20-10-050416	SOIL	5/4/2016 12:00:00 PM	5/5/2016	5/17/2016
N019635-008F	SS-20-10-050416	SOIL	5/4/2016 12:00:00 PM	5/5/2016	5/17/2016
N019635-009A	SS-21-05-050416	SOIL	5/4/2016 12:15:00 PM	5/5/2016	5/17/2016
N019635-009B	SS-21-05-050416	SOIL	5/4/2016 12:15:00 PM	5/5/2016	5/17/2016
N019635-009C	SS-21-05-050416	SOIL	5/4/2016 12:15:00 PM	5/5/2016	5/17/2016
N019635-009D	SS-21-05-050416	SOIL	5/4/2016 12:15:00 PM	5/5/2016	5/17/2016
N019635-009E	SS-21-05-050416	SOIL	5/4/2016 12:15:00 PM	5/5/2016	5/17/2016
N019635-009F	SS-21-05-050416	SOIL	5/4/2016 12:15:00 PM	5/5/2016	5/17/2016
N019635-010A	SS-21-05D-050416	SOIL	5/4/2016 12:20:00 PM	5/5/2016	5/17/2016
N019635-010B	SS-21-05D-050416	SOIL	5/4/2016 12:20:00 PM	5/5/2016	5/17/2016
N019635-010C	SS-21-05D-050416	SOIL	5/4/2016 12:20:00 PM	5/5/2016	5/17/2016
N019635-010D	SS-21-05D-050416	SOIL	5/4/2016 12:20:00 PM	5/5/2016	5/17/2016
N019635-010E	SS-21-05D-050416	SOIL	5/4/2016 12:20:00 PM	5/5/2016	5/17/2016



CLIENT: CH2MHill
Project: SFPP - Norwalk Site
Lab Order: N019635
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N019635-010F	SS-21-05D-050416	SOIL	5/4/2016 12:20:00 PM	5/5/2016	5/17/2016
N019635-011A	SS-21-10-050416	SOIL	5/4/2016 12:25:00 PM	5/5/2016	5/17/2016
N019635-011B	SS-21-10-050416	SOIL	5/4/2016 12:25:00 PM	5/5/2016	5/17/2016
N019635-011C	SS-21-10-050416	SOIL	5/4/2016 12:25:00 PM	5/5/2016	5/17/2016
N019635-011D	SS-21-10-050416	SOIL	5/4/2016 12:25:00 PM	5/5/2016	5/17/2016
N019635-011E	SS-21-10-050416	SOIL	5/4/2016 12:25:00 PM	5/5/2016	5/17/2016
N019635-011F	SS-21-10-050416	SOIL	5/4/2016 12:25:00 PM	5/5/2016	5/17/2016
N019635-012A	EB-050416	Water	5/4/2016 12:45:00 PM	5/5/2016	5/17/2016
N019635-012B	EB-050416	Water	5/4/2016 12:45:00 PM	5/5/2016	5/17/2016
N019635-013A	TB-050415	Water	5/4/2016 12:55:00 PM	5/5/2016	5/17/2016



ASSET Laboratories

ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-001

Client Sample ID: SVM-17-05-050416
Collection Date: 5/4/2016 7:50:00 AM
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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PERCENT MOISTURE

D2216

RunID: **WETCHEM_160505A** QC Batch: **R108257** PrepDate: Analyst: **QBM**
 Percent Moisture 1.274 0.1000 0.1000 wt% 1 5/5/2016

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID:	QC Batch:	PrepDate:	Analyst:			
MS8_160507A	R16VS073	5/7/2016	RB			
1,1,1,2-Tetrachloroethane	ND	0.19	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,1,1-Trichloroethane	ND	0.12	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,1,2,2-Tetrachloroethane	ND	0.17	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,1,2-Trichloroethane	ND	0.25	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,1-Dichloroethane	ND	0.13	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,1-Dichloroethene	ND	0.34	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,1-Dichloropropene	ND	0.25	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,2,3-Trichlorobenzene	ND	0.061	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,2,3-Trichloropropane	ND	0.26	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,2,4-Trichlorobenzene	ND	0.14	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,2,4-Trimethylbenzene	ND	0.069	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,2-Dibromo-3-chloropropane	ND	0.50	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,2-Dibromoethane	ND	0.17	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,2-Dichlorobenzene	ND	0.12	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,2-Dichloroethane	ND	0.13	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,2-Dichloropropane	ND	0.26	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,3,5-Trimethylbenzene	ND	0.087	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,3-Dichlorobenzene	ND	0.14	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,3-Dichloropropane	ND	0.18	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
1,4-Dichlorobenzene	ND	0.10	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
2,2-Dichloropropane	ND	0.15	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
2-Butanone	ND	1.8	54	ug/Kg-dry	1	5/7/2016 07:10 PM
2-Chlorotoluene	ND	0.10	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
2-Hexanone	ND	1.5	54	ug/Kg-dry	1	5/7/2016 07:10 PM
4-Chlorotoluene	ND	0.19	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
4-Isopropyltoluene	ND	0.11	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
4-Methyl-2-pentanone	ND	0.65	54	ug/Kg-dry	1	5/7/2016 07:10 PM
Acetone	ND	2.0	54	ug/Kg-dry	1	5/7/2016 07:10 PM
Acrolein	ND	5.0	110	ug/Kg-dry	1	5/7/2016 07:10 PM
Acrylonitrile	ND	1.7	54	ug/Kg-dry	1	5/7/2016 07:10 PM
Benzene	ND	0.12	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM

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



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ASSET Laboratories

ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-001

Client Sample ID: SVM-17-05-050416
Collection Date: 5/4/2016 7:50:00 AM
Matrix: SOIL

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

EPA 8260B

RunID: MS8_160507A	QC Batch: R16VS073	PrepDate: 5/7/2016	Analyst: RB			
Bromobenzene	ND	0.30	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Bromochloromethane	ND	0.58	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Bromodichloromethane	ND	0.17	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Bromoform	ND	0.46	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Bromomethane	ND	0.39	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Carbon disulfide	ND	0.17	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Carbon tetrachloride	ND	0.18	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Chlorobenzene	ND	0.099	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Chloroethane	ND	0.53	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Chloroform	ND	0.16	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Chloromethane	0.47	0.19	5.4	J ug/Kg-dry	1	5/7/2016 07:10 PM
cis-1,2-Dichloroethene	ND	0.26	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
cis-1,3-Dichloropropene	ND	0.11	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Di-isopropyl ether	ND	0.11	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Dibromochloromethane	ND	0.50	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Dibromomethane	ND	0.25	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Dichlorodifluoromethane	ND	0.20	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Ethyl Tert-butyl ether	ND	0.16	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Ethylbenzene	ND	0.15	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Freon-113	ND	0.61	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Hexachlorobutadiene	ND	0.29	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Isopropylbenzene	ND	0.082	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
m,p-Xylene	ND	0.15	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Methylene chloride	ND	1.1	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
MTBE	ND	0.23	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
n-Butylbenzene	ND	0.11	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
n-Propylbenzene	ND	0.12	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Naphthalene	ND	0.12	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
o-Xylene	ND	0.058	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
sec-Butylbenzene	ND	0.099	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Styrene	ND	0.21	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Tert-amyl methyl ether	ND	0.18	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Tert-Butanol	ND	1.5	27	ug/Kg-dry	1	5/7/2016 07:10 PM
tert-Butylbenzene	ND	0.13	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Tetrachloroethene	ND	0.30	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM
Toluene	ND	0.11	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM

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



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ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

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11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F: 562.219.7436

NEVADA
3151 W. Post Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

"Serving Clients with Passion and Professionalism"

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-001

Client Sample ID: SVM-17-05-050416
Collection Date: 5/4/2016 7:50:00 AM
Matrix: SOIL

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

EPA 8260B

RunID:	MS8_160507A	QC Batch:	R16VS073	PrepDate:	5/7/2016	Analyst:	RB
trans-1,2-Dichloroethene	ND	0.23	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM	
trans-1,3-Dichloropropene	ND	0.084	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM	
Trichloroethene	ND	0.12	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM	
Trichlorofluoromethane	ND	0.67	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM	
Vinyl chloride	ND	0.23	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM	
Xylenes, Total	ND	0.15	5.4	ug/Kg-dry	1	5/7/2016 07:10 PM	
Surr: 1,2-Dichloroethane-d4	114	0	52-149	%REC	1	5/7/2016 07:10 PM	
Surr: 4-Bromofluorobenzene	100	0	65-135	%REC	1	5/7/2016 07:10 PM	
Surr: Dibromofluoromethane	117	0	65-135	%REC	1	5/7/2016 07:10 PM	
Surr: Toluene-d8	105	0	75-125	%REC	1	5/7/2016 07:10 PM	

DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID

EPA 3550B

EPA 8015B

RunID:	GC3_160513B	QC Batch:	58377	PrepDate:	5/11/2016	Analyst:	FJ
TPH-Diesel (C13-C22)	ND	2900	10000	ug/Kg-dry	1	5/13/2016 12:19 PM	
TPH-Oil (C23-C44)	20000	1800	10000	ug/Kg-dry	1	5/13/2016 12:19 PM	
Surr: Octacosane	109	0	25-162	%REC	1	5/13/2016 12:19 PM	
Surr: p-Terphenyl	104	0	47-142	%REC	1	5/13/2016 12:19 PM	

GASOLINE RANGE ORGANICS BY GC/FID

EPA 8015B

RunID:	GC4_160506A	QC Batch:	E16VS061	PrepDate:	5/6/2016	Analyst:	QBM
TPH-Gasoline (C4-C12)	68	49	1100	J ug/Kg-dry	1	5/6/2016 02:34 PM	
Surr: Chlorobenzene - d5	98.3	0	64-148	%REC	1	5/6/2016 02:34 PM	

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-002

Client Sample ID: SVM-17-10-050416
Collection Date: 5/4/2016 8:00:00 AM
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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PERCENT MOISTURE

D2216

RunID: **WETCHEM_160505A** QC Batch: **R108257** PrepDate: Analyst: **QBM**
 Percent Moisture 13.77 0.1000 0.1000 wt% 1 5/5/2016

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID:	QC Batch:	PrepDate:	Analyst:			
MS8_160507A	R16VS073	5/7/2016	RB			
1,1,1,2-Tetrachloroethane	ND	0.17	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,1,1-Trichloroethane	ND	0.11	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,1,2,2-Tetrachloroethane	ND	0.15	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,1,2-Trichloroethane	ND	0.23	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,1-Dichloroethane	ND	0.12	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,1-Dichloroethene	ND	0.30	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,1-Dichloropropene	ND	0.22	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,2,3-Trichlorobenzene	ND	0.055	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,2,3-Trichloropropane	ND	0.24	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,2,4-Trichlorobenzene	ND	0.13	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,2,4-Trimethylbenzene	ND	0.062	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,2-Dibromo-3-chloropropane	ND	0.45	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,2-Dibromoethane	ND	0.15	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,2-Dichlorobenzene	ND	0.11	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,2-Dichloroethane	ND	0.12	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,2-Dichloropropane	ND	0.23	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,3,5-Trimethylbenzene	ND	0.078	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,3-Dichlorobenzene	ND	0.12	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,3-Dichloropropane	ND	0.16	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
1,4-Dichlorobenzene	ND	0.091	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
2,2-Dichloropropane	ND	0.13	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
2-Butanone	ND	1.6	48	ug/Kg-dry	1	5/7/2016 07:37 PM
2-Chlorotoluene	ND	0.092	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
2-Hexanone	ND	1.4	48	ug/Kg-dry	1	5/7/2016 07:37 PM
4-Chlorotoluene	ND	0.17	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
4-Isopropyltoluene	ND	0.096	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
4-Methyl-2-pentanone	ND	0.58	48	ug/Kg-dry	1	5/7/2016 07:37 PM
Acetone	ND	1.8	48	ug/Kg-dry	1	5/7/2016 07:37 PM
Acrolein	ND	4.5	96	ug/Kg-dry	1	5/7/2016 07:37 PM
Acrylonitrile	ND	1.6	48	ug/Kg-dry	1	5/7/2016 07:37 PM
Benzene	ND	0.11	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-002

Client Sample ID: SVM-17-10-050416
Collection Date: 5/4/2016 8:00:00 AM
Matrix: SOIL

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

EPA 8260B

RunID: MS8_160507A	QC Batch: R16VS073	PrepDate: 5/7/2016	Analyst: RB			
Bromobenzene	ND	0.27	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Bromochloromethane	ND	0.52	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Bromodichloromethane	ND	0.16	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Bromoform	ND	0.41	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Bromomethane	ND	0.35	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Carbon disulfide	ND	0.16	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Carbon tetrachloride	ND	0.16	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Chlorobenzene	ND	0.089	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Chloroethane	ND	0.48	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Chloroform	0.14	0.14	4.8	J ug/Kg-dry	1	5/7/2016 07:37 PM
Chloromethane	0.39	0.17	4.8	J ug/Kg-dry	1	5/7/2016 07:37 PM
cis-1,2-Dichloroethene	ND	0.23	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
cis-1,3-Dichloropropene	ND	0.098	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Di-isopropyl ether	ND	0.096	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Dibromochloromethane	ND	0.44	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Dibromomethane	ND	0.22	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Dichlorodifluoromethane	ND	0.18	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Ethyl Tert-butyl ether	ND	0.14	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Ethylbenzene	ND	0.13	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Freon-113	ND	0.54	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Hexachlorobutadiene	ND	0.26	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Isopropylbenzene	ND	0.073	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
m,p-Xylene	ND	0.13	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Methylene chloride	ND	0.98	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
MTBE	ND	0.21	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
n-Butylbenzene	ND	0.095	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
n-Propylbenzene	ND	0.11	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Naphthalene	ND	0.10	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
o-Xylene	ND	0.052	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
sec-Butylbenzene	ND	0.089	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Styrene	ND	0.19	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Tert-amyl methyl ether	ND	0.16	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Tert-Butanol	ND	1.4	24	ug/Kg-dry	1	5/7/2016 07:37 PM
tert-Butylbenzene	ND	0.12	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Tetrachloroethene	ND	0.27	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM
Toluene	0.15	0.096	4.8	J ug/Kg-dry	1	5/7/2016 07:37 PM

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-002

Client Sample ID: SVM-17-10-050416
Collection Date: 5/4/2016 8:00:00 AM
Matrix: SOIL

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

EPA 8260B

RunID:	MS8_160507A	QC Batch:	R16VS073	PrepDate:	5/7/2016	Analyst:	RB
trans-1,2-Dichloroethene	ND	0.20	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM	
trans-1,3-Dichloropropene	ND	0.075	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM	
Trichloroethene	ND	0.11	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM	
Trichlorofluoromethane	ND	0.60	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM	
Vinyl chloride	ND	0.21	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM	
Xylenes, Total	ND	0.13	4.8	ug/Kg-dry	1	5/7/2016 07:37 PM	
Surr: 1,2-Dichloroethane-d4	112	0	52-149	%REC	1	5/7/2016 07:37 PM	
Surr: 4-Bromofluorobenzene	97.8	0	65-135	%REC	1	5/7/2016 07:37 PM	
Surr: Dibromofluoromethane	112	0	65-135	%REC	1	5/7/2016 07:37 PM	
Surr: Toluene-d8	107	0	75-125	%REC	1	5/7/2016 07:37 PM	

DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID

EPA 3550B

EPA 8015B

RunID:	GC3_160513B	QC Batch:	58377	PrepDate:	5/11/2016	Analyst:	FJ
TPH-Diesel (C13-C22)	ND	2900	10000	ug/Kg-dry	1	5/13/2016 12:49 PM	
TPH-Oil (C23-C44)	7100	1800	10000	J ug/Kg-dry	1	5/13/2016 12:49 PM	
Surr: Octacosane	77.2	0	25-162	%REC	1	5/13/2016 12:49 PM	
Surr: p-Terphenyl	74.7	0	47-142	%REC	1	5/13/2016 12:49 PM	

GASOLINE RANGE ORGANICS BY GC/FID

EPA 8015B

RunID:	GC4_160506A	QC Batch:	E16VS061	PrepDate:	5/6/2016	Analyst:	QBM
TPH-Gasoline (C4-C12)	130	42	960	J ug/Kg-dry	1	5/6/2016 04:57 PM	
Surr: Chlorobenzene - d5	93.2	0	64-148	%REC	1	5/6/2016 04:57 PM	

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-003

Client Sample ID: SVM-18-05-050416
Collection Date: 5/4/2016 9:45:00 AM
Matrix: SOIL

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

EPA 8260B

RunID: MS8_160507A	QC Batch: R16VS073	PrepDate: 5/7/2016	Analyst: RB			
Bromobenzene	ND	0.30	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Bromochloromethane	ND	0.58	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Bromodichloromethane	ND	0.17	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Bromoform	ND	0.45	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Bromomethane	ND	0.39	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Carbon disulfide	ND	0.17	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Carbon tetrachloride	ND	0.18	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Chlorobenzene	ND	0.098	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Chloroethane	ND	0.53	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Chloroform	ND	0.16	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Chloromethane	0.42	0.19	5.3	J ug/Kg-dry	1	5/7/2016 08:03 PM
cis-1,2-Dichloroethene	ND	0.25	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
cis-1,3-Dichloropropene	ND	0.11	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Di-isopropyl ether	ND	0.11	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Dibromochloromethane	ND	0.49	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Dibromomethane	ND	0.25	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Dichlorodifluoromethane	ND	0.20	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Ethyl Tert-butyl ether	ND	0.15	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Ethylbenzene	ND	0.14	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Freon-113	ND	0.60	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Hexachlorobutadiene	ND	0.29	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Isopropylbenzene	ND	0.081	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
m,p-Xylene	ND	0.14	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Methylene chloride	ND	1.1	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
MTBE	ND	0.23	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
n-Butylbenzene	ND	0.10	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
n-Propylbenzene	ND	0.12	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Naphthalene	ND	0.11	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
o-Xylene	ND	0.058	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
sec-Butylbenzene	ND	0.098	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Styrene	ND	0.21	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Tert-amyl methyl ether	ND	0.18	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Tert-Butanol	ND	1.5	27	ug/Kg-dry	1	5/7/2016 08:03 PM
tert-Butylbenzene	ND	0.13	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Tetrachloroethene	ND	0.30	5.3	ug/Kg-dry	1	5/7/2016 08:03 PM
Toluene	0.14	0.11	5.3	J ug/Kg-dry	1	5/7/2016 08:03 PM

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-003

Client Sample ID: SVM-18-05-050416
Collection Date: 5/4/2016 9:45:00 AM
Matrix: SOIL

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

EPA 8260B

RunID: MS8_160507A	QC Batch: R16VS073	PrepDate: 5/7/2016	Analyst: RB
trans-1,2-Dichloroethene	ND 0.22	5.3	ug/Kg-dry 1 5/7/2016 08:03 PM
trans-1,3-Dichloropropene	ND 0.083	5.3	ug/Kg-dry 1 5/7/2016 08:03 PM
Trichloroethene	ND 0.12	5.3	ug/Kg-dry 1 5/7/2016 08:03 PM
Trichlorofluoromethane	ND 0.67	5.3	ug/Kg-dry 1 5/7/2016 08:03 PM
Vinyl chloride	ND 0.23	5.3	ug/Kg-dry 1 5/7/2016 08:03 PM
Xylenes, Total	ND 0.14	5.3	ug/Kg-dry 1 5/7/2016 08:03 PM
Surr: 1,2-Dichloroethane-d4	111 0	52-149	%REC 1 5/7/2016 08:03 PM
Surr: 4-Bromofluorobenzene	97.0 0	65-135	%REC 1 5/7/2016 08:03 PM
Surr: Dibromofluoromethane	109 0	65-135	%REC 1 5/7/2016 08:03 PM
Surr: Toluene-d8	104 0	75-125	%REC 1 5/7/2016 08:03 PM

DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID

EPA 3550B

EPA 8015B

RunID: GC3_160513B	QC Batch: 58377	PrepDate: 5/11/2016	Analyst: FJ
TPH-Diesel (C13-C22)	ND 2900	10000	ug/Kg-dry 1 5/13/2016 01:20 PM
TPH-Oil (C23-C44)	6900 1800	10000	J ug/Kg-dry 1 5/13/2016 01:20 PM
Surr: Octacosane	110 0	25-162	%REC 1 5/13/2016 01:20 PM
Surr: p-Terphenyl	105 0	47-142	%REC 1 5/13/2016 01:20 PM

GASOLINE RANGE ORGANICS BY GC/FID

EPA 8015B

RunID: GC4_160506A	QC Batch: E16VS061	PrepDate: 5/6/2016	Analyst: QBM
TPH-Gasoline (C4-C12)	110 49	1100	J ug/Kg-dry 1 5/6/2016 05:31 PM
Surr: Chlorobenzene - d5	93.3 0	64-148	%REC 1 5/6/2016 05:31 PM

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-004

Client Sample ID: SVM-18-10-050416
Collection Date: 5/4/2016 9:50:00 AM
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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PERCENT MOISTURE

D2216

RunID: **WETCHEM_160505A** QC Batch: **R108257** PrepDate: Analyst: **QBM**
 Percent Moisture 10.80 0.1000 0.1000 wt% 1 5/5/2016

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID:	QC Batch:	PrepDate:	Analyst:			
MS8_160507A	R16VS073	5/7/2016	RB			
1,1,1,2-Tetrachloroethane	ND	0.17	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,1,1-Trichloroethane	ND	0.11	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,1,2,2-Tetrachloroethane	ND	0.16	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,1,2-Trichloroethane	ND	0.24	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,1-Dichloroethane	ND	0.12	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,1-Dichloroethene	ND	0.32	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,1-Dichloropropene	ND	0.23	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,2,3-Trichlorobenzene	ND	0.057	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,2,3-Trichloropropane	ND	0.25	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,2,4-Trichlorobenzene	ND	0.13	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,2,4-Trimethylbenzene	ND	0.064	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,2-Dibromo-3-chloropropane	ND	0.47	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,2-Dibromoethane	ND	0.16	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,2-Dichlorobenzene	ND	0.12	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,2-Dichloroethane	ND	0.12	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,2-Dichloropropane	ND	0.24	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,3,5-Trimethylbenzene	ND	0.081	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,3-Dichlorobenzene	ND	0.13	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,3-Dichloropropane	ND	0.17	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
1,4-Dichlorobenzene	ND	0.094	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
2,2-Dichloropropane	ND	0.14	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
2-Butanone	ND	1.7	50	ug/Kg-dry	1	5/7/2016 08:29 PM
2-Chlorotoluene	ND	0.095	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
2-Hexanone	ND	1.4	50	ug/Kg-dry	1	5/7/2016 08:29 PM
4-Chlorotoluene	ND	0.18	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
4-Isopropyltoluene	ND	0.099	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM
4-Methyl-2-pentanone	ND	0.61	50	ug/Kg-dry	1	5/7/2016 08:29 PM
Acetone	ND	1.9	50	ug/Kg-dry	1	5/7/2016 08:29 PM
Acrolein	ND	4.7	100	ug/Kg-dry	1	5/7/2016 08:29 PM
Acrylonitrile	ND	1.6	50	ug/Kg-dry	1	5/7/2016 08:29 PM
Benzene	ND	0.11	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-004

Client Sample ID: SVM-18-10-050416
Collection Date: 5/4/2016 9:50:00 AM
Matrix: SOIL

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

EPA 8260B

RunID: MS8_160507A	QC Batch: R16VS073	PrepDate: 5/7/2016	Analyst: RB
Bromobenzene	ND 0.28	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Bromochloromethane	ND 0.54	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Bromodichloromethane	ND 0.16	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Bromoform	ND 0.43	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Bromomethane	ND 0.36	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Carbon disulfide	ND 0.16	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Carbon tetrachloride	ND 0.17	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Chlorobenzene	ND 0.092	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Chloroethane	ND 0.50	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Chloroform	ND 0.15	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Chloromethane	ND 0.18	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
cis-1,2-Dichloroethene	ND 0.24	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
cis-1,3-Dichloropropene	ND 0.10	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Di-isopropyl ether	ND 0.10	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Dibromochloromethane	ND 0.46	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Dibromomethane	ND 0.23	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Dichlorodifluoromethane	ND 0.19	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Ethyl Tert-butyl ether	ND 0.15	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Ethylbenzene	ND 0.14	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Freon-113	ND 0.57	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Hexachlorobutadiene	ND 0.27	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Isopropylbenzene	ND 0.076	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
m,p-Xylene	ND 0.14	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Methylene chloride	ND 1.0	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
MTBE	ND 0.22	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
n-Butylbenzene	ND 0.098	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
n-Propylbenzene	ND 0.11	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Naphthalene	ND 0.11	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
o-Xylene	ND 0.054	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
sec-Butylbenzene	ND 0.092	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Styrene	ND 0.20	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Tert-amyl methyl ether	ND 0.17	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Tert-Butanol	ND 1.4	25	ug/Kg-dry 1 5/7/2016 08:29 PM
tert-Butylbenzene	ND 0.12	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Tetrachloroethene	ND 0.28	5.0	ug/Kg-dry 1 5/7/2016 08:29 PM
Toluene	0.15 0.099	5.0	J ug/Kg-dry 1 5/7/2016 08:29 PM

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

Print Date: 23-May-16

CLIENT: CH2Mhill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-004

Client Sample ID: SVM-18-10-050416
Collection Date: 5/4/2016 9:50:00 AM
Matrix: SOIL

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

EPA 8260B

RunID:	MS8_160507A	QC Batch:	R16VS073	PrepDate:	5/7/2016	Analyst:	RB
trans-1,2-Dichloroethene	ND	0.21	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM	
trans-1,3-Dichloropropene	ND	0.078	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM	
Trichloroethene	ND	0.11	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM	
Trichlorofluoromethane	ND	0.63	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM	
Vinyl chloride	ND	0.21	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM	
Xylenes, Total	ND	0.14	5.0	ug/Kg-dry	1	5/7/2016 08:29 PM	
Surr: 1,2-Dichloroethane-d4	114	0	52-149	%REC	1	5/7/2016 08:29 PM	
Surr: 4-Bromofluorobenzene	101	0	65-135	%REC	1	5/7/2016 08:29 PM	
Surr: Dibromofluoromethane	111	0	65-135	%REC	1	5/7/2016 08:29 PM	
Surr: Toluene-d8	104	0	75-125	%REC	1	5/7/2016 08:29 PM	

DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID

EPA 3550B

EPA 8015B

RunID:	GC3_160513B	QC Batch:	58377	PrepDate:	5/11/2016	Analyst:	FJ
TPH-Diesel (C13-C22)	ND	2900	10000	ug/Kg-dry	1	5/13/2016 01:50 PM	
TPH-Oil (C23-C44)	8300	1800	10000	J ug/Kg-dry	1	5/13/2016 01:50 PM	
Surr: Octacosane	97.2	0	25-162	%REC	1	5/13/2016 01:50 PM	
Surr: p-Terphenyl	94.0	0	47-142	%REC	1	5/13/2016 01:50 PM	

GASOLINE RANGE ORGANICS BY GC/FID

EPA 8015B

RunID:	GC4_160506A	QC Batch:	E16VS061	PrepDate:	5/6/2016	Analyst:	QBM
TPH-Gasoline (C4-C12)	73	43	980	J ug/Kg-dry	1	5/6/2016 06:05 PM	
Surr: Chlorobenzene - d5	93.9	0	64-148	%REC	1	5/6/2016 06:05 PM	

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-005

Client Sample ID: SVM-19-05-050416
Collection Date: 5/4/2016 10:50:00 AM
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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PERCENT MOISTURE

D2216

RunID: **WETCHEM_160509A** QC Batch: **R108335** PrepDate: Analyst: **QBM**
 Percent Moisture 1.453 0.1000 0.1000 wt% 1 5/9/2016

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS-SIM

EPA 3550B

EPA 8270CSIM

RunID:	MS3_160505A	QC Batch:	58306	PrepDate:	5/5/2016	Analyst:	MDM
1-Methylnaphthalene	ND	1.0	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
2-Methylnaphthalene	ND	1.7	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
Acenaphthene	ND	0.83	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
Acenaphthylene	ND	0.80	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
Anthracene	ND	1.0	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
Benzo(a)anthracene	ND	1.7	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
Benzo(a)pyrene	ND	1.4	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
Benzo(b)fluoranthene	ND	1.5	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
Benzo(g,h,i)perylene	ND	1.7	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
Benzo(k)fluoranthene	ND	1.7	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
Chrysene	ND	1.7	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
Dibenz(a,h)anthracene	ND	1.3	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
Fluoranthene	ND	1.3	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
Fluorene	ND	1.2	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
Indeno(1,2,3-cd)pyrene	ND	1.6	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
Naphthalene	ND	1.2	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
Phenanthrene	ND	1.3	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
Pyrene	ND	1.3	5.1	ug/Kg-dry-dry	1	5/5/2016 07:07 PM	
Surr: 1,2-Dichlorobenzene-d4	56.0	0	25-110	%REC	1	5/5/2016 07:07 PM	
Surr: 2-Fluorobiphenyl	51.0	0	34-135	%REC	1	5/5/2016 07:07 PM	
Surr: 4-Terphenyl-d14	66.0	0	14-129	%REC	1	5/5/2016 07:07 PM	
Surr: Nitrobenzene-d5	63.0	0	25-135	%REC	1	5/5/2016 07:07 PM	

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID:	MS8_160507A	QC Batch:	R16VS073	PrepDate:	5/7/2016	Analyst:	RB
1,1,1,2-Tetrachloroethane	ND	0.19	5.4	ug/Kg-dry	1	5/7/2016 08:55 PM	
1,1,1-Trichloroethane	ND	0.12	5.4	ug/Kg-dry	1	5/7/2016 08:55 PM	
1,1,2,2-Tetrachloroethane	ND	0.17	5.4	ug/Kg-dry	1	5/7/2016 08:55 PM	
1,1,2-Trichloroethane	ND	0.26	5.4	ug/Kg-dry	1	5/7/2016 08:55 PM	
1,1-Dichloroethane	ND	0.13	5.4	ug/Kg-dry	1	5/7/2016 08:55 PM	

Qualifiers: B Analyte detected in the associated Method Blank E Value above quantitation range
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 ND Not Detected at the Reporting Limit S Spike/Surrogate outside of limits due to matrix interference
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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-005

Client Sample ID: SVM-19-05-050416
Collection Date: 5/4/2016 10:50:00 AM
Matrix: SOIL

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

EPA 8260B

RunID: MS8_160507A	QC Batch: R16VS073	PrepDate: 5/7/2016	Analyst: RB
1,1-Dichloroethene	ND 0.34	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
1,1-Dichloropropene	ND 0.25	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
1,2,3-Trichlorobenzene	ND 0.062	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
1,2,3-Trichloropropane	ND 0.27	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
1,2,4-Trichlorobenzene	ND 0.15	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
1,2,4-Trimethylbenzene	ND 0.070	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
1,2-Dibromo-3-chloropropane	ND 0.51	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
1,2-Dibromoethane	ND 0.17	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
1,2-Dichlorobenzene	ND 0.12	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
1,2-Dichloroethane	ND 0.13	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
1,2-Dichloropropane	ND 0.26	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
1,3,5-Trimethylbenzene	ND 0.088	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
1,3-Dichlorobenzene	ND 0.14	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
1,3-Dichloropropane	ND 0.18	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
1,4-Dichlorobenzene	ND 0.10	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
2,2-Dichloropropane	ND 0.15	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
2-Butanone	ND 1.8	54	ug/Kg-dry 1 5/7/2016 08:55 PM
2-Chlorotoluene	ND 0.10	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
2-Hexanone	ND 1.5	54	ug/Kg-dry 1 5/7/2016 08:55 PM
4-Chlorotoluene	ND 0.19	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
4-Isopropyltoluene	ND 0.11	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
4-Methyl-2-pentanone	ND 0.66	54	ug/Kg-dry 1 5/7/2016 08:55 PM
Acetone	ND 2.0	54	ug/Kg-dry 1 5/7/2016 08:55 PM
Acrolein	ND 5.0	110	ug/Kg-dry 1 5/7/2016 08:55 PM
Acrylonitrile	ND 1.8	54	ug/Kg-dry 1 5/7/2016 08:55 PM
Benzene	ND 0.12	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
Bromobenzene	ND 0.30	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
Bromochloromethane	ND 0.59	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
Bromodichloromethane	ND 0.18	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
Bromoform	ND 0.46	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
Bromomethane	ND 0.39	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
Carbon disulfide	ND 0.17	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
Carbon tetrachloride	ND 0.18	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
Chlorobenzene	ND 0.10	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
Chloroethane	ND 0.54	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM
Chloroform	ND 0.16	5.4	ug/Kg-dry 1 5/7/2016 08:55 PM

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



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"Serving Clients with Passion and Professionalism"

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-005

Client Sample ID: SVM-19-05-050416
Collection Date: 5/4/2016 10:50:00 AM
Matrix: SOIL

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

EPA 8260B

RunID: MS8_160507A	QC Batch: R16VS073	PrepDate: 5/7/2016	Analyst: RB				
Chloromethane	0.39	0.19	5.4	J	ug/Kg-dry	1	5/7/2016 08:55 PM
cis-1,2-Dichloroethene	ND	0.26	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
cis-1,3-Dichloropropene	ND	0.11	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Di-isopropyl ether	ND	0.11	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Dibromochloromethane	ND	0.50	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Dibromomethane	ND	0.25	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Dichlorodifluoromethane	ND	0.20	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Ethyl Tert-butyl ether	ND	0.16	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Ethylbenzene	ND	0.15	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Freon-113	ND	0.61	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Hexachlorobutadiene	ND	0.29	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Isopropylbenzene	ND	0.083	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
m,p-Xylene	ND	0.15	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Methylene chloride	ND	1.1	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
MTBE	ND	0.23	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
n-Butylbenzene	ND	0.11	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
n-Propylbenzene	ND	0.12	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Naphthalene	ND	0.12	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
o-Xylene	ND	0.059	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
sec-Butylbenzene	ND	0.10	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Styrene	ND	0.21	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Tert-amyl methyl ether	ND	0.18	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Tert-Butanol	ND	1.5	27		ug/Kg-dry	1	5/7/2016 08:55 PM
tert-Butylbenzene	ND	0.13	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Tetrachloroethene	ND	0.30	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Toluene	0.17	0.11	5.4	J	ug/Kg-dry	1	5/7/2016 08:55 PM
trans-1,2-Dichloroethene	ND	0.23	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
trans-1,3-Dichloropropene	ND	0.085	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Trichloroethene	ND	0.12	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Trichlorofluoromethane	ND	0.68	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Vinyl chloride	ND	0.23	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Xylenes, Total	ND	0.15	5.4		ug/Kg-dry	1	5/7/2016 08:55 PM
Surr: 1,2-Dichloroethane-d4	121	0	52-149		%REC	1	5/7/2016 08:55 PM
Surr: 4-Bromofluorobenzene	101	0	65-135		%REC	1	5/7/2016 08:55 PM
Surr: Dibromofluoromethane	116	0	65-135		%REC	1	5/7/2016 08:55 PM
Surr: Toluene-d8	110	0	75-125		%REC	1	5/7/2016 08:55 PM

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-005

Client Sample ID: SVM-19-05-050416
Collection Date: 5/4/2016 10:50:00 AM
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID

EPA 3550B

EPA 8015B

RunID: GC3_160513B	QC Batch: 58377				PrepDate: 5/11/2016		Analyst: FJ
TPH-Diesel (C13-C22)	ND	2900	10000		ug/Kg-dry	1	5/13/2016 02:20 PM
TPH-Oil (C23-C44)	8100	1800	10000	J	ug/Kg-dry	1	5/13/2016 02:20 PM
Surr: Octacosane	78.0	0	25-162		%REC	1	5/13/2016 02:20 PM
Surr: p-Terphenyl	82.4	0	47-142		%REC	1	5/13/2016 02:20 PM

PCBS BY GC/ECD

EPA 3550B

EPA 8082

RunID: GC7_160511C	QC Batch: 58392				PrepDate: 5/11/2016		Analyst: MDM
Aroclor 1016	ND	5.0	17		ug/Kg-dry	1	5/11/2016 10:36 PM
Aroclor 1221	ND	5.5	33		ug/Kg-dry	1	5/11/2016 10:36 PM
Aroclor 1232	ND	11	17		ug/Kg-dry	1	5/11/2016 10:36 PM
Aroclor 1242	ND	8.2	17		ug/Kg-dry	1	5/11/2016 10:36 PM
Aroclor 1248	ND	2.8	17		ug/Kg-dry	1	5/11/2016 10:36 PM
Aroclor 1254	ND	5.0	17		ug/Kg-dry	1	5/11/2016 10:36 PM
Aroclor 1260	ND	3.2	17		ug/Kg-dry	1	5/11/2016 10:36 PM
Surr: Decachlorobiphenyl	104	0	26-125		%REC	1	5/11/2016 10:36 PM
Surr: Tetrachloro-m-xylene	75.1	0	48-121		%REC	1	5/11/2016 10:36 PM

GASOLINE RANGE ORGANICS BY GC/FID

EPA 8015B

RunID: GC4_160506A	QC Batch: E16VS061				PrepDate: 5/6/2016		Analyst: QBM
TPH-Gasoline (C4-C12)	59	50	1100	J	ug/Kg-dry	1	5/6/2016 06:38 PM
Surr: Chlorobenzene - d5	97.9	0	64-148		%REC	1	5/6/2016 06:38 PM

TOTAL MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID: AA1_160505A	QC Batch: 58313				PrepDate: 5/5/2016		Analyst: CEI
Mercury	0.035	0.012	1.2	J	mg/Kg-dry-dry	1	5/5/2016 02:09 PM

TOTAL METALS BY ICP

EPA 3050B

EPA 6010B

RunID: ICP2_160505D	QC Batch: 58315				PrepDate: 5/5/2016		Analyst: CEI
Antimony	ND	0.19	2.0		mg/Kg-dry	1	5/5/2016 06:49 PM
Arsenic	2.0	0.22	1.0		mg/Kg-dry	1	5/5/2016 06:49 PM
Barium	41	0.043	1.0		mg/Kg-dry	1	5/5/2016 06:49 PM
Beryllium	ND	0.038	1.0		mg/Kg-dry	1	5/5/2016 06:49 PM

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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-005

Client Sample ID: SVM-19-05-050416
Collection Date: 5/4/2016 10:50:00 AM
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP

EPA 3050B

EPA 6010B

RunID: ICP2_160505D	QC Batch: 58315	PrepDate: 5/5/2016	Analyst: CEI
Cadmium	0.24 0.037	1.0	J mg/Kg-dry 1 5/9/2016 11:23 AM
Chromium	6.8 0.041	1.0	mg/Kg-dry 1 5/5/2016 06:49 PM
Cobalt	4.5 0.037	1.0	mg/Kg-dry 1 5/5/2016 06:49 PM
Copper	6.6 0.040	2.0	mg/Kg-dry 1 5/5/2016 06:49 PM
Lead	0.91 0.040	1.0	J mg/Kg-dry 1 5/5/2016 06:49 PM
Molybdenum	ND 0.036	1.0	mg/Kg-dry 1 5/5/2016 06:49 PM
Nickel	5.2 0.042	1.0	mg/Kg-dry 1 5/5/2016 06:49 PM
Selenium	ND 0.16	1.0	mg/Kg-dry 1 5/5/2016 06:49 PM
Silver	ND 0.041	1.0	mg/Kg-dry 1 5/5/2016 06:49 PM
Thallium	1.0 0.16	2.0	J mg/Kg-dry 1 5/9/2016 11:23 AM
Vanadium	14 0.037	1.0	mg/Kg-dry 1 5/9/2016 11:23 AM
Zinc	20 0.063	1.0	mg/Kg-dry 1 5/5/2016 06:49 PM

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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-006

Client Sample ID: SVM-19-10-050416
Collection Date: 5/4/2016 11:00:00 AM
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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PERCENT MOISTURE

D2216

RunID: **WETCHEM_160509A** QC Batch: **R108335** PrepDate: Analyst: **QBM**
 Percent Moisture 15.62 0.1000 0.1000 wt% 1 5/9/2016

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID:	MS8_160507A	QC Batch:	R16VS073	PrepDate:	5/7/2016	Analyst:	RB
1,1,1,2-Tetrachloroethane	ND	0.17	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,1,1-Trichloroethane	ND	0.11	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,1,2,2-Tetrachloroethane	ND	0.15	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,1,2-Trichloroethane	ND	0.23	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,1-Dichloroethane	ND	0.12	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,1-Dichloroethene	ND	0.30	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,1-Dichloropropene	ND	0.22	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,2,3-Trichlorobenzene	ND	0.055	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,2,3-Trichloropropane	ND	0.24	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,2,4-Trichlorobenzene	ND	0.13	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,2,4-Trimethylbenzene	ND	0.062	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,2-Dibromo-3-chloropropane	ND	0.45	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,2-Dibromoethane	ND	0.15	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,2-Dichlorobenzene	ND	0.11	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,2-Dichloroethane	ND	0.12	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,2-Dichloropropane	ND	0.23	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,3,5-Trimethylbenzene	ND	0.078	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,3-Dichlorobenzene	ND	0.12	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,3-Dichloropropane	ND	0.16	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
1,4-Dichlorobenzene	ND	0.091	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
2,2-Dichloropropane	ND	0.13	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
2-Butanone	ND	1.6	48	ug/Kg-dry	1	5/7/2016 09:21 PM	
2-Chlorotoluene	ND	0.092	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
2-Hexanone	ND	1.4	48	ug/Kg-dry	1	5/7/2016 09:21 PM	
4-Chlorotoluene	ND	0.17	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
4-Isopropyltoluene	ND	0.096	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
4-Methyl-2-pentanone	ND	0.58	48	ug/Kg-dry	1	5/7/2016 09:21 PM	
Acetone	ND	1.8	48	ug/Kg-dry	1	5/7/2016 09:21 PM	
Acrolein	ND	4.5	97	ug/Kg-dry	1	5/7/2016 09:21 PM	
Acrylonitrile	ND	1.6	48	ug/Kg-dry	1	5/7/2016 09:21 PM	
Benzene	ND	0.11	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	

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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-006

Client Sample ID: SVM-19-10-050416
Collection Date: 5/4/2016 11:00:00 AM
Matrix: SOIL

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

EPA 8260B

RunID: MS8_160507A	QC Batch: R16VS073	PrepDate: 5/7/2016	Analyst: RB			
Bromobenzene	ND	0.27	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Bromochloromethane	ND	0.52	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Bromodichloromethane	ND	0.16	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Bromoform	ND	0.41	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Bromomethane	ND	0.35	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Carbon disulfide	ND	0.16	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Carbon tetrachloride	ND	0.16	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Chlorobenzene	ND	0.089	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Chloroethane	ND	0.48	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Chloroform	0.16	0.14	4.8	J ug/Kg-dry	1	5/7/2016 09:21 PM
Chloromethane	0.31	0.17	4.8	J ug/Kg-dry	1	5/7/2016 09:21 PM
cis-1,2-Dichloroethene	ND	0.23	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
cis-1,3-Dichloropropene	ND	0.099	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Di-isopropyl ether	ND	0.097	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Dibromochloromethane	ND	0.44	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Dibromomethane	ND	0.22	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Dichlorodifluoromethane	ND	0.18	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Ethyl Tert-butyl ether	ND	0.14	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Ethylbenzene	ND	0.13	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Freon-113	ND	0.55	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Hexachlorobutadiene	ND	0.26	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Isopropylbenzene	ND	0.073	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
m,p-Xylene	ND	0.13	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Methylene chloride	ND	0.98	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
MTBE	ND	0.21	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
n-Butylbenzene	ND	0.095	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
n-Propylbenzene	ND	0.11	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Naphthalene	ND	0.10	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
o-Xylene	ND	0.052	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
sec-Butylbenzene	ND	0.089	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Styrene	ND	0.19	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Tert-amyl methyl ether	ND	0.16	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Tert-Butanol	ND	1.4	24	ug/Kg-dry	1	5/7/2016 09:21 PM
tert-Butylbenzene	ND	0.12	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Tetrachloroethene	ND	0.27	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM
Toluene	0.15	0.096	4.8	J ug/Kg-dry	1	5/7/2016 09:21 PM

Qualifiers: B Analyte detected in the associated Method Blank E Value above quantitation range
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VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID:	MS8_160507A	QC Batch:	R16VS073	PrepDate:	5/7/2016	Analyst:	RB
trans-1,2-Dichloroethene	ND	0.20	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
trans-1,3-Dichloropropene	ND	0.075	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
Trichloroethene	ND	0.11	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
Trichlorofluoromethane	ND	0.60	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
Vinyl chloride	ND	0.21	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
Xylenes, Total	ND	0.13	4.8	ug/Kg-dry	1	5/7/2016 09:21 PM	
Surr: 1,2-Dichloroethane-d4	113	0	52-149	%REC	1	5/7/2016 09:21 PM	
Surr: 4-Bromofluorobenzene	95.6	0	65-135	%REC	1	5/7/2016 09:21 PM	
Surr: Dibromofluoromethane	108	0	65-135	%REC	1	5/7/2016 09:21 PM	
Surr: Toluene-d8	104	0	75-125	%REC	1	5/7/2016 09:21 PM	

DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID

EPA 3550B

EPA 8015B

RunID:	GC3_160513B	QC Batch:	58377	PrepDate:	5/11/2016	Analyst:	FJ
TPH-Diesel (C13-C22)	ND	2900	10000	ug/Kg-dry	1	5/13/2016 02:51 PM	
TPH-Oil (C23-C44)	8300	1800	10000	J ug/Kg-dry	1	5/13/2016 02:51 PM	
Surr: Octacosane	94.1	0	25-162	%REC	1	5/13/2016 02:51 PM	
Surr: p-Terphenyl	90.3	0	47-142	%REC	1	5/13/2016 02:51 PM	

GASOLINE RANGE ORGANICS BY GC/FID

EPA 8015B

RunID:	GC4_160506A	QC Batch:	E16VS061	PrepDate:	5/6/2016	Analyst:	QBM
TPH-Gasoline (C4-C12)	56	43	980	J ug/Kg-dry	1	5/6/2016 07:12 PM	
Surr: Chlorobenzene - d5	98.3	0	64-148	%REC	1	5/6/2016 07:12 PM	

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-007

Client Sample ID: SS-20-05-050416
Collection Date: 5/4/2016 11:50:00 AM
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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PERCENT MOISTURE

D2216

RunID: **WETCHEM_160509A** QC Batch: **R108335** PrepDate: Analyst: **QBM**
 Percent Moisture 0.8138 0.1000 0.1000 wt% 1 5/9/2016

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID:	MS8_160508A	QC Batch:	R16VS074	PrepDate:	5/8/2016	Analyst:	RB
1,1,1,2-Tetrachloroethane	ND	0.21	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,1,1-Trichloroethane	ND	0.14	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,1,2,2-Tetrachloroethane	ND	0.20	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,1,2-Trichloroethane	ND	0.29	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,1-Dichloroethane	ND	0.15	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,1-Dichloroethene	ND	0.39	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,1-Dichloropropene	ND	0.29	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,2,3-Trichlorobenzene	ND	0.070	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,2,3-Trichloropropane	ND	0.30	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,2,4-Trichlorobenzene	ND	0.17	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,2,4-Trimethylbenzene	ND	0.079	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,2-Dibromo-3-chloropropane	ND	0.57	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,2-Dibromoethane	ND	0.19	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,2-Dichlorobenzene	ND	0.14	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,2-Dichloroethane	ND	0.15	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,2-Dichloropropane	ND	0.30	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,3,5-Trimethylbenzene	ND	0.10	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,3-Dichlorobenzene	ND	0.16	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,3-Dichloropropane	ND	0.21	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
1,4-Dichlorobenzene	ND	0.12	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
2,2-Dichloropropane	ND	0.17	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
2-Butanone	ND	2.1	62	ug/Kg-dry	1	5/8/2016 11:54 PM	
2-Chlorotoluene	ND	0.12	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
2-Hexanone	ND	1.8	62	ug/Kg-dry	1	5/8/2016 11:54 PM	
4-Chlorotoluene	ND	0.22	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
4-Isopropyltoluene	ND	0.12	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
4-Methyl-2-pentanone	ND	0.75	62	ug/Kg-dry	1	5/8/2016 11:54 PM	
Acetone	ND	2.3	62	ug/Kg-dry	1	5/8/2016 11:54 PM	
Acrolein	ND	5.7	120	ug/Kg-dry	1	5/8/2016 11:54 PM	
Acrylonitrile	ND	2.0	62	ug/Kg-dry	1	5/8/2016 11:54 PM	
Benzene	ND	0.14	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-007

Client Sample ID: SS-20-05-050416
Collection Date: 5/4/2016 11:50:00 AM
Matrix: SOIL

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

EPA 8260B

RunID: MS8_160508A	QC Batch: R16VS074	PrepDate: 5/8/2016	Analyst: RB			
Bromobenzene	ND	0.34	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Bromochloromethane	ND	0.67	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Bromodichloromethane	ND	0.20	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Bromoform	ND	0.52	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Bromomethane	1.3	0.45	6.2	J ug/Kg-dry	1	5/8/2016 11:54 PM
Carbon disulfide	ND	0.20	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Carbon tetrachloride	ND	0.21	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Chlorobenzene	ND	0.11	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Chloroethane	ND	0.61	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Chloroform	ND	0.18	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Chloromethane	ND	0.22	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
cis-1,2-Dichloroethene	ND	0.29	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
cis-1,3-Dichloropropene	ND	0.13	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Di-isopropyl ether	ND	0.12	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Dibromochloromethane	ND	0.57	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Dibromomethane	ND	0.28	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Dichlorodifluoromethane	ND	0.23	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Ethyl Tert-butyl ether	ND	0.18	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Ethylbenzene	ND	0.17	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Freon-113	ND	0.70	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Hexachlorobutadiene	ND	0.33	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Isopropylbenzene	ND	0.094	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
m,p-Xylene	ND	0.17	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Methylene chloride	ND	1.2	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
MTBE	ND	0.27	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
n-Butylbenzene	ND	0.12	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
n-Propylbenzene	ND	0.14	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Naphthalene	ND	0.13	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
o-Xylene	ND	0.067	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
sec-Butylbenzene	ND	0.11	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Styrene	ND	0.24	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Tert-amyl methyl ether	ND	0.20	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Tert-Butanol	ND	1.7	31	ug/Kg-dry	1	5/8/2016 11:54 PM
tert-Butylbenzene	ND	0.15	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Tetrachloroethene	ND	0.34	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM
Toluene	0.17	0.12	6.2	J ug/Kg-dry	1	5/8/2016 11:54 PM

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-007

Client Sample ID: SS-20-05-050416
Collection Date: 5/4/2016 11:50:00 AM
Matrix: SOIL

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

EPA 8260B

RunID:	MS8_160508A	QC Batch:	R16VS074	PrepDate:	5/8/2016	Analyst:	RB
trans-1,2-Dichloroethene	ND	0.26	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
trans-1,3-Dichloropropene	ND	0.096	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
Trichloroethene	ND	0.14	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
Trichlorofluoromethane	ND	0.77	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
Vinyl chloride	ND	0.26	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
Xylenes, Total	ND	0.17	6.2	ug/Kg-dry	1	5/8/2016 11:54 PM	
Surr: 1,2-Dichloroethane-d4	114	0	52-149	%REC	1	5/8/2016 11:54 PM	
Surr: 4-Bromofluorobenzene	99.8	0	65-135	%REC	1	5/8/2016 11:54 PM	
Surr: Dibromofluoromethane	110	0	65-135	%REC	1	5/8/2016 11:54 PM	
Surr: Toluene-d8	106	0	75-125	%REC	1	5/8/2016 11:54 PM	

DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID

EPA 3550B

EPA 8015B

RunID:	GC3_160513B	QC Batch:	58377	PrepDate:	5/11/2016	Analyst:	FJ
TPH-Diesel (C13-C22)	ND	2900	10000	ug/Kg-dry	1	5/13/2016 03:21 PM	
TPH-Oil (C23-C44)	8400	1800	10000	J ug/Kg-dry	1	5/13/2016 03:21 PM	
Surr: Octacosane	118	0	25-162	%REC	1	5/13/2016 03:21 PM	
Surr: p-Terphenyl	114	0	47-142	%REC	1	5/13/2016 03:21 PM	

GASOLINE RANGE ORGANICS BY GC/FID

EPA 8015B

RunID:	GC4_160506A	QC Batch:	E16VS061	PrepDate:	5/6/2016	Analyst:	QBM
TPH-Gasoline (C4-C12)	95	52	1200	J ug/Kg-dry	1	5/6/2016 07:46 PM	
Surr: Chlorobenzene - d5	98.6	0	64-148	%REC	1	5/6/2016 07:46 PM	

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-008

Client Sample ID: SS-20-10-050416
Collection Date: 5/4/2016 12:00:00 PM
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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PERCENT MOISTURE

D2216

RunID: **WETCHEM_160509A** QC Batch: **R108335** PrepDate: Analyst: **QBM**
 Percent Moisture 14.92 0.1000 0.1000 wt% 1 5/9/2016

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID:	MS8_160508A	QC Batch:	R16VS074	PrepDate:	5/8/2016	Analyst:	RB
1,1,1,2-Tetrachloroethane	ND	0.16	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,1,1-Trichloroethane	ND	0.11	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,1,2,2-Tetrachloroethane	ND	0.15	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,1,2-Trichloroethane	ND	0.22	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,1-Dichloroethane	ND	0.12	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,1-Dichloroethene	ND	0.30	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,1-Dichloropropene	ND	0.22	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,2,3-Trichlorobenzene	ND	0.054	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,2,3-Trichloropropane	ND	0.23	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,2,4-Trichlorobenzene	ND	0.13	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,2,4-Trimethylbenzene	ND	0.061	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,2-Dibromo-3-chloropropane	ND	0.44	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,2-Dibromoethane	ND	0.15	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,2-Dichlorobenzene	ND	0.11	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,2-Dichloroethane	ND	0.12	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,2-Dichloropropane	ND	0.23	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,3,5-Trimethylbenzene	ND	0.077	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,3-Dichlorobenzene	ND	0.12	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,3-Dichloropropane	ND	0.16	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
1,4-Dichlorobenzene	ND	0.089	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
2,2-Dichloropropane	ND	0.13	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
2-Butanone	ND	1.6	47	ug/Kg-dry	1	5/9/2016 12:20 AM	
2-Chlorotoluene	ND	0.090	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
2-Hexanone	ND	1.4	47	ug/Kg-dry	1	5/9/2016 12:20 AM	
4-Chlorotoluene	ND	0.17	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
4-Isopropyltoluene	ND	0.094	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
4-Methyl-2-pentanone	ND	0.57	47	ug/Kg-dry	1	5/9/2016 12:20 AM	
Acetone	ND	1.8	47	ug/Kg-dry	1	5/9/2016 12:20 AM	
Acrolein	ND	4.4	95	ug/Kg-dry	1	5/9/2016 12:20 AM	
Acrylonitrile	ND	1.5	47	ug/Kg-dry	1	5/9/2016 12:20 AM	
Benzene	ND	0.11	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-008

Client Sample ID: SS-20-10-050416
Collection Date: 5/4/2016 12:00:00 PM
Matrix: SOIL

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

EPA 8260B

RunID: MS8_160508A	QC Batch: R16VS074	PrepDate: 5/8/2016	Analyst: RB			
Bromobenzene	ND	0.27	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Bromochloromethane	ND	0.51	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Bromodichloromethane	ND	0.15	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Bromoform	ND	0.40	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Bromomethane	1.0	0.34	4.7	J ug/Kg-dry	1	5/9/2016 12:20 AM
Carbon disulfide	ND	0.15	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Carbon tetrachloride	ND	0.16	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Chlorobenzene	ND	0.087	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Chloroethane	ND	0.47	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Chloroform	0.18	0.14	4.7	J ug/Kg-dry	1	5/9/2016 12:20 AM
Chloromethane	ND	0.17	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
cis-1,2-Dichloroethene	ND	0.23	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
cis-1,3-Dichloropropene	ND	0.097	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Di-isopropyl ether	ND	0.095	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Dibromochloromethane	ND	0.44	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Dibromomethane	ND	0.22	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Dichlorodifluoromethane	ND	0.18	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Ethyl Tert-butyl ether	ND	0.14	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Ethylbenzene	ND	0.13	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Freon-113	ND	0.54	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Hexachlorobutadiene	ND	0.26	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Isopropylbenzene	ND	0.072	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
m,p-Xylene	ND	0.13	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Methylene chloride	ND	0.96	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
MTBE	ND	0.20	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
n-Butylbenzene	ND	0.093	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
n-Propylbenzene	ND	0.11	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Naphthalene	ND	0.10	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
o-Xylene	ND	0.051	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
sec-Butylbenzene	ND	0.087	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Styrene	ND	0.19	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Tert-amyl methyl ether	ND	0.16	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Tert-Butanol	ND	1.3	24	ug/Kg-dry	1	5/9/2016 12:20 AM
tert-Butylbenzene	ND	0.11	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Tetrachloroethene	ND	0.27	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM
Toluene	0.12	0.094	4.7	J ug/Kg-dry	1	5/9/2016 12:20 AM

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-008

Client Sample ID: SS-20-10-050416
Collection Date: 5/4/2016 12:00:00 PM
Matrix: SOIL

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

EPA 8260B

RunID:	MS8_160508A	QC Batch:	R16VS074	PrepDate:	5/8/2016	Analyst:	RB
trans-1,2-Dichloroethene	ND	0.20	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
trans-1,3-Dichloropropene	ND	0.074	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
Trichloroethene	ND	0.10	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
Trichlorofluoromethane	ND	0.59	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
Vinyl chloride	ND	0.20	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
Xylenes, Total	ND	0.13	4.7	ug/Kg-dry	1	5/9/2016 12:20 AM	
Surr: 1,2-Dichloroethane-d4	114	0	52-149	%REC	1	5/9/2016 12:20 AM	
Surr: 4-Bromofluorobenzene	96.4	0	65-135	%REC	1	5/9/2016 12:20 AM	
Surr: Dibromofluoromethane	108	0	65-135	%REC	1	5/9/2016 12:20 AM	
Surr: Toluene-d8	104	0	75-125	%REC	1	5/9/2016 12:20 AM	

DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID

EPA 3550B

EPA 8015B

RunID:	GC3_160513B	QC Batch:	58377	PrepDate:	5/11/2016	Analyst:	FJ
TPH-Diesel (C13-C22)	ND	2900	10000	ug/Kg-dry	1	5/13/2016 03:51 PM	
TPH-Oil (C23-C44)	8800	1800	10000	J ug/Kg-dry	1	5/13/2016 03:51 PM	
Surr: Octacosane	94.3	0	25-162	%REC	1	5/13/2016 03:51 PM	
Surr: p-Terphenyl	91.2	0	47-142	%REC	1	5/13/2016 03:51 PM	

GASOLINE RANGE ORGANICS BY GC/FID

EPA 8015B

RunID:	GC4_160506A	QC Batch:	E16VS061	PrepDate:	5/6/2016	Analyst:	QBM
TPH-Gasoline (C4-C12)	93	61	1400	J ug/Kg-dry	1	5/6/2016 08:19 PM	
Surr: Chlorobenzene - d5	99.9	0	64-148	%REC	1	5/6/2016 08:19 PM	

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-009

Client Sample ID: SS-21-05-050416
Collection Date: 5/4/2016 12:15:00 PM
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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PERCENT MOISTURE

D2216

RunID: **WETCHEM_160509A** QC Batch: **R108335** PrepDate: Analyst: **QBM**
 Percent Moisture 0.9325 0.1000 0.1000 wt% 1 5/9/2016

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID:	MS8_160508A	QC Batch:	R16VS074	PrepDate:	5/8/2016	Analyst:	RB
1,1,1,2-Tetrachloroethane	ND	0.20	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,1,1-Trichloroethane	ND	0.13	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,1,2,2-Tetrachloroethane	ND	0.18	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,1,2-Trichloroethane	ND	0.27	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,1-Dichloroethane	ND	0.14	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,1-Dichloroethene	ND	0.36	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,1-Dichloropropene	ND	0.26	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,2,3-Trichlorobenzene	ND	0.065	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,2,3-Trichloropropane	ND	0.28	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,2,4-Trichlorobenzene	ND	0.15	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,2,4-Trimethylbenzene	ND	0.073	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,2-Dibromo-3-chloropropane	ND	0.53	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,2-Dibromoethane	ND	0.18	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,2-Dichlorobenzene	ND	0.13	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,2-Dichloroethane	ND	0.14	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,2-Dichloropropane	ND	0.27	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,3,5-Trimethylbenzene	ND	0.092	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,3-Dichlorobenzene	ND	0.14	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,3-Dichloropropane	ND	0.19	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
1,4-Dichlorobenzene	ND	0.11	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
2,2-Dichloropropane	ND	0.16	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
2-Butanone	ND	1.9	57	ug/Kg-dry	1	5/9/2016 12:46 AM	
2-Chlorotoluene	ND	0.11	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
2-Hexanone	ND	1.6	57	ug/Kg-dry	1	5/9/2016 12:46 AM	
4-Chlorotoluene	ND	0.20	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
4-Isopropyltoluene	ND	0.11	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
4-Methyl-2-pentanone	ND	0.69	57	ug/Kg-dry	1	5/9/2016 12:46 AM	
Acetone	ND	2.1	57	ug/Kg-dry	1	5/9/2016 12:46 AM	
Acrolein	ND	5.3	110	ug/Kg-dry	1	5/9/2016 12:46 AM	
Acrylonitrile	ND	1.8	57	ug/Kg-dry	1	5/9/2016 12:46 AM	
Benzene	ND	0.13	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	

Qualifiers: B Analyte detected in the associated Method Blank E Value above quantitation range
 H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits
 ND Not Detected at the Reporting Limit S Spike/Surrogate outside of limits due to matrix interference
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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-009

Client Sample ID: SS-21-05-050416
Collection Date: 5/4/2016 12:15:00 PM
Matrix: SOIL

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

EPA 8260B

RunID: MS8_160508A	QC Batch: R16VS074	PrepDate: 5/8/2016	Analyst: RB			
Bromobenzene	ND	0.32	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Bromochloromethane	ND	0.62	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Bromodichloromethane	ND	0.18	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Bromoform	ND	0.48	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Bromomethane	1.2	0.41	5.7	J ug/Kg-dry	1	5/9/2016 12:46 AM
Carbon disulfide	ND	0.18	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Carbon tetrachloride	ND	0.19	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Chlorobenzene	ND	0.10	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Chloroethane	ND	0.56	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Chloroform	0.28	0.17	5.7	J ug/Kg-dry	1	5/9/2016 12:46 AM
Chloromethane	0.43	0.20	5.7	J ug/Kg-dry	1	5/9/2016 12:46 AM
cis-1,2-Dichloroethene	ND	0.27	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
cis-1,3-Dichloropropene	ND	0.12	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Di-isopropyl ether	ND	0.11	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Dibromochloromethane	ND	0.52	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Dibromomethane	ND	0.26	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Dichlorodifluoromethane	ND	0.21	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Ethyl Tert-butyl ether	ND	0.17	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Ethylbenzene	ND	0.16	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Freon-113	ND	0.64	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Hexachlorobutadiene	ND	0.31	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Isopropylbenzene	ND	0.087	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
m,p-Xylene	ND	0.16	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Methylene chloride	ND	1.2	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
MTBE	ND	0.25	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
n-Butylbenzene	ND	0.11	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
n-Propylbenzene	ND	0.13	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Naphthalene	ND	0.12	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
o-Xylene	ND	0.062	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
sec-Butylbenzene	ND	0.10	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Styrene	ND	0.22	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Tert-amyl methyl ether	ND	0.19	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Tert-Butanol	ND	1.6	28	ug/Kg-dry	1	5/9/2016 12:46 AM
tert-Butylbenzene	ND	0.14	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Tetrachloroethene	ND	0.32	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM
Toluene	0.16	0.11	5.7	J ug/Kg-dry	1	5/9/2016 12:46 AM

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-009

Client Sample ID: SS-21-05-050416
Collection Date: 5/4/2016 12:15:00 PM
Matrix: SOIL

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

EPA 8260B

RunID:	MS8_160508A	QC Batch:	R16VS074	PrepDate:	5/8/2016	Analyst:	RB
trans-1,2-Dichloroethene	ND	0.24	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
trans-1,3-Dichloropropene	ND	0.089	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
Trichloroethene	ND	0.13	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
Trichlorofluoromethane	ND	0.71	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
Vinyl chloride	ND	0.24	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
Xylenes, Total	ND	0.16	5.7	ug/Kg-dry	1	5/9/2016 12:46 AM	
Surr: 1,2-Dichloroethane-d4	110	0	52-149	%REC	1	5/9/2016 12:46 AM	
Surr: 4-Bromofluorobenzene	99.6	0	65-135	%REC	1	5/9/2016 12:46 AM	
Surr: Dibromofluoromethane	107	0	65-135	%REC	1	5/9/2016 12:46 AM	
Surr: Toluene-d8	102	0	75-125	%REC	1	5/9/2016 12:46 AM	

DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID

EPA 3550B

EPA 8015B

RunID:	GC3_160513B	QC Batch:	58377	PrepDate:	5/11/2016	Analyst:	FJ
TPH-Diesel (C13-C22)	ND	2900	10000	ug/Kg-dry	1	5/13/2016 04:22 PM	
TPH-Oil (C23-C44)	9000	1800	10000	J ug/Kg-dry	1	5/13/2016 04:22 PM	
Surr: Octacosane	101	0	25-162	%REC	1	5/13/2016 04:22 PM	
Surr: p-Terphenyl	99.9	0	47-142	%REC	1	5/13/2016 04:22 PM	

GASOLINE RANGE ORGANICS BY GC/FID

EPA 8015B

RunID:	GC4_160506A	QC Batch:	E16VS061	PrepDate:	5/6/2016	Analyst:	QBM
TPH-Gasoline (C4-C12)	76	52	1200	J ug/Kg-dry	1	5/6/2016 08:53 PM	
Surr: Chlorobenzene - d5	96.4	0	64-148	%REC	1	5/6/2016 08:53 PM	

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-010

Client Sample ID: SS-21-05D-050416
Collection Date: 5/4/2016 12:20:00 PM
Matrix: SOIL

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

EPA 8260B

RunID: MS8_160508A	QC Batch: R16VS074	PrepDate: 5/8/2016	Analyst: RB			
Bromobenzene	ND	0.34	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Bromochloromethane	ND	0.67	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Bromodichloromethane	ND	0.20	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Bromoform	ND	0.52	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Bromomethane	1.2	0.45	6.1	J ug/Kg-dry	1	5/9/2016 01:12 AM
Carbon disulfide	ND	0.20	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Carbon tetrachloride	ND	0.21	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Chlorobenzene	ND	0.11	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Chloroethane	ND	0.61	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Chloroform	ND	0.18	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Chloromethane	0.64	0.22	6.1	J ug/Kg-dry	1	5/9/2016 01:12 AM
cis-1,2-Dichloroethene	ND	0.29	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
cis-1,3-Dichloropropene	ND	0.13	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Di-isopropyl ether	ND	0.12	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Dibromochloromethane	ND	0.57	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Dibromomethane	ND	0.28	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Dichlorodifluoromethane	ND	0.23	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Ethyl Tert-butyl ether	ND	0.18	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Ethylbenzene	ND	0.17	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Freon-113	ND	0.69	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Hexachlorobutadiene	ND	0.33	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Isopropylbenzene	ND	0.093	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
m,p-Xylene	ND	0.17	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Methylene chloride	ND	1.2	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
MTBE	ND	0.26	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
n-Butylbenzene	ND	0.12	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
n-Propylbenzene	ND	0.14	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Naphthalene	ND	0.13	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
o-Xylene	ND	0.066	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
sec-Butylbenzene	ND	0.11	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Styrene	ND	0.24	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Tert-amyl methyl ether	ND	0.20	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Tert-Butanol	ND	1.7	31	ug/Kg-dry	1	5/9/2016 01:12 AM
tert-Butylbenzene	ND	0.15	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Tetrachloroethene	ND	0.34	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM
Toluene	0.18	0.12	6.1	J ug/Kg-dry	1	5/9/2016 01:12 AM

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-010

Client Sample ID: SS-21-05D-050416
Collection Date: 5/4/2016 12:20:00 PM
Matrix: SOIL

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

EPA 8260B

RunID:	MS8_160508A	QC Batch:	R16VS074	PrepDate:	5/8/2016	Analyst:	RB
trans-1,2-Dichloroethene	ND	0.26	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM	
trans-1,3-Dichloropropene	ND	0.096	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM	
Trichloroethene	ND	0.14	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM	
Trichlorofluoromethane	ND	0.77	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM	
Vinyl chloride	ND	0.26	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM	
Xylenes, Total	ND	0.17	6.1	ug/Kg-dry	1	5/9/2016 01:12 AM	
Surr: 1,2-Dichloroethane-d4	115	0	52-149	%REC	1	5/9/2016 01:12 AM	
Surr: 4-Bromofluorobenzene	98.0	0	65-135	%REC	1	5/9/2016 01:12 AM	
Surr: Dibromofluoromethane	112	0	65-135	%REC	1	5/9/2016 01:12 AM	
Surr: Toluene-d8	105	0	75-125	%REC	1	5/9/2016 01:12 AM	

DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID

EPA 3550B

EPA 8015B

RunID:	GC3_160513B	QC Batch:	58377	PrepDate:	5/11/2016	Analyst:	FJ
TPH-Diesel (C13-C22)	ND	2900	10000	ug/Kg-dry	1	5/13/2016 06:24 PM	
TPH-Oil (C23-C44)	8900	1800	10000	J ug/Kg-dry	1	5/13/2016 06:24 PM	
Surr: Octacosane	117	0	25-162	%REC	1	5/13/2016 06:24 PM	
Surr: p-Terphenyl	109	0	47-142	%REC	1	5/13/2016 06:24 PM	

GASOLINE RANGE ORGANICS BY GC/FID

EPA 8015B

RunID:	GC4_160506A	QC Batch:	E16VS061	PrepDate:	5/6/2016	Analyst:	QBM
TPH-Gasoline (C4-C12)	66	47	1100	J ug/Kg-dry	1	5/6/2016 09:27 PM	
Surr: Chlorobenzene - d5	100	0	64-148	%REC	1	5/6/2016 09:27 PM	

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-011

Client Sample ID: SS-21-10-050416
Collection Date: 5/4/2016 12:25:00 PM
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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PERCENT MOISTURE

D2216

RunID: **WETCHEM_160509A** QC Batch: **R108335** PrepDate: Analyst: **QBM**
 Percent Moisture 14.43 0.1000 0.1000 wt% 1 5/9/2016

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID:	QC Batch:	PrepDate:	Analyst:			
MS8_160508A	R16VS074	5/8/2016	RB			
1,1,1,2-Tetrachloroethane	ND	0.16	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,1,1-Trichloroethane	ND	0.10	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,1,2,2-Tetrachloroethane	ND	0.15	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,1,2-Trichloroethane	ND	0.22	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,1-Dichloroethane	ND	0.11	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,1-Dichloroethene	ND	0.29	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,1-Dichloropropene	ND	0.21	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,2,3-Trichlorobenzene	ND	0.052	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,2,3-Trichloropropane	ND	0.23	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,2,4-Trichlorobenzene	ND	0.12	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,2,4-Trimethylbenzene	ND	0.059	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,2-Dibromo-3-chloropropane	ND	0.43	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,2-Dibromoethane	ND	0.15	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,2-Dichlorobenzene	ND	0.11	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,2-Dichloroethane	ND	0.11	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,2-Dichloropropane	ND	0.22	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,3,5-Trimethylbenzene	ND	0.075	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,3-Dichlorobenzene	ND	0.12	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,3-Dichloropropane	ND	0.15	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
1,4-Dichlorobenzene	ND	0.087	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
2,2-Dichloropropane	ND	0.13	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
2-Butanone	ND	1.6	46	ug/Kg-dry	1	5/9/2016 01:38 AM
2-Chlorotoluene	ND	0.087	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
2-Hexanone	ND	1.3	46	ug/Kg-dry	1	5/9/2016 01:38 AM
4-Chlorotoluene	ND	0.16	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
4-Isopropyltoluene	ND	0.091	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
4-Methyl-2-pentanone	ND	0.56	46	ug/Kg-dry	1	5/9/2016 01:38 AM
Acetone	ND	1.7	46	ug/Kg-dry	1	5/9/2016 01:38 AM
Acrolein	ND	4.3	92	ug/Kg-dry	1	5/9/2016 01:38 AM
Acrylonitrile	ND	1.5	46	ug/Kg-dry	1	5/9/2016 01:38 AM
Benzene	ND	0.10	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-011

Client Sample ID: SS-21-10-050416
Collection Date: 5/4/2016 12:25:00 PM
Matrix: SOIL

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

EPA 8260B

RunID: MS8_160508A	QC Batch: R16VS074	PrepDate: 5/8/2016	Analyst: RB			
Bromobenzene	ND	0.26	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Bromochloromethane	ND	0.50	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Bromodichloromethane	ND	0.15	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Bromoform	ND	0.39	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Bromomethane	0.85	0.33	4.6	J ug/Kg-dry	1	5/9/2016 01:38 AM
Carbon disulfide	ND	0.15	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Carbon tetrachloride	ND	0.15	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Chlorobenzene	ND	0.085	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Chloroethane	ND	0.45	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Chloroform	ND	0.13	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Chloromethane	0.53	0.16	4.6	J ug/Kg-dry	1	5/9/2016 01:38 AM
cis-1,2-Dichloroethene	ND	0.22	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
cis-1,3-Dichloropropene	ND	0.094	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Di-isopropyl ether	ND	0.092	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Dibromochloromethane	ND	0.42	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Dibromomethane	ND	0.21	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Dichlorodifluoromethane	ND	0.17	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Ethyl Tert-butyl ether	ND	0.13	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Ethylbenzene	ND	0.13	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Freon-113	ND	0.52	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Hexachlorobutadiene	ND	0.25	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Isopropylbenzene	ND	0.070	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
m,p-Xylene	ND	0.13	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Methylene chloride	ND	0.93	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
MTBE	ND	0.20	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
n-Butylbenzene	ND	0.090	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
n-Propylbenzene	ND	0.10	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Naphthalene	ND	0.099	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
o-Xylene	ND	0.050	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
sec-Butylbenzene	ND	0.085	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Styrene	ND	0.18	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Tert-amyl methyl ether	ND	0.15	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Tert-Butanol	ND	1.3	23	ug/Kg-dry	1	5/9/2016 01:38 AM
tert-Butylbenzene	ND	0.11	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Tetrachloroethene	ND	0.26	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM
Toluene	0.14	0.091	4.6	J ug/Kg-dry	1	5/9/2016 01:38 AM

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-011

Client Sample ID: SS-21-10-050416
Collection Date: 5/4/2016 12:25:00 PM
Matrix: SOIL

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

EPA 8260B

RunID:	MS8_160508A	QC Batch:	R16VS074	PrepDate:	5/8/2016	Analyst:	RB
trans-1,2-Dichloroethene	ND	0.19	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM	
trans-1,3-Dichloropropene	ND	0.072	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM	
Trichloroethene	ND	0.10	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM	
Trichlorofluoromethane	ND	0.58	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM	
Vinyl chloride	ND	0.20	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM	
Xylenes, Total	ND	0.13	4.6	ug/Kg-dry	1	5/9/2016 01:38 AM	
Surr: 1,2-Dichloroethane-d4	107	0	52-149	%REC	1	5/9/2016 01:38 AM	
Surr: 4-Bromofluorobenzene	98.8	0	65-135	%REC	1	5/9/2016 01:38 AM	
Surr: Dibromofluoromethane	103	0	65-135	%REC	1	5/9/2016 01:38 AM	
Surr: Toluene-d8	103	0	75-125	%REC	1	5/9/2016 01:38 AM	

DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID

EPA 3550B

EPA 8015B

RunID:	GC3_160513B	QC Batch:	58377	PrepDate:	5/11/2016	Analyst:	FJ
TPH-Diesel (C13-C22)	ND	3400	12000	ug/Kg-dry	1	5/13/2016 06:54 PM	
TPH-Oil (C23-C44)	11000	2100	12000	J ug/Kg-dry	1	5/13/2016 06:54 PM	
Surr: Octacosane	110	0	25-162	%REC	1	5/13/2016 06:54 PM	
Surr: p-Terphenyl	106	0	47-142	%REC	1	5/13/2016 06:54 PM	

GASOLINE RANGE ORGANICS BY GC/FID

EPA 8015B

RunID:	GC4_160506A	QC Batch:	E16VS061	PrepDate:	5/6/2016	Analyst:	QBM
TPH-Gasoline (C4-C12)	63	45	1000	J ug/Kg-dry	1	5/6/2016 10:01 PM	
Surr: Chlorobenzene - d5	95.3	0	64-148	%REC	1	5/6/2016 10:01 PM	

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-012

Client Sample ID: EB-050416
Collection Date: 5/4/2016 12:45:00 PM
Matrix: WATER

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

EPA 8260B

RunID: MS5_160508A	QC Batch: P16VW089	PrepDate:	Analyst: RB			
1,1,1,2-Tetrachloroethane	ND	0.066	1.0	ug/L	1	5/8/2016 04:40 PM
1,1,1-Trichloroethane	ND	0.068	1.0	ug/L	1	5/8/2016 04:40 PM
1,1,2,2-Tetrachloroethane	ND	0.031	1.0	ug/L	1	5/8/2016 04:40 PM
1,1,2-Trichloroethane	ND	0.062	1.0	ug/L	1	5/8/2016 04:40 PM
1,1-Dichloroethane	ND	0.022	0.50	ug/L	1	5/8/2016 04:40 PM
1,1-Dichloroethene	ND	0.087	1.0	ug/L	1	5/8/2016 04:40 PM
1,1-Dichloropropene	ND	0.044	1.0	ug/L	1	5/8/2016 04:40 PM
1,2,3-Trichlorobenzene	ND	0.056	1.0	ug/L	1	5/8/2016 04:40 PM
1,2,3-Trichloropropane	ND	0.059	1.0	ug/L	1	5/8/2016 04:40 PM
1,2,4-Trichlorobenzene	ND	0.060	1.0	ug/L	1	5/8/2016 04:40 PM
1,2,4-Trimethylbenzene	ND	0.042	1.0	ug/L	1	5/8/2016 04:40 PM
1,2-Dibromo-3-chloropropane	ND	0.047	2.0	ug/L	1	5/8/2016 04:40 PM
1,2-Dibromoethane	ND	0.057	1.0	ug/L	1	5/8/2016 04:40 PM
1,2-Dichlorobenzene	ND	0.040	1.0	ug/L	1	5/8/2016 04:40 PM
1,2-Dichloroethane	ND	0.064	0.50	ug/L	1	5/8/2016 04:40 PM
1,2-Dichloropropane	ND	0.062	1.0	ug/L	1	5/8/2016 04:40 PM
1,3,5-Trimethylbenzene	ND	0.015	1.0	ug/L	1	5/8/2016 04:40 PM
1,3-Dichlorobenzene	ND	0.057	1.0	ug/L	1	5/8/2016 04:40 PM
1,3-Dichloropropane	ND	0.040	1.0	ug/L	1	5/8/2016 04:40 PM
1,4-Dichlorobenzene	ND	0.030	1.0	ug/L	1	5/8/2016 04:40 PM
2,2-Dichloropropane	ND	0.026	1.0	ug/L	1	5/8/2016 04:40 PM
2-Butanone	ND	0.48	10	ug/L	1	5/8/2016 04:40 PM
2-Chlorotoluene	ND	0.040	1.0	ug/L	1	5/8/2016 04:40 PM
2-Hexanone	ND	0.53	5.0	ug/L	1	5/8/2016 04:40 PM
4-Chlorotoluene	ND	0.036	1.0	ug/L	1	5/8/2016 04:40 PM
4-Isopropyltoluene	ND	0.022	1.0	ug/L	1	5/8/2016 04:40 PM
4-Methyl-2-pentanone	ND	0.17	10	ug/L	1	5/8/2016 04:40 PM
Acetone	ND	1.1	10	ug/L	1	5/8/2016 04:40 PM
Acrolein	ND	0.56	20	ug/L	1	5/8/2016 04:40 PM
Acrylonitrile	ND	0.30	20	ug/L	1	5/8/2016 04:40 PM
Benzene	ND	0.036	1.0	ug/L	1	5/8/2016 04:40 PM
Bromobenzene	ND	0.043	1.0	ug/L	1	5/8/2016 04:40 PM
Bromochloromethane	ND	0.22	1.0	ug/L	1	5/8/2016 04:40 PM
Bromodichloromethane	ND	0.031	1.0	ug/L	1	5/8/2016 04:40 PM
Bromoform	ND	0.32	1.0	ug/L	1	5/8/2016 04:40 PM
Bromomethane	ND	0.32	1.0	ug/L	1	5/8/2016 04:40 PM

Qualifiers: B Analyte detected in the associated Method Blank E Value above quantitation range
H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit S Spike/Surrogate outside of limits due to matrix interference
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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-012

Client Sample ID: EB-050416
Collection Date: 5/4/2016 12:45:00 PM
Matrix: WATER

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

EPA 8260B

RunID: MS5_160508A	QC Batch: P16VW089	PrepDate:	Analyst: RB			
Carbon disulfide	ND	0.025	1.0	ug/L	1	5/8/2016 04:40 PM
Carbon tetrachloride	ND	0.057	0.50	ug/L	1	5/8/2016 04:40 PM
Chlorobenzene	ND	0.036	1.0	ug/L	1	5/8/2016 04:40 PM
Chloroethane	ND	0.099	1.0	ug/L	1	5/8/2016 04:40 PM
Chloroform	ND	0.036	1.0	ug/L	1	5/8/2016 04:40 PM
Chloromethane	ND	0.12	1.0	ug/L	1	5/8/2016 04:40 PM
cis-1,2-Dichloroethene	ND	0.051	1.0	ug/L	1	5/8/2016 04:40 PM
cis-1,3-Dichloropropene	ND	0.044	1.0	ug/L	1	5/8/2016 04:40 PM
Di-isopropyl ether	ND	0.017	1.0	ug/L	1	5/8/2016 04:40 PM
Dibromochloromethane	ND	0.072	1.0	ug/L	1	5/8/2016 04:40 PM
Dibromomethane	ND	0.17	1.0	ug/L	1	5/8/2016 04:40 PM
Dichlorodifluoromethane	ND	0.070	1.0	ug/L	1	5/8/2016 04:40 PM
Ethyl tert-butyl ether	ND	0.039	1.0	ug/L	1	5/8/2016 04:40 PM
Ethylbenzene	ND	0.036	1.0	ug/L	1	5/8/2016 04:40 PM
Freon-113	ND	0.074	1.0	ug/L	1	5/8/2016 04:40 PM
Hexachlorobutadiene	ND	0.11	1.0	ug/L	1	5/8/2016 04:40 PM
Isopropylbenzene	ND	0.034	1.0	ug/L	1	5/8/2016 04:40 PM
m,p-Xylene	ND	0.024	1.0	ug/L	1	5/8/2016 04:40 PM
Methylene chloride	ND	0.28	2.0	ug/L	1	5/8/2016 04:40 PM
MTBE	ND	0.062	1.0	ug/L	1	5/8/2016 04:40 PM
n-Butylbenzene	ND	0.031	1.0	ug/L	1	5/8/2016 04:40 PM
n-Propylbenzene	ND	0.018	1.0	ug/L	1	5/8/2016 04:40 PM
Naphthalene	ND	0.048	1.0	ug/L	1	5/8/2016 04:40 PM
o-Xylene	ND	0.042	1.0	ug/L	1	5/8/2016 04:40 PM
sec-Butylbenzene	ND	0.025	1.0	ug/L	1	5/8/2016 04:40 PM
Styrene	ND	0.035	1.0	ug/L	1	5/8/2016 04:40 PM
Tert-amyl methyl ether	ND	0.039	1.0	ug/L	1	5/8/2016 04:40 PM
Tert-Butanol	ND	0.30	5.0	ug/L	1	5/8/2016 04:40 PM
tert-Butylbenzene	ND	0.030	1.0	ug/L	1	5/8/2016 04:40 PM
Tetrachloroethene	ND	0.16	1.0	ug/L	1	5/8/2016 04:40 PM
Toluene	ND	0.042	2.0	ug/L	1	5/8/2016 04:40 PM
trans-1,2-Dichloroethene	ND	0.070	1.0	ug/L	1	5/8/2016 04:40 PM
trans-1,3-Dichloropropene	ND	0.039	1.0	ug/L	1	5/8/2016 04:40 PM
Trichloroethene	ND	0.12	1.0	ug/L	1	5/8/2016 04:40 PM
Trichlorofluoromethane	ND	0.031	1.0	ug/L	1	5/8/2016 04:40 PM
Vinyl chloride	ND	0.095	0.50	ug/L	1	5/8/2016 04:40 PM

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-012

Client Sample ID: EB-050416
Collection Date: 5/4/2016 12:45:00 PM
Matrix: WATER

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

EPA 8260B

RunID:	MS5_160508A	QC Batch:	P16VW089	PrepDate:	Analyst:	RB
Xylenes, Total	ND	1.5	2.0	ug/L	1	5/8/2016 04:40 PM
Surr: 1,2-Dichloroethane-d4	111	0	72-119	%REC	1	5/8/2016 04:40 PM
Surr: 4-Bromofluorobenzene	111	0	76-119	%REC	1	5/8/2016 04:40 PM
Surr: Dibromofluoromethane	108	0	85-115	%REC	1	5/8/2016 04:40 PM
Surr: Toluene-d8	103	0	81-120	%REC	1	5/8/2016 04:40 PM

TPH EXTRACTABLE BY GC/FID

EPA 3510C

EPA 8015B

RunID:	GC1_160512A	QC Batch:	58358	PrepDate:	5/10/2016	Analyst:	MDM
TPH-Oil (C23-C44)	ND	14	26	ug/L	1	5/12/2016 08:08 PM	
TPH-Diesel (C13-C22)	19	16	26	J ug/L	1	5/12/2016 08:08 PM	
Surr: Octacosane	126	0	26-152	%REC	1	5/12/2016 08:08 PM	
Surr: p-Terphenyl	120	0	57-132	%REC	1	5/12/2016 08:08 PM	

GASOLINE RANGE ORGANICS BY GC/FID

EPA 8015B

RunID:	GC4_160505A	QC Batch:	E16VW031	PrepDate:	Analyst:	QBM
TPH-Gasoline (C4-C12)	41	16	50	J ug/L	1	5/5/2016 12:36 PM
Surr: Chlorobenzene - d5	94.2	0	74-138	%REC	1	5/5/2016 12:36 PM

TOTAL TPH

EPA 8015B

RunID:	GC1_160511A	QC Batch:	R108396	PrepDate:	Analyst:	FJ
Total TPH	18	16	50	J ug/L	1	5/11/2016

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-013

Client Sample ID: TB-050415
Collection Date: 5/4/2016 12:55:00 PM
Matrix: WATER

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

EPA 8260B

RunID: MS5_160508A	QC Batch: P16VW089	PrepDate:	Analyst: RB			
1,1,1,2-Tetrachloroethane	ND	0.066	1.0	ug/L	1	5/8/2016 05:06 PM
1,1,1-Trichloroethane	ND	0.068	1.0	ug/L	1	5/8/2016 05:06 PM
1,1,2,2-Tetrachloroethane	ND	0.031	1.0	ug/L	1	5/8/2016 05:06 PM
1,1,2-Trichloroethane	ND	0.062	1.0	ug/L	1	5/8/2016 05:06 PM
1,1-Dichloroethane	ND	0.022	0.50	ug/L	1	5/8/2016 05:06 PM
1,1-Dichloroethene	ND	0.087	1.0	ug/L	1	5/8/2016 05:06 PM
1,1-Dichloropropene	ND	0.044	1.0	ug/L	1	5/8/2016 05:06 PM
1,2,3-Trichlorobenzene	ND	0.056	1.0	ug/L	1	5/8/2016 05:06 PM
1,2,3-Trichloropropane	ND	0.059	1.0	ug/L	1	5/8/2016 05:06 PM
1,2,4-Trichlorobenzene	ND	0.060	1.0	ug/L	1	5/8/2016 05:06 PM
1,2,4-Trimethylbenzene	ND	0.042	1.0	ug/L	1	5/8/2016 05:06 PM
1,2-Dibromo-3-chloropropane	ND	0.047	2.0	ug/L	1	5/8/2016 05:06 PM
1,2-Dibromoethane	ND	0.057	1.0	ug/L	1	5/8/2016 05:06 PM
1,2-Dichlorobenzene	ND	0.040	1.0	ug/L	1	5/8/2016 05:06 PM
1,2-Dichloroethane	ND	0.064	0.50	ug/L	1	5/8/2016 05:06 PM
1,2-Dichloropropane	ND	0.062	1.0	ug/L	1	5/8/2016 05:06 PM
1,3,5-Trimethylbenzene	ND	0.015	1.0	ug/L	1	5/8/2016 05:06 PM
1,3-Dichlorobenzene	ND	0.057	1.0	ug/L	1	5/8/2016 05:06 PM
1,3-Dichloropropane	ND	0.040	1.0	ug/L	1	5/8/2016 05:06 PM
1,4-Dichlorobenzene	ND	0.030	1.0	ug/L	1	5/8/2016 05:06 PM
2,2-Dichloropropane	ND	0.026	1.0	ug/L	1	5/8/2016 05:06 PM
2-Butanone	ND	0.48	10	ug/L	1	5/8/2016 05:06 PM
2-Chlorotoluene	ND	0.040	1.0	ug/L	1	5/8/2016 05:06 PM
2-Hexanone	ND	0.53	5.0	ug/L	1	5/8/2016 05:06 PM
4-Chlorotoluene	ND	0.036	1.0	ug/L	1	5/8/2016 05:06 PM
4-Isopropyltoluene	ND	0.022	1.0	ug/L	1	5/8/2016 05:06 PM
4-Methyl-2-pentanone	ND	0.17	10	ug/L	1	5/8/2016 05:06 PM
Acetone	2.5	1.1	10	J ug/L	1	5/8/2016 05:06 PM
Acrolein	ND	0.56	20	ug/L	1	5/8/2016 05:06 PM
Acrylonitrile	ND	0.30	20	ug/L	1	5/8/2016 05:06 PM
Benzene	ND	0.036	1.0	ug/L	1	5/8/2016 05:06 PM
Bromobenzene	ND	0.043	1.0	ug/L	1	5/8/2016 05:06 PM
Bromochloromethane	ND	0.22	1.0	ug/L	1	5/8/2016 05:06 PM
Bromodichloromethane	ND	0.031	1.0	ug/L	1	5/8/2016 05:06 PM
Bromoform	ND	0.32	1.0	ug/L	1	5/8/2016 05:06 PM
Bromomethane	ND	0.32	1.0	ug/L	1	5/8/2016 05:06 PM

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

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-013

Client Sample ID: TB-050415
Collection Date: 5/4/2016 12:55:00 PM
Matrix: WATER

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

EPA 8260B

RunID: MS5_160508A	QC Batch: P16VW089	PrepDate:	Analyst: RB				
Carbon disulfide	0.030	0.025	1.0	J	ug/L	1	5/8/2016 05:06 PM
Carbon tetrachloride	ND	0.057	0.50		ug/L	1	5/8/2016 05:06 PM
Chlorobenzene	ND	0.036	1.0		ug/L	1	5/8/2016 05:06 PM
Chloroethane	ND	0.099	1.0		ug/L	1	5/8/2016 05:06 PM
Chloroform	ND	0.036	1.0		ug/L	1	5/8/2016 05:06 PM
Chloromethane	0.17	0.12	1.0	J	ug/L	1	5/8/2016 05:06 PM
cis-1,2-Dichloroethene	ND	0.051	1.0		ug/L	1	5/8/2016 05:06 PM
cis-1,3-Dichloropropene	ND	0.044	1.0		ug/L	1	5/8/2016 05:06 PM
Di-isopropyl ether	ND	0.017	1.0		ug/L	1	5/8/2016 05:06 PM
Dibromochloromethane	ND	0.072	1.0		ug/L	1	5/8/2016 05:06 PM
Dibromomethane	ND	0.17	1.0		ug/L	1	5/8/2016 05:06 PM
Dichlorodifluoromethane	ND	0.070	1.0		ug/L	1	5/8/2016 05:06 PM
Ethyl tert-butyl ether	ND	0.039	1.0		ug/L	1	5/8/2016 05:06 PM
Ethylbenzene	ND	0.036	1.0		ug/L	1	5/8/2016 05:06 PM
Freon-113	ND	0.074	1.0		ug/L	1	5/8/2016 05:06 PM
Hexachlorobutadiene	ND	0.11	1.0		ug/L	1	5/8/2016 05:06 PM
Isopropylbenzene	ND	0.034	1.0		ug/L	1	5/8/2016 05:06 PM
m,p-Xylene	ND	0.024	1.0		ug/L	1	5/8/2016 05:06 PM
Methylene chloride	9.6	0.28	2.0		ug/L	1	5/8/2016 05:06 PM
MTBE	ND	0.062	1.0		ug/L	1	5/8/2016 05:06 PM
n-Butylbenzene	ND	0.031	1.0		ug/L	1	5/8/2016 05:06 PM
n-Propylbenzene	ND	0.018	1.0		ug/L	1	5/8/2016 05:06 PM
Naphthalene	ND	0.048	1.0		ug/L	1	5/8/2016 05:06 PM
o-Xylene	ND	0.042	1.0		ug/L	1	5/8/2016 05:06 PM
sec-Butylbenzene	ND	0.025	1.0		ug/L	1	5/8/2016 05:06 PM
Styrene	ND	0.035	1.0		ug/L	1	5/8/2016 05:06 PM
Tert-amyl methyl ether	ND	0.039	1.0		ug/L	1	5/8/2016 05:06 PM
Tert-Butanol	ND	0.30	5.0		ug/L	1	5/8/2016 05:06 PM
tert-Butylbenzene	ND	0.030	1.0		ug/L	1	5/8/2016 05:06 PM
Tetrachloroethene	ND	0.16	1.0		ug/L	1	5/8/2016 05:06 PM
Toluene	ND	0.042	2.0		ug/L	1	5/8/2016 05:06 PM
trans-1,2-Dichloroethene	ND	0.070	1.0		ug/L	1	5/8/2016 05:06 PM
trans-1,3-Dichloropropene	ND	0.039	1.0		ug/L	1	5/8/2016 05:06 PM
Trichloroethene	ND	0.12	1.0		ug/L	1	5/8/2016 05:06 PM
Trichlorofluoromethane	ND	0.031	1.0		ug/L	1	5/8/2016 05:06 PM
Vinyl chloride	ND	0.095	0.50		ug/L	1	5/8/2016 05:06 PM

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



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ANALYTICAL RESULTS

Print Date: 23-May-16

CLIENT: CH2MHill
Lab Order: N019635
Project: SFPP - Norwalk Site
Lab ID: N019635-013

Client Sample ID: TB-050415
Collection Date: 5/4/2016 12:55:00 PM
Matrix: WATER

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

EPA 8260B

RunID: MS5_160508A	QC Batch: P16VW089				PrepDate:	Analyst: RB	
Xylenes, Total	ND	1.5	2.0		ug/L	1	5/8/2016 05:06 PM
Surr: 1,2-Dichloroethane-d4	108	0	72-119		%REC	1	5/8/2016 05:06 PM
Surr: 4-Bromofluorobenzene	103	0	76-119		%REC	1	5/8/2016 05:06 PM
Surr: Dibromofluoromethane	115	0	85-115	S	%REC	1	5/8/2016 05:06 PM
Surr: Toluene-d8	105	0	81-120		%REC	1	5/8/2016 05:06 PM

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



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CLIENT: CH2MHill
Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPGE

Sample ID: MB-58315	SampType: MBLK	TestCode: 6010_SPGE	Units: mg/Kg	Prep Date: 5/5/2016	RunNo: 108279						
Client ID: PBS	Batch ID: 58315	TestNo: EPA 6010B EPA 3050B		Analysis Date: 5/5/2016	SeqNo: 2316869						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.0									
Arsenic	ND	1.0									
Barium	ND	1.0									
Beryllium	ND	1.0									
Chromium	ND	1.0									
Cobalt	ND	1.0									
Copper	ND	2.0									
Lead	0.063	1.0									J
Molybdenum	ND	1.0									
Nickel	ND	1.0									
Selenium	ND	1.0									
Silver	ND	1.0									
Zinc	ND	1.0									

Sample ID: LCS-58315	SampType: LCS	TestCode: 6010_SPGE	Units: mg/Kg	Prep Date: 5/5/2016	RunNo: 108279						
Client ID: LCSS	Batch ID: 58315	TestNo: EPA 6010B EPA 3050B		Analysis Date: 5/5/2016	SeqNo: 2316870						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	25.181	2.0	25.00	0	101	85	115				
Arsenic	25.453	1.0	25.00	0	102	85	115				
Barium	25.427	1.0	25.00	0	102	85	115				
Beryllium	24.955	1.0	25.00	0	99.8	85	115				
Chromium	25.399	1.0	25.00	0	102	85	115				
Cobalt	25.332	1.0	25.00	0	101	85	115				
Copper	25.142	2.0	25.00	0	101	85	115				
Lead	25.244	1.0	25.00	0	101	85	115				
Molybdenum	25.983	1.0	25.00	0	104	85	115				
Nickel	25.509	1.0	25.00	0	102	85	115				

Qualifiers:

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



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CLIENT: CH2MHill
Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPGE

Sample ID: LCS-58315	SampType: LCS	TestCode: 6010_SPGE	Units: mg/Kg	Prep Date: 5/5/2016	RunNo: 108279						
Client ID: LCSS	Batch ID: 58315	TestNo: EPA 6010B EPA 3050B		Analysis Date: 5/5/2016	SeqNo: 2316870						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	25.245	1.0	25.00	0	101	85	115				
Silver	24.912	1.0	25.00	0	99.6	85	115				
Zinc	25.192	1.0	25.00	0	101	85	115				

Sample ID: N019625-001A-MS	SampType: MS	TestCode: 6010_SPGE	Units: mg/Kg	Prep Date: 5/5/2016	RunNo: 108279						
Client ID: ZZZZZ	Batch ID: 58315	TestNo: EPA 6010B EPA 3050B		Analysis Date: 5/5/2016	SeqNo: 2316878						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	12.557	2.0	24.99	0	50.3	75	125				S
Arsenic	38.881	1.0	24.99	17.35	86.2	75	125				
Barium	138.630	1.0	24.99	112.8	103	75	125				
Beryllium	19.189	1.0	24.99	0	76.8	75	125				
Chromium	37.026	1.0	24.99	16.38	82.6	75	125				
Cobalt	29.023	1.0	24.99	8.964	80.3	75	125				
Copper	43.283	2.0	24.99	19.29	96.0	75	125				
Lead	45.839	1.0	24.99	31.18	58.7	75	125				S
Molybdenum	20.200	1.0	24.99	0	80.8	75	125				
Nickel	32.241	1.0	24.99	10.80	85.8	75	125				
Selenium	13.670	1.0	24.99	0	54.7	75	125				S
Silver	18.627	1.0	24.99	0	74.5	75	125				S
Zinc	144.593	1.0	24.99	129.0	62.5	75	125				S

Sample ID: N019625-001A-MSD	SampType: MSD	TestCode: 6010_SPGE	Units: mg/Kg	Prep Date: 5/5/2016	RunNo: 108279						
Client ID: ZZZZZ	Batch ID: 58315	TestNo: EPA 6010B EPA 3050B		Analysis Date: 5/5/2016	SeqNo: 2316883						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	12.672	2.0	25.06	0	50.6	75	125	12.56	0.906	20	S
Arsenic	37.670	1.0	25.06	17.35	81.1	75	125	38.88	3.16	20	
Barium	136.835	1.0	25.06	112.8	96.0	75	125	138.6	1.30	20	
Beryllium	19.079	1.0	25.06	0	76.1	75	125	19.19	0.573	20	

Qualifiers:

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



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CLIENT: CH2MHill
Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPGE

Sample ID: N019625-001A-MSD		SampType: MSD		TestCode: 6010_SPGE		Units: mg/Kg		Prep Date: 5/5/2016		RunNo: 108279	
Client ID: ZZZZZZ		Batch ID: 58315		TestNo: EPA 6010B EPA 3050B				Analysis Date: 5/5/2016		SeqNo: 2316883	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	36.633	1.0	25.06	16.38	80.8	75	125	37.03	1.07	20	
Cobalt	27.661	1.0	25.06	8.964	74.6	75	125	29.02	4.81	20	S
Copper	43.004	2.0	25.06	19.29	94.6	75	125	43.28	0.648	20	
Lead	44.157	1.0	25.06	31.18	51.8	75	125	45.84	3.74	20	S
Molybdenum	19.658	1.0	25.06	0	78.4	75	125	20.20	2.72	20	
Nickel	31.730	1.0	25.06	10.80	83.5	75	125	32.24	1.60	20	
Selenium	12.014	1.0	25.06	0	47.9	75	125	13.67	12.9	20	S
Silver	17.401	1.0	25.06	0	69.4	75	125	18.63	6.81	20	S
Zinc	138.666	1.0	25.06	129.0	38.6	75	125	144.6	4.19	20	S

Sample ID: MB-58315		SampType: MBLK		TestCode: 6010_SPGE		Units: mg/Kg		Prep Date: 5/5/2016		RunNo: 108325	
Client ID: PBS		Batch ID: 58315		TestNo: EPA 6010B EPA 3050B				Analysis Date: 5/9/2016		SeqNo: 2319029	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	1.0									
Thallium	ND	2.0									
Vanadium	ND	1.0									

Sample ID: LCS-58315		SampType: LCS		TestCode: 6010_SPGE		Units: mg/Kg		Prep Date: 5/5/2016		RunNo: 108325	
Client ID: LCSS		Batch ID: 58315		TestNo: EPA 6010B EPA 3050B				Analysis Date: 5/9/2016		SeqNo: 2319030	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	25.433	1.0	25.00	0	102	85	115				
Thallium	25.129	2.0	25.00	0	101	85	115				
Vanadium	25.516	1.0	25.00	0	102	85	115				

Qualifiers:

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Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPGE

Sample ID: N019625-001A-MS	SampType: MS	TestCode: 6010_SPGE	Units: mg/Kg	Prep Date: 5/5/2016	RunNo: 108325						
Client ID: ZZZZZZ	Batch ID: 58315	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 5/9/2016	SeqNo: 2319038						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	20.757	1.0	24.99	0.9476	79.3	75	125				
Thallium	19.051	2.0	24.99	0.6724	73.6	75	125				S
Vanadium	55.231	1.0	24.99	32.22	92.1	75	125				

Sample ID: N019625-001A-MSD	SampType: MSD	TestCode: 6010_SPGE	Units: mg/Kg	Prep Date: 5/5/2016	RunNo: 108325						
Client ID: ZZZZZZ	Batch ID: 58315	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 5/9/2016	SeqNo: 2319041						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	20.996	1.0	25.06	0.9476	80.0	75	125	20.76	1.14	20	
Thallium	18.992	2.0	25.06	0.6724	73.1	75	125	19.05	0.312	20	S
Vanadium	55.376	1.0	25.06	32.22	92.4	75	125	55.23	0.261	20	

Qualifiers:

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ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S_PGE

Sample ID: MB-58313	SampType: MBLK	TestCode: 7471_S_PGE	Units: ug/L	Prep Date: 5/5/2016	RunNo: 108265						
Client ID: PBS	Batch ID: 58313	TestNo: EPA 7471A		Analysis Date: 5/5/2016	SeqNo: 2316124						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	ND	1.2									
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Sample ID: LCS-58313	SampType: LCS	TestCode: 7471_S_PGE	Units: ug/L	Prep Date: 5/5/2016	RunNo: 108265						
Client ID: LCSS	Batch ID: 58313	TestNo: EPA 7471A		Analysis Date: 5/5/2016	SeqNo: 2316125						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	0.458	1.2	0.4167	0	110	75	125				J
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Sample ID: N019635-005F-MS	SampType: MS	TestCode: 7471_S_PGE	Units: ug/L-dry-dry	Prep Date: 5/5/2016	RunNo: 108265						
Client ID: ZZZZZZ	Batch ID: 58313	TestNo: EPA 7471A		Analysis Date: 5/5/2016	SeqNo: 2316126						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	0.482	1.2	0.4286	0.03510	104	75	125				J
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Sample ID: N019635-005F-MSD	SampType: MSD	TestCode: 7471_S_PGE	Units: ug/L-dry-dry	Prep Date: 5/5/2016	RunNo: 108265						
Client ID: ZZZZZZ	Batch ID: 58313	TestNo: EPA 7471A		Analysis Date: 5/5/2016	SeqNo: 2316127						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	0.484	1.2	0.4207	0.03510	107	75	125	0.4819	0	20	J
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Qualifiers:

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ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_S_DM_SFPP

Sample ID: MB-58377	SampType: MBLK	TestCode: 8015_S_DM_	Units: ug/Kg	Prep Date: 5/11/2016	RunNo: 108463						
Client ID: PBS	Batch ID: 58377	TestNo: EPA 8015B EPA 3550B		Analysis Date: 5/13/2016	SeqNo: 2330732						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel (C13-C22)	ND	10000									
TPH-Oil (C23-C44)	7229.333	10000									J
Surr: Octacosane	25914.000		26670		97.2	25	162				
Surr: p-Terphenyl	24682.333		26670		92.5	47	142				

Qualifiers:

- | | | |
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ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_FP_SFPP

Sample ID: MB-58358	SampType: MBLK	TestCode: 8015_W_FP_	Units: ug/L	Prep Date: 5/10/2016	RunNo: 108437						
Client ID: PBW	Batch ID: 58358	TestNo: EPA 8015B EPA 3510C		Analysis Date: 5/12/2016	SeqNo: 2325684						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel (C13-C22)	17.113	25									J
TPH-Oil (C23-C44)	ND	25									
Surr: Octacosane	115.042		80.00		144	26	152				
Surr: p-Terphenyl	77.751		80.00		97.2	57	132				

Qualifiers:

- | | | |
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ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_SFPTOT

Sample ID: MB-R108396	SampType: MBLK	TestCode: 8015_W_SFP	Units: ug/L	Prep Date:	RunNo: 108396						
Client ID: PBW	Batch ID: R108396	TestNo: EPA 8015B		Analysis Date: 5/11/2016	SeqNo: 2323772						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH	ND	50									

Qualifiers:

- | | | |
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ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_ENCSSFPP

Sample ID: E160506LCS	SampType: LCS	TestCode: 8015GAS_EN	Units: ug/Kg	Prep Date:	RunNo: 108355						
Client ID: LCSS	Batch ID: E16VS061	TestNo: EPA 8015B		Analysis Date: 5/6/2016	SeqNo: 2320831						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	4284.000	1000	5000	0	85.7	57	146				
Surr: Chlorobenzene - d5	91014.000		100000		91.0	64	148				

Sample ID: E160506MB1	SampType: MBLK	TestCode: 8015GAS_EN	Units: ug/Kg	Prep Date:	RunNo: 108355						
Client ID: PBS	Batch ID: E16VS061	TestNo: EPA 8015B		Analysis Date: 5/6/2016	SeqNo: 2320832						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	111.000	1000									J
Surr: Chlorobenzene - d5	97028.000		100000		97.0	64	148				

Sample ID: N019645-002AMS	SampType: MS	TestCode: 8015GAS_EN	Units: ug/Kg	Prep Date:	RunNo: 108355						
Client ID: ZZZZZ	Batch ID: E16VS061	TestNo: EPA 8015B		Analysis Date: 5/6/2016	SeqNo: 2320837						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	3956.000	1000	5000	65.00	77.8	57	146				
Surr: Chlorobenzene - d5	89502.000		100000		89.5	64	148				

Sample ID: N019645-002AMSD	SampType: MSD	TestCode: 8015GAS_EN	Units: ug/Kg	Prep Date:	RunNo: 108355						
Client ID: ZZZZZ	Batch ID: E16VS061	TestNo: EPA 8015B		Analysis Date: 5/6/2016	SeqNo: 2320838						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	4126.000	1000	5000	65.00	81.2	57	146	3956	4.21	50	
Surr: Chlorobenzene - d5	88878.000		100000		88.9	64	148		0		

Qualifiers:

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ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_WSFPP

Sample ID: E160505LCS	SampType: LCS	TestCode: 8015GAS_WS	Units: ug/L	Prep Date:	RunNo: 108268						
Client ID: LCSW	Batch ID: E16VW031	TestNo: EPA 8015B		Analysis Date: 5/5/2016	SeqNo: 2316227						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	860.000	50	1000	0	86.0	67	136				
Surr: Chlorobenzene - d5	42933.000		50000		85.9	74	138				

Sample ID: E160505MB1	SampType: MBLK	TestCode: 8015GAS_WS	Units: ug/L	Prep Date:	RunNo: 108268						
Client ID: PBW	Batch ID: E16VW031	TestNo: EPA 8015B		Analysis Date: 5/5/2016	SeqNo: 2316228						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	44.000	50									J
Surr: Chlorobenzene - d5	45200.000		50000		90.4	74	138				

Sample ID: N019608-001BMS	SampType: MS	TestCode: 8015GAS_WS	Units: ug/L	Prep Date:	RunNo: 108268						
Client ID: ZZZZZ	Batch ID: E16VW031	TestNo: EPA 8015B		Analysis Date: 5/5/2016	SeqNo: 2316232						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	834.000	50	1000	32.00	80.2	67	136				
Surr: Chlorobenzene - d5	43328.000		50000		86.7	74	138				

Sample ID: N019608-001BMSD	SampType: MSD	TestCode: 8015GAS_WS	Units: ug/L	Prep Date:	RunNo: 108268						
Client ID: ZZZZZ	Batch ID: E16VW031	TestNo: EPA 8015B		Analysis Date: 5/5/2016	SeqNo: 2316233						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	871.000	50	1000	32.00	83.9	67	136	834.0	4.34	30	
Surr: Chlorobenzene - d5	43029.000		50000		86.1	74	138		0	0	

Qualifiers:

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ANALYTICAL QC SUMMARY REPORT

TestCode: 8082_S_PGE

Sample ID: LCS-58392	SampType: LCS	TestCode: 8082_S_PGE	Units: ug/Kg	Prep Date: 5/11/2016	RunNo: 108412						
Client ID: LCSS	Batch ID: 58392	TestNo: EPA 8082	EPA 3550B	Analysis Date: 5/11/2016	SeqNo: 2324009						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	146.899	16	166.7	0	88.1	41	138				
Aroclor 1260	154.894	16	166.7	0	92.9	61	131				
Surr: Decachlorobiphenyl	16.338		16.67		98.0	26	125				
Surr: Tetrachloro-m-xylene	12.289		16.67		73.7	48	121				

Sample ID: MB-58392	SampType: MBLK	TestCode: 8082_S_PGE	Units: ug/Kg	Prep Date: 5/11/2016	RunNo: 108412						
Client ID: PBS	Batch ID: 58392	TestNo: EPA 8082	EPA 3550B	Analysis Date: 5/11/2016	SeqNo: 2324010						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	16									
Aroclor 1221	ND	33									
Aroclor 1232	ND	16									
Aroclor 1242	ND	16									
Aroclor 1248	ND	16									
Aroclor 1254	ND	16									
Aroclor 1260	ND	16									
Surr: Decachlorobiphenyl	14.878		16.67		89.2	26	125				
Surr: Tetrachloro-m-xylene	10.301		16.67		61.8	48	121				

Sample ID: N019635-005F-MS	SampType: MS	TestCode: 8082_S_PGE	Units: ug/Kg-dry	Prep Date: 5/11/2016	RunNo: 108412						
Client ID: ZZZZZ	Batch ID: 58392	TestNo: EPA 8082	EPA 3550B	Analysis Date: 5/11/2016	SeqNo: 2324014						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	149.003	17	169.4	0	88.0	41	138				
Aroclor 1260	150.932	17	169.4	0	89.1	61	131				
Surr: Decachlorobiphenyl	15.701		16.94		92.7	26	125				
Surr: Tetrachloro-m-xylene	11.512		16.94		68.0	48	121				

Qualifiers:

- | | | |
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ANALYTICAL QC SUMMARY REPORT

TestCode: 8082_S_PGE

Sample ID: N019635-005F-MSD	SampType: MSD	TestCode: 8082_S_PGE	Units: ug/Kg-dry	Prep Date: 5/11/2016	RunNo: 108412						
Client ID: ZZZZZZ	Batch ID: 58392	TestNo: EPA 8082	EPA 3550B	Analysis Date: 5/12/2016	SeqNo: 2324015						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	151.747	17	168.8	0	89.9	41	138	149.0	1.82	20	
Aroclor 1260	153.769	17	168.8	0	91.1	61	131	150.9	1.86	20	
Surr: Decachlorobiphenyl	15.820		16.88		93.7	26	125		0		
Surr: Tetrachloro-m-xylene	12.087		16.88		71.6	48	121		0		

Qualifiers:

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ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160507LCS	SampType: LCS	TestCode: 8260_S_5035	Units: ug/Kg	Prep Date:	RunNo: 108344						
Client ID: LCSS	Batch ID: R16VS073	TestNo: EPA 8260B		Analysis Date: 5/7/2016	SeqNo: 2320396						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.400	5.0	40.00	0	104	74	125				
1,1,1-Trichloroethane	43.500	5.0	40.00	0	109	68	130				
1,1,2,2-Tetrachloroethane	37.070	5.0	40.00	0	92.7	59	140				
1,1,2-Trichloroethane	39.050	5.0	40.00	0	97.6	62	127				
1,1-Dichloroethane	39.570	5.0	40.00	0	98.9	73	125				
1,1-Dichloroethene	41.210	5.0	40.00	0	103	65	136				
1,1-Dichloropropene	44.740	5.0	40.00	0	112	70	135				
1,2,3-Trichlorobenzene	41.290	5.0	40.00	0	103	62	133				
1,2,3-Trichloropropane	33.720	5.0	40.00	0	84.3	63	130				
1,2,4-Trichlorobenzene	42.650	5.0	40.00	0	107	65	131				
1,2,4-Trimethylbenzene	43.120	5.0	40.00	0	108	65	135				
1,2-Dibromo-3-chloropropane	34.440	5.0	40.00	0	86.1	49	135				
1,2-Dibromoethane	39.220	5.0	40.00	0	98.0	70	124				
1,2-Dichlorobenzene	39.690	5.0	40.00	0	99.2	74	120				
1,2-Dichloroethane	38.680	5.0	40.00	0	96.7	72	137				
1,2-Dichloropropane	41.880	5.0	40.00	0	105	71	120				
1,3,5-Trimethylbenzene	44.120	5.0	40.00	0	110	65	133				
1,3-Dichlorobenzene	39.040	5.0	40.00	0	97.6	72	124				
1,3-Dichloropropane	39.350	5.0	40.00	0	98.4	76	123				
1,4-Dichlorobenzene	39.190	5.0	40.00	0	98.0	72	125				
2,2-Dichloropropane	48.840	5.0	40.00	0	122	67	134				
2-Butanone	312.710	50	400.0	0	78.2	40	135				
2-Chlorotoluene	40.550	5.0	40.00	0	101	69	128				
2-Hexanone	365.760	50	400.0	0	91.4	70	130				
4-Chlorotoluene	41.620	5.0	40.00	0	104	73	126				
4-Isopropyltoluene	44.890	5.0	40.00	0	112	70	130				
4-Methyl-2-pentanone	382.400	50	400.0	0	95.6	65	135				
Acetone	320.690	50	400.0	0	80.2	40	141				
Acrolein	357.790	100	400.0	0	89.4	65	135				
Acrylonitrile	332.900	50	400.0	0	83.2	65	135				

Qualifiers:

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



ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

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NEVADA
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"Serving Clients with Passion and Professionalism"

CLIENT: CH2MHill
Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160507LCS	SampType: LCS	TestCode: 8260_S_5035	Units: ug/Kg	Prep Date:	RunNo: 108344						
Client ID: LCSS	Batch ID: R16VS073	TestNo: EPA 8260B		Analysis Date: 5/7/2016	SeqNo: 2320396						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	42.490	5.0	40.00	0	106	73	126				
Bromobenzene	39.710	5.0	40.00	0	99.3	66	121				
Bromochloromethane	38.870	5.0	40.00	0	97.2	71	127				
Bromodichloromethane	40.550	5.0	40.00	0	101	72	128				
Bromoform	37.450	5.0	40.00	0	93.6	66	137				
Bromomethane	41.480	5.0	40.00	0	104	45	141				
Carbon disulfide	40.620	5.0	40.00	0	102	66	135				
Carbon tetrachloride	43.360	5.0	40.00	0	108	67	133				
Chlorobenzene	39.610	5.0	40.00	0	99.0	75	123				
Chloroethane	40.250	5.0	40.00	0	101	41	141				
Chloroform	40.590	5.0	40.00	0	101	72	124				
Chloromethane	41.040	5.0	40.00	0	103	51	129				
cis-1,2-Dichloroethene	41.080	5.0	40.00	0	103	67	125				
cis-1,3-Dichloropropene	42.110	5.0	40.00	0	105	72	126				
Di-isopropyl ether	39.580	5.0	40.00	0	99.0	70	130				
Dibromochloromethane	39.530	5.0	40.00	0	98.8	66	130				
Dibromomethane	38.280	5.0	40.00	0	95.7	73	128				
Dichlorodifluoromethane	48.610	5.0	40.00	0	122	34	136				
Ethyl Tert-butyl ether	42.540	5.0	40.00	0	106	70	130				
Ethylbenzene	42.260	5.0	40.00	0	106	74	127				
Freon-113	41.300	5.0	40.00	0	103	65	135				
Hexachlorobutadiene	43.260	5.0	40.00	0	108	53	142				
Isopropylbenzene	41.430	5.0	40.00	0	104	77	129				
m,p-Xylene	84.730	5.0	80.00	0	106	79	126				
Methylene chloride	39.340	5.0	40.00	0	98.4	63	137				
MTBE	37.420	5.0	40.00	0	93.6	50	135				
n-Butylbenzene	45.270	5.0	40.00	0	113	65	138				
n-Propylbenzene	40.690	5.0	40.00	0	102	63	135				
Naphthalene	31.690	5.0	40.00	0	79.2	51	135				
o-Xylene	41.890	5.0	40.00	0	105	77	125				

Qualifiers:

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|----------------------------------------------------------------|----------------------------------------|------------------------------------------------------|
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CLIENT: CH2MHill
 Work Order: N019635
 Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160507LCS		SampType: LCS		TestCode: 8260_S_5035		Units: ug/Kg		Prep Date:		RunNo: 108344		
Client ID: LCSS		Batch ID: R16VS073		TestNo: EPA 8260B				Analysis Date: 5/7/2016		SeqNo: 2320396		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
sec-Butylbenzene	42.690	5.0	40.00	0	107	63	132					
Styrene	43.030	5.0	40.00	0	108	74	128					
Tert-amyl methyl ether	40.400	5.0	40.00	0	101	70	130					
Tert-Butanol	158.100	25	200.0	0	79.0	70	130					
tert-Butylbenzene	43.150	5.0	40.00	0	108	65	132					
Tetrachloroethene	43.410	5.0	40.00	0	109	67	139					
Toluene	42.970	5.0	40.00	0	107	71	127					
trans-1,2-Dichloroethene	41.770	5.0	40.00	0	104	66	134					
trans-1,3-Dichloropropene	38.810	5.0	40.00	0	97.0	65	127					
Trichloroethene	42.640	5.0	40.00	0	107	77	124					
Trichlorofluoromethane	42.660	5.0	40.00	0	107	49	139					
Vinyl chloride	46.360	5.0	40.00	0	116	58	126					
Xylenes, Total	126.620	5.0	120.0	0	106	65	125					
Surr: 1,2-Dichloroethane-d4	50.400		50.00		101	52	149					
Surr: 4-Bromofluorobenzene	52.770		50.00		106	65	135					
Surr: Dibromofluoromethane	50.590		50.00		101	65	135					
Surr: Toluene-d8	54.780		50.00		110	75	125					

Sample ID: R160507LCSD		SampType: LCSD		TestCode: 8260_S_5035		Units: ug/Kg		Prep Date:		RunNo: 108344		
Client ID: LCSS02		Batch ID: R16VS073		TestNo: EPA 8260B				Analysis Date: 5/7/2016		SeqNo: 2320397		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,1,1,2-Tetrachloroethane	40.470	5.0	40.00	0	101	74	125	41.40	2.27	30		
1,1,1-Trichloroethane	41.670	5.0	40.00	0	104	68	130	43.50	4.30	30		
1,1,2,2-Tetrachloroethane	38.940	5.0	40.00	0	97.4	59	140	37.07	4.92	30		
1,1,2-Trichloroethane	36.670	5.0	40.00	0	91.7	62	127	39.05	6.29	30		
1,1-Dichloroethane	37.840	5.0	40.00	0	94.6	73	125	39.57	4.47	30		
1,1-Dichloroethene	38.210	5.0	40.00	0	95.5	65	136	41.21	7.55	30		
1,1-Dichloropropene	41.640	5.0	40.00	0	104	70	135	44.74	7.18	30		
1,2,3-Trichlorobenzene	41.720	5.0	40.00	0	104	62	133	41.29	1.04	30		

Qualifiers:

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CLIENT: CH2MHill
 Work Order: N019635
 Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160507LCSD	SampType: LCSD	TestCode: 8260_S_5035 Units: ug/Kg				Prep Date:			RunNo: 108344		
Client ID: LCSS02	Batch ID: R16VS073	TestNo: EPA 8260B				Analysis Date: 5/7/2016			SeqNo: 2320397		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichloropropane	39.590	5.0	40.00	0	99.0	63	130	33.72	16.0	30	
1,2,4-Trichlorobenzene	43.240	5.0	40.00	0	108	65	131	42.65	1.37	30	
1,2,4-Trimethylbenzene	42.730	5.0	40.00	0	107	65	135	43.12	0.909	30	
1,2-Dibromo-3-chloropropane	36.200	5.0	40.00	0	90.5	49	135	34.44	4.98	30	
1,2-Dibromoethane	38.380	5.0	40.00	0	96.0	70	124	39.22	2.16	30	
1,2-Dichlorobenzene	40.630	5.0	40.00	0	102	74	120	39.69	2.34	30	
1,2-Dichloroethane	37.750	5.0	40.00	0	94.4	72	137	38.68	2.43	30	
1,2-Dichloropropane	38.790	5.0	40.00	0	97.0	71	120	41.88	7.66	30	
1,3,5-Trimethylbenzene	43.460	5.0	40.00	0	109	65	133	44.12	1.51	30	
1,3-Dichlorobenzene	39.370	5.0	40.00	0	98.4	72	124	39.04	0.842	30	
1,3-Dichloropropane	39.870	5.0	40.00	0	99.7	76	123	39.35	1.31	30	
1,4-Dichlorobenzene	39.260	5.0	40.00	0	98.2	72	125	39.19	0.178	30	
2,2-Dichloropropane	45.450	5.0	40.00	0	114	67	134	48.84	7.19	30	
2-Butanone	323.340	50	400.0	0	80.8	40	135	312.7	3.34	30	
2-Chlorotoluene	40.760	5.0	40.00	0	102	69	128	40.55	0.517	30	
2-Hexanone	355.090	50	400.0	0	88.8	70	130	365.8	2.96	30	
4-Chlorotoluene	41.260	5.0	40.00	0	103	73	126	41.62	0.869	30	
4-Isopropyltoluene	44.180	5.0	40.00	0	110	70	130	44.89	1.59	30	
4-Methyl-2-pentanone	383.500	50	400.0	0	95.9	65	135	382.4	0.287	30	
Acetone	325.360	50	400.0	0	81.3	40	141	320.7	1.45	30	
Acrolein	357.570	100	400.0	0	89.4	65	135	357.8	0.0615	30	
Acrylonitrile	341.400	50	400.0	0	85.4	65	135	332.9	2.52	30	
Benzene	39.010	5.0	40.00	0	97.5	73	126	42.49	8.54	30	
Bromobenzene	40.330	5.0	40.00	0	101	66	121	39.71	1.55	30	
Bromochloromethane	38.450	5.0	40.00	0	96.1	71	127	38.87	1.09	30	
Bromodichloromethane	37.820	5.0	40.00	0	94.6	72	128	40.55	6.97	30	
Bromoform	40.190	5.0	40.00	0	100	66	137	37.45	7.06	30	
Bromomethane	41.910	5.0	40.00	0	105	45	141	41.48	1.03	30	
Carbon disulfide	39.010	5.0	40.00	0	97.5	66	135	40.62	4.04	30	
Carbon tetrachloride	39.750	5.0	40.00	0	99.4	67	133	43.36	8.69	30	

Qualifiers:

- | | | |
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CLIENT: CH2MHill
Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160507LCSD	SampType: LCSD	TestCode: 8260_S_5035	Units: ug/Kg	Prep Date:	RunNo: 108344						
Client ID: LCSS02	Batch ID: R16VS073	TestNo: EPA 8260B		Analysis Date: 5/7/2016	SeqNo: 2320397						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	39.640	5.0	40.00	0	99.1	75	123	39.61	0.0757	30	
Chloroethane	40.150	5.0	40.00	0	100	41	141	40.25	0.249	30	
Chloroform	39.410	5.0	40.00	0	98.5	72	124	40.59	2.95	30	
Chloromethane	40.470	5.0	40.00	0	101	51	129	41.04	1.40	30	
cis-1,2-Dichloroethene	41.090	5.0	40.00	0	103	67	125	41.08	0.0243	30	
cis-1,3-Dichloropropene	39.770	5.0	40.00	0	99.4	72	126	42.11	5.72	30	
Di-isopropyl ether	37.950	5.0	40.00	0	94.9	70	130	39.58	4.20	30	
Dibromochloromethane	39.640	5.0	40.00	0	99.1	66	130	39.53	0.278	30	
Dibromomethane	37.650	5.0	40.00	0	94.1	73	128	38.28	1.66	30	
Dichlorodifluoromethane	47.310	5.0	40.00	0	118	34	136	48.61	2.71	30	
Ethyl Tert-butyl ether	45.410	5.0	40.00	0	114	70	130	42.54	6.53	30	
Ethylbenzene	42.120	5.0	40.00	0	105	74	127	42.26	0.332	30	
Freon-113	39.240	5.0	40.00	0	98.1	65	135	41.30	5.12	30	
Hexachlorobutadiene	43.610	5.0	40.00	0	109	53	142	43.26	0.806	30	
Isopropylbenzene	41.410	5.0	40.00	0	104	77	129	41.43	0.0483	30	
m,p-Xylene	84.630	5.0	80.00	0	106	79	126	84.73	0.118	30	
Methylene chloride	39.420	5.0	40.00	0	98.6	63	137	39.34	0.203	30	
MTBE	37.490	5.0	40.00	0	93.7	50	135	37.42	0.187	30	
n-Butylbenzene	44.910	5.0	40.00	0	112	65	138	45.27	0.798	30	
n-Propylbenzene	40.810	5.0	40.00	0	102	63	135	40.69	0.294	30	
Naphthalene	33.240	5.0	40.00	0	83.1	51	135	31.69	4.77	30	
o-Xylene	41.040	5.0	40.00	0	103	77	125	41.89	2.05	30	
sec-Butylbenzene	42.100	5.0	40.00	0	105	63	132	42.69	1.39	30	
Styrene	42.910	5.0	40.00	0	107	74	128	43.03	0.279	30	
Tert-amyl methyl ether	38.740	5.0	40.00	0	96.9	70	130	40.40	4.20	30	
Tert-Butanol	175.200	25	200.0	0	87.6	70	130	158.1	10.3	30	
tert-Butylbenzene	42.470	5.0	40.00	0	106	65	132	43.15	1.59	30	
Tetrachloroethene	42.460	5.0	40.00	0	106	67	139	43.41	2.21	30	
Toluene	39.890	5.0	40.00	0	99.7	71	127	42.97	7.43	30	
trans-1,2-Dichloroethene	39.650	5.0	40.00	0	99.1	66	134	41.77	5.21	30	

Qualifiers:

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CLIENT: CH2MHill
Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160507LCSD		SampType: LCSD		TestCode: 8260_S_5035 Units: ug/Kg		Prep Date:		RunNo: 108344			
Client ID: LCSS02		Batch ID: R16VS073		TestNo: EPA 8260B		Analysis Date: 5/7/2016		SeqNo: 2320397			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	37.150	5.0	40.00	0	92.9	65	127	38.81	4.37	30	
Trichloroethene	39.410	5.0	40.00	0	98.5	77	124	42.64	7.87	30	
Trichlorofluoromethane	41.370	5.0	40.00	0	103	49	139	42.66	3.07	30	
Vinyl chloride	42.040	5.0	40.00	0	105	58	126	46.36	9.77	30	
Xylenes, Total	125.670	5.0	120.0	0	105	65	125	126.6	0.753	30	
Surr: 1,2-Dichloroethane-d4	48.410		50.00		96.8	52	149		0		
Surr: 4-Bromofluorobenzene	50.580		50.00		101	65	135		0		
Surr: Dibromofluoromethane	50.180		50.00		100	65	135		0		
Surr: Toluene-d8	50.030		50.00		100	75	125		0		

Sample ID: R160507MB3		SampType: MBLK		TestCode: 8260_S_5035 Units: ug/Kg		Prep Date:		RunNo: 108344			
Client ID: PBS		Batch ID: R16VS073		TestNo: EPA 8260B		Analysis Date: 5/7/2016		SeqNo: 2320400			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0									
1,1,1-Trichloroethane	ND	5.0									
1,1,2,2-Tetrachloroethane	ND	5.0									
1,1,2-Trichloroethane	ND	5.0									
1,1-Dichloroethane	ND	5.0									
1,1-Dichloroethene	ND	5.0									
1,1-Dichloropropene	ND	5.0									
1,2,3-Trichlorobenzene	ND	5.0									
1,2,3-Trichloropropane	ND	5.0									
1,2,4-Trichlorobenzene	ND	5.0									
1,2,4-Trimethylbenzene	ND	5.0									
1,2-Dibromo-3-chloropropane	ND	5.0									
1,2-Dibromoethane	ND	5.0									
1,2-Dichlorobenzene	ND	5.0									
1,2-Dichloroethane	ND	5.0									
1,2-Dichloropropane	ND	5.0									

Qualifiers:

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



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NEVADA
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"Serving Clients with Passion and Professionalism"

CLIENT: CH2MHill
Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160507MB3	SampType: MBLK	TestCode: 8260_S_5035	Units: ug/Kg	Prep Date:	RunNo: 108344
Client ID: PBS	Batch ID: R16VS073	TestNo: EPA 8260B		Analysis Date: 5/7/2016	SeqNo: 2320400

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	ND	5.0									
1,3-Dichlorobenzene	ND	5.0									
1,3-Dichloropropane	ND	5.0									
1,4-Dichlorobenzene	ND	5.0									
2,2-Dichloropropane	ND	5.0									
2-Butanone	ND	50									
2-Chlorotoluene	ND	5.0									
2-Hexanone	ND	50									
4-Chlorotoluene	ND	5.0									
4-Isopropyltoluene	ND	5.0									
4-Methyl-2-pentanone	ND	50									
Acetone	ND	50									
Acrolein	ND	100									
Acrylonitrile	ND	50									
Benzene	ND	5.0									
Bromobenzene	ND	5.0									
Bromochloromethane	ND	5.0									
Bromodichloromethane	ND	5.0									
Bromoform	ND	5.0									
Bromomethane	ND	5.0									
Carbon disulfide	ND	5.0									
Carbon tetrachloride	ND	5.0									
Chlorobenzene	ND	5.0									
Chloroethane	ND	5.0									
Chloroform	ND	5.0									
Chloromethane	0.460	5.0									J
cis-1,2-Dichloroethene	ND	5.0									
cis-1,3-Dichloropropene	ND	5.0									
Di-isopropyl ether	ND	5.0									
Dibromochloromethane	ND	5.0									

Qualifiers:

- | | | |
|----------------------------------------------------------------|----------------------------------------|------------------------------------------------------|
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CLIENT: CH2MHill
Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160507MB3		SampType: MBLK		TestCode: 8260_S_5035 Units: ug/Kg		Prep Date:		RunNo: 108344			
Client ID: PBS		Batch ID: R16VS073		TestNo: EPA 8260B		Analysis Date: 5/7/2016		SeqNo: 2320400			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromomethane	ND	5.0									
Dichlorodifluoromethane	ND	5.0									
Ethyl Tert-butyl ether	ND	5.0									
Ethylbenzene	ND	5.0									
Freon-113	ND	5.0									
Hexachlorobutadiene	ND	5.0									
Isopropylbenzene	ND	5.0									
m,p-Xylene	ND	5.0									
Methylene chloride	ND	5.0									
MTBE	ND	5.0									
n-Butylbenzene	ND	5.0									
n-Propylbenzene	ND	5.0									
Naphthalene	ND	5.0									
o-Xylene	ND	5.0									
sec-Butylbenzene	ND	5.0									
Styrene	ND	5.0									
Tert-amyl methyl ether	ND	5.0									
Tert-Butanol	ND	25									
tert-Butylbenzene	ND	5.0									
Tetrachloroethene	ND	5.0									
Toluene	ND	5.0									
trans-1,2-Dichloroethene	ND	5.0									
trans-1,3-Dichloropropene	ND	5.0									
Trichloroethene	ND	5.0									
Trichlorofluoromethane	ND	5.0									
Vinyl chloride	ND	5.0									
Xylenes, Total	ND	5.0									
Surr: 1,2-Dichloroethane-d4	50.520		50.00		101	52	149				
Surr: 4-Bromofluorobenzene	47.980		50.00		96.0	65	135				
Surr: Dibromofluoromethane	51.630		50.00		103	65	135				

Qualifiers:

- | | | |
|----------------------------------------------------------------|----------------------------------------|------------------------------------------------------|
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Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160507MB3	SampType: MBLK	TestCode: 8260_S_5035	Units: ug/Kg	Prep Date:	RunNo: 108344						
Client ID: PBS	Batch ID: R16VS073	TestNo: EPA 8260B		Analysis Date: 5/7/2016	SeqNo: 2320400						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Toluene-d8	50.910		50.00		102	75	125				

Qualifiers:

- | | | |
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Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160508LCS	SampType: LCS	TestCode: 8260_S_5035	Units: ug/Kg	Prep Date:	RunNo: 108348						
Client ID: LCSS	Batch ID: R16VS074	TestNo: EPA 8260B		Analysis Date: 5/8/2016	SeqNo: 2321049						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.130	5.0	40.00	0	103	74	125				
1,1,1-Trichloroethane	40.980	5.0	40.00	0	102	68	130				
1,1,2,2-Tetrachloroethane	40.630	5.0	40.00	0	102	59	140				
1,1,2-Trichloroethane	40.920	5.0	40.00	0	102	62	127				
1,1-Dichloroethane	39.390	5.0	40.00	0	98.5	73	125				
1,1-Dichloroethene	39.670	5.0	40.00	0	99.2	65	136				
1,1-Dichloropropene	43.240	5.0	40.00	0	108	70	135				
1,2,3-Trichlorobenzene	43.070	5.0	40.00	0	108	62	133				
1,2,3-Trichloropropane	40.910	5.0	40.00	0	102	63	130				
1,2,4-Trichlorobenzene	42.650	5.0	40.00	0	107	65	131				
1,2,4-Trimethylbenzene	43.590	5.0	40.00	0	109	65	135				
1,2-Dibromo-3-chloropropane	43.030	5.0	40.00	0	108	49	135				
1,2-Dibromoethane	43.770	5.0	40.00	0	109	70	124				
1,2-Dichlorobenzene	41.160	5.0	40.00	0	103	74	120				
1,2-Dichloroethane	41.870	5.0	40.00	0	105	72	137				
1,2-Dichloropropane	42.150	5.0	40.00	0	105	71	120				
1,3,5-Trimethylbenzene	44.210	5.0	40.00	0	111	65	133				
1,3-Dichlorobenzene	41.170	5.0	40.00	0	103	72	124				
1,3-Dichloropropane	43.920	5.0	40.00	0	110	76	123				
1,4-Dichlorobenzene	39.740	5.0	40.00	0	99.4	72	125				
2,2-Dichloropropane	40.910	5.0	40.00	0	102	67	134				
2-Butanone	357.910	50	400.0	0	89.5	40	135				
2-Chlorotoluene	41.800	5.0	40.00	0	104	69	128				
2-Hexanone	399.320	50	400.0	0	99.8	70	130				
4-Chlorotoluene	41.940	5.0	40.00	0	105	73	126				
4-Isopropyltoluene	43.600	5.0	40.00	0	109	70	130				
4-Methyl-2-pentanone	464.200	50	400.0	0	116	65	135				
Acetone	360.440	50	400.0	0	90.1	40	141				
Acrolein	436.270	100	400.0	0	109	65	135				
Acrylonitrile	394.880	50	400.0	0	98.7	65	135				

Qualifiers:

- | | | |
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CLIENT: CH2MHill
Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160508LCS	SampType: LCS	TestCode: 8260_S_5035	Units: ug/Kg	Prep Date:	RunNo: 108348						
Client ID: LCSS	Batch ID: R16VS074	TestNo: EPA 8260B		Analysis Date: 5/8/2016	SeqNo: 2321049						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.380	5.0	40.00	0	103	73	126				
Bromobenzene	42.590	5.0	40.00	0	106	66	121				
Bromochloromethane	42.340	5.0	40.00	0	106	71	127				
Bromodichloromethane	40.530	5.0	40.00	0	101	72	128				
Bromoform	42.100	5.0	40.00	0	105	66	137				
Bromomethane	39.470	5.0	40.00	0	98.7	45	141				
Carbon disulfide	39.310	5.0	40.00	0	98.3	66	135				
Carbon tetrachloride	41.120	5.0	40.00	0	103	67	133				
Chlorobenzene	40.310	5.0	40.00	0	101	75	123				
Chloroethane	41.430	5.0	40.00	0	104	41	141				
Chloroform	40.260	5.0	40.00	0	101	72	124				
Chloromethane	43.640	5.0	40.00	0	109	51	129				
cis-1,2-Dichloroethene	42.010	5.0	40.00	0	105	67	125				
cis-1,3-Dichloropropene	40.530	5.0	40.00	0	101	72	126				
Di-isopropyl ether	40.740	5.0	40.00	0	102	70	130				
Dibromochloromethane	40.290	5.0	40.00	0	101	66	130				
Dibromomethane	41.800	5.0	40.00	0	104	73	128				
Dichlorodifluoromethane	57.720	5.0	40.00	0	144	34	136				S
Ethyl Tert-butyl ether	42.080	5.0	40.00	0	105	70	130				
Ethylbenzene	41.880	5.0	40.00	0	105	74	127				
Freon-113	38.510	5.0	40.00	0	96.3	65	135				
Hexachlorobutadiene	40.520	5.0	40.00	0	101	53	142				
Isopropylbenzene	41.910	5.0	40.00	0	105	77	129				
m,p-Xylene	83.710	5.0	80.00	0	105	79	126				
Methylene chloride	42.480	5.0	40.00	0	106	63	137				
MTBE	40.400	5.0	40.00	0	101	50	135				
n-Butylbenzene	44.090	5.0	40.00	0	110	65	138				
n-Propylbenzene	41.120	5.0	40.00	0	103	63	135				
Naphthalene	36.710	5.0	40.00	0	91.8	51	135				
o-Xylene	42.210	5.0	40.00	0	106	77	125				

Qualifiers:

- | | | |
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Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160508LCS		SampType: LCS		TestCode: 8260_S_5035		Units: ug/Kg		Prep Date:		RunNo: 108348		
Client ID: LCSS		Batch ID: R16VS074		TestNo: EPA 8260B				Analysis Date: 5/8/2016		SeqNo: 2321049		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
sec-Butylbenzene	41.840	5.0	40.00	0	105	63	132					
Styrene	42.650	5.0	40.00	0	107	74	128					
Tert-amyl methyl ether	42.580	5.0	40.00	0	106	70	130					
Tert-Butanol	208.590	25	200.0	0	104	70	130					
tert-Butylbenzene	42.600	5.0	40.00	0	106	65	132					
Tetrachloroethene	41.300	5.0	40.00	0	103	67	139					
Toluene	41.240	5.0	40.00	0	103	71	127					
trans-1,2-Dichloroethene	39.430	5.0	40.00	0	98.6	66	134					
trans-1,3-Dichloropropene	39.530	5.0	40.00	0	98.8	65	127					
Trichloroethene	41.580	5.0	40.00	0	104	77	124					
Trichlorofluoromethane	42.260	5.0	40.00	0	106	49	139					
Vinyl chloride	46.280	5.0	40.00	0	116	58	126					
Xylenes, Total	125.920	5.0	120.0	0	105	65	125					
Surr: 1,2-Dichloroethane-d4	50.810		50.00		102	52	149					
Surr: 4-Bromofluorobenzene	53.140		50.00		106	65	135					
Surr: Dibromofluoromethane	51.730		50.00		103	65	135					
Surr: Toluene-d8	52.570		50.00		105	75	125					

Sample ID: R160508LCSD		SampType: LCSD		TestCode: 8260_S_5035		Units: ug/Kg		Prep Date:		RunNo: 108348		
Client ID: LCSS02		Batch ID: R16VS074		TestNo: EPA 8260B				Analysis Date: 5/8/2016		SeqNo: 2321050		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,1,1,2-Tetrachloroethane	38.810	5.0	40.00	0	97.0	74	125	41.13	5.80	30		
1,1,1-Trichloroethane	40.750	5.0	40.00	0	102	68	130	40.98	0.563	30		
1,1,2,2-Tetrachloroethane	37.060	5.0	40.00	0	92.6	59	140	40.63	9.19	30		
1,1,2-Trichloroethane	38.340	5.0	40.00	0	95.9	62	127	40.92	6.51	30		
1,1-Dichloroethane	38.290	5.0	40.00	0	95.7	73	125	39.39	2.83	30		
1,1-Dichloroethene	38.070	5.0	40.00	0	95.2	65	136	39.67	4.12	30		
1,1-Dichloropropene	39.960	5.0	40.00	0	99.9	70	135	43.24	7.88	30		
1,2,3-Trichlorobenzene	40.650	5.0	40.00	0	102	62	133	43.07	5.78	30		

Qualifiers:

- | | | |
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 Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160508LCSD		SampType: LCSD		TestCode: 8260_S_5035		Units: ug/Kg		Prep Date:		RunNo: 108348		
Client ID: LCSS02		Batch ID: R16VS074		TestNo: EPA 8260B		Analysis Date: 5/8/2016				SeqNo: 2321050		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD	Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichloropropane	36.790	5.0	40.00	0	92.0	63	130	40.91		10.6	30	
1,2,4-Trichlorobenzene	38.680	5.0	40.00	0	96.7	65	131	42.65		9.76	30	
1,2,4-Trimethylbenzene	39.500	5.0	40.00	0	98.8	65	135	43.59		9.84	30	
1,2-Dibromo-3-chloropropane	42.060	5.0	40.00	0	105	49	135	43.03		2.28	30	
1,2-Dibromoethane	40.410	5.0	40.00	0	101	70	124	43.77		7.98	30	
1,2-Dichlorobenzene	36.840	5.0	40.00	0	92.1	74	120	41.16		11.1	30	
1,2-Dichloroethane	39.190	5.0	40.00	0	98.0	72	137	41.87		6.61	30	
1,2-Dichloropropane	38.750	5.0	40.00	0	96.9	71	120	42.15		8.41	30	
1,3,5-Trimethylbenzene	40.180	5.0	40.00	0	100	65	133	44.21		9.55	30	
1,3-Dichlorobenzene	36.960	5.0	40.00	0	92.4	72	124	41.17		10.8	30	
1,3-Dichloropropane	41.080	5.0	40.00	0	103	76	123	43.92		6.68	30	
1,4-Dichlorobenzene	35.790	5.0	40.00	0	89.5	72	125	39.74		10.5	30	
2,2-Dichloropropane	39.910	5.0	40.00	0	99.8	67	134	40.91		2.47	30	
2-Butanone	328.460	50	400.0	0	82.1	40	135	357.9		8.58	30	
2-Chlorotoluene	37.760	5.0	40.00	0	94.4	69	128	41.80		10.2	30	
2-Hexanone	392.550	50	400.0	0	98.1	70	130	399.3		1.71	30	
4-Chlorotoluene	38.200	5.0	40.00	0	95.5	73	126	41.94		9.33	30	
4-Isopropyltoluene	39.390	5.0	40.00	0	98.5	70	130	43.60		10.1	30	
4-Methyl-2-pentanone	436.240	50	400.0	0	109	65	135	464.2		6.21	30	
Acetone	307.590	50	400.0	0	76.9	40	141	360.4		15.8	30	
Acrolein	451.740	100	400.0	0	113	65	135	436.3		3.48	30	
Acrylonitrile	402.020	50	400.0	0	101	65	135	394.9		1.79	30	
Benzene	38.960	5.0	40.00	0	97.4	73	126	41.38		6.02	30	
Bromobenzene	38.410	5.0	40.00	0	96.0	66	121	42.59		10.3	30	
Bromochloromethane	40.280	5.0	40.00	0	101	71	127	42.34		4.99	30	
Bromodichloromethane	37.560	5.0	40.00	0	93.9	72	128	40.53		7.61	30	
Bromoform	39.810	5.0	40.00	0	99.5	66	137	42.10		5.59	30	
Bromomethane	38.170	5.0	40.00	0	95.4	45	141	39.47		3.35	30	
Carbon disulfide	38.110	5.0	40.00	0	95.3	66	135	39.31		3.10	30	
Carbon tetrachloride	39.390	5.0	40.00	0	98.5	67	133	41.12		4.30	30	

Qualifiers:

- | | | |
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"Serving Clients with Passion and Professionalism"

CLIENT: CH2MHill
 Work Order: N019635
 Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160508LCSD	SampType: LCSD	TestCode: 8260_S_5035	Units: ug/Kg	Prep Date:	RunNo: 108348						
Client ID: LCSS02	Batch ID: R16VS074	TestNo: EPA 8260B		Analysis Date: 5/8/2016	SeqNo: 2321050						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	36.810	5.0	40.00	0	92.0	75	123	40.31	9.08	30	
Chloroethane	40.660	5.0	40.00	0	102	41	141	41.43	1.88	30	
Chloroform	39.210	5.0	40.00	0	98.0	72	124	40.26	2.64	30	
Chloromethane	43.070	5.0	40.00	0	108	51	129	43.64	1.31	30	
cis-1,2-Dichloroethene	39.780	5.0	40.00	0	99.4	67	125	42.01	5.45	30	
cis-1,3-Dichloropropene	36.990	5.0	40.00	0	92.5	72	126	40.53	9.13	30	
Di-isopropyl ether	37.990	5.0	40.00	0	95.0	70	130	40.74	6.99	30	
Dibromochloromethane	37.380	5.0	40.00	0	93.5	66	130	40.29	7.49	30	
Dibromomethane	37.930	5.0	40.00	0	94.8	73	128	41.80	9.71	30	
Dichlorodifluoromethane	56.070	5.0	40.00	0	140	34	136	57.72	2.90	30	S
Ethyl Tert-butyl ether	41.960	5.0	40.00	0	105	70	130	42.08	0.286	30	
Ethylbenzene	38.860	5.0	40.00	0	97.2	74	127	41.88	7.48	30	
Freon-113	38.410	5.0	40.00	0	96.0	65	135	38.51	0.260	30	
Hexachlorobutadiene	37.130	5.0	40.00	0	92.8	53	142	40.52	8.73	30	
Isopropylbenzene	37.610	5.0	40.00	0	94.0	77	129	41.91	10.8	30	
m,p-Xylene	78.900	5.0	80.00	0	98.6	79	126	83.71	5.92	30	
Methylene chloride	40.130	5.0	40.00	0	100	63	137	42.48	5.69	30	
MTBE	38.440	5.0	40.00	0	96.1	50	135	40.40	4.97	30	
n-Butylbenzene	39.630	5.0	40.00	0	99.1	65	138	44.09	10.7	30	
n-Propylbenzene	37.100	5.0	40.00	0	92.8	63	135	41.12	10.3	30	
Naphthalene	32.970	5.0	40.00	0	82.4	51	135	36.71	10.7	30	
o-Xylene	38.590	5.0	40.00	0	96.5	77	125	42.21	8.96	30	
sec-Butylbenzene	38.040	5.0	40.00	0	95.1	63	132	41.84	9.51	30	
Styrene	38.750	5.0	40.00	0	96.9	74	128	42.65	9.58	30	
Tert-amyl methyl ether	39.740	5.0	40.00	0	99.4	70	130	42.58	6.90	30	
Tert-Butanol	189.350	25	200.0	0	94.7	70	130	208.6	9.67	30	
tert-Butylbenzene	38.980	5.0	40.00	0	97.5	65	132	42.60	8.87	30	
Tetrachloroethene	36.420	5.0	40.00	0	91.1	67	139	41.30	12.6	30	
Toluene	38.650	5.0	40.00	0	96.6	71	127	41.24	6.48	30	
trans-1,2-Dichloroethene	37.300	5.0	40.00	0	93.3	66	134	39.43	5.55	30	

Qualifiers:

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



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"Serving Clients with Passion and Professionalism"

CLIENT: CH2MHill
Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160508LCSD	SampType: LCSD	TestCode: 8260_S_5035	Units: ug/Kg	Prep Date:	RunNo: 108348						
Client ID: LCSS02	Batch ID: R16VS074	TestNo: EPA 8260B	Analysis Date: 5/8/2016	SeqNo: 2321050							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	38.080	5.0	40.00	0	95.2	65	127	39.53	3.74	30	
Trichloroethene	39.710	5.0	40.00	0	99.3	77	124	41.58	4.60	30	
Trichlorofluoromethane	39.590	5.0	40.00	0	99.0	49	139	42.26	6.52	30	
Vinyl chloride	46.890	5.0	40.00	0	117	58	126	46.28	1.31	30	
Xylenes, Total	117.490	5.0	120.0	0	97.9	65	125	125.9	6.93	30	
Surr: 1,2-Dichloroethane-d4	52.010		50.00		104	52	149		0		
Surr: 4-Bromofluorobenzene	54.160		50.00		108	65	135		0		
Surr: Dibromofluoromethane	52.260		50.00		105	65	135		0		
Surr: Toluene-d8	53.100		50.00		106	75	125		0		

Sample ID: R160508MB3	SampType: MBLK	TestCode: 8260_S_5035	Units: ug/Kg	Prep Date:	RunNo: 108348						
Client ID: PBS	Batch ID: R16VS074	TestNo: EPA 8260B	Analysis Date: 5/8/2016	SeqNo: 2321053							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0									
1,1,1-Trichloroethane	ND	5.0									
1,1,2,2-Tetrachloroethane	ND	5.0									
1,1,2-Trichloroethane	ND	5.0									
1,1-Dichloroethane	ND	5.0									
1,1-Dichloroethene	ND	5.0									
1,1-Dichloropropene	ND	5.0									
1,2,3-Trichlorobenzene	ND	5.0									
1,2,3-Trichloropropane	ND	5.0									
1,2,4-Trichlorobenzene	ND	5.0									
1,2,4-Trimethylbenzene	ND	5.0									
1,2-Dibromo-3-chloropropane	ND	5.0									
1,2-Dibromoethane	ND	5.0									
1,2-Dichlorobenzene	ND	5.0									
1,2-Dichloroethane	ND	5.0									
1,2-Dichloropropane	ND	5.0									

Qualifiers:

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



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Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160508MB3	SampType: MBLK	TestCode: 8260_S_5035	Units: ug/Kg	Prep Date:	RunNo: 108348
Client ID: PBS	Batch ID: R16VS074	TestNo: EPA 8260B		Analysis Date: 5/8/2016	SeqNo: 2321053

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	ND	5.0									
1,3-Dichlorobenzene	ND	5.0									
1,3-Dichloropropane	ND	5.0									
1,4-Dichlorobenzene	ND	5.0									
2,2-Dichloropropane	ND	5.0									
2-Butanone	ND	50									
2-Chlorotoluene	ND	5.0									
2-Hexanone	ND	50									
4-Chlorotoluene	ND	5.0									
4-Isopropyltoluene	ND	5.0									
4-Methyl-2-pentanone	ND	50									
Acetone	ND	50									
Acrolein	ND	100									
Acrylonitrile	ND	50									
Benzene	ND	5.0									
Bromobenzene	ND	5.0									
Bromochloromethane	ND	5.0									
Bromodichloromethane	ND	5.0									
Bromoform	ND	5.0									
Bromomethane	1.210	5.0									J
Carbon disulfide	ND	5.0									
Carbon tetrachloride	ND	5.0									
Chlorobenzene	ND	5.0									
Chloroethane	ND	5.0									
Chloroform	ND	5.0									
Chloromethane	0.560	5.0									J
cis-1,2-Dichloroethene	ND	5.0									
cis-1,3-Dichloropropene	ND	5.0									
Di-isopropyl ether	ND	5.0									
Dibromochloromethane	ND	5.0									

Qualifiers:

- | | | |
|----------------------------------------------------------------|----------------------------------------|------------------------------------------------------|
| B Analyte detected in the associated Method Blank | E Value above quantitation range | H Holding times for preparation or analysis exceeded |
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ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160508MB3	SampType: MBLK	TestCode: 8260_S_5035	Units: ug/Kg	Prep Date:	RunNo: 108348						
Client ID: PBS	Batch ID: R16VS074	TestNo: EPA 8260B		Analysis Date: 5/8/2016	SeqNo: 2321053						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromomethane	ND	5.0									
Dichlorodifluoromethane	ND	5.0									
Ethyl Tert-butyl ether	ND	5.0									
Ethylbenzene	ND	5.0									
Freon-113	ND	5.0									
Hexachlorobutadiene	ND	5.0									
Isopropylbenzene	ND	5.0									
m,p-Xylene	ND	5.0									
Methylene chloride	ND	5.0									
MTBE	ND	5.0									
n-Butylbenzene	ND	5.0									
n-Propylbenzene	ND	5.0									
Naphthalene	ND	5.0									
o-Xylene	ND	5.0									
sec-Butylbenzene	ND	5.0									
Styrene	ND	5.0									
Tert-amyl methyl ether	ND	5.0									
Tert-Butanol	ND	25									
tert-Butylbenzene	ND	5.0									
Tetrachloroethene	ND	5.0									
Toluene	0.200	5.0									J
trans-1,2-Dichloroethene	ND	5.0									
trans-1,3-Dichloropropene	ND	5.0									
Trichloroethene	ND	5.0									
Trichlorofluoromethane	ND	5.0									
Vinyl chloride	ND	5.0									
Xylenes, Total	ND	5.0									
Surr: 1,2-Dichloroethane-d4	61.080		50.00		122	52	149				
Surr: 4-Bromofluorobenzene	50.260		50.00		101	65	135				
Surr: Dibromofluoromethane	60.150		50.00		120	65	135				

Qualifiers:

- | | | |
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ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S_5035PGE

Sample ID: R160508MB3	SampType: MBLK	TestCode: 8260_S_5035	Units: ug/Kg	Prep Date:	RunNo: 108348						
Client ID: PBS	Batch ID: R16VS074	TestNo: EPA 8260B		Analysis Date: 5/8/2016	SeqNo: 2321053						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Toluene-d8	55.130		50.00		110	75	125				

Qualifiers:

- | | | |
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ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P160508LCS	SampType: LCS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 108333						
Client ID: LCSW	Batch ID: P16VW089	TestNo: EPA 8260B		Analysis Date: 5/8/2016	SeqNo: 2321968						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	20.550	1.0	20.00	0	103	81	129				
1,1,1-Trichloroethane	22.200	1.0	20.00	0	111	67	132				
1,1,2,2-Tetrachloroethane	19.890	1.0	20.00	0	99.4	63	128				
1,1,2-Trichloroethane	20.930	1.0	20.00	0	105	75	125				
1,1-Dichloroethane	20.640	0.50	20.00	0	103	69	133				
1,1-Dichloroethene	20.560	1.0	20.00	0	103	68	130				
1,1-Dichloropropene	23.180	1.0	20.00	0	116	73	132				
1,2,3-Trichlorobenzene	21.960	1.0	20.00	0	110	67	137				
1,2,3-Trichloropropane	19.500	1.0	20.00	0	97.5	73	124				
1,2,4-Trichlorobenzene	21.890	1.0	20.00	0	109	66	134				
1,2,4-Trimethylbenzene	21.390	1.0	20.00	0	107	74	132				
1,2-Dibromo-3-chloropropane	20.920	2.0	20.00	0	105	50	132				
1,2-Dibromoethane	21.160	1.0	20.00	0	106	80	121				
1,2-Dichlorobenzene	20.650	1.0	20.00	0	103	71	122				
1,2-Dichloroethane	22.400	0.50	20.00	0	112	69	132				
1,2-Dichloropropane	20.990	1.0	20.00	0	105	75	125				
1,3,5-Trimethylbenzene	22.140	1.0	20.00	0	111	74	131				
1,3-Dichlorobenzene	20.620	1.0	20.00	0	103	75	124				
1,3-Dichloropropane	21.660	1.0	20.00	0	108	73	126				
1,4-Dichlorobenzene	20.380	1.0	20.00	0	102	74	123				
2,2-Dichloropropane	24.180	1.0	20.00	0	121	69	137				
2-Butanone	187.050	10	200.0	0	93.5	49	136				
2-Chlorotoluene	20.810	1.0	20.00	0	104	73	126				
2-Hexanone	202.320	5.0	200.0	0	101	70	130				
4-Chlorotoluene	21.870	1.0	20.00	0	109	74	128				
4-Isopropyltoluene	21.010	1.0	20.00	0	105	73	130				
4-Methyl-2-pentanone	218.590	10	200.0	0	109	58	134				
Acetone	185.910	10	200.0	0	93.0	40	135				
Acrolein	169.790	20	200.0	0	84.9	75	125				
Acrylonitrile	163.540	20	200.0	0	81.8	75	125				

Qualifiers:

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



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"Serving Clients with Passion and Professionalism"

CLIENT: CH2MHill
Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P160508LCS	SampType: LCS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 108333
Client ID: LCSW	Batch ID: P16VW089	TestNo: EPA 8260B		Analysis Date: 5/8/2016	SeqNo: 2321968

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.440	1.0	20.00	0	107	81	122				
Bromobenzene	19.810	1.0	20.00	0	99.0	76	124				
Bromochloromethane	20.340	1.0	20.00	0	102	65	129				
Bromodichloromethane	20.200	1.0	20.00	0	101	76	121				
Bromoform	21.670	1.0	20.00	0	108	69	128				
Bromomethane	19.720	1.0	20.00	0	98.6	53	141				
Carbon disulfide	20.080	1.0	20.00	0	100	75	125				
Carbon tetrachloride	21.920	0.50	20.00	0	110	66	138				
Chlorobenzene	21.050	1.0	20.00	0	105	81	122				
Chloroethane	21.130	1.0	20.00	0	106	58	133				
Chloroform	21.810	1.0	20.00	0	109	69	128				
Chloromethane	22.290	1.0	20.00	0	111	56	131				
cis-1,2-Dichloroethene	20.530	1.0	20.00	0	103	72	126				
cis-1,3-Dichloropropene	21.760	1.0	20.00	0	109	69	131				
Di-isopropyl ether	22.680	1.0	20.00	0	113	70	130				
Dibromochloromethane	21.080	1.0	20.00	0	105	66	133				
Dibromomethane	21.480	1.0	20.00	0	107	76	125				
Dichlorodifluoromethane	26.300	1.0	20.00	0	132	53	153				
Ethyl tert-butyl ether	21.130	1.0	20.00	0	106	70	130				
Ethylbenzene	21.090	1.0	20.00	0	105	73	127				
Freon-113	18.770	1.0	20.00	0	93.8	75	125				
Hexachlorobutadiene	21.890	1.0	20.00	0	109	67	131				
Isopropylbenzene	20.320	1.0	20.00	0	102	75	127				
m,p-Xylene	43.100	1.0	40.00	0	108	76	128				
Methylene chloride	21.750	2.0	20.00	0	109	63	137				
MTBE	16.760	1.0	20.00	0	83.8	65	123				
n-Butylbenzene	20.860	1.0	20.00	0	104	69	137				
n-Propylbenzene	20.730	1.0	20.00	0	104	72	129				
Naphthalene	20.030	1.0	20.00	0	100	54	138				
o-Xylene	21.300	1.0	20.00	0	106	80	121				

Qualifiers:

- | | | |
|----------------------------------------------------------------|----------------------------------------|------------------------------------------------------|
| B Analyte detected in the associated Method Blank | E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit | R RPD outside accepted recovery limits |
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 Work Order: N019635
 Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P160508LCS		SampType: LCS		TestCode: 8260_WP_SF			Units: ug/L		Prep Date:		RunNo: 108333	
Client ID: LCSW		Batch ID: P16VW089		TestNo: EPA 8260B			Analysis Date: 5/8/2016		SeqNo: 2321968			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
sec-Butylbenzene	20.940	1.0	20.00	0	105	72	127					
Styrene	21.940	1.0	20.00	0	110	65	134					
Tert-amyl methyl ether	19.960	1.0	20.00	0	99.8	70	130					
Tert-Butanol	92.220	5.0	100.0	0	92.2	70	130					
tert-Butylbenzene	21.880	1.0	20.00	0	109	70	129					
Tetrachloroethene	22.770	1.0	20.00	0	114	66	128					
Toluene	21.660	2.0	20.00	0	108	77	122					
trans-1,2-Dichloroethene	18.810	1.0	20.00	0	94.1	63	137					
trans-1,3-Dichloropropene	20.750	1.0	20.00	0	104	59	135					
Trichloroethene	22.270	1.0	20.00	0	111	70	127					
Trichlorofluoromethane	24.020	1.0	20.00	0	120	57	129					
Vinyl chloride	24.190	0.50	20.00	0	121	50	134					
Xylenes, Total	64.400	2.0	60.00	0	107	75	125					
Surr: 1,2-Dichloroethane-d4	25.020		25.00		100	72	119					
Surr: 4-Bromofluorobenzene	26.350		25.00		105	76	119					
Surr: Dibromofluoromethane	25.190		25.00		101	85	115					
Surr: Toluene-d8	25.530		25.00		102	81	120					

Sample ID: P160508LCS D		SampType: LCSD		TestCode: 8260_WP_SF			Units: ug/L		Prep Date:		RunNo: 108333	
Client ID: LCSS02		Batch ID: P16VW089		TestNo: EPA 8260B			Analysis Date: 5/8/2016		SeqNo: 2321969			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,1,1,2-Tetrachloroethane	21.190	1.0	20.00	0	106	81	129	20.55	3.07	20		
1,1,1-Trichloroethane	23.600	1.0	20.00	0	118	67	132	22.20	6.11	20		
1,1,2,2-Tetrachloroethane	21.470	1.0	20.00	0	107	63	128	19.89	7.64	20		
1,1,2-Trichloroethane	21.830	1.0	20.00	0	109	75	125	20.93	4.21	20		
1,1-Dichloroethane	21.280	0.50	20.00	0	106	69	133	20.64	3.05	20		
1,1-Dichloroethene	21.370	1.0	20.00	0	107	68	130	20.56	3.86	20		
1,1-Dichloropropene	22.420	1.0	20.00	0	112	73	132	23.18	3.33	20		
1,2,3-Trichlorobenzene	22.380	1.0	20.00	0	112	67	137	21.96	1.89	20		

Qualifiers:

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



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"Serving Clients with Passion and Professionalism"

CLIENT: CH2MHill
 Work Order: N019635
 Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P160508LCSD		SampType: LCSD		TestCode: 8260_WP_SF			Units: ug/L			Prep Date:			RunNo: 108333	
Client ID: LCSS02		Batch ID: P16VW089		TestNo: EPA 8260B			Analysis Date: 5/8/2016			SeqNo: 2321969				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD	Ref Val	%RPD	RPDLimit	Qual		
1,2,3-Trichloropropane	19.470	1.0	20.00	0	97.4	73	124	19.50		0.154	20			
1,2,4-Trichlorobenzene	21.100	1.0	20.00	0	106	66	134	21.89		3.68	20			
1,2,4-Trimethylbenzene	21.260	1.0	20.00	0	106	74	132	21.39		0.610	20			
1,2-Dibromo-3-chloropropane	20.310	2.0	20.00	0	102	50	132	20.92		2.96	20			
1,2-Dibromoethane	22.210	1.0	20.00	0	111	80	121	21.16		4.84	20			
1,2-Dichlorobenzene	21.090	1.0	20.00	0	105	71	122	20.65		2.11	20			
1,2-Dichloroethane	22.440	0.50	20.00	0	112	69	132	22.40		0.178	20			
1,2-Dichloropropane	20.990	1.0	20.00	0	105	75	125	20.99		0	20			
1,3,5-Trimethylbenzene	21.750	1.0	20.00	0	109	74	131	22.14		1.78	20			
1,3-Dichlorobenzene	20.670	1.0	20.00	0	103	75	124	20.62		0.242	20			
1,3-Dichloropropane	22.440	1.0	20.00	0	112	73	126	21.66		3.54	20			
1,4-Dichlorobenzene	20.890	1.0	20.00	0	104	74	123	20.38		2.47	20			
2,2-Dichloropropane	24.380	1.0	20.00	0	122	69	137	24.18		0.824	20			
2-Butanone	192.590	10	200.0	0	96.3	49	136	187.0		2.92	20			
2-Chlorotoluene	20.740	1.0	20.00	0	104	73	126	20.81		0.337	20			
2-Hexanone	205.610	5.0	200.0	0	103	70	130	202.3		1.61	20			
4-Chlorotoluene	21.820	1.0	20.00	0	109	74	128	21.87		0.229	20			
4-Isopropyltoluene	21.270	1.0	20.00	0	106	73	130	21.01		1.23	20			
4-Methyl-2-pentanone	222.980	10	200.0	0	111	58	134	218.6		1.99	20			
Acetone	246.830	10	200.0	0	123	40	135	185.9		28.2	20	R		
Acrolein	168.380	20	200.0	0	84.2	75	125	169.8		0.834	20			
Acrylonitrile	197.930	20	200.0	0	99.0	75	125	163.5		19.0	20			
Benzene	22.040	1.0	20.00	0	110	81	122	21.44		2.76	20			
Bromobenzene	20.560	1.0	20.00	0	103	76	124	19.81		3.72	20			
Bromochloromethane	21.740	1.0	20.00	0	109	65	129	20.34		6.65	20			
Bromodichloromethane	21.060	1.0	20.00	0	105	76	121	20.20		4.17	20			
Bromoform	21.880	1.0	20.00	0	109	69	128	21.67		0.964	20			
Bromomethane	20.570	1.0	20.00	0	103	53	141	19.72		4.22	20			
Carbon disulfide	20.840	1.0	20.00	0	104	75	125	20.08		3.71	20			
Carbon tetrachloride	21.850	0.50	20.00	0	109	66	138	21.92		0.320	20			

Qualifiers:

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CLIENT: CH2MHill
Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P160508LCSD	SampType: LCSD	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 108333						
Client ID: LCSS02	Batch ID: P16VW089	TestNo: EPA 8260B		Analysis Date: 5/8/2016	SeqNo: 2321969						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	21.730	1.0	20.00	0	109	81	122	21.05	3.18	20	
Chloroethane	22.120	1.0	20.00	0	111	58	133	21.13	4.58	20	
Chloroform	22.290	1.0	20.00	0	111	69	128	21.81	2.18	20	
Chloromethane	22.270	1.0	20.00	0	111	56	131	22.29	0.0898	20	
cis-1,2-Dichloroethene	21.380	1.0	20.00	0	107	72	126	20.53	4.06	20	
cis-1,3-Dichloropropene	22.030	1.0	20.00	0	110	69	131	21.76	1.23	20	
Di-isopropyl ether	23.420	1.0	20.00	0	117	70	130	22.68	3.21	20	
Dibromochloromethane	22.150	1.0	20.00	0	111	66	133	21.08	4.95	20	
Dibromomethane	21.660	1.0	20.00	0	108	76	125	21.48	0.834	20	
Dichlorodifluoromethane	26.860	1.0	20.00	0	134	53	153	26.30	2.11	20	
Ethyl tert-butyl ether	22.340	1.0	20.00	0	112	70	130	21.13	5.57	20	
Ethylbenzene	21.340	1.0	20.00	0	107	73	127	21.09	1.18	20	
Freon-113	19.690	1.0	20.00	0	98.4	75	125	18.77	4.78	20	
Hexachlorobutadiene	21.430	1.0	20.00	0	107	67	131	21.89	2.12	20	
Isopropylbenzene	20.590	1.0	20.00	0	103	75	127	20.32	1.32	20	
m,p-Xylene	44.050	1.0	40.00	0	110	76	128	43.10	2.18	20	
Methylene chloride	22.040	2.0	20.00	0	110	63	137	21.75	1.32	20	
MTBE	18.220	1.0	20.00	0	91.1	65	123	16.76	8.35	20	
n-Butylbenzene	20.630	1.0	20.00	0	103	69	137	20.86	1.11	20	
n-Propylbenzene	21.080	1.0	20.00	0	105	72	129	20.73	1.67	20	
Naphthalene	20.810	1.0	20.00	0	104	54	138	20.03	3.82	20	
o-Xylene	22.080	1.0	20.00	0	110	80	121	21.30	3.60	20	
sec-Butylbenzene	20.830	1.0	20.00	0	104	72	127	20.94	0.527	20	
Styrene	22.740	1.0	20.00	0	114	65	134	21.94	3.58	20	
Tert-amyl methyl ether	20.350	1.0	20.00	0	102	70	130	19.96	1.94	20	
Tert-Butanol	95.170	5.0	100.0	0	95.2	70	130	92.22	3.15	20	
tert-Butylbenzene	21.820	1.0	20.00	0	109	70	129	21.88	0.275	20	
Tetrachloroethene	21.860	1.0	20.00	0	109	66	128	22.77	4.08	20	
Toluene	21.260	2.0	20.00	0	106	77	122	21.66	1.86	20	
trans-1,2-Dichloroethene	17.380	1.0	20.00	0	86.9	63	137	18.81	7.90	20	

Qualifiers:

- | | | |
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CLIENT: CH2MHill
Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P160508LCSD	SampType: LCSD	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 108333						
Client ID: LCSS02	Batch ID: P16VW089	TestNo: EPA 8260B		Analysis Date: 5/8/2016	SeqNo: 2321969						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	20.910	1.0	20.00	0	105	59	135	20.75	0.768	20	
Trichloroethene	21.900	1.0	20.00	0	110	70	127	22.27	1.68	20	
Trichlorofluoromethane	23.730	1.0	20.00	0	119	57	129	24.02	1.21	20	
Vinyl chloride	25.190	0.50	20.00	0	126	50	134	24.19	4.05	20	
Xylenes, Total	66.130	2.0	60.00	0	110	75	125	64.40	2.65	20	
Surr: 1,2-Dichloroethane-d4	25.010		25.00		100	72	119		0		
Surr: 4-Bromofluorobenzene	26.340		25.00		105	76	119		0		
Surr: Dibromofluoromethane	26.300		25.00		105	85	115		0		
Surr: Toluene-d8	25.710		25.00		103	81	120		0		

Sample ID: P160508MB3	SampType: MBLK	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 108333						
Client ID: PBW	Batch ID: P16VW089	TestNo: EPA 8260B		Analysis Date: 5/8/2016	SeqNo: 2321970						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0									
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	0.50									
1,1-Dichloroethene	ND	1.0									
1,1-Dichloropropene	ND	1.0									
1,2,3-Trichlorobenzene	ND	1.0									
1,2,3-Trichloropropane	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromo-3-chloropropane	ND	2.0									
1,2-Dibromoethane	ND	1.0									
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	0.50									
1,2-Dichloropropane	ND	1.0									

Qualifiers:

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|----------------------------------------------------------------|----------------------------------------|------------------------------------------------------|
| B Analyte detected in the associated Method Blank | E Value above quantitation range | H Holding times for preparation or analysis exceeded |
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ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P160508MB3	SampType: MBLK	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 108333						
Client ID: PBW	Batch ID: P16VW089	TestNo: EPA 8260B		Analysis Date: 5/8/2016	SeqNo: 2321970						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,3-Dichloropropane	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
2,2-Dichloropropane	ND	1.0									
2-Butanone	ND	10									
2-Chlorotoluene	ND	1.0									
2-Hexanone	ND	5.0									
4-Chlorotoluene	ND	1.0									
4-Isopropyltoluene	ND	1.0									
4-Methyl-2-pentanone	ND	10									
Acetone	ND	10									
Acrolein	ND	20									
Acrylonitrile	ND	20									
Benzene	ND	1.0									
Bromobenzene	ND	1.0									
Bromochloromethane	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	1.0									
Carbon disulfide	ND	1.0									
Carbon tetrachloride	ND	0.50									
Chlorobenzene	ND	1.0									
Chloroethane	ND	1.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,2-Dichloroethene	ND	1.0									
cis-1,3-Dichloropropene	ND	1.0									
Di-isopropyl ether	ND	1.0									
Dibromochloromethane	ND	1.0									

Qualifiers:

- | | | |
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| B Analyte detected in the associated Method Blank | E Value above quantitation range | H Holding times for preparation or analysis exceeded |
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ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P160508MB3	SampType: MBLK	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 108333						
Client ID: PBW	Batch ID: P16VW089	TestNo: EPA 8260B		Analysis Date: 5/8/2016	SeqNo: 2321970						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromomethane	ND	1.0									
Dichlorodifluoromethane	ND	1.0									
Ethyl tert-butyl ether	ND	1.0									
Ethylbenzene	ND	1.0									
Freon-113	ND	1.0									
Hexachlorobutadiene	ND	1.0									
Isopropylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
Methylene chloride	ND	2.0									
MTBE	ND	1.0									
n-Butylbenzene	ND	1.0									
n-Propylbenzene	ND	1.0									
Naphthalene	ND	1.0									
o-Xylene	ND	1.0									
sec-Butylbenzene	ND	1.0									
Styrene	ND	1.0									
Tert-amyl methyl ether	ND	1.0									
Tert-Butanol	ND	5.0									
tert-Butylbenzene	ND	1.0									
Tetrachloroethene	ND	1.0									
Toluene	ND	2.0									
trans-1,2-Dichloroethene	ND	1.0									
trans-1,3-Dichloropropene	ND	1.0									
Trichloroethene	ND	1.0									
Trichlorofluoromethane	ND	1.0									
Vinyl chloride	ND	0.50									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	26.300		25.00		105	72	119				
Surr: 4-Bromofluorobenzene	26.920		25.00		108	76	119				
Surr: Dibromofluoromethane	26.870		25.00		107	85	115				

Qualifiers:

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

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: P160508MB3	SampType: MBLK	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 108333						
Client ID: PBW	Batch ID: P16VW089	TestNo: EPA 8260B		Analysis Date: 5/8/2016	SeqNo: 2321970						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Toluene-d8	25.640		25.00		103	81	120				

Qualifiers:

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

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_SIMPGE

Sample ID: LCS-58306		SampType: LCS		TestCode: 8270_S_SIMP Units: ug/Kg			Prep Date: 5/5/2016		RunNo: 108263		
Client ID: LCSS		Batch ID: 58306		TestNo: EPA 8270CSI EPA 3550B			Analysis Date: 5/5/2016		SeqNo: 2316085		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	22.000	5.0	33.30	0	66.1	30	111				
2-Methylnaphthalene	24.000	5.0	33.30	0	72.1	30	111				
Acenaphthene	22.333	5.0	33.30	0	67.1	28	110				
Acenaphthylene	22.000	5.0	33.30	0	66.1	23	126				
Anthracene	19.667	5.0	33.30	0	59.1	28	136				
Benzo(a)anthracene	20.000	5.0	33.30	0	60.1	31	146				
Benzo(a)pyrene	20.000	5.0	33.30	0	60.1	28	128				
Benzo(b)fluoranthene	23.000	5.0	33.30	0	69.1	30	139				
Benzo(g,h,i)perylene	19.333	5.0	33.30	0	58.1	21	149				
Benzo(k)fluoranthene	27.333	5.0	33.30	0	82.1	42	129				
Chrysene	20.000	5.0	33.30	0	60.1	39	134				
Dibenz(a,h)anthracene	21.000	5.0	33.30	0	63.1	30	138				
Fluoranthene	21.333	5.0	33.30	0	64.1	30	142				
Fluorene	21.667	5.0	33.30	0	65.1	27	116				
Indeno(1,2,3-cd)pyrene	21.333	5.0	33.30	0	64.1	17	164				
Naphthalene	24.000	5.0	33.30	0	72.1	29	106				
Phenanthrene	21.000	5.0	33.30	0	63.1	32	127				
Pyrene	21.333	5.0	33.30	0	64.1	28	130				
Surr: 1,2-Dichlorobenzene-d4	20.667		33.30		62.1	25	110				
Surr: 2-Fluorobiphenyl	18.667		33.30		56.1	34	135				
Surr: 4-Terphenyl-d14	24.667		33.30		74.1	14	129				
Surr: Nitrobenzene-d5	23.667		33.30		71.1	25	135				

Sample ID: MB-58306		SampType: MBLK		TestCode: 8270_S_SIMP Units: ug/Kg			Prep Date: 5/5/2016		RunNo: 108263		
Client ID: PBS		Batch ID: 58306		TestNo: EPA 8270CSI EPA 3550B			Analysis Date: 5/5/2016		SeqNo: 2316086		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	5.0									
2-Methylnaphthalene	ND	5.0									
Acenaphthene	ND	5.0									

Qualifiers:

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



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NEVADA
 3151 W. Post Rd., Las Vegas, NV 89118
 P: 702.307.2659 F: 702.307.2691

"Serving Clients with Passion and Professionalism"

CLIENT: CH2MHill
Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_SIMPGE

Sample ID: MB-58306		SampType: MBLK		TestCode: 8270_S_SIMP Units: ug/Kg		Prep Date: 5/5/2016		RunNo: 108263			
Client ID: PBS		Batch ID: 58306		TestNo: EPA 8270CSI EPA 3550B		Analysis Date: 5/5/2016		SeqNo: 2316086			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	ND	5.0									
Anthracene	ND	5.0									
Benzo(a)anthracene	ND	5.0									
Benzo(a)pyrene	ND	5.0									
Benzo(b)fluoranthene	ND	5.0									
Benzo(g,h,i)perylene	ND	5.0									
Benzo(k)fluoranthene	ND	5.0									
Chrysene	ND	5.0									
Dibenz(a,h)anthracene	ND	5.0									
Fluoranthene	ND	5.0									
Fluorene	ND	5.0									
Indeno(1,2,3-cd)pyrene	ND	5.0									
Naphthalene	ND	5.0									
Phenanthrene	ND	5.0									
Pyrene	ND	5.0									
Surr: 1,2-Dichlorobenzene-d4	19.667		33.30		59.1	25	110				
Surr: 2-Fluorobiphenyl	17.333		33.30		52.1	34	135				
Surr: 4-Terphenyl-d14	23.000		33.30		69.1	14	129				
Surr: Nitrobenzene-d5	22.667		33.30		68.1	25	135				

Sample ID: N019618-002B-MS		SampType: MS		TestCode: 8270_S_SIMP Units: ug/Kg-dry		Prep Date: 5/5/2016		RunNo: 108263			
Client ID: ZZZZZ		Batch ID: 58306		TestNo: EPA 8270CSI EPA 3550B		Analysis Date: 5/5/2016		SeqNo: 2316088			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	89.391	5.5	145.9	0	61.3	30	111				
2-Methylnaphthalene	100.337	5.5	145.9	0	68.8	30	111				
Acenaphthene	91.216	5.5	145.9	0	62.5	28	110				
Acenaphthylene	93.770	5.5	145.9	0	64.3	23	126				
Anthracene	78.445	5.5	145.9	0	53.8	28	136				
Benzo(a)anthracene	91.216	5.5	145.9	0	62.5	31	146				

Qualifiers:

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



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"Serving Clients with Passion and Professionalism"

CLIENT: CH2MHill
 Work Order: N019635
 Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_SIMPGE

Sample ID: N019618-002B-MS		SampType: MS		TestCode: 8270_S_SIMP		Units: ug/Kg-dry		Prep Date: 5/5/2016		RunNo: 108263	
Client ID: ZZZZZZ		Batch ID: 58306		TestNo: EPA 8270CSI EPA 3550B		Analysis Date: 5/5/2016				SeqNo: 2316088	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(a)pyrene	86.837	5.5	145.9	0	59.5	28	128				
Benzo(b)fluoranthene	96.324	5.5	145.9	0	66.0	30	139				
Benzo(g,h,i)perylene	80.270	5.5	145.9	0	55.0	21	149				
Benzo(k)fluoranthene	97.783	5.5	145.9	0	67.0	42	129				
Chrysene	71.878	5.5	145.9	0	49.3	39	134				
Dibenz(a,h)anthracene	86.472	5.5	145.9	0	59.3	30	138				
Fluoranthene	83.554	5.5	145.9	0	57.3	30	142				
Fluorene	92.675	5.5	145.9	0	63.5	27	116				
Indeno(1,2,3-cd)pyrene	86.837	5.5	145.9	0	59.5	17	164				
Naphthalene	98.513	5.5	145.9	0	67.5	29	106				
Phenanthrene	84.648	5.5	145.9	0	58.0	32	127				
Pyrene	84.648	5.5	145.9	0	58.0	28	130				
Surr: 1,2-Dichlorobenzene-d4	21.892		36.45		60.1	25	110				
Surr: 2-Fluorobiphenyl	20.067		36.45		55.1	34	135				
Surr: 4-Terphenyl-d14	23.351		36.45		64.1	14	129				
Surr: Nitrobenzene-d5	26.270		36.45		72.1	25	135				

Sample ID: N019618-002B-MSD		SampType: MSD		TestCode: 8270_S_SIMP		Units: ug/Kg-dry		Prep Date: 5/5/2016		RunNo: 108263	
Client ID: ZZZZZZ		Batch ID: 58306		TestNo: EPA 8270CSI EPA 3550B		Analysis Date: 5/5/2016				SeqNo: 2316089	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	88.032	5.5	145.5	0	60.5	30	111	89.39	1.53	30	
2-Methylnaphthalene	97.854	5.5	145.5	0	67.3	30	111	100.3	2.51	30	
Acenaphthene	90.578	5.5	145.5	0	62.3	28	110	91.22	0.701	30	
Acenaphthylene	92.761	5.5	145.5	0	63.8	23	126	93.77	1.08	30	
Anthracene	81.484	5.5	145.5	0	56.0	28	136	78.45	3.80	30	
Benzo(a)anthracene	96.399	5.5	145.5	0	66.3	31	146	91.22	5.53	30	
Benzo(a)pyrene	92.397	5.5	145.5	0	63.5	28	128	86.84	6.20	30	
Benzo(b)fluoranthene	103.674	5.5	145.5	0	71.3	30	139	96.32	7.35	30	
Benzo(g,h,i)perylene	86.941	5.5	145.5	0	59.8	21	149	80.27	7.98	30	

Qualifiers:

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



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"Serving Clients with Passion and Professionalism"

CLIENT: CH2MHill
Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_SIMPGE

Sample ID: N019618-002B-MSD	SampType: MSD	TestCode: 8270_S_SIMP	Units: ug/Kg-dry	Prep Date: 5/5/2016	RunNo: 108263
Client ID: ZZZZZZ	Batch ID: 58306	TestNo: EPA 8270CSI EPA 3550B	Analysis Date: 5/5/2016	SeqNo: 2316089	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	102.947	5.5	145.5	0	70.8	42	129	97.78	5.14	30	
Chrysene	76.028	5.5	145.5	0	52.3	39	134	71.88	5.61	30	
Dibenz(a,h)anthracene	93.489	5.5	145.5	0	64.3	30	138	86.47	7.80	30	
Fluoranthene	88.396	5.5	145.5	0	60.8	30	142	83.55	5.63	30	
Fluorene	92.397	5.5	145.5	0	63.5	27	116	92.68	0.300	30	
Indeno(1,2,3-cd)pyrene	94.580	5.5	145.5	0	65.0	17	164	86.84	8.54	30	
Naphthalene	96.035	5.5	145.5	0	66.0	29	106	98.51	2.55	30	
Phenanthrene	86.213	5.5	145.5	0	59.3	32	127	84.65	1.83	30	
Pyrene	89.123	5.5	145.5	0	61.3	28	130	84.65	5.15	30	
Surr: 1,2-Dichlorobenzene-d4	21.099		36.34		58.1	25	110		0		
Surr: 2-Fluorobiphenyl	19.280		36.34		53.1	34	135		0		
Surr: 4-Terphenyl-d14	25.464		36.34		70.1	14	129		0		
Surr: Nitrobenzene-d5	25.828		36.34		71.1	25	135		0		

Qualifiers:

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



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"Serving Clients with Passion and Professionalism"

CLIENT: CH2MHill
Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: PMOIST

Sample ID: MB-R108257	SampType: MBLK	TestCode: PMOIST	Units: wt%	Prep Date:	RunNo: 108257						
Client ID: PBS	Batch ID: R108257	TestNo: D2216		Analysis Date: 5/5/2016	SeqNo: 2315831						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	ND	0.1000									

Qualifiers:

- | | | |
|----------------------------------------------------------------|----------------------------------------|------------------------------------------------------|
| B Analyte detected in the associated Method Blank | E Value above quantitation range | H Holding times for preparation or analysis exceeded |
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CLIENT: CH2MHill
Work Order: N019635
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: PMOIST

Sample ID: MB-R108335	SampType: MBLK	TestCode: PMOIST	Units: wt%	Prep Date:	RunNo: 108335						
Client ID: PBS	Batch ID: R108335	TestNo: D2216		Analysis Date: 5/9/2016	SeqNo: 2319362						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	ND	0.1000									

Qualifiers:

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



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

CHAIN OF CUSTODY RECORD

DATE: 5/4/2016
 PAGE: 1 OF 2

LABORATORY CLIENT: Kinder Morgan Energy Partners, Attn: Steve Defibaugh						CLIENT PROJECT NAME / NUMBER: SFPP - Norwalk Site						P.O. NO.:							
ADDRESS: 1100 Town & Country Road						PROJECT CONTACT: Dan Jablonski						QUOTE NO.:							
CITY: Orange, CA 92868						SAMPLER(S): (SIGNATURE) <i>[Signature]</i>						LAB USE ONLY							
TEL: 714-560-4802		FAX: 714-560-4601		E-MAIL:								<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>							
TURNAROUND TIME <input type="checkbox"/> SAME DAY <input checked="" type="checkbox"/> 24 HR <input type="checkbox"/> 48HR <input type="checkbox"/> 72 HR <input type="checkbox"/> 5 DAYS <input type="checkbox"/> 10 DAYS						REQUESTED ANALYSIS VOCs plus Oxygenates (8260B) TPH-g, TPH-d, and TPH-oil (8015B) PAHs (8270 SIM) PCBs (8082) CAM 17 Metals						<i>1.8°C</i> <i>JR#2</i>							
SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY) <input type="checkbox"/> RWQCB REPORTING <input type="checkbox"/> ARCHIVE SAMPLES UNTIL ___/___/___																			
SPECIAL INSTRUCTIONS Report to D. Jablonski/CH2M HILL, cc: KMEP Direct Bill KMEP/SFPP - Steve Defibaugh-ref. AFE# 81195 "J" flags required/Use lowest possible detection limit - all methods.																			
LAB USE ONLY	SAMPLE ID	LOCATION/ DESCRIPTION	SAMPLING		MAT- RIX	NO. OF CONT.	VOCs plus Oxygenates (8260B)	TPH-g, TPH-d, and TPH-oil (8015B)	PAHs (8270 SIM)	PCBs (8082)	CAM 17 Metals							Comments	
			DATE	TIME															
	SVM-17-05-050416	SVM-17	5/4/16	7:50	SOIL	6	X	X											
	SVM-17-10-050416	SVM-17	5/4/16	8:00	SOIL	6	X	X											
	SVM-18-05-050416	SVM-18	5/4/16	9:45	SOIL	6	X	X											
	SVM-18-10-050416	SVM-18	5/4/16	9:50	SOIL	6	X	X											
	SVM-19-05-050416	SVM-19	5/4/16	10:50	SOIL	7	X	X	X	X	X								
	SVM-19-10-050416	SVM-19	5/4/16	11:00	SOIL	6	X	X											
	SS-20-05-050416	SS-20	5/4/16	11:50	SOIL	6	X	X											
	SS-20-10-050416	SS-20	5/4/16	12:00	SOIL	6	X	X											
	SS-21-05-050416	SS-21	5/4/16	12:15	SOIL	6	X	X											
Relinquished by: (Signature) <i>[Signature]</i> (2 COOLERS)						Received by: (Signature) <i>[Signature]</i>						Date: <u>5/4/16</u>		Time: <u>3:51</u>					
Relinquished by: (Signature) <i>[Signature]</i> 5-4-16 17:20						Received by: (Signature) <i>[Signature]</i>						Date: <u>5/5/16</u>		Time: <u>8:17 am</u>					
Relinquished by: (Signature)						Received by: (Signature)						Date:		Time:					

ASSET Laboratories

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

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

Cooler Received/Opened On: 5/5/2016 Workorder: N019635
 Rep sample Temp (Deg C): 1.8 IR Gun ID: 2
 Temp Blank: Yes No
 Carrier name: Golden State Overnight
 Last 4 digits of Tracking No.: 0842 Packing Material Used: Bubble Wrap
 Cooling process: Ice Ice Pack Dry Ice Other None

Sample Receipt Checklist

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

Comments:

Checklist Completed By: YR ABC 5/5/2016

Reviewed By:  05/10/16

Sample Control LV

From: Marlon B. Cartin <marlon@assetlaboratories.com>
Sent: Thursday, May 05, 2016 9:25 AM
To: Daniel.Jablonski@CH2M.com
Cc: Vidal.Cortes@ch2m.com; molky@assetlaboratories.com; glen@assetlaboratories.com;
Subject: 'ASSET LV Sample Control'
RE: SFPP Norwalk SVM COC 050416

Copy on this Dan.

Thanks,

Marlon B. Cartin

Project Manager

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

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

From: Daniel.Jablonski@CH2M.com [<mailto:Daniel.Jablonski@CH2M.com>]
Sent: Thursday, May 05, 2016 8:27 AM
To: marlon@assetlaboratories.com
Cc: Vidal.Cortes@ch2m.com; molky@assetlaboratories.com; glen@assetlaboratories.com
Subject: FW: SFPP Norwalk SVM COC 050416

Marlon, FYI we want the data on normal TAT, not 24 hours (as noted on COC; Vidal may have changed this).
Samples should arrive sometime today.

Thanks,

Daniel Jablonski

Project Manager

D 213.228.8271

M 818.257.3630

CH2M

Los Angeles, California (Teleworker)

www.ch2m.com | [LinkedIn](#) | [Twitter](#) | [Facebook](#)

From: Cortes, Vidal/SCO
Sent: Wednesday, May 04, 2016 2:30 PM
To: Jablonski, Daniel/LAC <Daniel.Jablonski@CH2M.com>
Subject: SFPP Norwalk SVM COC 050416

Today's coc.

ASSET Laboratories

WORK ORDER Summary

07-May-16

WorkOrder: N019635

Client ID: CH2HI03

Project: SFPP - Norwalk Site

QC Level: RTNE

Date Received: 5/5/2016

Comments: Report to D. Jablonski/CH2M HILL, cc:KMEP

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N019635-001A	SVM-17-05-050416	5/4/2016 7:50:00 AM	5/12/2016	SOIL	EPA 5035	Closed System Purge and Trap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-001B			5/12/2016		EPA 5035	Encore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-001C							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-001D							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-001E							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-001F			5/12/2016		EPA 3550B	ULTRASONIC EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		EPA 8015B	DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		D2216	PERCENT MOISTURE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
N019635-002A	SVM-17-10-050416	5/4/2016 8:00:00 AM	5/12/2016		EPA 5035	Closed System Purge and Trap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-002B			5/12/2016		EPA 5035	Encore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-002C							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-002D							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-002E							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-002F			5/12/2016		EPA 3550B	ULTRASONIC EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		EPA 8015B	DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS

ASSET Laboratories

WORK ORDER Summary

07-May-16

WorkOrder: N019635

Client ID: CH2HI03

Project: SFPP - Norwalk Site

QC Level: RTNE

Date Received: 5/5/2016

Comments: Report to D. Jablonski/CH2M HILL, cc:KMEP

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N019635-002F	SVM-17-10-050416	5/4/2016 8:00:00 AM	5/12/2016	SOIL	D2216	PERCENT MOISTURE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
N019635-003A	SVM-18-05-050416	5/4/2016 9:45:00 AM	5/12/2016		EPA 5035	Closed System Purge and Trap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-003B			5/12/2016		EPA 5035	Encore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-003C							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-003D							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-003E							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-003F			5/12/2016		EPA 3550B	ULTRASONIC EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		EPA 8015B	DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		D2216	PERCENT MOISTURE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
N019635-004A	SVM-18-10-050416	5/4/2016 9:50:00 AM	5/12/2016		EPA 5035	Closed System Purge and Trap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-004B			5/12/2016		EPA 5035	Encore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-004C							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-004D							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-004E							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-004F			5/12/2016		EPA 3550B	ULTRASONIC EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS

ASSET Laboratories

WORK ORDER Summary

07-May-16

WorkOrder: N019635

Client ID: CH2HI03

Project: SFPP - Norwalk Site

QC Level: RTNE

Date Received: 5/5/2016

Comments: Report to D. Jablonski/CH2M HILL, cc:KMEP

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N019635-004F	SVM-18-10-050416	5/4/2016 9:50:00 AM	5/12/2016	SOIL	EPA 8015B	DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		D2216	PERCENT MOISTURE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
N019635-005A	SVM-19-05-050416	5/4/2016 10:50:00 AM	5/12/2016		EPA 5035	Closed System Purge and Trap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-005B			5/12/2016		EPA 5035	Encore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-005C							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-005D							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-005E							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-005F			5/12/2016		EPA 3050B	SOPREP TOTAL METALS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		EPA 3550B	ULTRASONIC EXTRACTION: PESTICIDES/PCB	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		EPA 3550B	ULTRASONIC EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		EPA 3550B	ULTRASONIC EXTRACTION: 8270C - SIM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		EPA 6010B	TOTAL METALS BY ICP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016			MERCURY PREP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		EPA 7471A	TOTAL MERCURY BY COLD VAPOR TECHNIQUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		EPA 8015B	DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		EPA 8082	PCBs BY GC/ECD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		EPA 8270CSIM	SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS-SIM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS

ASSET Laboratories

WORK ORDER Summary

07-May-16

WorkOrder: N019635

Client ID: CH2HI03

Project: SFPP - Norwalk Site

QC Level: RTNE

Date Received: 5/5/2016

Comments: Report to D. Jablonski/CH2M HILL, cc:KMEP

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N019635-005F	SVM-19-05-050416	5/4/2016 10:50:00 AM	5/12/2016	SOIL	D2216	PERCENT MOISTURE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
N019635-006A	SVM-19-10-050416	5/4/2016 11:00:00 AM	5/12/2016		EPA 5035	Closed System Purge and Trap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-006B			5/12/2016		EPA 5035	Encore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-006C							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-006D							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-006E							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-006F			5/12/2016		EPA 3550B	ULTRASONIC EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		EPA 8015B	DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		D2216	PERCENT MOISTURE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
N019635-007A	SS-20-05-050416	5/4/2016 11:50:00 AM	5/12/2016		EPA 5035	Closed System Purge and Trap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-007B			5/12/2016		EPA 5035	Encore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-007C							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-007D							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-007E							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-007F			5/12/2016		EPA 3550B	ULTRASONIC EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS

ASSET Laboratories

WORK ORDER Summary

07-May-16

WorkOrder: N019635

Client ID: CH2HI03

Project: SFPP - Norwalk Site

QC Level: RTNE

Date Received: 5/5/2016

Comments: Report to D. Jablonski/CH2M HILL, cc:KMEP

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N019635-007F	SS-20-05-050416	5/4/2016 11:50:00 AM	5/12/2016	SOIL	EPA 8015B	DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		D2216	PERCENT MOISTURE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
N019635-008A	SS-20-10-050416	5/4/2016 12:00:00 PM	5/12/2016		EPA 5035	Closed System Purge and Trap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-008B			5/12/2016		EPA 5035	Encore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-008C							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-008D							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-008E							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-008F			5/12/2016		EPA 3550B	ULTRASONIC EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		EPA 8015B	DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		D2216	PERCENT MOISTURE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
N019635-009A	SS-21-05-050416	5/4/2016 12:15:00 PM	5/12/2016		EPA 5035	Closed System Purge and Trap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-009B			5/12/2016		EPA 5035	Encore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-009C							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-009D							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-009E							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS

ASSET Laboratories

WORK ORDER Summary

07-May-16

WorkOrder: N019635

Client ID: CH2HI03

Project: SFPP - Norwalk Site

QC Level: RTNE

Date Received: 5/5/2016

Comments: Report to D. Jablonski/CH2M HILL, cc:KMEP

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N019635-009F	SS-21-05-050416	5/4/2016 12:15:00 PM	5/12/2016	SOIL	EPA 3550B	ULTRASONIC EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		EPA 8015B	DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		D2216	PERCENT MOISTURE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
N019635-010A	SS-21-05D-050416	5/4/2016 12:20:00 PM	5/12/2016		EPA 5035	Closed System Purge and Trap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-010B			5/12/2016		EPA 5035	Encore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-010C							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-010D							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-010E							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-010F			5/12/2016		EPA 3550B	ULTRASONIC EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		EPA 8015B	DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		D2216	PERCENT MOISTURE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
N019635-011A	SS-21-10-050416	5/4/2016 12:25:00 PM	5/12/2016		EPA 5035	Closed System Purge and Trap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-011B			5/12/2016		EPA 5035	Encore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
			5/12/2016		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-011C							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-011D							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS

ASSET Laboratories

WORK ORDER Summary

07-May-16

WorkOrder: N019635

Client ID: CH2HI03

Project: SFPP - Norwalk Site

QC Level: RTNE

Date Received: 5/5/2016

Comments: Report to D. Jablonski/CH2M HILL, cc:KMEP

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N019635-011E	SS-21-10-050416	5/4/2016 12:25:00 PM		SOIL			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS
N019635-011F			5/12/2016		EPA 3550B	ULTRASONIC EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		EPA 8015B	DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			5/12/2016		D2216	PERCENT MOISTURE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
N019635-012A	EB-050416	5/4/2016 12:45:00 PM	5/12/2016	Water	EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
			5/12/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
N019635-012B			5/12/2016		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			5/12/2016		EPA 8015B	TPH EXTRACTABLE BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			5/12/2016		EPA 8015B	Total TPH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N019635-013A	TB-050415	5/4/2016 12:55:00 PM	5/12/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
N019635-014A	FOLDER		5/12/2016		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB



800-322-5555 www.gso.com

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ASSET LABORATORIES
MOLKY BRAR
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CERRITOS, CA 90703

Tracking #: 531820842

CPS



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ATL INC
MARLON CARTIN
3151 W. POST RD.,
LAS VEGAS, NV 89118

LVS
LAS VEGAS

A

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

C89102A

Delivery Instructions:
HOLD FOR PICK UP
Signature Type: REQUIRED



51459305

Print Date: 5/4/2016 5:42 PM

Package 1 of 3

LABEL INSTRUCTIONS:

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

Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer. Securely attach this label to your package, do not cover the barcode.

1.80C
JRH 2

Attachment 3
Soil Vapor Laboratory Analytical
Report



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

May 20, 2016

Dan Jablonski
CH2M Hill, Inc.
1000 Wilshire Blvd., Suite 2100
Los Angeles, CA 90017-2457

**Re : KMEP Norwalk Biosparge Startup / 496965.A1.01
MB187309 / 6E18015**

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received on 05/09/16 13:00 and analyzed in accordance with the attached chain-of-custody.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Allen A.', is written above the printed name.

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16

Sample ID	Laboratory ID	Matrix	TAT	Date Sampled	Date Received
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TO-15 (Mid Level)

SVM-17-5	6E18015-01	Vapor	5	05/09/16 08:01	05/09/16 13:00
SVM-17-10	6E18015-02	Vapor	5	05/09/16 08:04	05/09/16 13:00
SVM-18-10	6E18015-03	Vapor	5	05/09/16 08:42	05/09/16 13:00
SVM-18-5	6E18015-04	Vapor	5	05/09/16 08:47	05/09/16 13:00
SVM-19-5	6E18015-05	Vapor	5	05/09/16 09:02	05/09/16 13:00
SVM-19-5 DUP	6E18015-06	Vapor	5	05/09/16 09:02	05/09/16 13:00
Ambient Air	6E18015-07	Vapor	5	05/09/16 09:05	05/09/16 13:00

TO-3

SVM-17-5	6E18015-01	Vapor	5	05/09/16 08:01	05/09/16 13:00
SVM-17-10	6E18015-02	Vapor	5	05/09/16 08:04	05/09/16 13:00
SVM-18-10	6E18015-03	Vapor	5	05/09/16 08:42	05/09/16 13:00
SVM-18-5	6E18015-04	Vapor	5	05/09/16 08:47	05/09/16 13:00
SVM-19-5	6E18015-05	Vapor	5	05/09/16 09:02	05/09/16 13:00
SVM-19-5 DUP	6E18015-06	Vapor	5	05/09/16 09:02	05/09/16 13:00
Ambient Air	6E18015-07	Vapor	5	05/09/16 09:05	05/09/16 13:00

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
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VOCs by EPA TO-3

VOCs by GCMS EPA TO-15

Acetone	SVM-17-5	0.029	0.020	ug/L	1	05/09/16	05/09/16	TO-15
Ethanol	SVM-17-5	0.32	0.020	ug/L	1	05/09/16	05/09/16	TO-15
Ethanol	SVM-18-5	0.070	0.020	ug/L	1	05/09/16	05/09/16	TO-15
Ethanol	Ambient Air	0.021	0.020	ug/L	1	05/09/16	05/09/16	TO-15

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by EPA TO-3

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16
Units: ug/L

Date Sampled:	05/09/16	05/09/16	05/09/16	05/09/16	
Date Prepared:	05/09/16	05/09/16	05/09/16	05/09/16	
Date Analyzed:	05/09/16	05/09/16	05/09/16	05/09/16	
AA ID No:	6E18015-01	6E18015-02	6E18015-03	6E18015-04	
Client ID No:	SVM-17-5	SVM-17-10	SVM-18-10	SVM-18-5	
Matrix:	Vapor	Vapor	Vapor	Vapor	
Dilution Factor:	1	1	1	1	MRL

TO-3 (TO-3)

Gasoline Range Organics (GRO)	<20	<20	<20	<20	20
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Surrogates

4-Bromofluorobenzene	104%	102%	104%	103%	<u>%REC Limits</u> 70-130
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Allen Aminian

Allen Aminian
 QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by EPA TO-3

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16
Units: ug/L

Date Sampled:	05/09/16	05/09/16	05/09/16	
Date Prepared:	05/09/16	05/09/16	05/09/16	
Date Analyzed:	05/09/16	05/09/16	05/09/16	
AA ID No:	6E18015-05	6E18015-06	6E18015-07	
Client ID No:	SVM-19-5	SVM-19-5 DUP	Ambient Air	
Matrix:	Vapor	Vapor	Vapor	
Dilution Factor:	1	1	1	MRL

TO-3 (TO-3)

Gasoline Range Organics (GRO)	<20	<20	<20	20
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Surrogates

4-Bromofluorobenzene	106%	106%	102%	<u>%REC Limits</u> 70-130
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Allen Aminian
 QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16
Units: ug/L

Date Sampled:	05/09/16	05/09/16	05/09/16	05/09/16	
Date Prepared:	05/09/16	05/09/16	05/09/16	05/09/16	
Date Analyzed:	05/09/16	05/09/16	05/09/16	05/09/16	
AA ID No:	6E18015-01	6E18015-02	6E18015-03	6E18015-04	
Client ID No:	SVM-17-5	SVM-17-10	SVM-18-10	SVM-18-5	
Matrix:	Vapor	Vapor	Vapor	Vapor	
Dilution Factor:	1	1	1	1	MRL

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

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

Allen Aminian
 QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16
Units: ug/L

Date Sampled:	05/09/16	05/09/16	05/09/16	05/09/16
Date Prepared:	05/09/16	05/09/16	05/09/16	05/09/16
Date Analyzed:	05/09/16	05/09/16	05/09/16	05/09/16
AA ID No:	6E18015-01	6E18015-02	6E18015-03	6E18015-04
Client ID No:	SVM-17-5	SVM-17-10	SVM-18-10	SVM-18-5
Matrix:	Vapor	Vapor	Vapor	Vapor
Dilution Factor:	1	1	1	1
				MRL

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

1,1-Dichloroethylene	<0.020	<0.020	<0.020	<0.020	0.020
trans-1,2-Dichloroethylene	<0.020	<0.020	<0.020	<0.020	0.020
1,2-Dichloropropane	<0.020	<0.020	<0.020	<0.020	0.020
trans-1,3-Dichloropropylene	<0.020	<0.020	<0.020	<0.020	0.020
cis-1,3-Dichloropropylene	<0.020	<0.020	<0.020	<0.020	0.020
Dichlorotetrafluoroethane	<0.020	<0.020	<0.020	<0.020	0.020
Diisopropyl ether (DIPE)	<0.020	<0.020	<0.020	<0.020	0.020
1,4-Dioxane	<0.020	<0.020	<0.020	<0.020	0.020
Ethanol	0.32	<0.020	<0.020	0.070	0.020
Ethyl Acetate	<0.020	<0.020	<0.020	<0.020	0.020
Ethylbenzene	<0.020	<0.020	<0.020	<0.020	0.020
Ethyl-tert-Butyl Ether (ETBE)	<0.020	<0.020	<0.020	<0.020	0.020
4-Ethyltoluene	<0.020	<0.020	<0.020	<0.020	0.020
Heptane	<0.020	<0.020	<0.020	<0.020	0.020
Hexachlorobutadiene	<0.020	<0.020	<0.020	<0.020	0.020
n-Hexane	<0.020	<0.020	<0.020	<0.020	0.020
2-Hexanone (MBK)	<0.020	<0.020	<0.020	<0.020	0.020
Isopropanol (IPA)	<0.20	<0.20	<0.20	<0.20	0.20
Methyl-tert-Butyl Ether (MTBE)	<0.020	<0.020	<0.020	<0.020	0.020
Methylene Chloride	<0.020	<0.020	<0.020	<0.020	0.020
4-Methyl-2-pentanone (MIBK)	<0.020	<0.020	<0.020	<0.020	0.020
Naphthalene	<0.020	<0.020	<0.020	<0.020	0.020
Propylene	<0.020	<0.020	<0.020	<0.020	0.020
Styrene	<0.020	<0.020	<0.020	<0.020	0.020
1,1,2,2-Tetrachloroethane	<0.020	<0.020	<0.020	<0.020	0.020
Tetrachloroethylene (PCE)	<0.020	<0.020	<0.020	<0.020	0.020
Tetrahydrofuran (THF)	<0.020	<0.020	<0.020	<0.020	0.020

Allen Aminian
 QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16
Units: ug/L

Date Sampled:	05/09/16	05/09/16	05/09/16	05/09/16	
Date Prepared:	05/09/16	05/09/16	05/09/16	05/09/16	
Date Analyzed:	05/09/16	05/09/16	05/09/16	05/09/16	
AA ID No:	6E18015-01	6E18015-02	6E18015-03	6E18015-04	
Client ID No:	SVM-17-5	SVM-17-10	SVM-18-10	SVM-18-5	
Matrix:	Vapor	Vapor	Vapor	Vapor	
Dilution Factor:	1	1	1	1	MRL

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

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

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

Allen Aminian
 QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16
Units: ug/L

	05/09/16	05/09/16	05/09/16	
Date Sampled:	05/09/16	05/09/16	05/09/16	
Date Prepared:	05/09/16	05/09/16	05/09/16	
Date Analyzed:	05/09/16	05/09/16	05/09/16	
AA ID No:	6E18015-05	6E18015-06	6E18015-07	
Client ID No:	SVM-19-5	SVM-19-5 DUP	Ambient Air	
Matrix:	Vapor	Vapor	Vapor	
Dilution Factor:	1	1	1	MRL

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

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

Allen Aminian
 QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16
Units: ug/L

	05/09/16	05/09/16	05/09/16	
Date Sampled:	05/09/16	05/09/16	05/09/16	
Date Prepared:	05/09/16	05/09/16	05/09/16	
Date Analyzed:	05/09/16	05/09/16	05/09/16	
AA ID No:	6E18015-05	6E18015-06	6E18015-07	
Client ID No:	SVM-19-5	SVM-19-5 DUP	Ambient Air	
Matrix:	Vapor	Vapor	Vapor	
Dilution Factor:	1	1	1	MRL

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

1,1-Dichloroethylene	<0.020	<0.020	<0.020	0.020
trans-1,2-Dichloroethylene	<0.020	<0.020	<0.020	0.020
1,2-Dichloropropane	<0.020	<0.020	<0.020	0.020
trans-1,3-Dichloropropylene	<0.020	<0.020	<0.020	0.020
cis-1,3-Dichloropropylene	<0.020	<0.020	<0.020	0.020
Dichlorotetrafluoroethane	<0.020	<0.020	<0.020	0.020
Diisopropyl ether (DIPE)	<0.020	<0.020	<0.020	0.020
1,4-Dioxane	<0.020	<0.020	<0.020	0.020
Ethanol	<0.020	<0.020	0.021	0.020
Ethyl Acetate	<0.020	<0.020	<0.020	0.020
Ethylbenzene	<0.020	<0.020	<0.020	0.020
Ethyl-tert-Butyl Ether (ETBE)	<0.020	<0.020	<0.020	0.020
4-Ethyltoluene	<0.020	<0.020	<0.020	0.020
Heptane	<0.020	<0.020	<0.020	0.020
Hexachlorobutadiene	<0.020	<0.020	<0.020	0.020
n-Hexane	<0.020	<0.020	<0.020	0.020
2-Hexanone (MBK)	<0.020	<0.020	<0.020	0.020
Isopropanol (IPA)	<0.20	<0.20	<0.20	0.20
Methyl-tert-Butyl Ether (MTBE)	<0.020	<0.020	<0.020	0.020
Methylene Chloride	<0.020	<0.020	<0.020	0.020
4-Methyl-2-pentanone (MIBK)	<0.020	<0.020	<0.020	0.020
Naphthalene	<0.020	<0.020	<0.020	0.020
Propylene	<0.020	<0.020	<0.020	0.020
Styrene	<0.020	<0.020	<0.020	0.020
1,1,2,2-Tetrachloroethane	<0.020	<0.020	<0.020	0.020
Tetrachloroethylene (PCE)	<0.020	<0.020	<0.020	0.020
Tetrahydrofuran (THF)	<0.020	<0.020	<0.020	0.020

Allen Aminian
 QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup
Method: VOCs by GCMS EPA TO-15

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16
Units: ug/L

Date Sampled:	05/09/16	05/09/16	05/09/16	
Date Prepared:	05/09/16	05/09/16	05/09/16	
Date Analyzed:	05/09/16	05/09/16	05/09/16	
AA ID No:	6E18015-05	6E18015-06	6E18015-07	
Client ID No:	SVM-19-5	SVM-19-5 DUP	Ambient Air	
Matrix:	Vapor	Vapor	Vapor	
Dilution Factor:	1	1	1	MRL

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

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

Surrogates				%REC Limits
4-Bromofluorobenzene	105%	106%	102%	70-130

Allen Aminian
 QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Notes
VOCs by EPA TO-3 - Quality Control										
<i>Batch B6E2004 - *** DEFAULT PREP ***</i>										
Blank (B6E2004-BLK1)				Prepared & Analyzed: 05/09/16						
Gasoline Range Organics (GRO)	<20	20	ug/L							
Surrogate: 4-Bromofluorobenzene	0.147		ug/L	0.14	103	70-130				
LCS (B6E2004-BS1)				Prepared & Analyzed: 05/09/16						
Gasoline Range Organics (GRO)	1.01	20	ug/L	0.82	124	70-130				
Surrogate: 4-Bromofluorobenzene	0.132		ug/L	0.14	92.5	70-130				
LCS Dup (B6E2004-BSD1)				Prepared & Analyzed: 05/09/16						
Gasoline Range Organics (GRO)	0.863	20	ug/L	0.82	106	70-130	16.1	30		
Surrogate: 4-Bromofluorobenzene	0.143		ug/L	0.14	100	70-130				
Duplicate (B6E2004-DUP1)				Source: 6E18015-05 Prepared & Analyzed: 05/09/16						
Gasoline Range Organics (GRO)	<20	20	ug/L		<20				30	
Surrogate: 4-Bromofluorobenzene	0.152		ug/L	0.14	106	70-130				

VOCs by GCMS EPA TO-15 - Quality Control

*Batch B6E2005 - *** DEFAULT PREP ****

Blank (B6E2005-BLK1)

Prepared & Analyzed: 05/09/16

Acetone	<0.020	0.020	ug/L							
Allyl chloride	<0.020	0.020	ug/L							
tert-Amyl Methyl Ether (TAME)	<0.020	0.020	ug/L							
Benzene	<0.020	0.020	ug/L							
Benzyl chloride	<0.020	0.020	ug/L							
Bromodichloromethane	<0.020	0.020	ug/L							
Bromoform	<0.020	0.020	ug/L							
Bromomethane	<0.020	0.020	ug/L							
1,3-Butadiene	<0.020	0.020	ug/L							
2-Butanone (MEK)	<0.020	0.020	ug/L							
tert-Butyl alcohol (TBA)	<20	20	ug/L							
Carbon Disulfide	<0.020	0.020	ug/L							
Carbon Tetrachloride	<0.020	0.020	ug/L							
Chlorobenzene	<0.020	0.020	ug/L							
Chloroethane	<0.020	0.020	ug/L							

Allen Aminian

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
<i>Batch B6E2005 - *** DEFAULT PREP ***</i>										
Blank (B6E2005-BLK1) Continued										
Prepared & Analyzed: 05/09/16										
Chloroform	<0.020	0.020	ug/L							
Chloromethane	<0.020	0.020	ug/L							
Cyclohexane	<0.020	0.020	ug/L							
Dibromochloromethane	<0.020	0.020	ug/L							
1,2-Dibromoethane (EDB)	<0.020	0.020	ug/L							
1,2-Dichlorobenzene	<0.020	0.020	ug/L							
1,3-Dichlorobenzene	<0.020	0.020	ug/L							
1,4-Dichlorobenzene	<0.020	0.020	ug/L							
Dichlorodifluoromethane (R12)	<0.020	0.020	ug/L							
1,1-Dichloroethane	<0.020	0.020	ug/L							
1,2-Dichloroethane (EDC)	<0.020	0.020	ug/L							
cis-1,2-Dichloroethylene	<0.020	0.020	ug/L							
1,1-Dichloroethylene	<0.020	0.020	ug/L							
trans-1,2-Dichloroethylene	<0.020	0.020	ug/L							
1,2-Dichloropropane	<0.020	0.020	ug/L							
trans-1,3-Dichloropropylene	<0.020	0.020	ug/L							
cis-1,3-Dichloropropylene	<0.020	0.020	ug/L							
Dichlorotetrafluoroethane	<0.020	0.020	ug/L							
Diisopropyl ether (DIPE)	<0.020	0.020	ug/L							
1,4-Dioxane	<0.020	0.020	ug/L							
Ethanol	<0.020	0.020	ug/L							
Ethyl Acetate	<0.020	0.020	ug/L							
Ethylbenzene	<0.020	0.020	ug/L							
Ethyl-tert-Butyl Ether (ETBE)	<0.020	0.020	ug/L							
4-Ethyltoluene	<0.020	0.020	ug/L							
Heptane	<0.020	0.020	ug/L							
Hexachlorobutadiene	<0.020	0.020	ug/L							
n-Hexane	<0.020	0.020	ug/L							
2-Hexanone (MBK)	<0.020	0.020	ug/L							
Isopropanol (IPA)	<0.20	0.20	ug/L							
Methyl-tert-Butyl Ether (MTBE)	<0.020	0.020	ug/L							
Methylene Chloride	<0.020	0.020	ug/L							

Allen Aminian
 QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
<i>Batch B6E2005 - *** DEFAULT PREP ***</i>										
Blank (B6E2005-BLK1) Continued										
Prepared & Analyzed: 05/09/16										
4-Methyl-2-pentanone (MIBK)	<0.020	0.020	ug/L							
Naphthalene	<0.020	0.020	ug/L							
Propylene	<0.020	0.020	ug/L							
Styrene	<0.020	0.020	ug/L							
1,1,2,2-Tetrachloroethane	<0.020	0.020	ug/L							
Tetrachloroethylene (PCE)	<0.020	0.020	ug/L							
Tetrahydrofuran (THF)	<0.020	0.020	ug/L							
Toluene	<0.020	0.020	ug/L							
1,2,4-Trichlorobenzene	<0.020	0.020	ug/L							
1,1,2-Trichloroethane	<0.020	0.020	ug/L							
1,1,1-Trichloroethane	<0.020	0.020	ug/L							
Trichloroethylene (TCE)	<0.020	0.020	ug/L							
Trichlorofluoromethane (R11)	<0.020	0.020	ug/L							
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<0.020	0.020	ug/L							
1,3,5-Trimethylbenzene	<0.020	0.020	ug/L							
1,2,4-Trimethylbenzene	<0.020	0.020	ug/L							
2,2,4-Trimethylpentane	<0.020	0.020	ug/L							
Vinyl acetate	<0.020	0.020	ug/L							
Vinyl bromide	<0.020	0.020	ug/L							
Vinyl chloride	<0.020	0.020	ug/L							
o-Xylene	<0.020	0.020	ug/L							
m,p-Xylenes	<0.020	0.020	ug/L							
1,1,1,2-Tetrachloroethane	<0.020	0.020	ug/L							
1,2,3-Trichloropropane	<0.020	0.020	ug/L							
sec-Butylbenzene	<0.020	0.020	ug/L							
Isopropylbenzene	<0.020	0.020	ug/L							
n-Propylbenzene	<0.020	0.020	ug/L							
4-Isopropyltoluene	<0.020	0.020	ug/L							
n-Butylbenzene	<0.020	0.020	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.146</i>		<i>ug/L</i>	<i>0.14</i>		<i>102</i>	<i>70-130</i>			

Allen Aminian
 QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
Batch B6E2005 - *** DEFAULT PREP ***										
LCS (B6E2005-BS1)					Prepared & Analyzed: 05/09/16					
Acetone	0.0283	0.020	ug/L	0.024	119	70-130	30			
Benzene	0.0315	0.020	ug/L	0.032	98.5	70-130	30			
Benzyl chloride	0.0528	0.020	ug/L	0.052	102	70-130	30			
Bromodichloromethane	0.0753	0.020	ug/L	0.067	112	70-130	30			
Bromoform	0.120	0.020	ug/L	0.10	116	70-130	30			
Bromomethane	0.0505	0.020	ug/L	0.039	130	70-130	30			
2-Butanone (MEK)	0.0326	0.020	ug/L	0.029	110	70-130	30			
Carbon Disulfide	0.0405	0.020	ug/L	0.031	130	70-130	30			
Carbon Tetrachloride	0.0691	0.020	ug/L	0.063	110	70-130	30			
Chlorobenzene	0.0519	0.020	ug/L	0.046	113	70-130	30			
Chloroethane	0.0385	0.020	ug/L	0.026	146	70-130	30			**
Chloroform	0.0497	0.020	ug/L	0.049	102	70-130	30			
Chloromethane	0.0367	0.020	ug/L	0.021	177	70-130	30			**
Dibromochloromethane	0.0887	0.020	ug/L	0.085	104	70-130	30			
1,2-Dibromoethane (EDB)	0.0742	0.020	ug/L	0.077	96.6	70-130	30			
1,2-Dichlorobenzene	0.0541	0.020	ug/L	0.060	90.0	70-130	30			
1,3-Dichlorobenzene	0.0589	0.020	ug/L	0.060	97.9	70-130	30			
1,4-Dichlorobenzene	0.0577	0.020	ug/L	0.060	96.0	70-130	30			
Dichlorodifluoromethane (R12)	0.0572	0.020	ug/L	0.049	116	70-130	30			
1,1-Dichloroethane	0.0466	0.020	ug/L	0.040	115	70-130	30			
1,2-Dichloroethane (EDC)	0.0400	0.020	ug/L	0.040	98.8	70-130	30			
cis-1,2-Dichloroethylene	0.0377	0.020	ug/L	0.040	95.0	70-130	30			
1,1-Dichloroethylene	0.0496	0.020	ug/L	0.040	125	70-130	30			
trans-1,2-Dichloroethylene	0.0408	0.020	ug/L	0.040	103	70-130	30			
1,2-Dichloropropane	0.0519	0.020	ug/L	0.046	112	70-130	30			
trans-1,3-Dichloropropylene	0.0445	0.020	ug/L	0.045	98.1	70-130	30			
cis-1,3-Dichloropropylene	0.0466	0.020	ug/L	0.045	103	70-130	30			
Dichlorotetrafluoroethane	0.0930	0.020	ug/L	0.070	133	70-130	30			**
Ethylbenzene	0.0475	0.020	ug/L	0.043	109	70-130	30			
4-Ethyltoluene	0.0489	0.020	ug/L	0.049	99.5	70-130	30			
Hexachlorobutadiene	0.0747	0.020	ug/L	0.11	70.0	70-130	30			
2-Hexanone (MBK)	0.0362	0.020	ug/L	0.041	88.3	70-130	30			

Allen Aminian
 QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
<i>Batch B6E2005 - *** DEFAULT PREP ***</i>										
LCS (B6E2005-BS1) Continued						Prepared & Analyzed: 05/09/16				
Isopropanol (IPA)	0.0268	0.20	ug/L	0.025	109	70-130	30			
Methylene Chloride	0.0472	0.020	ug/L	0.035	136	70-130	30			**
4-Methyl-2-pentanone (MIBK)	0.0404	0.020	ug/L	0.041	98.5	70-130	30			
Styrene	0.0419	0.020	ug/L	0.043	98.3	70-130	30			
1,1,2,2-Tetrachloroethane	0.0799	0.020	ug/L	0.069	116	70-130	30			
Tetrachloroethylene (PCE)	0.0632	0.020	ug/L	0.068	93.2	70-130	30			
Toluene	0.0381	0.020	ug/L	0.038	101	70-130	30			
1,2,4-Trichlorobenzene	0.0530	0.020	ug/L	0.074	71.4	70-130	30			
1,1,2-Trichloroethane	0.0558	0.020	ug/L	0.055	102	70-130	30			
1,1,1-Trichloroethane	0.0517	0.020	ug/L	0.055	94.8	70-130	30			
Trichloroethylene (TCE)	0.0560	0.020	ug/L	0.054	104	70-130	30			
Trichlorofluoromethane (R11)	0.0702	0.020	ug/L	0.056	125	70-130	30			
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	0.103	0.020	ug/L	0.077	134	70-130	30			**
1,3,5-Trimethylbenzene	0.0483	0.020	ug/L	0.049	98.3	70-130	30			
1,2,4-Trimethylbenzene	0.0469	0.020	ug/L	0.049	95.4	70-130	30			
Vinyl acetate	0.0370	0.020	ug/L	0.035	105	70-130	30			
Vinyl chloride	0.0364	0.020	ug/L	0.026	142	70-130	30			**
o-Xylene	0.0465	0.020	ug/L	0.043	107	70-130	30			
m,p-Xylenes	0.0942	0.020	ug/L	0.087	108	70-130	30			
1,2,3-Trichloropropane	0.0573	0.020	ug/L	0.060	95.0	70-130	30			
sec-Butylbenzene	0.0442	0.020	ug/L	0.055	80.6	70-130	30			
Isopropylbenzene	0.0418	0.020	ug/L	0.049	85.1	70-130	30			
n-Propylbenzene	0.0427	0.020	ug/L	0.049	86.9	70-130	30			
4-Isopropyltoluene	0.0424	0.020	ug/L	0.055	77.3	70-130	30			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.127</i>		<i>ug/L</i>	<i>0.14</i>	<i>88.6</i>	<i>70-130</i>				
LCS Dup (B6E2005-BSD1)						Prepared & Analyzed: 05/09/16				
Acetone	0.0283	0.020	ug/L	0.024	119	70-130	0.00	30		
Benzene	0.0315	0.020	ug/L	0.032	98.5	70-130	0.00	30		
Benzyl chloride	0.0528	0.020	ug/L	0.052	102	70-130	0.00	30		
Bromodichloromethane	0.0753	0.020	ug/L	0.067	112	70-130	0.00	30		

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
<i>Batch B6E2005 - *** DEFAULT PREP ***</i>										
LCS Dup (B6E2005-BSD1) Continued					Prepared & Analyzed: 05/09/16					
Bromoform	0.120	0.020	ug/L	0.10	116	70-130	0.00	30		
Bromomethane	0.0516	0.020	ug/L	0.039	133	70-130	2.13	30		**
2-Butanone (MEK)	0.0326	0.020	ug/L	0.029	110	70-130	0.00	30		
Carbon Disulfide	0.0418	0.020	ug/L	0.031	134	70-130	3.10	30		**
Carbon Tetrachloride	0.0691	0.020	ug/L	0.063	110	70-130	0.00	30		
Chlorobenzene	0.0519	0.020	ug/L	0.046	113	70-130	0.00	30		
Chloroethane	0.0386	0.020	ug/L	0.026	146	70-130	0.137	30		**
Chloroform	0.0497	0.020	ug/L	0.049	102	70-130	0.00	30		
Chloromethane	0.0367	0.020	ug/L	0.021	177	70-130	0.00	30		**
Dibromochloromethane	0.0887	0.020	ug/L	0.085	104	70-130	0.00	30		
1,2-Dibromoethane (EDB)	0.0742	0.020	ug/L	0.077	96.6	70-130	0.00	30		
1,2-Dichlorobenzene	0.0541	0.020	ug/L	0.060	90.0	70-130	0.00	30		
1,3-Dichlorobenzene	0.0589	0.020	ug/L	0.060	97.9	70-130	0.00	30		
1,4-Dichlorobenzene	0.0577	0.020	ug/L	0.060	96.0	70-130	0.00	30		
Dichlorodifluoromethane (R12)	0.0572	0.020	ug/L	0.049	116	70-130	0.00	30		
1,1-Dichloroethane	0.0466	0.020	ug/L	0.040	115	70-130	0.00	30		
1,2-Dichloroethane (EDC)	0.0400	0.020	ug/L	0.040	98.8	70-130	0.00	30		
cis-1,2-Dichloroethylene	0.0377	0.020	ug/L	0.040	95.0	70-130	0.00	30		
1,1-Dichloroethylene	0.0496	0.020	ug/L	0.040	125	70-130	0.00	30		
trans-1,2-Dichloroethylene	0.0408	0.020	ug/L	0.040	103	70-130	0.00	30		
1,2-Dichloropropane	0.0519	0.020	ug/L	0.046	112	70-130	0.00	30		
trans-1,3-Dichloropropylene	0.0445	0.020	ug/L	0.045	98.1	70-130	0.00	30		
cis-1,3-Dichloropropylene	0.0466	0.020	ug/L	0.045	103	70-130	0.00	30		
Dichlorotetrafluoroethane	0.0930	0.020	ug/L	0.070	133	70-130	0.00	30		**
Ethylbenzene	0.0475	0.020	ug/L	0.043	109	70-130	0.00	30		
4-Ethyltoluene	0.0489	0.020	ug/L	0.049	99.5	70-130	0.00	30		
Hexachlorobutadiene	0.0747	0.020	ug/L	0.11	70.0	70-130	0.00	30		
2-Hexanone (MBK)	0.0362	0.020	ug/L	0.041	88.3	70-130	0.00	30		
Isopropanol (IPA)	0.0268	0.20	ug/L	0.025	109	70-130	0.00	30		
Methylene Chloride	0.0472	0.020	ug/L	0.035	136	70-130	0.00	30		**
4-Methyl-2-pentanone (MIBK)	0.0404	0.020	ug/L	0.041	98.5	70-130	0.00	30		
Styrene	0.0419	0.020	ug/L	0.043	98.3	70-130	0.00	30		

Allen Aminian

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
<i>Batch B6E2005 - *** DEFAULT PREP ***</i>										
LCS Dup (B6E2005-BSD1) Continued										
Prepared & Analyzed: 05/09/16										
1,1,2,2-Tetrachloroethane	0.0799	0.020	ug/L	0.069	116	70-130	0.00	30		
Tetrachloroethylene (PCE)	0.0632	0.020	ug/L	0.068	93.2	70-130	0.00	30		
Toluene	0.0381	0.020	ug/L	0.038	101	70-130	0.00	30		
1,2,4-Trichlorobenzene	0.0530	0.020	ug/L	0.074	71.4	70-130	0.00	30		
1,1,2-Trichloroethane	0.0558	0.020	ug/L	0.055	102	70-130	0.00	30		
1,1,1-Trichloroethane	0.0517	0.020	ug/L	0.055	94.8	70-130	0.00	30		
Trichloroethylene (TCE)	0.0560	0.020	ug/L	0.054	104	70-130	0.00	30		
Trichlorofluoromethane (R11)	0.0702	0.020	ug/L	0.056	125	70-130	0.0800	30		
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	0.103	0.020	ug/L	0.077	134	70-130	0.00	30		**
1,3,5-Trimethylbenzene	0.0483	0.020	ug/L	0.049	98.3	70-130	0.00	30		
1,2,4-Trimethylbenzene	0.0469	0.020	ug/L	0.049	95.4	70-130	0.00	30		
Vinyl acetate	0.0369	0.020	ug/L	0.035	105	70-130	0.0953	30		
Vinyl chloride	0.0364	0.020	ug/L	0.026	142	70-130	0.00	30		**
o-Xylene	0.0463	0.020	ug/L	0.043	107	70-130	0.375	30		
m,p-Xylenes	0.0942	0.020	ug/L	0.087	108	70-130	0.00	30		
1,2,3-Trichloropropane	0.0573	0.020	ug/L	0.060	95.0	70-130	0.00	30		
sec-Butylbenzene	0.0442	0.020	ug/L	0.055	80.6	70-130	0.00	30		
Isopropylbenzene	0.0418	0.020	ug/L	0.049	85.1	70-130	0.00	30		
n-Propylbenzene	0.0427	0.020	ug/L	0.049	86.9	70-130	0.00	30		
4-Isopropyltoluene	0.0424	0.020	ug/L	0.055	77.3	70-130	0.00	30		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.127</i>		<i>ug/L</i>	<i>0.14</i>	<i>88.6</i>	<i>70-130</i>				
Duplicate (B6E2005-DUP1)										
Source: 6E18015-05 Prepared & Analyzed: 05/09/16										
Acetone	<0.020	0.020	ug/L					30		
Allyl chloride	<0.020	0.020	ug/L					30		
tert-Amyl Methyl Ether (TAME)	<0.020	0.020	ug/L					30		
Benzene	<0.020	0.020	ug/L					30		
Benzyl chloride	<0.020	0.020	ug/L					30		
Bromodichloromethane	<0.020	0.020	ug/L					30		
Bromoform	<0.020	0.020	ug/L					30		
Bromomethane	<0.020	0.020	ug/L					30		

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
<i>Batch B6E2005 - *** DEFAULT PREP ***</i>										
Duplicate (B6E2005-DUP1) Continued Source: 6E18015-05 Prepared & Analyzed: 05/09/16										
1,3-Butadiene	<0.020	0.020	ug/L		<0.020				30	
2-Butanone (MEK)	<0.020	0.020	ug/L		<0.020				30	
tert-Butyl alcohol (TBA)	<20	20	ug/L		<20				30	
Carbon Disulfide	<0.020	0.020	ug/L		<0.020				30	
Carbon Tetrachloride	<0.020	0.020	ug/L		<0.020				30	
Chlorobenzene	<0.020	0.020	ug/L		<0.020				30	
Chloroethane	<0.020	0.020	ug/L		<0.020				30	
Chloroform	<0.020	0.020	ug/L		<0.020				30	
Chloromethane	<0.020	0.020	ug/L		<0.020				30	
Cyclohexane	<0.020	0.020	ug/L		<0.020				30	
Dibromochloromethane	<0.020	0.020	ug/L		<0.020				30	
1,2-Dibromoethane (EDB)	<0.020	0.020	ug/L		<0.020				30	
1,2-Dichlorobenzene	<0.020	0.020	ug/L		<0.020				30	
1,3-Dichlorobenzene	<0.020	0.020	ug/L		<0.020				30	
1,4-Dichlorobenzene	<0.020	0.020	ug/L		<0.020				30	
Dichlorodifluoromethane (R12)	<0.020	0.020	ug/L		<0.020				30	
1,1-Dichloroethane	<0.020	0.020	ug/L		<0.020				30	
1,2-Dichloroethane (EDC)	<0.020	0.020	ug/L		<0.020				30	
cis-1,2-Dichloroethylene	<0.020	0.020	ug/L		<0.020				30	
1,1-Dichloroethylene	<0.020	0.020	ug/L		<0.020				30	
trans-1,2-Dichloroethylene	<0.020	0.020	ug/L		<0.020				30	
1,2-Dichloropropane	<0.020	0.020	ug/L		<0.020				30	
trans-1,3-Dichloropropylene	<0.020	0.020	ug/L		<0.020				30	
cis-1,3-Dichloropropylene	<0.020	0.020	ug/L		<0.020				30	
Dichlorotetrafluoroethane	<0.020	0.020	ug/L		<0.020				30	
Diisopropyl ether (DIPE)	<0.020	0.020	ug/L		<0.020				30	
1,4-Dioxane	<0.020	0.020	ug/L		<0.020				30	
Ethanol	<0.020	0.020	ug/L		<0.020				30	
Ethyl Acetate	<0.020	0.020	ug/L		<0.020				30	
Ethylbenzene	<0.020	0.020	ug/L		<0.020				30	
Ethyl-tert-Butyl Ether (ETBE)	<0.020	0.020	ug/L		<0.020				30	
4-Ethyltoluene	<0.020	0.020	ug/L		<0.020				30	

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
<i>Batch B6E2005 - *** DEFAULT PREP ***</i>										
Duplicate (B6E2005-DUP1) Continued Source: 6E18015-05 Prepared & Analyzed: 05/09/16										
Heptane	<0.020	0.020	ug/L		<0.020				30	
Hexachlorobutadiene	<0.020	0.020	ug/L		<0.020				30	
n-Hexane	<0.020	0.020	ug/L		<0.020				30	
2-Hexanone (MBK)	<0.020	0.020	ug/L		<0.020				30	
Isopropanol (IPA)	<0.20	0.20	ug/L		<0.20				30	
Methyl-tert-Butyl Ether (MTBE)	<0.020	0.020	ug/L		<0.020				30	
Methylene Chloride	<0.020	0.020	ug/L		<0.020				30	
4-Methyl-2-pentanone (MIBK)	<0.020	0.020	ug/L		<0.020				30	
Naphthalene	<0.020	0.020	ug/L		<0.020				30	
Propylene	<0.020	0.020	ug/L		<0.020				30	
Styrene	<0.020	0.020	ug/L		<0.020				30	
1,1,2,2-Tetrachloroethane	<0.020	0.020	ug/L		<0.020				30	
Tetrachloroethylene (PCE)	<0.020	0.020	ug/L		<0.020				30	
Tetrahydrofuran (THF)	<0.020	0.020	ug/L		<0.020				30	
Toluene	<0.020	0.020	ug/L		<0.020				30	
1,2,4-Trichlorobenzene	<0.020	0.020	ug/L		<0.020				30	
1,1,2-Trichloroethane	<0.020	0.020	ug/L		<0.020				30	
1,1,1-Trichloroethane	<0.020	0.020	ug/L		<0.020				30	
Trichloroethylene (TCE)	<0.020	0.020	ug/L		<0.020				30	
Trichlorofluoromethane (R11)	<0.020	0.020	ug/L		<0.020				30	
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<0.020	0.020	ug/L		<0.020				30	
1,3,5-Trimethylbenzene	<0.020	0.020	ug/L		<0.020				30	
1,2,4-Trimethylbenzene	<0.020	0.020	ug/L		<0.020				30	
2,2,4-Trimethylpentane	<0.020	0.020	ug/L		<0.020				30	
Vinyl acetate	<0.020	0.020	ug/L		<0.020				30	
Vinyl bromide	<0.020	0.020	ug/L		<0.020				30	
Vinyl chloride	<0.020	0.020	ug/L		<0.020				30	
o-Xylene	<0.020	0.020	ug/L		<0.020				30	
m,p-Xylenes	<0.020	0.020	ug/L		<0.020				30	
1,1,1,2-Tetrachloroethane	<0.020	0.020	ug/L		<0.020				30	
1,2,3-Trichloropropane	<0.020	0.020	ug/L		<0.020				30	

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
<i>Batch B6E2005 - *** DEFAULT PREP ***</i>										
Duplicate (B6E2005-DUP1) Continued Source: 6E18015-05 Prepared & Analyzed: 05/09/16										
sec-Butylbenzene	<0.020	0.020	ug/L		<0.020				30	
Isopropylbenzene	<0.020	0.020	ug/L		<0.020				30	
n-Propylbenzene	<0.020	0.020	ug/L		<0.020				30	
4-Isopropyltoluene	<0.020	0.020	ug/L		<0.020				30	
n-Butylbenzene	<0.020	0.020	ug/L		<0.020				30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.151</i>		<i>ug/L</i>	<i>0.14</i>		<i>105</i>	<i>70-130</i>			

Allen Aminian
 QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: CH2M Hill, Inc.
Project No: 496965.A1.01
Project Name: KMEP Norwalk Biosparge Startup

AA Project No: MB187309
Date Received: 05/09/16
Date Reported: 05/20/16

Special Notes

[1] = ** : Analyte recovery exceeds the upper control limit. Analyte was not found in any of the samples.

A handwritten signature in black ink, appearing to read 'Allen Aminian'.

Allen Aminian
QA/QC Manager



AMERICAN ANALYTICS CHAIN-OF-CUSTODY RECORD

9765 ETON AVE., CHATSWORTH, CA 91311

Tel: 818-998-5547 FAX: 818-998-7258

A.A. COC No.: 125133

70046101
Page 1 of 1

Client: CH2M HILL Project Name / No.: KINDON MORGAN NORWALK Sampler's Name: WILLIAM SCHEIDT
 Project Manager: Site Address: 15306 NORWALK BLVD Sampler's Signature: [Signature]
 Phone: City: NORWALK P.O. No.:
 Fax: State & Zip: CA Quote No.:

TAT Turnaround Codes **

- ① = Same Day Rush
- ② = 24 Hour Rush
- ③ = 48 Hour Rush
- ④ = 72 Hour Rush
- ⑤ = 5 Day Rush
- X = 10 Working Days (Standard TAT)

ANALYSIS REQUESTED (Test Name)

Client I.D.	A.A. I.D.	Date	Time	Sample Matrix	No. of Cont	Please enter the TAT Turnaround Codes ** below										Special Instructions	
						TO15	TO3	720 DAYS									
SVM-17-S	6E1801S-1	5-9-16	0801	V	2	X	X										
SVM-17-10	-2		0804	V	1	X	X										
SVM-18-10	-3		0842	V	1	X	X										
SVM-18-S	-4		0847	V	1	X	X										
SVM-19-S	-5		0902	V	1	X	X										
SVM-19-S DUP	-6		0902	V	1	X	X										
AMBIENT AIR	-7		0905	V	1	X	X										

For Laboratory Use
REVIEWED

Date 5/18/16 Time 12:36
TAT 5 Days Sign: [Signature]

Relinquished by <u>[Signature]</u>	Date <u>5-9-16</u>	Time <u>11:35</u>	Received by <u>[Signature]</u>
Relinquished by <u>[Signature]</u>	Date <u>5/19/16</u>	Time <u>1:31:00</u>	Received by <u>[Signature]</u>
Relinquished by	Date	Time	Received by

A.A. Project No.: MB187309/6E1801S

Note: By relinquishing samples to American Analytics, client agrees to pay for the services requested on this chain of custody form and any additional client-requested analyses performed on this project.

Attachment 4
Historical Groundwater Levels and
LNAPL Thickness

Attachment 4

Historical Groundwater Levels and LNAPL Thickness

Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Well	Date	Top of Casing Elevation (feet amsl)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet amsl)
EXP-3	05/28/96	77.58	---	47.40	---	30.18
EXP-3	11/20/96	77.58	---	48.25	---	29.33
EXP-3	07/01/97	77.58	---	47.15	---	30.43
EXP-3	12/31/97	77.58	---	46.21	---	31.37
EXP-3	05/01/98	77.58	---	44.19	---	33.39
EXP-3	05/04/99	77.58	---	43.88	---	33.70
EXP-3	05/26/99	77.58	---	44.72	---	32.86
EXP-3	08/09/99	77.58	---	46.98	---	30.60
EXP-3	09/23/99	77.58	---	47.78	---	29.80
EXP-3	10/12/99	77.58	---	47.76	---	29.82
EXP-3	11/15/99	77.58	---	47.65	---	29.93
EXP-3	12/21/99	77.58	---	46.85	---	30.73
EXP-3	01/20/00	77.58	---	46.57	---	31.01
EXP-3	02/28/00	77.58	---	46.01	---	31.57
EXP-3	03/28/00	77.58	---	45.79	---	31.79
EXP-3	04/20/00	77.58	---	46.35	---	31.23
EXP-3	05/15/00	77.58	---	46.68	---	30.90
EXP-3	05/15/00	77.58	---	46.63	---	30.95
EXP-3	06/30/00	77.58	---	47.75	---	29.83
EXP-3	08/28/00	77.58	---	48.77	---	28.81
EXP-3	11/13/00	77.58	---	48.41	---	29.17
EXP-3	11/13/00	77.58	---	48.51	---	29.07
EXP-3	02/05/01	77.58	---	47.58	---	30.00
EXP-3	05/07/01	77.58	---	47.29	---	30.29
EXP-3	05/07/01	77.58	---	47.26	---	30.32
EXP-3	09/18/01	77.58	---	49.46	---	28.12
EXP-3	11/05/01	77.58	---	49.32	---	28.26
EXP-3	01/29/02	77.58	---	48.19	---	29.39
EXP-3	04/08/02	77.58	---	48.25	---	29.33
EXP-3	04/08/02	77.58	---	48.21	---	29.37
EXP-3	07/29/02	77.58	---	50.59	---	26.99
EXP-3	10/21/02	77.58	---	51.11	---	26.47
EXP-3	10/21/02	77.58	---	51.16	---	26.42
EXP-3	01/27/03	77.58	---	48.62	---	28.96
EXP-3	04/07/03	77.58	---	49.55	---	28.03
EXP-3	04/07/03	77.58	---	49.46	---	28.12
EXP-3	07/30/03	77.58	---	50.59	---	26.99
EXP-3	10/06/03	77.58	---	50.95	---	26.63
EXP-3	10/06/03	77.58	---	51.01	---	26.57
EXP-3	01/27/04	77.58	---	50.35	---	27.23
EXP-3	04/19/04	77.58	---	50.19	---	27.39
EXP-3	04/19/04	77.58	---	50.22	---	27.36
EXP-3	07/19/04	77.58	---	52.19	---	25.39
EXP-3	11/01/04	77.58	---	53.26	---	24.32
EXP-3	02/01/05	77.58	---	51.94	---	25.64
EXP-3	05/02/05	77.58	---	50.90	---	26.68
EXP-3	05/02/05	77.58	---	49.83	---	27.75
EXP-3	08/01/05	77.58	---	51.82	---	25.76
EXP-3	10/31/05	77.58	---	51.71	---	25.87
EXP-3	02/27/06	77.58	---	49.29	---	28.29
EXP-3	05/01/06	77.58	---	48.74	---	28.84
EXP-3	05/01/06	77.58	---	48.31	---	29.27
EXP-3	09/18/06	77.58	---	50.14	---	27.44
EXP-3	12/01/06	77.58	---	49.74	---	27.84
EXP-3	12/04/06	77.58	---	49.41	---	28.17
EXP-3	03/12/07	77.58	---	47.95	---	29.63
EXP-3	04/30/07	77.58	---	48.31	---	29.27
EXP-3	04/30/07	77.58	---	47.86	---	29.72
EXP-3	08/28/07	77.58	---	50.61	---	26.97
EXP-3	11/12/07	77.58	---	51.56	---	26.02
EXP-3	11/12/07	77.58	---	51.57	---	26.01
EXP-3	02/05/08	77.58	---	51.23	---	26.35
EXP-3	02/19/08	77.58	---	50.70	---	26.88
EXP-3	04/14/08	77.58	---	50.63	---	26.95
EXP-3	04/14/08	77.58	---	50.60	---	26.98
EXP-3	07/24/08	77.58	---	52.78	---	24.80
EXP-3	08/11/08	77.58	---	52.45	---	25.13
EXP-3	10/13/08	77.58	---	52.97	---	24.61
EXP-3	10/14/08	77.58	---	52.97	---	24.61
EXP-3	02/10/09	77.58	---	52.16	---	25.42
EXP-3	04/20/09	77.58	---	52.97	---	24.61

Attachment 4

Historical Groundwater Levels and LNAPL Thickness

Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Well	Date	Top of Casing Elevation (feet amsl)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet amsl)
EXP-3	04/20/09	77.58	---	52.97	---	24.61
EXP-3	07/16/09	77.58	---	54.02	---	23.56
EXP-3	07/20/09	77.58	---	53.93	---	23.65
EXP-3	10/19/09	77.58	---	55.40	---	22.18
EXP-3	10/19/09	77.58	---	55.40	---	22.18
EXP-3	01/11/10	77.58	---	54.51	---	23.07
EXP-3	03/15/10	77.58	---	54.10	---	23.48
EXP-3	04/07/10	77.58	---	54.36	---	23.22
EXP-3	04/12/10	77.58	---	54.82	---	22.76
EXP-3	05/24/10	77.58	---	54.54	---	23.04
EXP-3	05/28/10	77.58	---	54.51	---	23.07
EXP-3	10/04/10	77.58	---	55.42	---	22.16
EXP-3	01/08/11	77.58	---	53.91	---	23.67
EXP-3	01/10/11	77.58	---	53.88	---	23.70
EXP-3	04/07/11	77.58	---	52.66	---	24.92
EXP-3	04/11/11	77.58	---	52.92	---	24.66
EXP-3	07/08/11	77.58	---	52.73	---	24.85
EXP-3	07/11/11	77.58	---	52.54	---	25.04
EXP-3	10/06/11	77.58	---	53.23	---	24.35
EXP-3	10/10/11	77.58	---	52.74	---	24.84
EXP-3	01/09/12	77.58	---	51.67	---	25.91
EXP-3	01/09/12	77.58	---	51.67	---	25.91
EXP-3	04/16/12	77.58	---	51.34	---	26.24
EXP-3	04/16/12	77.58	---	51.34	---	26.24
EXP-3	07/09/12	77.58	---	51.87	---	25.71
EXP-3	08/29/12	77.58	---	52.69	---	24.89
EXP-3	10/15/12	77.58	---	52.80	---	24.78
EXP-3	01/11/13	77.58	---	51.94	---	25.64
EXP-3	01/14/13	77.58	---	51.70	---	25.88
EXP-3	04/03/13	77.58	---	52.01	---	25.57
EXP-3	04/08/13	77.58	---	51.65	---	25.93
EXP-3	04/08/13	77.58	---	51.65	---	25.93
EXP-3	10/02/13	77.58	---	54.61	---	22.97
EXP-3	10/07/13	77.58	---	54.62	---	22.96
EXP-3	04/09/14	77.58	---	54.55	---	23.03
EXP-3	04/14/14	77.58	---	54.68	---	22.90
EXP-3	10/27/14	77.58	---	57.55	---	20.03
EXP-3	10/27/14	77.58	---	57.70	---	19.88
EXP-3	04/20/15	77.58	---	56.91	---	20.67
EXP-3	10/19/15	77.58	---	58.43	---	19.15
EXP-3	04/11/16	77.58	---	58.80	---	18.78
EXP-3	04/12/16	77.58	---	58.72	---	18.86
GMW-36	05/28/96	74.53	25.71	26.88	1.17	48.59
GMW-36	11/20/96	74.53	26.56	26.82	0.26	47.92
GMW-36	07/01/97	74.53	25.09	25.71	0.62	49.32
GMW-36	12/31/97	74.53	---	26.74	---	47.79
GMW-36	05/04/99	74.53	---	23.68	---	50.85
GMW-36	08/09/99	74.53	---	24.80	---	49.73
GMW-36	11/15/99	74.53	---	25.48	---	49.05
GMW-36	05/15/00	74.53	---	25.01	---	49.52
GMW-36	11/13/00	74.53	---	25.96	---	48.57
GMW-36	02/05/01	74.53	---	25.41	---	49.12
GMW-36	05/07/01	74.53	---	23.37	---	51.16
GMW-36	05/10/01	74.53	---	23.43	---	51.10
GMW-36	09/18/01	74.53	---	23.95	---	50.58
GMW-36	11/05/01	74.53	---	24.24	---	50.29
GMW-36	01/29/02	74.53	---	24.60	---	49.93
GMW-36	04/08/02	74.53	---	24.92	---	49.61
GMW-36	07/29/02	74.53	---	25.92	---	48.61
GMW-36	10/21/02	74.53	25.54	29.46	3.92	48.21
GMW-36	11/04/02	74.53	25.55	29.05	3.50	48.28
GMW-36	01/27/03	74.53	26.75	28.02	1.27	47.53
GMW-36	04/07/03	74.53	26.63	27.47	0.84	47.73
GMW-36	05/02/05	74.53	20.03	21.23	1.20	54.26
GMW-36	10/31/05	74.53	22.69	22.73	0.04	51.83
GMW-36	05/01/06	74.53	22.80	22.91	0.11	51.71
GMW-36	12/04/06	74.53	---	23.86	---	50.67
GMW-36	03/12/07	74.53	---	24.29	---	50.24
GMW-36	04/30/07	74.53	---	24.40	---	50.13
GMW-36	08/28/07	74.53	---	24.31	---	50.22
GMW-36	11/12/07	74.53	24.85	24.86	0.01	49.68

Attachment 4

Historical Groundwater Levels and LNAPL Thickness

Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Well	Date	Top of Casing Elevation (feet amsl)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet amsl)
GMW-36	02/19/08	74.53	---	25.50	---	49.03
GMW-36	04/14/08	74.53	---	24.61	---	49.92
GMW-36	08/08/08	74.53	26.14	26.20	0.06	48.38
GMW-36	10/16/08	74.53	26.09	26.11	0.02	48.44
GMW-36	12/18/08	74.53	28.65	28.70	0.05	45.87
GMW-36	01/15/09	74.53	27.45	27.73	0.28	47.02
GMW-36	02/20/09	74.53	26.35	26.39	0.04	48.17
GMW-36	02/23/09	74.53	25.80	26.13	0.33	48.66
GMW-36	03/24/09	74.53	---	29.83	---	44.70
GMW-36	04/20/09	74.53	25.59	25.63	0.04	48.93
GMW-36	04/20/09	74.53	25.59	25.63	0.04	48.93
GMW-36	07/17/09	74.53	---	27.40	---	47.13
GMW-36	07/20/09	74.53	---	25.90	---	48.63
GMW-36	07/21/09	74.53	---	26.03	---	48.50
GMW-36	07/22/09	74.53	---	25.90	---	48.63
GMW-36	10/19/09	74.53	26.45	26.56	0.11	48.06
GMW-36	02/04/10	74.53	26.80	26.93	0.13	47.70
GMW-36	03/15/10	74.53	---	26.80	---	47.73
GMW-36	04/16/10	74.53	---	26.90	---	47.63
GMW-36	05/24/10	74.53	25.90	25.96	0.06	48.62
GMW-36	05/28/10	74.53	25.88	25.94	0.06	48.64
GMW-36	06/22/10	74.53	25.91	25.94	0.03	48.61
GMW-36	07/12/10	74.53	---	NM	---	NC
GMW-36	08/12/10	74.53	---	NM	---	NC
GMW-36	09/20/10	74.53	---	NM	---	NC
GMW-36	10/04/10	74.53	---	26.90	---	47.63
GMW-36	10/24/10	74.53	---	26.90	---	47.63
GMW-36	11/23/10	74.53	27.10	27.35	0.25	47.38
GMW-36	12/22/10	74.53	26.84	28.35	1.51	47.39
GMW-36	01/10/11	74.53	27.70	29.10	1.40	46.55
GMW-36	02/24/11	74.53	---	NM	---	NC
GMW-36	03/23/11	74.53	---	NM	---	NC
GMW-36	04/12/11	74.53	25.05	26.98	1.93	49.09
GMW-36	05/13/11	74.53	---	NM	---	NC
GMW-36	06/22/11	74.53	---	NM	---	NC
GMW-36	07/11/11	74.53	---	NM	---	NC
GMW-36	08/19/11	74.53	---	NM	---	NC
GMW-36	09/22/11	74.53	---	NM	---	NC
GMW-36	10/10/11	74.53	---	25.96	---	48.57
GMW-36	11/28/11	74.53	---	NM	---	NC
GMW-36	12/02/11	74.53	---	26.71	---	47.82
GMW-36	12/21/11	74.53	---	28.17	---	46.36
GMW-36	01/09/12	74.53	---	27.26	---	47.27
GMW-36	02/23/12	74.53	---	27.85	---	46.68
GMW-36	03/28/12	74.53	---	NM	---	NC
GMW-36	04/16/12	74.53	---	27.34	---	47.19
GMW-36	05/25/12	74.53	---	NM	---	NC
GMW-36	06/15/12	76.66	---	33.27	---	43.39
GMW-36	07/09/12	76.66	---	33.71	---	42.95
GMW-36	08/29/12	76.66	---	NM	---	NC
GMW-36	09/26/12	76.66	---	NM	---	NC
GMW-36	10/15/12	76.66	---	32.11	---	44.55
GMW-36	11/29/12	76.66	31.68	33.93	2.25	44.53
GMW-36	12/26/12	76.66	30.36	34.86	4.50	45.40
GMW-36	01/14/13	76.66	30.42	34.12	3.70	45.50
GMW-36	02/20/13	76.66	---	NM	---	NC
GMW-36	04/10/13	76.66	29.75	32.42	2.67	46.38
GMW-36	10/07/13	76.66	30.72	34.65	3.93	45.15
GMW-36	04/25/14	76.66	31.12	34.71	3.59	44.82
GMW-36	05/20/14	76.66	31.50	34.95	3.45	44.47
GMW-36	05/27/14	76.66	31.29	34.53	3.24	44.72
GMW-36	06/04/14	76.66	31.50	34.93	3.43	44.47
GMW-36	08/13/14	76.66	31.27	34.86	3.59	44.67
GMW-36	08/19/14	76.66	31.39	34.20	2.81	44.71
GMW-36	08/29/14	76.66	31.32	34.31	2.99	44.74
GMW-36	09/05/14	76.66	31.37	34.35	2.98	44.69
GMW-36	09/11/14	76.66	31.23	35.00	3.77	44.68
GMW-36	09/18/14	76.66	31.50	34.42	2.92	44.58
GMW-36	09/26/14	76.66	31.48	34.15	2.67	44.65
GMW-36	10/01/14	76.66	31.61	33.51	1.90	44.67
GMW-36	10/06/14	76.66	31.63	33.29	1.66	44.70

Attachment 4

Historical Groundwater Levels and LNAPL Thickness

Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Well	Date	Top of Casing Elevation (feet amsl)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet amsl)
GMW-36	10/14/14	76.66	31.55	33.48	1.93	44.72
GMW-36	10/23/14	76.66	31.57	33.64	2.07	44.68
GMW-36	10/27/14	76.66	31.79	33.02	1.23	44.62
GMW-36	11/03/14	76.66	31.57	33.75	2.18	44.65
GMW-36	11/18/14	76.66	31.75	33.17	1.42	44.63
GMW-36	11/25/14	76.66	31.86	33.13	1.27	44.55
GMW-36	12/03/14	76.66	31.75	32.93	1.18	44.67
GMW-36	04/20/15	76.66	32.20	33.64	1.44	44.17
GMW-36	10/21/15	76.66	33.16	33.55	0.39	43.42
GMW-36	04/12/16	76.66	34.03	34.30	0.27	42.58
GMW-37	11/20/96	77.32	---	29.76	---	47.56
GMW-37	07/01/97	77.32	---	28.37	---	48.95
GMW-37	12/31/97	77.32	---	28.71	---	48.61
GMW-37	05/03/99	77.32	---	27.76	---	49.56
GMW-37	08/09/99	77.32	---	28.10	---	49.22
GMW-37	11/15/99	77.32	---	28.57	---	48.75
GMW-37	05/15/00	77.32	---	28.19	---	49.13
GMW-37	11/13/00	77.32	---	28.89	---	48.43
GMW-37	02/05/01	77.32	---	28.65	---	48.67
GMW-37	05/07/01	77.32	---	26.94	---	50.38
GMW-37	09/18/01	77.32	---	27.43	---	49.89
GMW-37	11/05/01	77.32	---	27.56	---	49.76
GMW-37	01/29/02	77.32	---	27.89	---	49.43
GMW-37	04/08/02	77.32	---	27.94	---	49.38
GMW-37	10/21/02	77.32	---	29.11	---	48.21
GMW-37	01/27/03	77.32	---	28.74	---	48.58
GMW-37	04/07/03	77.32	---	28.30	---	49.02
GMW-37	07/31/03	77.32	---	28.02	---	49.30
GMW-37	10/06/03	77.32	---	27.92	---	49.40
GMW-37	01/11/04	77.32	---	29.62	---	47.70
GMW-37	01/27/04	77.32	---	28.81	---	48.51
GMW-37	04/19/04	77.32	---	28.91	---	48.41
GMW-37	07/19/04	77.32	---	28.91	---	48.41
GMW-37	02/01/05	77.32	---	27.77	---	49.55
GMW-37	05/02/05	77.32	---	23.34	---	53.98
GMW-37	08/01/05	77.32	---	24.61	---	52.71
GMW-37	10/31/05	77.32	---	25.35	---	51.97
GMW-37	02/27/06	77.32	---	25.81	---	51.51
GMW-37	05/01/06	77.32	---	25.86	---	51.46
GMW-37	09/18/06	77.32	---	24.62	---	52.70
GMW-37	12/04/06	77.32	---	26.83	---	50.49
GMW-37	04/30/07	77.32	---	27.18	---	50.14
GMW-37	11/12/07	77.32	---	27.61	---	49.71
GMW-37	04/14/08	77.32	---	27.60	---	49.72
GMW-37	10/13/08	77.32	---	28.56	---	48.76
GMW-37	04/20/09	77.32	---	28.54	---	48.78
GMW-37	10/19/09	77.32	---	29.47	---	47.85
GMW-37	05/24/10	77.32	---	29.25	---	48.07
GMW-37	05/28/10	77.32	---	29.20	---	48.12
GMW-37	10/04/10	77.32	---	29.50	---	47.82
GMW-37	01/10/11	77.32	---	29.90	---	47.42
GMW-37	04/11/11	77.32	---	28.31	---	49.01
GMW-37	07/11/11	77.32	---	NM	---	NC
GMW-37	10/10/11	77.32	---	29.00	---	48.32
GMW-37	01/09/12	77.32	---	29.72	---	47.60
GMW-37	04/16/12	77.32	---	30.10	---	47.22
GMW-37	07/09/12	77.32	---	30.86	---	46.46
GMW-37	10/15/12	77.32	---	30.90	---	46.42
GMW-37	01/14/13	77.32	---	31.79	---	45.53
GMW-37	04/08/13	77.32	---	31.69	---	45.63
GMW-37	10/07/13	77.32	---	32.51	---	44.81
GMW-37	04/14/14	77.32	---	32.55	---	44.77
GMW-37	10/27/14	77.32	---	32.97	---	44.35
GMW-37	04/20/15	77.32	---	33.51	---	43.81
GMW-37	10/19/15	77.32	---	34.11	---	43.21
GMW-37	04/11/16	77.32	---	35.20	---	42.12
GMW-38	05/28/96	75.47	---	27.15	---	48.32
GMW-38	11/20/96	75.47	---	28.09	---	47.38
GMW-38	05/03/99	75.47	---	26.08	---	49.39
GMW-38	08/09/99	75.47	---	26.42	---	49.05
GMW-38	11/15/99	75.47	---	26.97	---	48.50

Attachment 4

Historical Groundwater Levels and LNAPL Thickness

Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Well	Date	Top of Casing Elevation (feet amsl)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet amsl)
GMW-38	05/15/00	75.47	---	26.53	---	48.94
GMW-38	11/13/00	75.47	---	27.24	---	48.23
GMW-38	05/07/01	75.47	---	25.14	---	50.33
GMW-38	11/05/01	75.47	---	25.84	---	49.63
GMW-38	02/01/02	75.47	---	25.91	---	49.56
GMW-38	04/08/02	75.47	---	26.52	---	48.95
GMW-38	10/21/02	75.47	---	27.39	---	48.08
GMW-38	01/27/03	75.47	---	27.05	---	48.42
GMW-38	04/07/03	75.47	---	26.47	---	49.00
GMW-38	07/31/03	75.47	---	26.26	---	49.21
GMW-38	10/06/03	75.47	---	26.51	---	48.96
GMW-38	01/11/04	75.47	---	27.91	---	47.56
GMW-38	01/27/04	75.47	---	27.04	---	48.43
GMW-38	04/19/04	75.47	---	27.15	---	48.32
GMW-38	07/19/04	75.47	---	27.26	---	48.21
GMW-38	02/01/05	75.47	---	25.99	---	49.48
GMW-38	05/02/05	75.47	---	28.53	---	46.94
GMW-38	08/01/05	75.47	---	22.91	---	52.56
GMW-38	10/31/05	75.47	---	23.65	---	51.82
GMW-38	02/27/06	75.47	---	24.04	---	51.43
GMW-38	05/01/06	75.47	---	24.09	---	51.38
GMW-38	09/18/06	75.47	---	24.85	---	50.62
GMW-38	12/04/06	75.47	---	25.07	---	50.40
GMW-38	03/12/07	75.47	---	25.48	---	49.99
GMW-38	04/30/07	75.47	---	25.42	---	50.05
GMW-38	08/28/07	75.47	---	25.29	---	50.18
GMW-38	11/12/07	75.47	---	25.89	---	49.58
GMW-38	04/14/08	75.47	---	25.81	---	49.66
GMW-38	10/13/08	75.47	---	26.72	---	48.75
GMW-38	04/20/09	75.47	---	27.05	---	48.42
GMW-38	07/20/09	75.47	---	27.21	---	48.26
GMW-38	10/19/09	75.47	---	27.78	---	47.69
GMW-38	03/15/10	75.47	---	27.92	---	47.55
GMW-38	05/24/10	75.47	---	27.50	---	47.97
GMW-38	05/28/10	75.47	---	27.40	---	48.07
GMW-38	10/04/10	75.47	---	27.77	---	47.70
GMW-38	01/10/11	75.47	---	28.00	---	47.47
GMW-38	04/11/11	75.47	---	26.49	---	48.98
GMW-38	07/11/11	75.47	---	26.83	---	48.64
GMW-38	10/10/11	75.47	---	27.28	---	48.19
GMW-38	01/09/12	75.47	---	27.90	---	47.57
GMW-38	04/16/12	75.47	---	28.32	---	47.15
GMW-38	07/09/12	75.47	---	28.97	---	46.50
GMW-38	10/15/12	75.47	---	29.75	---	45.72
GMW-38	01/14/13	75.47	---	30.18	---	45.29
GMW-38	04/08/13	75.47	---	30.07	---	45.40
GMW-38	10/07/13	75.47	---	30.31	---	45.16
GMW-38	04/14/14	75.47	---	30.76	---	44.71
GMW-38	10/27/14	75.47	---	31.16	---	44.31
GMW-38	04/20/15	75.47	---	31.59	---	43.88
GMW-38	10/19/15	75.47	---	32.33	---	43.14
GMW-38	04/11/16	75.47	---	33.45	---	42.02
GMW-39	05/28/96	75.05	---	26.67	---	48.38
GMW-39	11/20/96	75.05	---	27.68	---	47.37
GMW-39	05/03/99	75.05	---	25.50	---	49.55
GMW-39	08/09/99	75.05	---	25.99	---	49.06
GMW-39	11/15/99	75.05	---	26.52	---	48.53
GMW-39	05/15/00	75.05	---	25.95	---	49.10
GMW-39	11/13/00	75.05	---	26.88	---	48.17
GMW-39	05/07/01	75.05	---	24.64	---	50.41
GMW-39	11/05/01	75.05	---	25.28	---	49.77
GMW-39	02/01/02	75.05	---	25.20	---	49.85
GMW-39	04/08/02	75.05	---	26.11	---	48.94
GMW-39	10/21/02	75.05	---	27.19	---	47.86
GMW-39	01/27/03	75.05	---	26.67	---	48.38
GMW-39	04/07/03	75.05	---	26.05	---	49.00
GMW-39	07/31/03	75.05	---	25.79	---	49.26
GMW-39	10/06/03	75.05	---	26.04	---	49.01
GMW-39	01/11/04	75.05	---	27.54	---	47.51
GMW-39	01/27/04	75.05	---	26.63	---	48.42
GMW-39	04/19/04	75.05	---	26.04	---	49.01

Attachment 4

Historical Groundwater Levels and LNAPL Thickness

Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Well	Date	Top of Casing Elevation (feet amsl)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet amsl)
GMW-39	07/19/04	75.05	---	26.78	---	48.27
GMW-39	02/01/05	75.05	---	25.41	---	49.64
GMW-39	05/02/05	75.05	---	20.34	---	54.71
GMW-39	08/01/05	75.05	---	22.23	---	52.82
GMW-39	10/31/05	75.05	---	22.90	---	52.15
GMW-39	02/27/06	75.05	---	23.48	---	51.57
GMW-39	05/01/06	75.05	---	23.60	---	51.45
GMW-39	09/18/06	75.05	---	24.37	---	50.68
GMW-39	12/04/06	75.05	---	24.64	---	50.41
GMW-39	03/12/07	75.05	---	25.12	---	49.93
GMW-39	04/30/07	75.05	---	25.12	---	49.93
GMW-39	08/28/07	75.05	---	25.15	---	49.90
GMW-39	11/12/07	75.05	---	25.62	---	49.43
GMW-39	02/19/08	75.05	---	25.91	---	49.14
GMW-39	04/14/08	75.05	---	25.44	---	49.61
GMW-39	08/11/08	75.05	---	26.21	---	48.84
GMW-39	10/13/08	75.05	---	26.51	---	48.54
GMW-39	04/20/09	75.05	---	26.43	---	48.62
GMW-39	07/20/09	75.05	---	26.85	---	48.20
GMW-39	10/19/09	75.05	---	27.58	---	47.47
GMW-39	03/15/10	75.05	---	27.41	---	47.64
GMW-39	05/24/10	75.05	---	27.12	---	47.93
GMW-39	05/28/10	75.05	---	27.09	---	47.96
GMW-39	10/04/10	75.05	---	27.38	---	47.67
GMW-39	01/10/11	75.05	---	27.63	---	47.42
GMW-39	04/11/11	75.05	---	25.92	---	49.13
GMW-39	07/11/11	75.05	---	26.55	---	48.50
GMW-39	10/10/11	75.05	---	26.85	---	48.20
GMW-39	01/09/12	75.05	---	28.44	---	46.61
GMW-39	04/16/12	75.05	---	28.04	---	47.01
GMW-39	07/09/12	75.05	---	28.62	---	46.43
GMW-39	10/15/12	75.05	---	29.58	---	45.47
GMW-39	01/14/13	75.05	---	29.72	---	45.33
GMW-39	04/08/13	75.05	---	29.71	---	45.34
GMW-39	10/07/13	75.05	---	29.92	---	45.13
GMW-39	04/14/14	75.05	---	30.25	---	44.80
GMW-39	10/27/14	75.05	---	30.73	---	44.32
GMW-39	04/20/15	75.05	---	31.04	---	44.01
GMW-39	10/19/15	75.05	---	31.87	---	43.18
GMW-39	04/11/16	75.05	---	32.80	---	42.25
GMW-O-15	05/28/96	74.23	24.19	30.19	6.00	48.84
GMW-O-15	11/20/96	74.23	25.30	30.52	5.22	47.89
GMW-O-15	08/09/99	74.23	---	NM	---	NC
GMW-O-15	11/15/99	74.23	---	NM	---	NC
GMW-O-15	05/15/00	74.23	---	27.10	---	47.13
GMW-O-15	11/13/00	74.23	---	NM	---	NC
GMW-O-15	05/07/01	74.23	22.62	24.58	1.96	51.22
GMW-O-15	11/05/01	74.23	---	NM	---	NC
GMW-O-15	04/08/02	74.23	23.02	27.51	4.49	50.31
GMW-O-15	10/21/02	74.23	24.52	24.71	0.19	49.67
GMW-O-15	04/07/03	74.23	---	NM	---	NC
GMW-O-15	05/02/05	74.23	21.01	21.15	0.14	53.19
GMW-O-15	10/31/05	74.23	22.10	22.25	0.15	52.10
GMW-O-15	05/22/06	74.23	21.89	22.31	0.42	52.26
GMW-O-15	12/04/06	74.23	22.86	22.91	0.05	51.36
GMW-O-15	04/30/07	74.23	23.30	23.41	0.11	50.91
GMW-O-15	11/12/07	74.23	23.85	23.95	0.10	50.36
GMW-O-15	04/14/08	74.23	---	23.64	---	50.59
GMW-O-15	08/08/08	74.23	---	24.60	---	49.63
GMW-O-15	08/11/08	74.23	24.34	24.40	0.06	49.88
GMW-O-15	10/16/08	74.23	---	24.53	---	49.70
GMW-O-15	12/18/08	74.23	---	24.86	---	49.37
GMW-O-15	01/02/09	74.23	---	24.82	---	49.41
GMW-O-15	01/15/09	74.23	---	26.01	---	48.22
GMW-O-15	02/20/09	74.23	---	24.80	---	49.43
GMW-O-15	02/23/09	74.23	24.74	24.76	0.02	49.49
GMW-O-15	03/24/09	74.23	---	25.55	---	48.68
GMW-O-15	04/20/09	74.23	24.61	24.66	0.05	49.61
GMW-O-15	07/17/09	74.23	---	25.01	---	49.22
GMW-O-15	07/20/09	74.23	24.94	24.99	0.05	49.28
GMW-O-15	07/22/09	74.23	24.94	24.99	0.05	49.28

Attachment 4

Historical Groundwater Levels and LNAPL Thickness

Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Well	Date	Top of Casing Elevation (feet amsl)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet amsl)
GMW-O-15	10/19/09	74.23	25.43	25.55	0.12	48.78
GMW-O-15	02/04/10	74.23	25.48	25.50	0.02	48.75
GMW-O-15	03/15/10	74.23	---	NM	---	NC
GMW-O-15	04/16/10	74.23	---	23.10	---	51.13
GMW-O-15	05/24/10	74.23	---	25.67	---	48.56
GMW-O-15	05/28/10	74.23	---	25.35	---	48.88
GMW-O-15	06/22/10	74.23	---	25.81	---	48.42
GMW-O-15	07/12/10	74.23	---	NM	---	NC
GMW-O-15	08/12/10	74.23	---	NM	---	NC
GMW-O-15	09/20/10	74.23	---	NM	---	NC
GMW-O-15	10/04/10	74.23	25.80	25.85	0.05	48.42
GMW-O-15	11/23/10	74.23	---	NM	---	NC
GMW-O-15	12/22/10	74.23	---	26.31	---	47.92
GMW-O-15	01/10/11	74.23	---	25.97	---	48.26
GMW-O-15	02/24/11	74.23	---	NM	---	NC
GMW-O-15	03/23/11	74.23	---	NM	---	NC
GMW-O-15	04/12/11	74.23	22.53	22.55	0.02	51.70
GMW-O-15	05/13/11	74.23	---	NM	---	NC
GMW-O-15	06/22/11	74.23	---	NM	---	NC
GMW-O-15	07/11/11	74.23	---	NM	---	NC
GMW-O-15	08/19/11	74.23	---	NM	---	NC
GMW-O-15	09/22/11	74.23	---	NM	---	NC
GMW-O-15	10/10/11	74.23	23.22	23.79	0.57	50.90
GMW-O-15	11/28/11	74.23	---	NM	---	NC
GMW-O-15	12/02/11	74.23	23.86	23.92	0.06	50.36
GMW-O-15	12/21/11	74.23	---	31.13	---	43.10
GMW-O-15	01/09/12	74.23	---	27.67	---	46.56
GMW-O-15	02/23/12	74.23	---	31.82	---	42.41
GMW-O-15	03/28/12	74.23	---	30.30	---	43.93
GMW-O-15	04/16/12	74.23	26.51	26.56	0.05	47.71
GMW-O-15	05/25/12	74.23	---	26.64	---	47.59
GMW-O-15	06/15/12	74.23	---	26.93	---	47.30
GMW-O-15	07/09/12	74.23	---	25.47	---	48.76
GMW-O-15	08/29/12	74.23	---	NM	---	NC
GMW-O-15	09/26/12	74.23	---	30.64	---	43.59
GMW-O-15	10/15/12	74.23	---	31.82	---	42.41
GMW-O-15	11/29/12	74.23	---	NM	---	NC
GMW-O-15	12/26/12	74.23	---	27.41	---	46.82
GMW-O-15	01/14/13	74.23	---	27.62	---	46.61
GMW-O-15	02/20/13	74.23	---	NM	---	NC
GMW-O-15	04/10/13	74.23	---	NM	---	NC
GMW-O-15	04/26/13	74.23	---	27.90	---	46.33
GMW-O-15	10/07/13	74.23	28.26	29.03	0.77	45.82
GMW-O-15	04/18/14	74.23	28.08	28.40	0.32	46.09
GMW-O-15	08/14/14	74.23	28.26	32.59	4.33	45.10
GMW-O-15	08/19/14	74.23	28.23	32.34	4.11	45.18
GMW-O-15	08/29/14	74.23	28.25	31.84	3.59	45.26
GMW-O-15	09/05/14	74.23	28.29	31.91	3.62	45.22
GMW-O-15	09/11/14	74.23	28.79	32.16	3.37	44.77
GMW-O-15	09/18/14	74.23	28.23	32.50	4.27	45.15
GMW-O-15	09/26/14	74.23	28.27	32.20	3.93	45.17
GMW-O-15	10/01/14	74.23	28.28	31.93	3.65	45.22
GMW-O-15	10/06/14	74.23	28.27	31.91	3.64	45.23
GMW-O-15	10/14/14	74.23	28.29	31.85	3.56	45.23
GMW-O-15	10/23/14	74.23	28.30	32.10	3.80	45.17
GMW-O-15	10/27/14	74.23	28.30	31.89	3.59	45.21
GMW-O-15	11/18/14	74.23	28.39	31.86	3.47	45.15
GMW-O-15	11/25/14	74.23	28.35	32.36	4.01	45.08
GMW-O-15	12/03/14	74.23	28.36	31.73	3.37	45.20
GMW-O-15	12/12/14	74.23	28.54	32.61	4.07	44.88
GMW-O-15	12/19/14	74.23	28.37	32.62	4.25	45.01
GMW-O-15	04/20/15	74.23	28.82	31.93	3.11	44.79
GMW-O-15	10/19/15	74.23	28.89	31.91	3.02	44.74
GMW-O-15	04/12/16	74.23	---	29.78	---	44.45
GMW-O-16	05/28/96	74.1	---	24.92	---	49.18
GMW-O-16	11/20/96	74.1	---	25.89	---	48.21
GMW-O-16	07/01/97	74.1	---	24.16	---	49.94
GMW-O-16	05/04/99	74.1	---	23.19	---	50.91
GMW-O-16	08/09/99	74.1	---	24.27	---	49.83
GMW-O-16	11/15/99	74.1	---	25.02	---	49.08
GMW-O-16	05/15/00	74.1	---	24.44	---	49.66

Attachment 4

Historical Groundwater Levels and LNAPL Thickness

Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Well	Date	Top of Casing Elevation (feet amsl)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet amsl)
GMW-O-16	11/13/00	74.1	---	25.71	---	48.39
GMW-O-16	05/07/01	74.1	---	23.15	---	50.95
GMW-O-16	11/05/01	74.1	---	23.16	---	50.94
GMW-O-16	04/08/02	74.1	---	24.25	---	49.85
GMW-O-16	10/21/02	74.1	---	25.72	---	48.38
GMW-O-16	04/07/03	74.1	---	24.59	---	49.51
GMW-O-16	10/06/03	74.1	---	24.55	---	49.55
GMW-O-16	01/11/04	74.1	---	28.00	---	46.10
GMW-O-16	04/19/04	74.1	---	24.98	---	49.12
GMW-O-16	07/20/04	74.1	---	25.37	---	48.73
GMW-O-16	05/02/05	74.1	---	19.48	---	54.62
GMW-O-16	08/01/05	74.1	---	20.45	---	53.65
GMW-O-16	10/31/05	74.1	---	21.04	---	53.06
GMW-O-16	02/27/06	74.1	---	22.31	---	51.79
GMW-O-16	05/01/06	74.1	---	22.36	---	51.74
GMW-O-16	09/18/06	74.1	---	23.19	---	50.91
GMW-O-16	12/04/06	74.1	---	23.33	---	50.77
GMW-O-16	04/30/07	74.1	---	23.82	---	50.28
GMW-O-16	11/12/07	74.1	---	24.35	---	49.75
GMW-O-16	02/19/08	74.1	---	24.69	---	49.41
GMW-O-16	04/14/08	74.1	---	24.08	---	50.02
GMW-O-16	10/13/08	74.1	---	25.12	---	48.98
GMW-O-16	04/20/09	74.1	---	25.20	---	48.90
GMW-O-16	10/19/09	74.1	---	25.81	---	48.29
GMW-O-16	03/15/10	74.1	---	26.30	---	47.80
GMW-O-16	04/16/10	74.1	---	25.20	---	48.90
GMW-O-16	05/24/10	74.1	---	25.14	---	48.96
GMW-O-16	05/28/10	74.1	---	25.13	---	48.97
GMW-O-16	06/22/10	74.1	---	25.55	---	48.55
GMW-O-16	07/12/10	74.1	---	26.28	---	47.82
GMW-O-16	08/12/10	74.1	---	26.43	---	47.67
GMW-O-16	09/20/10	74.1	---	26.95	---	47.15
GMW-O-16	10/04/10	74.1	---	26.10	---	48.00
GMW-O-16	11/16/10	74.1	---	26.58	---	47.52
GMW-O-16	12/22/10	74.1	---	27.00	---	47.10
GMW-O-16	01/10/11	74.1	---	26.42	---	47.68
GMW-O-16	02/24/11	74.1	---	26.02	---	48.08
GMW-O-16	03/23/11	74.1	---	25.99	---	48.11
GMW-O-16	04/11/11	74.1	---	24.66	---	49.44
GMW-O-16	05/13/11	74.1	---	25.76	---	48.34
GMW-O-16	06/22/11	74.1	---	25.89	---	48.21
GMW-O-16	07/11/11	74.1	---	26.00	---	48.10
GMW-O-16	08/19/11	74.1	---	25.63	---	48.47
GMW-O-16	09/22/11	74.1	---	26.32	---	47.78
GMW-O-16	10/10/11	74.1	---	25.53	---	48.57
GMW-O-16	11/28/11	74.1	---	26.42	---	47.68
GMW-O-16	12/21/11	74.1	---	27.05	---	47.05
GMW-O-16	01/09/12	74.1	---	26.98	---	47.12
GMW-O-16	02/23/12	74.1	---	27.56	---	46.54
GMW-O-16	03/28/12	74.1	---	27.50	---	46.60
GMW-O-16	04/16/12	74.1	---	26.62	---	47.48
GMW-O-16	05/25/12	74.1	---	26.81	---	47.29
GMW-O-16	06/15/12	74.1	---	27.27	---	46.83
GMW-O-16	07/09/12	74.1	---	27.12	---	46.98
GMW-O-16	08/29/12	74.1	---	28.10	---	46.00
GMW-O-16	09/26/12	74.1	---	28.46	---	45.64
GMW-O-16	10/15/12	74.1	---	27.38	---	46.72
GMW-O-16	11/29/12	74.1	---	28.61	---	45.49
GMW-O-16	12/26/12	74.1	---	28.52	---	45.58
GMW-O-16	01/14/13	74.1	---	28.72	---	45.38
GMW-O-16	02/20/13	74.1	---	28.56	---	45.54
GMW-O-16	04/08/13	74.1	---	28.61	---	45.49
GMW-O-16	10/07/13	74.1	---	28.48	---	45.62
GMW-O-16	04/14/14	74.1	---	28.85	---	45.25
GMW-O-16	10/27/14	74.1	---	29.30	---	44.80
GMW-O-16	04/20/15	74.1	---	29.69	---	44.41
GMW-O-16	10/19/15	74.1	---	30.41	---	43.69
GMW-O-16	04/11/16	74.1	---	31.30	---	42.80
GMW-O-19	05/28/96	74.46	---	25.29	---	49.17
GMW-O-19	11/20/96	74.46	---	26.28	---	48.18
GMW-O-19	07/01/97	74.46	---	24.70	---	49.76

Attachment 4

Historical Groundwater Levels and LNAPL Thickness

Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Well	Date	Top of Casing Elevation (feet amsl)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet amsl)
GMW-O-19	12/31/97	74.46	---	25.92	---	48.54
GMW-O-19	08/09/99	74.46	---	24.09	---	50.37
GMW-O-19	11/15/99	74.46	---	24.82	---	49.64
GMW-O-19	05/15/00	74.46	---	24.43	---	50.03
GMW-O-19	11/13/00	74.46	---	NM	---	NC
GMW-O-19	05/07/01	74.46	---	NM	---	NC
GMW-O-19	09/18/01	74.46	---	23.07	---	51.39
GMW-O-19	11/05/01	74.46	---	23.15	---	51.31
GMW-O-19	01/29/02	74.46	---	23.25	---	51.21
GMW-O-19	04/08/02	74.46	---	23.16	---	51.30
GMW-O-19	10/21/02	74.46	---	23.34	---	51.12
GMW-O-19	04/07/03	74.46	---	23.50	---	50.96
GMW-O-19	07/30/03	74.46	---	24.29	---	50.17
GMW-O-19	10/06/03	74.46	---	24.54	---	49.92
GMW-O-19	01/11/04	74.46	---	26.02	---	48.44
GMW-O-19	04/19/04	74.46	---	25.04	---	49.42
GMW-O-19	07/20/04	74.46	---	25.35	---	49.11
GMW-O-19	05/02/05	74.46	---	20.05	---	54.41
GMW-O-19	08/01/05	74.46	---	20.82	---	53.64
GMW-O-19	10/31/05	74.46	---	21.36	---	53.10
GMW-O-19	02/27/06	74.46	---	22.06	---	52.40
GMW-O-19	05/01/06	74.46	---	22.35	---	52.11
GMW-O-19	12/04/06	74.46	---	23.32	---	51.14
GMW-O-19	04/30/07	74.46	---	23.98	---	50.48
GMW-O-19	11/12/07	74.46	---	24.57	---	49.89
GMW-O-19	04/14/08	74.46	---	24.24	---	50.22
GMW-O-19	10/13/08	74.46	---	25.36	---	49.10
GMW-O-19	04/20/09	74.46	---	25.22	---	49.24
GMW-O-19	10/19/09	74.46	---	26.26	---	48.20
GMW-O-19	03/15/10	74.46	---	26.16	---	48.30
GMW-O-19	04/16/10	74.46	---	25.30	---	49.16
GMW-O-19	05/24/10	74.46	---	25.53	---	48.93
GMW-O-19	05/28/10	74.46	---	25.47	---	48.99
GMW-O-19	06/22/10	74.46	---	25.64	---	48.82
GMW-O-19	07/12/10	74.46	---	26.04	---	48.42
GMW-O-19	08/12/10	74.46	---	26.23	---	48.23
GMW-O-19	09/20/10	74.46	---	26.52	---	47.94
GMW-O-19	10/04/10	74.46	---	26.31	---	48.15
GMW-O-19	11/16/10	74.46	---	26.67	---	47.79
GMW-O-19	12/22/10	74.46	---	26.70	---	47.76
GMW-O-19	01/10/11	74.46	---	26.37	---	48.09
GMW-O-19	02/24/11	74.46	---	25.55	---	48.91
GMW-O-19	03/23/11	74.46	---	25.29	---	49.17
GMW-O-19	04/11/11	74.46	---	24.75	---	49.71
GMW-O-19	05/13/11	74.46	---	25.11	---	49.35
GMW-O-19	06/22/11	74.46	---	25.27	---	49.19
GMW-O-19	07/11/11	74.46	---	25.42	---	49.04
GMW-O-19	08/19/11	74.46	---	25.32	---	49.14
GMW-O-19	09/22/11	74.46	---	25.82	---	48.64
GMW-O-19	10/10/11	74.46	---	25.40	---	49.06
GMW-O-19	11/28/11	74.46	---	25.96	---	48.50
GMW-O-19	12/21/11	74.46	---	26.43	---	48.03
GMW-O-19	01/09/12	74.46	---	26.56	---	47.90
GMW-O-19	02/23/12	74.46	---	27.08	---	47.38
GMW-O-19	03/28/12	74.46	---	27.14	---	47.32
GMW-O-19	04/16/12	74.46	---	26.88	---	47.58
GMW-O-19	05/25/12	74.46	---	27.01	---	47.45
GMW-O-19	06/15/12	74.46	---	27.23	---	47.23
GMW-O-19	07/09/12	74.46	---	27.27	---	47.19
GMW-O-19	08/29/12	74.46	---	27.58	---	46.88
GMW-O-19	09/26/12	74.46	---	27.90	---	46.56
GMW-O-19	10/15/12	74.46	---	27.46	---	47.00
GMW-O-19	11/29/12	74.46	---	28.16	---	46.30
GMW-O-19	12/26/12	74.46	---	28.03	---	46.43
GMW-O-19	01/14/13	74.46	---	28.02	---	46.44
GMW-O-19	02/20/13	74.46	---	28.28	---	46.18
GMW-O-19	04/08/13	74.46	---	28.36	---	46.10
GMW-O-19	10/07/13	74.46	---	28.68	---	45.78
GMW-O-19	04/14/14	74.46	---	28.82	---	45.64
GMW-O-19	10/27/14	74.46	---	29.34	---	45.12
GMW-O-19	04/20/15	74.46	---	28.41	---	46.05

Attachment 4

Historical Groundwater Levels and LNAPL Thickness

Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Well	Date	Top of Casing Elevation (feet amsl)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet amsl)
GMW-O-19	10/19/15	74.46	---	30.63	---	43.83
GMW-O-19	04/11/16	74.46	---	31.70	---	42.76
GMW-SF-8	05/28/96	76.75	---	27.82	---	48.93
GMW-SF-8	11/20/96	76.75	---	28.77	---	47.98
GMW-SF-8	07/01/97	76.75	---	27.35	---	49.40
GMW-SF-8	12/31/97	76.75	---	28.42	---	48.33
GMW-SF-8	05/03/99	76.75	---	26.61	---	50.14
GMW-SF-8	08/09/99	76.75	---	26.99	---	49.76
GMW-SF-8	11/15/99	76.75	---	27.55	---	49.20
GMW-SF-8	05/15/00	76.75	---	27.17	---	49.58
GMW-SF-8	11/13/00	76.75	---	27.97	---	48.78
GMW-SF-8	05/07/01	76.75	---	25.54	---	51.21
GMW-SF-8	11/05/01	76.75	---	26.55	---	50.20
GMW-SF-8	04/08/02	76.75	---	27.73	---	49.02
GMW-SF-8	10/21/02	76.75	---	28.07	---	48.68
GMW-SF-8	01/27/03	76.75	---	27.98	---	48.77
GMW-SF-8	04/07/03	76.75	---	27.63	---	49.12
GMW-SF-8	07/31/03	76.75	---	26.99	---	49.76
GMW-SF-8	10/06/03	76.75	---	27.30	---	49.45
GMW-SF-8	01/11/04	76.75	---	28.54	---	48.21
GMW-SF-8	01/27/04	76.75	---	27.87	---	48.88
GMW-SF-8	04/19/04	76.75	---	27.88	---	48.87
GMW-SF-8	07/19/04	76.75	---	28.05	---	48.70
GMW-SF-8	02/01/05	76.75	---	26.52	---	50.23
GMW-SF-8	05/02/05	76.75	---	21.91	---	54.84
GMW-SF-8	08/01/05	76.75	---	23.33	---	53.42
GMW-SF-8	10/31/05	76.75	---	24.41	---	52.34
GMW-SF-8	02/27/06	76.75	---	24.98	---	51.77
GMW-SF-8	05/01/06	76.75	---	24.98	---	51.77
GMW-SF-8	09/18/06	76.75	---	25.69	---	51.06
GMW-SF-8	12/04/06	76.75	---	26.03	---	50.72
GMW-SF-8	04/30/07	76.75	---	26.45	---	50.30
GMW-SF-8	11/12/07	76.75	---	26.87	---	49.88
GMW-SF-8	04/14/08	76.75	---	26.66	---	50.09
GMW-SF-8	10/13/08	76.75	---	27.75	---	49.00
GMW-SF-8	04/20/09	76.75	---	27.68	---	49.07
GMW-SF-8	10/19/09	76.75	---	29.01	---	47.74
GMW-SF-8	05/24/10	76.75	---	28.34	---	48.41
GMW-SF-8	05/28/10	76.75	---	28.30	---	48.45
GMW-SF-8	10/04/10	76.75	---	28.70	---	48.05
GMW-SF-8	01/10/11	76.75	---	28.85	---	47.90
GMW-SF-8	04/11/11	76.75	---	27.44	---	49.31
GMW-SF-8	07/11/11	76.75	---	NM	---	NC
GMW-SF-8	10/10/11	76.75	---	28.18	---	48.57
GMW-SF-8	01/09/12	76.75	---	28.92	---	47.83
GMW-SF-8	04/16/12	76.75	---	29.34	---	47.41
GMW-SF-8	07/09/12	76.75	---	30.09	---	46.66
GMW-SF-8	10/15/12	76.75	---	30.21	---	46.54
GMW-SF-8	01/14/13	76.75	---	30.92	---	45.83
GMW-SF-8	04/08/13	76.75	---	30.98	---	45.77
GMW-SF-8	10/07/13	76.75	---	32.16	---	44.59
GMW-SF-8	04/14/14	76.75	---	31.63	---	45.12
GMW-SF-8	10/27/14	76.75	---	32.08	---	44.67
GMW-SF-8	04/20/15	76.75	---	32.59	---	44.16
GMW-SF-8	10/19/15	76.75	---	33.28	---	43.47
GMW-SF-8	04/11/16	76.75	---	34.50	---	42.25
GMW-SF-9	04/21/09	73	---	24.19	---	48.81
GMW-SF-9	05/24/10	73	---	28.31	---	44.69
GMW-SF-9	05/28/10	73	---	28.37	---	44.63
GMW-SF-9	10/04/10	73	---	25.28	---	47.72
GMW-SF-9	04/11/11	73	---	23.90	---	49.10
GMW-SF-9	10/10/11	73	---	24.70	---	48.30
GMW-SF-9	04/16/12	73	---	26.99	---	46.01
GMW-SF-9	07/09/12	73	---	NM	---	NC
GMW-SF-9	10/15/12	73.05	---	34.21	---	38.84
GMW-SF-9	01/14/13	73.05	---	34.32	---	38.73
GMW-SF-9	04/10/13	73.05	---	27.37	---	45.68
GMW-SF-9	08/14/14	73.05	28.37	29.35	0.98	44.48
GMW-SF-9	08/19/14	73.05	28.44	28.46	0.02	44.61
GMW-SF-9	08/29/14	73.05	28.31	29.32	1.01	44.54
GMW-SF-9	09/05/14	73.05	28.29	29.33	1.04	44.55

Attachment 4

Historical Groundwater Levels and LNAPL Thickness

Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Well	Date	Top of Casing Elevation (feet amsl)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet amsl)
GMW-SF-9	09/11/14	73.05	28.47	29.49	1.02	44.38
GMW-SF-9	09/18/14	73.05	28.91	28.95	0.04	44.13
GMW-SF-9	09/26/14	73.05	28.59	28.93	0.34	44.39
GMW-SF-9	04/20/15	73.05	---	29.01	---	44.04
GMW-SF-9	10/21/15	73.05	---	29.69	---	43.36
GMW-SF-10	04/21/09	75.77	---	27.10	---	48.67
GMW-SF-10	10/04/10	75.77	---	28.03	---	47.74
GMW-SF-10	04/11/11	75.77	---	26.80	---	48.97
GMW-SF-10	10/10/11	75.77	---	27.60	---	48.17
GMW-SF-10	04/16/12	75.77	---	28.81	---	46.96
GMW-SF-10	07/09/12	75.77	---	NM	---	NC
GMW-SF-10	10/15/12	75.77	---	29.88	---	45.89
GMW-SF-10	04/08/13	75.77	---	NM	---	NC
MW-8	05/28/96	76.06	---	26.96	---	49.10
MW-8	11/20/96	76.06	---	28.06	---	48.00
MW-8	05/03/99	76.06	---	25.82	---	50.24
MW-8	08/09/99	76.06	---	26.30	---	49.76
MW-8	11/15/99	76.06	---	26.93	---	49.13
MW-8	05/15/00	76.06	---	26.64	---	49.42
MW-8	11/13/00	76.06	---	27.69	---	48.37
MW-8	02/05/01	76.06	---	27.15	---	48.91
MW-8	05/07/01	76.06	---	25.43	---	50.63
MW-8	09/18/01	76.06	---	25.87	---	50.19
MW-8	11/05/01	76.06	---	NM	---	NC
MW-8	01/29/02	76.06	---	26.33	---	49.73
MW-8	04/08/02	76.06	---	26.70	---	49.36
MW-8	10/21/02	76.06	---	27.87	---	48.19
MW-8	01/27/03	76.06	---	27.39	---	48.67
MW-8	04/07/03	76.06	---	26.75	---	49.31
MW-8	07/31/03	76.06	---	26.56	---	49.50
MW-8	10/06/03	76.06	---	26.82	---	49.24
MW-8	01/11/04	76.06	---	28.25	---	47.81
MW-8	01/27/04	76.06	---	27.52	---	48.54
MW-8	04/19/04	76.06	---	29.21	---	46.85
MW-8	07/19/04	76.06	---	27.68	---	48.38
MW-8	02/01/05	76.06	---	26.49	---	49.57
MW-8	05/02/05	76.06	---	22.01	---	54.05
MW-8	08/01/05	76.06	---	23.19	---	52.87
MW-8	10/31/05	76.06	---	25.72	---	50.34
MW-8	02/27/06	76.06	---	24.41	---	51.65
MW-8	05/01/06	76.06	---	24.37	---	51.69
MW-8	09/18/06	76.06	---	25.21	---	50.85
MW-8	12/04/06	76.06	---	25.46	---	50.60
MW-8	03/12/07	76.06	---	25.98	---	50.08
MW-8	04/30/07	76.06	---	25.18	---	50.88
MW-8	08/28/07	76.06	---	26.90	---	49.16
MW-8	11/12/07	76.06	---	26.40	---	49.66
MW-8	02/19/08	76.06	---	26.79	---	49.27
MW-8	04/14/08	76.06	---	26.29	---	49.77
MW-8	10/13/08	76.06	---	27.27	---	48.79
MW-8	04/20/09	76.06	---	27.19	---	48.87
MW-8	10/19/09	76.06	---	28.71	---	47.35
MW-8	05/24/10	76.06	---	27.91	---	48.15
MW-8	05/28/10	76.06	---	27.90	---	48.16
MW-8	10/04/10	76.06	---	28.16	---	47.90
MW-8	01/10/11	76.06	---	28.53	---	47.53
MW-8	04/11/11	76.06	---	26.84	---	49.22
MW-8	07/11/11	76.06	---	NM	---	NC
MW-8	10/10/11	76.06	---	27.65	---	48.41
MW-8	01/09/12	76.06	---	28.31	---	47.75
MW-8	04/16/12	76.06	---	28.77	---	47.29
MW-8	07/09/12	76.06	---	29.63	---	46.43
MW-8	10/15/12	76.06	---	29.48	---	46.58
MW-8	01/14/13	76.06	---	30.82	---	45.24
MW-8	04/08/13	76.06	---	30.56	---	45.50
MW-8	10/07/13	76.06	---	31.15	---	44.91
MW-8	04/14/14	76.06	---	31.10	---	44.96
MW-8	10/27/14	76.06	---	31.51	---	44.55
MW-8	04/20/15	76.06	---	31.86	---	44.20
MW-8	10/19/15	76.06	---	32.69	---	43.37
MW-8	04/11/16	76.06	---	33.57	---	42.49

Attachment 4

Historical Groundwater Levels and LNAPL Thickness

Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Well	Date	Top of Casing Elevation (feet amsl)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Apparent Product Thickness (feet)	Corrected Groundwater Elevation (feet amsl)
PZ-7A	08/01/05	73.87	---	20.22	---	53.65
PZ-7A	05/24/10	73.87	---	25.30	---	48.57
PZ-7A	05/28/10	73.87	---	25.29	---	48.58
PZ-7A	10/04/10	73.87	---	25.70	---	48.17
PZ-7A	04/11/11	73.87	---	24.48	---	49.39
PZ-7A	10/10/11	73.87	---	25.15	---	48.72
PZ-7A	10/15/12	73.87	---	27.24	---	46.63
PZ-7A	04/20/15	73.87	---	29.52	---	44.35
PZ-7B	08/01/05	73.79	---	20.80	---	52.99
PZ-7B	05/24/10	73.79	---	25.32	---	48.47
PZ-7B	05/28/10	73.79	---	25.30	---	48.49
PZ-7B	10/04/10	73.79	---	25.88	---	47.91
PZ-7B	04/11/11	73.79	---	24.57	---	49.22
PZ-7B	10/10/11	73.79	---	25.30	---	48.49
PZ-7B	10/15/12	73.79	---	27.22	---	46.57
PZ-7B	04/20/15	73.79	---	29.60	---	44.19
PZ-8A	08/01/05	75.81	---	22.39	---	53.42
PZ-8A	12/04/06	75.81	---	25.14	---	50.67
PZ-8A	05/24/10	75.81	---	27.60	---	48.21
PZ-8A	05/28/10	75.81	---	27.38	---	48.43
PZ-8A	10/04/10	75.81	---	27.79	---	48.02
PZ-8A	04/11/11	75.81	---	26.50	---	49.31
PZ-8A	10/10/11	75.81	---	27.28	---	48.53
PZ-8A	10/15/12	75.81	---	30.01	---	45.80
PZ-8A	04/20/15	75.81	---	31.29	---	44.52
PZ-8B	08/01/05	75.69	---	23.61	---	52.08
PZ-8B	12/04/06	75.69	---	25.16	---	50.53
PZ-8B	05/24/10	75.69	---	27.37	---	48.32
PZ-8B	05/28/10	75.69	---	27.66	---	48.03
PZ-8B	10/04/10	75.69	---	27.90	---	47.79
PZ-8B	04/11/11	75.69	---	26.52	---	49.17
PZ-8B	10/10/11	75.69	---	27.32	---	48.37
PZ-8B	10/15/12	75.69	---	30.71	---	44.98
PZ-8B	04/20/15	75.69	---	31.69	---	44.00
PZ-9A	08/01/05	76.14	---	22.93	---	53.21
PZ-9A	10/04/10	76.14	---	28.20	---	47.94
PZ-9A	04/11/11	76.14	---	26.94	---	49.20
PZ-9A	10/10/11	76.14	---	27.75	---	48.39
PZ-9A	04/16/12	76.14	---	28.95	---	47.19
PZ-9A	07/09/12	76.14	---	NM	---	NC
PZ-9A	10/15/12	76.14	---	30.18	---	45.96
PZ-9A	04/08/13	76.14	---	30.67	---	45.47
PZ-9A	04/20/15	76.14	---	32.21	---	43.93
PZ-9B	08/01/05	76.26	---	23.71	---	52.55
PZ-9B	10/04/10	76.26	---	28.51	---	47.75
PZ-9B	04/11/11	76.26	---	27.20	---	49.06
PZ-9B	10/10/11	76.26	---	28.00	---	48.26
PZ-9B	04/16/12	76.26	---	29.10	---	47.16
PZ-9B	07/09/12	76.26	---	NM	---	NC
PZ-9B	10/15/12	76.26	---	30.54	---	45.72
PZ-9B	04/08/13	76.26	---	30.89	---	45.37
PZ-9B	04/20/15	76.26	---	32.24	---	44.02

Notes:

--- = not available

feet btoc = feet below top of casing

feet amsl = feet above mean sea level, based on Los Angeles County Datum, 1980

NC = Not calculated

NM = Not measured

Calculated groundwater elevation in wells with measurable product using the formula:

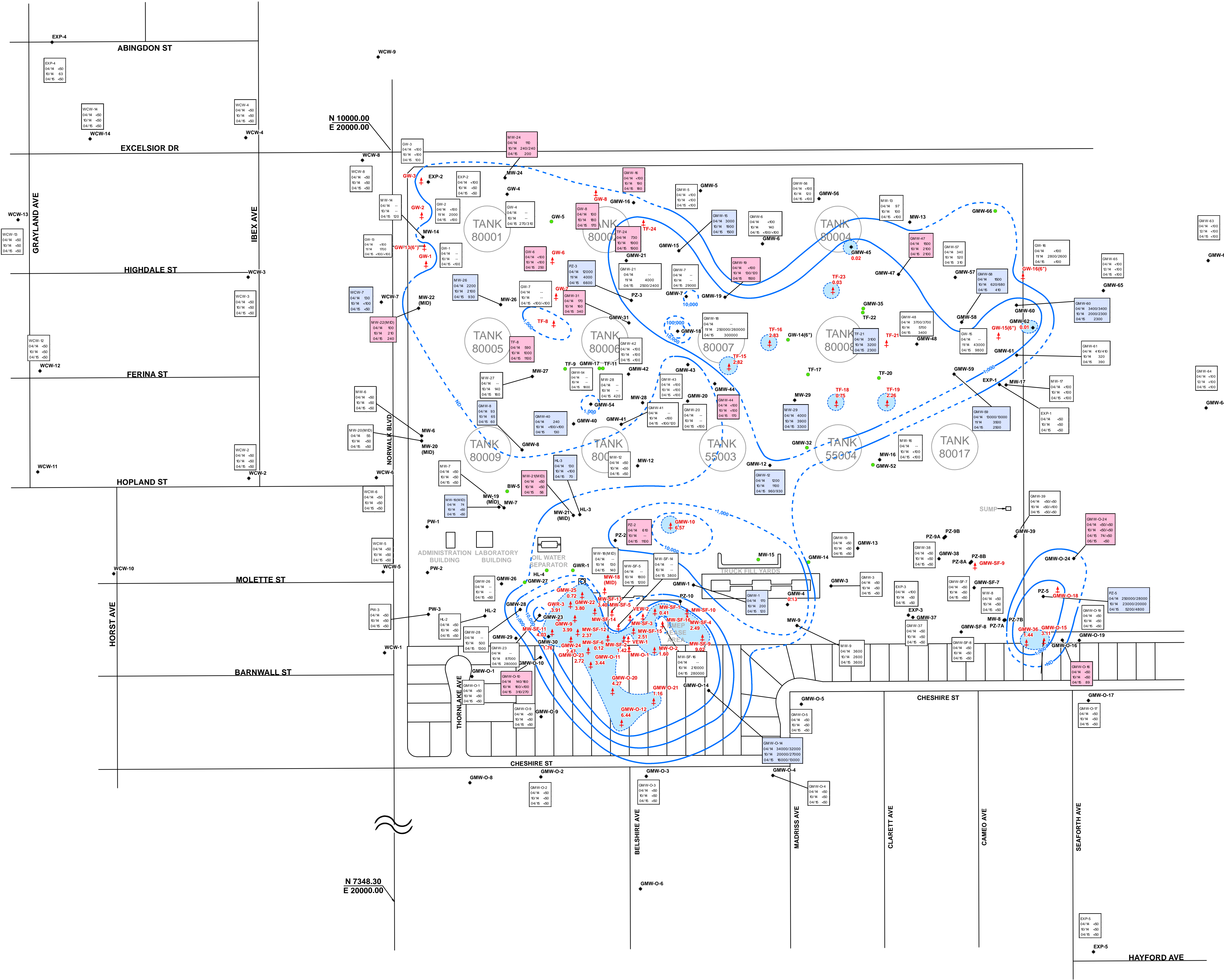
groundwater elevation = (top of casing elevation - depth to water) + apparent product thickness X specific gravity.

(Product specific gravity of 0.8 was used for calculation above)

19.48

35.20

Attachment 5
Chemical Distribution Maps for TPH,
Benzene, 1,2-DCA, MTBE, and TBA



Explanation

- GMW-5 ● Monitoring well and designation
- VEW-1 † Vapor extraction, groundwater extraction, total fluids, or free product extraction well used for site remediation
- TF-23 † Apparent thickness of free product measured in well (feet)
- TF-17 ● Wells decommissioned by DLA Energy in First Quarter 2015 as part of ongoing soil excavation activities

TPH (TPHg and TPHd) results in micrograms per liter (µg/L) for the three most recent semiannual events; where the databox is shown in white, the concentration of TPH has remained similar (concentration change is less than 10%) at that location since the first semiannual monitoring event of the previous year, or the dataset shown does not provide a basis for comparison.

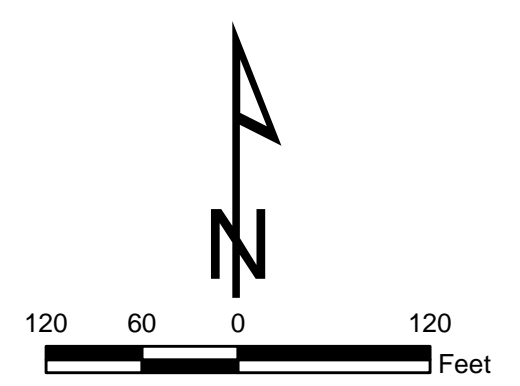
Where the databox is shown in red, the concentration of TPH has increased by 10% or more at that location since the first semiannual monitoring event of the previous year.

Where the databox is shown in blue, the concentration of TPH has decreased by 10% or more at that location since the first semiannual monitoring event of the previous year.

- <100 Not detected at or above laboratory reporting limit shown
- Not sampled/not analyzed
- <100/<100 Primary sample analytical result/duplicate sample analytical result (µg/L)
- ND --- Estimated extent of detected dissolved TPH in groundwater (concentration dependent on laboratory reporting limit); dashed where inferred
- 1,000 --- Lines of equal TPH concentration (µg/L) in groundwater; dashed where inferred
- Estimated extent of measurable light nonaqueous phase hydrocarbons (LNAPL, free product) on groundwater; dashed where inferred

Survey Notes

1. Base map prepared from data provided by Fluor Daniel GTI, Dulin & Boynton, Geomatrix, and Parsons.
2. Except as noted below, well locations surveyed by Dulin & Boynton
3. Locations of wells HL-3, and HL-4 based on field measurements by Fluor Daniel GTI and Woodward-Clyde.
4. Locations of wells BW-1 through BW-9 surveyed by Geomatrix based on reference to other wells surveyed by Dulin & Boynton.

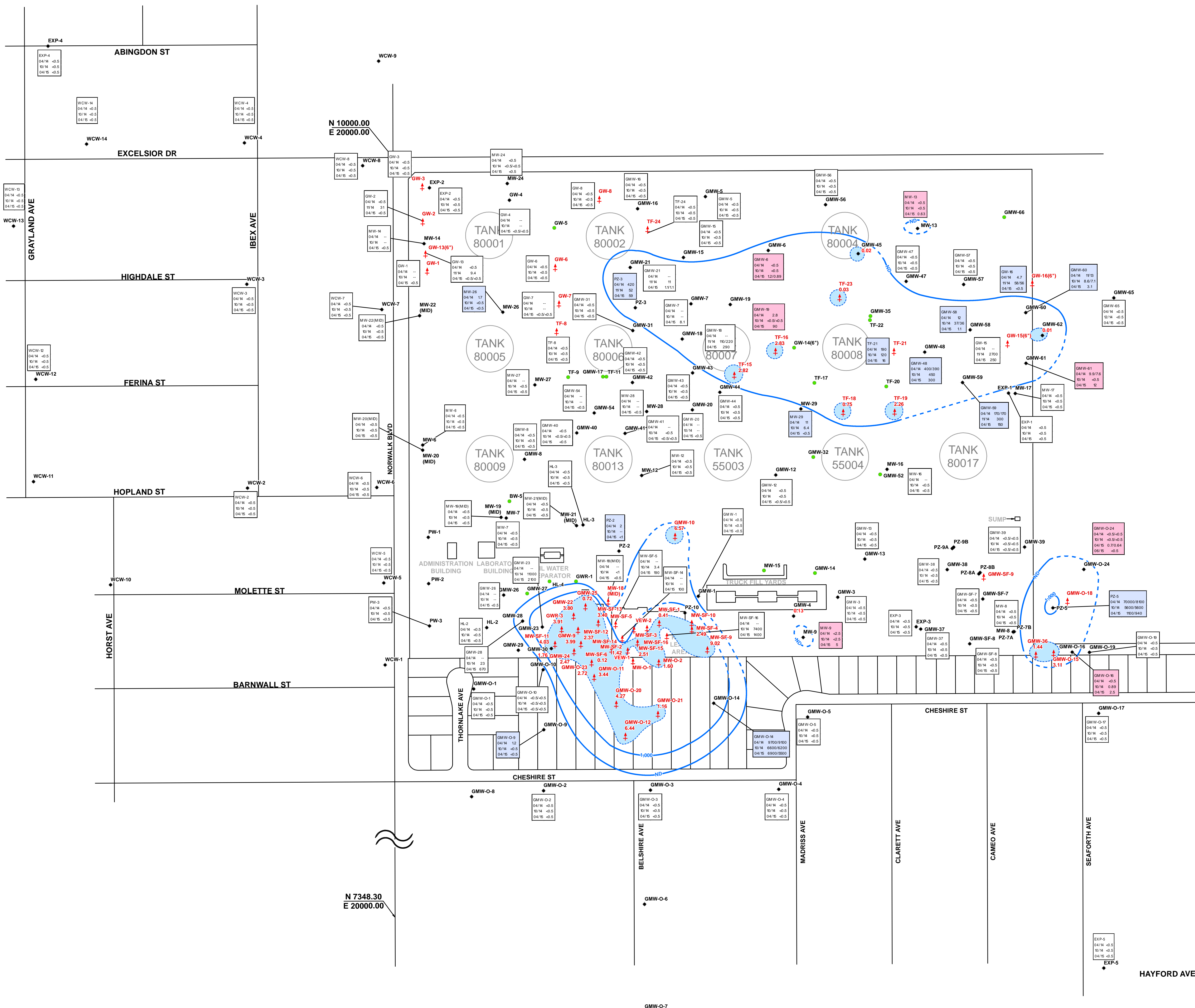


TOTAL PETROLEUM HYDROCARBONS IN UPPERMOST GROUNDWATER ZONE
April 2015

DFSP NORWALK
Norwalk, California

By: Andy O'Malley Date: 6/2015 Project No: 406972

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Explanation

- GMW-5 ● Monitoring well and designation
- VEW-1 ↑ Vapor extraction, groundwater extraction, total fluids, or free product extraction well used for site remediation
- TF-23 ↑ Apparent thickness of free product measured in well (feet)
- TF-17 ● Wells decommissioned by DLA Energy in First Quarter 2015 as part of ongoing soil excavation activities

Benzene results in micrograms per liter (µg/L) for the three most recent semiannual events; where the databox is shown in white, the concentration of benzene has remained similar (concentration change is less than 10%) at that location since the first semiannual monitoring event of the previous year, or the dataset shown does not provide a basis for comparison.

GMW-63
04/14 <math><0.5</math>
10/14 <math><0.5</math>
04/15 <math><0.5</math>

GMW-61
04/14 9.9/7.6
10/14 8.8/7.1
04/15 2

GMW-60
04/14 19/5
10/14 8.8/31
04/15 3.1

<math><0.5</math> Not detected at or above laboratory reporting limit shown

-- Not sampled/not analyzed

<math><0.5</math>/<math><0.5</math> Primary sample analytical result/duplicate sample analytical result (µg/L)

ND — Estimated extent of detected dissolved benzene in groundwater (concentration dependent on laboratory reporting limit); dashed where inferred

1,000 — Lines of equal benzene concentration (µg/L) in groundwater; dashed where inferred

● Estimated extent of measurable light nonaqueous phase hydrocarbons (LNAPL, free product) on groundwater; dashed where inferred

Survey Notes

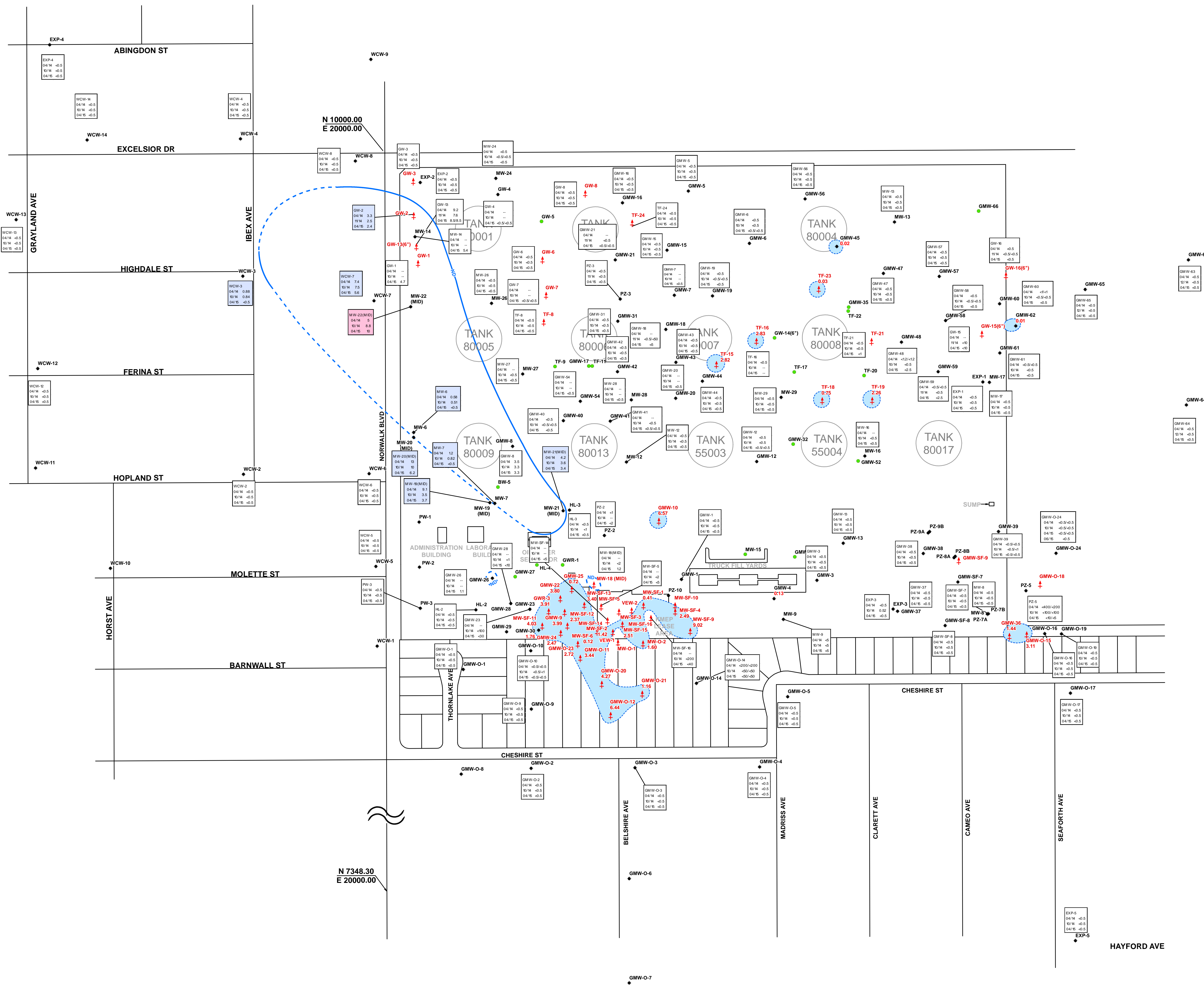
1. Base map prepared from data provided by Fluor Daniel GTI, Dulin & Boynton, Geomatrix, and Parsons.
2. Except as noted below, well locations surveyed by Dulin & Boynton
3. Locations of wells HL-3, and HL-4 based on field measurements by Fluor Daniel GTI and Woodward-Clyde.
4. Locations of wells BW-1 through BW-9 surveyed by Geomatrix based on reference to other wells surveyed by Dulin & Boynton.

BENZENE IN UPPERMOST
GROUNDWATER ZONE
April 2015

DFSP NORWALK
Norwalk, California

By: Andy O'Malley Date: 6/2015 Project No: 420932

CH2MHILL Figure 5



Explanation

- GMW-5 ● Monitoring well and designation
 - VEW-1 † Vapor extraction, groundwater extraction, total fluids, or free product extraction well used for site remediation
 - TF-23 † Apparent thickness of free product measured in well (feet)
 - TF-17 ● Wells decommissioned by DLA Energy in First Quarter 2015 as part of ongoing soil excavation activities
- MW-23(MID) 04/14 4.2
 10/14 5.8
 04/15 9.1
- MW-21(MID) 04/14 4.2
 10/14 3.8
 04/15 3.4
- <0.5 Not detected at or above laboratory reporting limit.
- Not sampled/not analyzed
- <0.5/<0.5 Primary sample analytical result/duplicate sample analytical result (µg/L)
- ND — Estimated extent of detected dissolved 1,2-DCA in groundwater (concentration dependent on laboratory reporting limit); dashed where inferred
- Estimated extent of measurable light nonaqueous phase hydrocarbons (LNAPL, free product) on groundwater; dashed where inferred

Survey Notes

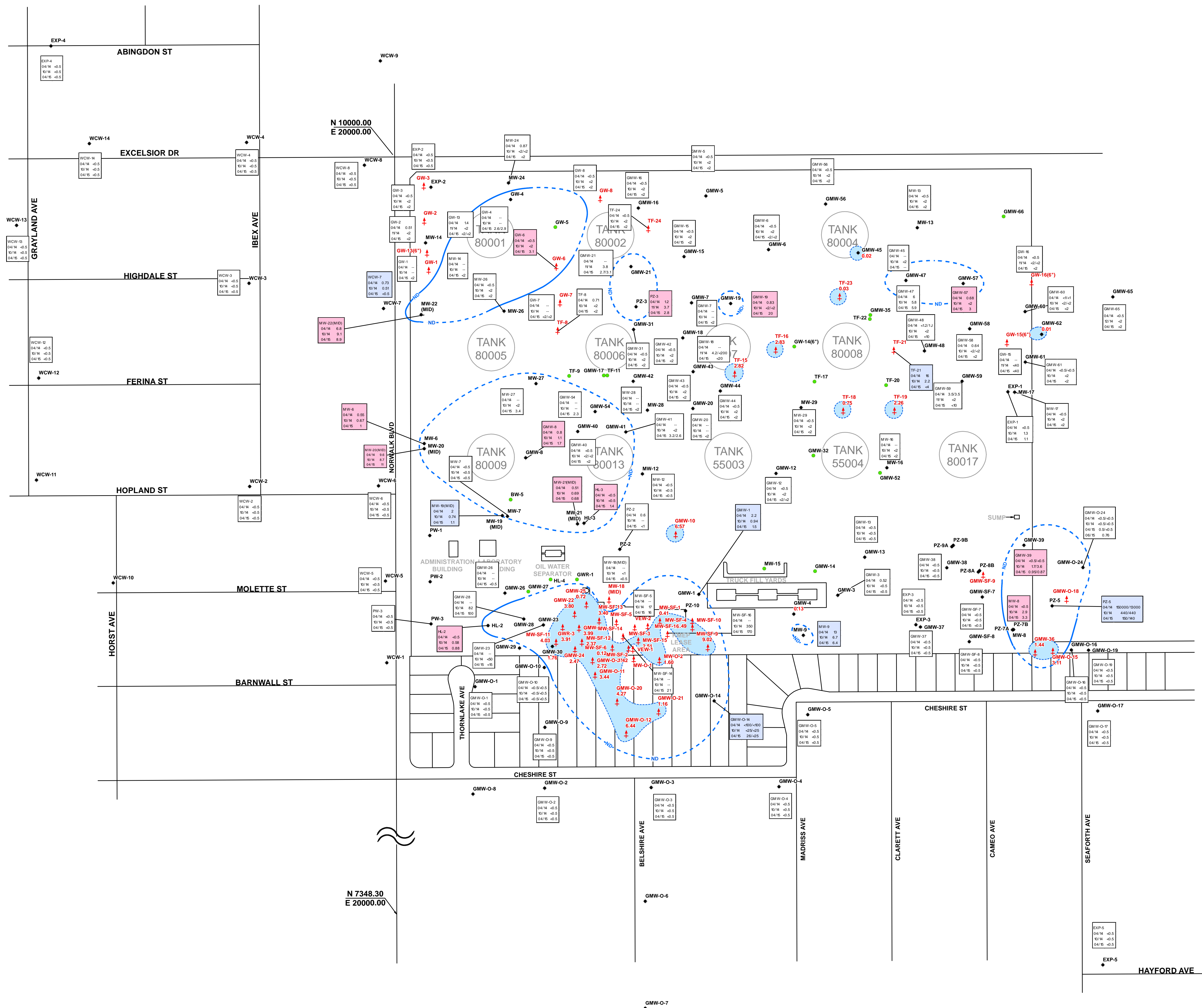
1. Base map prepared from data provided by Fluor Daniel GTI, Dulin & Boynton, Geomatrix, and Parsons.
2. Except as noted below, well locations surveyed by Dulin & Boynton
3. Locations of wells HL-3, and HL-4 based on field measurements by Fluor Daniel GTI and Woodward-Clyde.
4. Locations of wells BW-1 through BW-9 surveyed by Geomatrix based on reference to other wells surveyed by Dulin & Boynton.

1,2-DICHLOROETHANE IN
UPPERMOST GROUNDWATER ZONE
April 2015

DFSP NORWALK
Norwalk, California

By: Andy O'Malley Date: 6/2015 Project No: 406972

R:\NORWALK\MAPP\FILES\REPORT_2015\PPF_FIG_6.DCA_2015.MXD 7/29/2015 11:57:16 AM

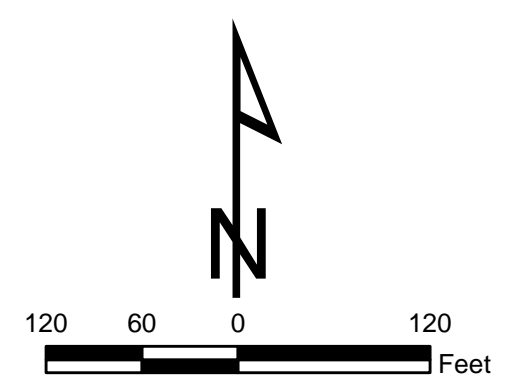


Explanation

- GMW-5 ● Monitoring well and designation
- VEW-1 ↑ Vapor extraction, groundwater extraction, total fluids, or free product extraction well used for site remediation
- TF-23 0.03 ↑ Apparent thickness of free product measured in well (feet)
- TF-17 ● Wells decommissioned by DLA Energy in First Quarter 2015 as part of ongoing soil excavation activities
- GMW-63 (04/14 -0.5, 10/14 -2, 04/15 -2) MTBE results in micrograms per liter (µg/L) for the three most recent semiannual events; where the databox is shown in white, the concentration of MTBE has remained similar (concentration change is less than 10%) at that location since the first semiannual monitoring event of the previous year, or the dataset shown does not provide a basis for comparison.
- GMW-59 (04/14 3.5/3.5, 10/14 -2, 04/15 -2) Where the databox is shown in red, the concentration of MTBE has increased by 10% or more at that location since the first semiannual monitoring event of the previous year.
- PZ-5 (04/14 10000/10000, 10/14 440/440, 04/15 90/90) Where the databox is shown in blue, the concentration of MTBE has decreased by 10% or more at that location since the first semiannual monitoring event of the previous year.
- <0.5 Not detected at or above laboratory reporting limit.
- Not sampled/not analyzed
- <0.5/<0.5 Primary sample analytical result/duplicate sample analytical result (µg/L)
- ND — Estimated extent of detected dissolved MTBE in groundwater (concentration dependent on laboratory reporting limit); dashed where inferred
- Estimated extent of measurable light nonaqueous phase hydrocarbons (LNAPL, free product) on groundwater; dashed where inferred

Survey Notes

1. Base map prepared from data provided by Fluor Daniel GTI, Dulin & Boynton, Geomatrix, and Parsons.
2. Except as noted below, well locations surveyed by Dulin & Boynton
3. Locations of wells HL-3, and HL-4 based on field measurements by Fluor Daniel GTI and Woodward-Clyde.
4. Locations of wells BW-1 through BW-9 surveyed by Geomatrix based on reference to other wells surveyed by Dulin & Boynton.

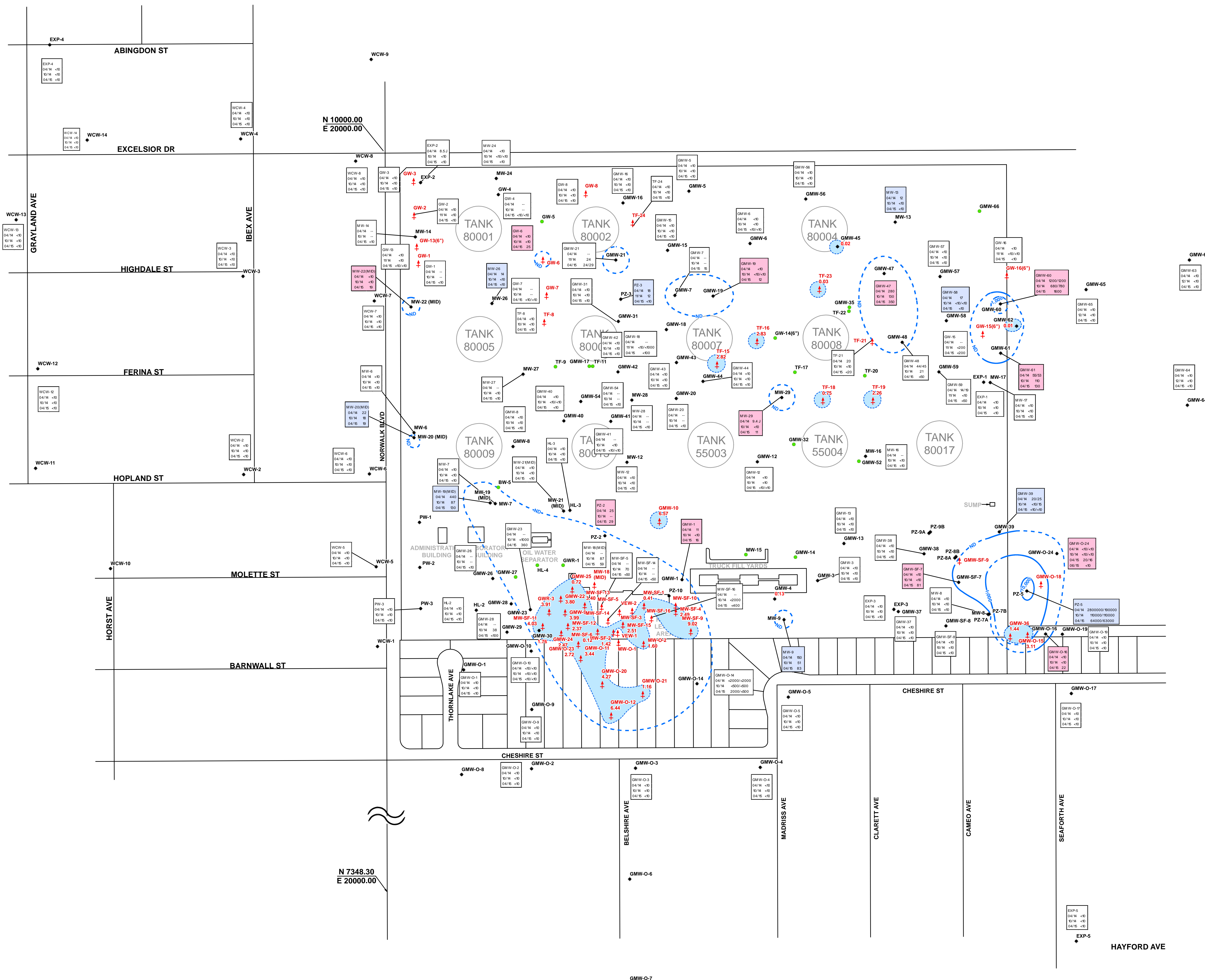


METHYL TERTIARY BUTYL ETHER IN UPPERMOST GROUNDWATER ZONE
April 2015

DFSP NORWALK
Norwalk, California

By: Andy O'Malley Date: 6/2015 Project No: 406972

CH2MHILL Figure 7

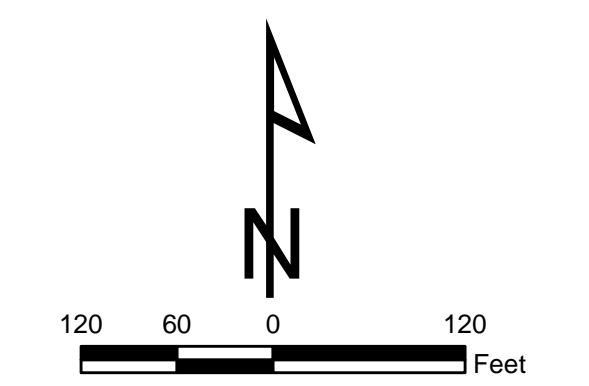


Explanation

- GMW-5 ● Monitoring well and designation
- VEW-1 ↑ Vapor extraction, groundwater extraction, total fluids, or free product extraction well used for site remediation
- TF-23 0.03 ↑ Apparent thickness of free product measured in well (feet)
- TF-17 ● Wells decommissioned by DLA Energy in First Quarter 2015 as part of ongoing soil excavation activities
- GMW-63 (04/14 <0, 10/14 <0, 04/15 <0) TBA results in micrograms per liter (µg/L) for the three most recent semiannual events; where the databox is shown in white, the concentration of TBA has remained similar (concentration change is less than 10%) at that location since the first semiannual monitoring event of the previous year, or the dataset shown does not provide a basis for comparison.
- GMW-60 (04/14 000/1000, 10/14 680/760, 04/15 900) Where the databox is shown in red, the concentration of TBA has increased by 10% or more at that location since the first semiannual monitoring event of the previous year.
- GMW-60 (04/14 17, 10/14 <0, 04/15 <0) Where the databox is shown in blue, the concentration of TBA has decreased by 10% or more at that location since the first semiannual monitoring event of the previous year.
- <0.5 Not detected at or above laboratory reporting limit shown
- Not sampled/not analyzed
- <10/<10 Primary sample analytical result/duplicate sample analytical result (µg/L)
- ND --- Estimated extent of detected dissolved TBA in groundwater (concentration dependent on laboratory reporting limit); dashed where inferred
- 1000 --- Lines of equal TBA concentration (µg/L) in groundwater; dashed where inferred
- Estimated extent of measurable light nonaqueous phase hydrocarbons (LNAPL, free product) on groundwater; dashed where inferred

Survey Notes

1. Base map prepared from data provided by Fluor Daniel GTI, Dulin & Boynton, Geomatrix, and Parsons.
2. Except as noted below, well locations surveyed by Dulin & Boynton
3. Locations of wells HL-3, and HL-4 based on field measurements by Fluor Daniel GTI and Woodward-Clyde.
4. Locations of wells BW-1 through BW-9 surveyed by Geomatrix based on reference to other wells surveyed by Dulin & Boynton.



TERTIARY BUTYL ALCOHOL IN UPPERMOST GROUNDWATER ZONE April 2015

DFSP NORWALK Norwalk, California

By: Andy O'Malley Date: 6/2015 Project No: 406972

CH2MHILL Figure 8

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Attachment 6
Historical Analytical Results for COPCs
and Miscellaneous VOCs Detected in
Groundwater

Attachment 6a

Historical Analytical Results for COPCs Detected in Groundwater
 Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Results reported in micrograms per liter (µg/L)																
Well	Date	TPH-g	TPH-fp	TPH-d	TPH-jp ₄	TPH-jp ₅	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
EXP-3	11/27/96	<50	---	<500	<500	---	<0.50	<0.50	<0.50	<1	<0.50	<1	---	---	---	---
EXP-3	03/14/97	<50	---	120	---	---	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---
EXP-3	03/14/97	<50	---	250	---	---	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---
EXP-3	03/14/97	<100	---	---	---	---	<2	<2	<2	<2	---	---	---	---	---	---
EXP-3	07/10/97	<50	---	<50	<50	---	<5	<5	<5	<5	<5	<5	---	---	---	---
EXP-3	01/09/98	<500	---	<100	<100	---	<0.50	<0.50	<0.50	<1	<0.50	<0.50	---	---	---	---
EXP-3	05/20/98	<300	---	---	---	---	<0.50	<0.50	<0.50	<1	<0.50	<0.50	---	---	---	---
EXP-3	11/04/98	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	05/07/99	---	---	<500	---	---	<0.50	<0.50	<0.50	<0.50	<1	0.89	---	---	---	---
EXP-3	05/27/99	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	08/10/99	<500	---	<1000	---	---	4	6.2	<1	3.4	<0.50	<1	---	---	---	---
EXP-3	09/23/99	<300	---	---	---	---	<0.50	<1	<1	<1	<0.50	<1	---	---	---	---
EXP-3	10/12/99	<300	<100	---	---	---	<0.50	<1	<1	<1	<0.50	<1	---	---	---	---
EXP-3	11/18/99	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	11/19/99	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	12/21/99	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	01/20/00	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	02/28/00	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	03/28/00	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	04/20/00	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	05/17/00	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	05/18/00	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	06/30/00	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	08/28/00	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	11/30/00	<300	<100	---	---	---	<0.50	0.5	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	02/06/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	05/08/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	05/09/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	09/19/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	11/07/01	<300	<100	---	---	---	0.8	0.6	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	11/07/01	<300	<100	---	---	---	<0.50	<0.60	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	01/30/02	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	04/11/02	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	04/12/02	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	07/30/02	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	10/22/02	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<1	---	---	---	---
EXP-3	10/23/02	<300	<100	---	---	---	<0.50	<1	<1	<1	<0.50	<1	---	---	---	---
EXP-3	01/29/03	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	04/08/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	04/11/03	---	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	07/30/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	10/07/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	10/10/03	<100	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	01/29/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	04/20/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	04/22/04	<100	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<2	<2	<2
EXP-3	07/19/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	07/21/04	120	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	---	<0.50	---	---	---	---
EXP-3	11/03/04	<100	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<2	<2	<2
EXP-3	02/02/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	05/04/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	08/01/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	11/02/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	02/27/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	05/02/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	05/05/06	<100	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<2	<2	<2
EXP-3	09/18/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	12/05/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	12/06/06	<100	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<2	<2	<2
EXP-3	03/13/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	05/04/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	05/04/07	<100	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<2	<2	<2
EXP-3	08/30/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---

Attachment 6a

Historical Analytical Results for COPCs Detected in Groundwater
 Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Results reported in micrograms per liter (µg/L)																
Well	Date	TPH-g	TPH-fp	TPH-d	TPH-jp ₄	TPH-jp ₅	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
EXP-3	11/15/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	11/16/07	<100	1500	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<2	<2	<2
EXP-3	02/07/08	<100	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<2	<2	<2
EXP-3	02/20/08	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	04/16/08	<100	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<2	<2	<2
EXP-3	04/16/08	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	08/14/08	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	10/14/08	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
EXP-3	10/15/08	<100	---	---	---	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<2	<2	<2
EXP-3	02/24/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<2	---	---
EXP-3	04/22/09	<100	---	---	---	<100	<0.50	3.4	<0.50	<0.50	<0.50	<0.50	<10	<2	<2	<2
EXP-3	04/23/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EXP-3	07/20/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EXP-3	07/20/09	<100	---	---	---	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<2	<2	<2
EXP-3	10/19/09	<100	---	---	---	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<2	<2	<2
EXP-3	10/19/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EXP-3	01/11/10	<100	---	---	---	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<2	<2	<2
EXP-3	03/15/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EXP-3	04/12/10	---	---	---	---	<100	0.31 J	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<2	<2	<2
EXP-3	05/25/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EXP-3	07/12/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EXP-3	10/04/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.74	<10	<1	<1	<1
EXP-3	10/04/10	---	---	---	---	<100	<0.50	---	---	---	<0.50	0.68	<10	---	---	---
EXP-3	01/10/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	0.73	0.95	<10	<1	<1	<1
EXP-3	01/10/11	<100	---	---	---	<100	<0.50	<0.50	<0.50	<0.50	0.64	1	<10	<2	<2	<2
EXP-3	04/11/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	1.3	0.99	<10	<1	<1	<1
EXP-3	04/11/11	<100	---	---	---	<100	<0.50	<0.50	<0.50	<0.50	1.3	1.1	<10	<2	<2	<2
EXP-3	07/12/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	0.61	<0.50	<10	<1	<1	<1
EXP-3	07/12/11	<100	---	---	---	<100	<0.50	<0.50	<0.50	<0.50	0.62	0.45 J	<10	<2	<2	<2
EXP-3	10/10/11	<50	140	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EXP-3	10/10/11	<100	---	---	---	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	8.7 J	<2	<2	<2
EXP-3	01/09/12	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.66	<10	<1	<1	<1
EXP-3	01/09/12	<100	---	---	---	<100	<0.50	<0.50	<0.50	<0.50	0.81	0.63	<10	<2	<2	<2
EXP-3	04/16/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	0.58	<0.50	<10	<1	<1	<1
EXP-3	04/16/12	<100	---	---	---	<100	<0.50	<0.50	<0.50	<0.50	0.54	0.48 J	<10	<2	<2	<2
EXP-3	07/09/12	<50	---	190	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EXP-3	07/09/12	<100	---	---	---	250 b	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	9.5 J	<2	<2	<2
EXP-3	08/29/12	---	---	<50	---	---	---	---	---	---	---	---	---	---	---	---
EXP-3	10/15/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EXP-3	10/15/12	<100	---	---	---	<100	<0.50	<0.50	<0.50	<0.50	0.45 J	<0.50	<10	<2	<2	<2
EXP-3	01/14/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.58	<10	<1	<1	<1
EXP-3	01/14/13	<100	---	<100	---	---	<0.50	<0.50	<0.50	<0.50	0.74	0.34 J	<10	<2	<2	<2
EXP-3	04/08/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EXP-3	04/08/13	<100	---	<100	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<2	<2	<2
EXP-3	10/07/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EXP-3	10/07/13	<100	---	<100	---	---	<0.50	<0.50	<0.50	<0.50	0.36 J	<0.50	<10	<2	<2	<2
EXP-3	04/14/14	<50	---	<100	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EXP-3	04/14/14	<100	---	<100	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<2	<2	<2
EXP-3	10/28/14	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	0.52	<0.50	<10	<1	<1	<1
EXP-3	10/28/14	<100	---	<100	---	---	<0.50	<0.50	<0.50	<1	<0.50	<2	<10	<2	<2	<2
EXP-3	04/23/15	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EXP-3	04/23/15	<100	---	<100	---	---	<0.50	<0.50	<0.50	<1	<0.50	<2	<10	<2	<2	<2
EXP-3	10/20/15	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EXP-3	10/20/15	<100	---	<100	---	---	<0.50	<0.50	<0.50	<1	<0.50	<2	<10	<2	<2	<2
EXP-3	04/12/16	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EXP-3	04/12/16	<100	---	<100	---	---	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-36	07/10/97	430	---	<500	---	---	---	---	---	---	---	---	---	---	---	---
GMW-36	01/09/98	4000	---	4300	---	---	22	21	6.1	100	<5	7700	---	---	---	---
GMW-36	05/20/98	1400	---	---	---	---	<0.30	<0.30	<10	<20	<0.50	19600	---	---	---	---
GMW-36	11/17/98	7900	6650	---	---	---	2100	1370	70	650	<50	34800	---	---	---	---
GMW-36	05/07/99	2800	---	<500	---	---	<10	<10	<10	<10	<25	14000	---	---	---	---
GMW-36	11/18/99	51000	22000	---	---	---	8100	5600	<250	1770	<250	47000	---	---	---	---
GMW-36	05/17/00	59000	53000	---	---	---	14000	6700	480	4100	<130	45000	---	---	---	---

Attachment 6a

Historical Analytical Results for COPCs Detected in Groundwater
 Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Results reported in micrograms per liter (µg/L)																
Well	Date	TPH-g	TPH-fp	TPH-d	TPH-jp ₄	TPH-jp ₅	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-36	11/30/00	110000	66000	---	---	---	20000	19000	1600	8100	<0.50	13000	---	---	---	---
GMW-36	02/06/01	75000	55000	---	---	---	18000	13000	1400	6100	<50	9100	---	---	---	---
GMW-36	05/10/01	12000	5100	---	---	---	3700	2500	420	1730	<0.50	1600	---	---	---	---
GMW-36	09/19/01	21000	37000	---	---	---	5800	3600	580	2080	<13	1000	---	---	---	---
GMW-36	11/06/01	63000	40000	---	---	---	16000	13000	1600	7700	<25	3200	---	---	---	---
GMW-36	01/30/02	130000	68000	---	---	---	21000	20000	1700	9000	<125	42000	---	---	---	---
GMW-36	04/10/02	150000	49000	---	---	---	25000	22000	1800	10000	<50	67000	---	---	---	---
GMW-36	07/30/02	81000	110000	---	---	---	28000	29000	2200	11800	<50	37000	---	---	---	---
GMW-36	12/06/06	32000	10000	---	---	---	5300	4300	480	4300	<50	1600	---	---	---	---
GMW-36	03/13/07	54000	7200	---	---	---	9400	12000	1100	8200	<200	3800	---	---	---	---
GMW-36	05/05/07	69000	11000	---	---	---	9800	11000	1200	8000	<200	3900	---	---	---	---
GMW-36	08/29/07	30000	9800	---	---	---	4100	4200	420	4500	120	890	---	---	---	---
GMW-36	02/20/08	34000	9100	---	---	---	3900	6000	750	4600	<50	43	---	---	---	---
GMW-36	04/16/08	42000	11000	---	---	---	5200	8300	940	6200	<200	<100	---	---	---	---
GMW-36	10/16/08	17000	32000	---	---	---	2100	2000	160	2300	<20	26	---	---	---	---
GMW-36	07/22/09	24000	15000	---	---	---	3800	5400	720	3380	<50	28	<500	<50	<50	<50
GMW-36	03/16/10	8000	22000	---	---	---	830	1100	140	700	<10	16	690	<10	<10	<10
GMW-36	04/16/10	4200	25000	---	---	---	850	150	89	200	<5	11	3700	<5	<5	<5
GMW-36	07/13/10	500	4500	---	---	---	49	51	4.9	43	<0.50	0.91	340	<1	<1	<1
GMW-36	08/12/10	9200	2200	---	---	---	1400	1100	52	980	<10	18	1600	<10	<10	<10
GMW-36	09/20/10	3300	5200	---	---	---	130	18	36	120	<1	130	13000	<1	<1	1.6
GMW-36	10/05/10	15000	3100	---	---	---	2500	1300	390	1200	<20	30	1300	<20	<20	<20
GMW-36	11/23/10	31000	21000	---	---	---	5100	3400	890	2600	<40	51	470	<40	<40	<40
GMW-36	12/22/10	63000	73000	---	---	---	6700	9600	1700	5600	<50	28	<500	<50	<50	<50
GMW-36	01/12/11	320000	130000	---	---	---	4600	2900	1400	9200	<200	<100	<2000	<200	<200	<200
GMW-36	02/24/11	1600	3900	---	---	---	110	77	19	130	<1	2.5	2200	<1	<1	<1
GMW-36	03/23/11	3200	2900	---	---	---	360	340	28	240	<3	7.6	2400	<3	<3	<3
GMW-36	04/29/11	1500	10000	---	---	---	75	67	6.8	113	<0.50	3.3	1700	<1	<1	<1
GMW-36	05/13/11	13000	11000	---	---	---	2300	2100	93	1640	<20	43	<200	<20	<20	<20
GMW-36	06/22/11	420	1500	---	---	---	24	12	2.8	29	<0.50	110	5900	<1	<1	<1
GMW-36	07/29/11	7300	3200	---	---	---	560	570	61	990	<10	350	4600	<10	<10	<10
GMW-36	08/19/11	13000	6200	---	---	---	570	1100	250	1900	<20	260	9000	<20	<20	<20
GMW-36	09/22/11	5200	2200	---	---	---	490	240	52	470	<5	660	7400	<5	<5	17
GMW-36	10/13/11	22000	160000	---	---	---	610	490	430	2200	<20	250	3700	<20	<20	43
GMW-36	11/23/11	630	34000	---	---	---	17	<2.5	<2.5	14	<5	110	6000	<5	<5	<5
GMW-36	12/21/11	700	560	---	---	---	59	55	14	65	<0.50	2.1	340	<1	<1	<1
GMW-36	01/10/12	380	290	---	---	---	78	1.6	5.1	13	<0.50	94	4900	<1	<1	1.3
GMW-36	02/23/12	45000	14000	---	---	---	5600	8900	1700	6600	<200	<100	<2000	<200	<200	<200
GMW-36	03/28/12	220	---	400	---	---	3.5	4.1	1.2	6.3	<0.50	1.5	130	<1	<1	<1
GMW-36	04/27/12	1300	---	710	---	---	43	<0.50	2.5	35	<1	64	4200	<1	<1	1.2
GMW-36	05/25/12	280	---	440	---	---	<0.50	<0.50	<0.50	1.5	<1	14	6200	<1	<1	<1
GMW-36	06/15/12	460	---	380	---	---	17	4.1	5.5	50	<1	12	780	<1	<1	<1
GMW-36	07/11/12	5100	---	12000	---	---	<2.5	6.8	39	300	<5	<2.5	140	<5	<5	<5
GMW-36	09/26/12	14000	---	6600	---	---	35	11	<2.5	230	<5	17	100	<5	<5	<5
GMW-36	10/18/12	8800	---	12000	---	---	350	33	28	490	<5	70	100	<5	<5	<5
GMW-36	11/29/12	8400	---	6600	---	---	520	550	66	490	<10	190	<100	<10	<10	<10
GMW-36	04/12/13	560000	---	19000	---	---	7400	20000	8900	50000	<400	270	<4000	<400	<400	<400
GMW-36	10/11/13	120000	---	130000	---	---	9600	18000	3400	18000	<200	380	<2000	<200	<200	<200
GMW-36	10/28/15	19000	---	16000	---	---	2300	82	500	2700	<20	1500	710	<20	<20	<20
GMW-36	04/14/16	16000	---	13000	---	---	660	<10	170	1700	<20	540	1400	<20	<20	<20
GMW-37	11/25/96	---	---	---	---	---	<0.50	<0.50	<0.50	<1.5	<0.50	<5	---	---	---	---
GMW-37	07/11/97	<100	---	<500	---	---	<0.50	<0.50	<0.50	<1	<0.50	<5	---	---	---	---
GMW-37	01/06/98	<100	---	<500	---	---	<0.50	<0.50	<0.50	<1.5	<0.50	<5	---	---	---	---
GMW-37	05/26/98	<300	---	---	---	---	<0.30	<0.30	<0.50	0.6	<0.50	<0.50	---	---	---	---
GMW-37	11/11/98	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	11	---	---	---	---
GMW-37	05/07/99	<500	---	<500	---	---	1.1	4.5	<0.50	1.9	<1	14	---	---	---	---
GMW-37	11/18/99	<416	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	16	---	---	---	---
GMW-37	05/17/00	<300	760	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	16	---	---	---	---
GMW-37	11/30/00	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	34	---	---	---	---
GMW-37	02/06/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	54	---	---	---	---
GMW-37	05/08/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-37	09/19/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	11	---	---	---	---
GMW-37	11/06/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	49	---	---	---	---

Attachment 6a

Historical Analytical Results for COPCs Detected in Groundwater
 Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Results reported in micrograms per liter (µg/L)																
Well	Date	TPH-g	TPH-fp	TPH-d	TPH-jp ₄	TPH-jp ₅	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-37	01/30/02	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.3	---	---	---	---
GMW-37	04/10/02	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	7.2	---	---	---	---
GMW-37	10/22/02	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	49	---	---	---	---
GMW-37	01/29/03	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.75	---	---	---	---
GMW-37	04/09/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.86	---	---	---	---
GMW-37	07/30/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-37	10/06/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	4.3	---	---	---	---
GMW-37	01/27/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-37	04/20/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-37	07/19/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	2.6	---	---	---	---
GMW-37	11/02/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-37	02/02/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-37	05/04/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-37	08/01/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-37	11/01/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-37	02/27/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-37	05/02/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-37	09/18/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-37	12/05/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-37	05/04/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-37	11/14/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-37	04/16/08	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-37	10/14/08	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-37	04/23/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-37	10/19/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-37	05/26/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-37	10/06/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-37	04/12/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-37	10/11/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-37	04/17/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-37	10/16/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-37	04/10/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-37	10/09/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-37	04/15/14	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-37	10/29/14	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-37	04/21/15	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-37	10/21/15	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-37	04/13/16	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	11/26/96	---	---	---	---	---	1.8	<0.50	<0.50	<1.5	<0.50	7.7	---	---	---	---
GMW-38	07/10/97	<100	---	<500	---	---	<0.50	2	<0.50	0.83	<0.50	<5	---	---	---	---
GMW-38	01/05/98	<100	---	<500	---	---	<0.50	<0.50	<0.50	<1.5	<0.50	<5	---	---	---	---
GMW-38	05/21/98	<300	---	---	---	---	<0.30	<0.50	<0.50	<1	<0.50	1.2	---	---	---	---
GMW-38	11/12/98	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	25	---	---	---	---
GMW-38	05/07/99	<500	---	<500	---	---	<0.50	1.5	<0.50	<0.50	<1	7.9	---	---	---	---
GMW-38	11/18/99	<416	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.7	---	---	---	---
GMW-38	05/17/00	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	11/30/00	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.8	---	---	---	---
GMW-38	05/08/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	11/06/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.6	---	---	---	---
GMW-38	02/01/02	---	---	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.7	---	---	---	---
GMW-38	04/10/02	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	10/23/02	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	01/29/03	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	04/09/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.5	---	---	---	---
GMW-38	07/30/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	10/06/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	01/28/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	04/20/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.4	---	---	---	---
GMW-38	07/19/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	11/02/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	02/02/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	05/04/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	---	---	---	---
GMW-38	08/02/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---

Attachment 6a

Historical Analytical Results for COPCs Detected in Groundwater
 Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Results reported in micrograms per liter (µg/L)																
Well	Date	TPH-g	TPH-fp	TPH-d	TPH-jp ₄	TPH-jp ₅	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-38	11/01/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	02/28/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.66	---	---	---	---
GMW-38	05/02/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	09/18/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	12/05/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	03/13/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	05/05/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	08/30/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	11/13/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-38	04/22/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.74	<10	<1	<1	<1
GMW-38	07/21/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.55	27	<1	<1	<1
GMW-38	10/21/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	29	<1	<1	<1
GMW-38	03/15/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	05/26/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	07/13/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	<10	<1	<1	<1
GMW-38	10/06/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	01/11/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	04/12/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	07/12/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	10/12/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	01/10/12	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	04/18/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	07/10/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	10/17/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	01/15/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	04/10/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	10/10/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	04/16/14	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	10/29/14	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	04/21/15	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	10/22/15	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	04/13/16	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-39	11/21/96	---	---	---	---	---	<0.50	<0.50	<0.50	<1.5	<0.50	<5	---	---	---	---
GMW-39	07/10/97	<100	---	<500	---	---	<0.50	0.5	<0.50	<1	<0.50	<5	---	---	---	---
GMW-39	01/05/98	<100	---	<500	---	---	<0.50	<0.50	<0.50	<1.5	<0.50	<5	---	---	---	---
GMW-39	05/19/98	---	---	---	---	---	<0.30	<0.50	<0.50	<1	<0.50	0.9	---	---	---	---
GMW-39	11/12/98	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	3.2	---	---	---	---
GMW-39	05/07/99	<500	---	<500	---	---	<0.50	<0.50	<0.50	<0.50	<1	2.9	---	---	---	---
GMW-39	11/18/99	<416	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	12	---	---	---	---
GMW-39	05/17/00	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	9.4	---	---	---	---
GMW-39	11/29/00	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	16	---	---	---	---
GMW-39	05/08/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-39	11/06/01	<300	<100	---	---	---	1.2	<0.50	<0.50	<0.50	<0.50	39	---	---	---	---
GMW-39	02/01/02	---	---	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	36	---	---	---	---
GMW-39	04/10/02	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	20	---	---	---	---
GMW-39	10/22/02	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	89	---	---	---	---
GMW-39	01/29/03	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	32	---	---	---	---
GMW-39	04/09/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	23	---	---	---	---
GMW-39	07/30/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	3.3	---	---	---	---
GMW-39	10/06/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	6.6	---	---	---	---
GMW-39	01/28/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	3.6	---	---	---	---
GMW-39	04/20/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	4.8	---	---	---	---
GMW-39	07/19/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	3.7	---	---	---	---
GMW-39	11/03/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	3.7	---	---	---	---
GMW-39	02/02/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.7	---	---	---	---
GMW-39	05/04/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-39	08/02/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-39	11/01/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-39	02/27/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.59	---	---	---	---
GMW-39	05/02/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-39	09/19/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	3.7	---	---	---	---
GMW-39	12/06/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	4	---	---	---	---
GMW-39	03/13/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	4.5	---	---	---	---

Attachment 6a

Historical Analytical Results for COPCs Detected in Groundwater
 Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Results reported in micrograms per liter (µg/L)																
Well	Date	TPH-g	TPH-fp	TPH-d	TPH-jp ₄	TPH-jp ₅	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-39	05/04/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	2.9	---	---	---	---
GMW-39	08/29/07	<500	<100	---	---	---	<2.5	<2.5	<2.5	<2.5	<5	3.6	---	---	---	---
GMW-39	11/13/07	160	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<1	2.6	---	---	---	---
GMW-39	02/20/08	110	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	2.9	---	---	---	---
GMW-39	04/16/08	90	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.9	---	---	---	---
GMW-39	08/14/08	<100	120	---	---	---	<0.50	<0.50	<0.50	<0.50	<1	1.1	---	---	---	---
GMW-39	10/15/08	<500	<100	---	---	---	<2.5	<2.5	<2.5	<2.5	<5	5.6	---	---	---	---
GMW-39	02/24/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	3400	---	---	---
GMW-39	04/22/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	4000	<1	<1	<1
GMW-39	07/21/09	<100	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<1	<0.50	2500	<1	<1	<1
GMW-39	10/22/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	2200	<1	<1	<1
GMW-39	03/16/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	130	<1	<1	<1
GMW-39	05/27/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-39	07/13/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	230	<1	<1	<1
GMW-39	10/07/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.75	550	<1	<1	<1
GMW-39	01/11/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	68	<1	<1	<1
GMW-39	04/13/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-39	07/12/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-39	10/11/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	96	<1	<1	<1
GMW-39	01/10/12	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	58	<1	<1	<1
GMW-39	04/19/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	38	<1	<1	<1
GMW-39	07/10/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-39	10/17/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	47	<1	<1	<1
GMW-39	01/15/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-39	04/10/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.88	54	<1	<1	<1
GMW-39	10/10/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.8	420	<1	<1	<1
GMW-39	04/16/14	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	20	<1	<1	<1
GMW-39	10/30/14	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.7	<10	<1	<1	<1
GMW-39	04/23/15	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.95	<10	<1	<1	<1
GMW-39	10/23/15	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-39	04/14/16	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-15	10/16/08	1700	2800	---	---	---	550	3	37	34.1	<5	110	---	---	---	---
GMW-O-15	03/16/10	530	8900	---	---	---	10	1.1	0.64	2.7	<0.50	400	<10	<1	<1	1.9
GMW-O-15	04/16/10	6700	62000	---	---	---	1700	54	120	176	<10	1300	1800	<10	<10	11
GMW-O-15	05/25/10	650	5600	---	---	---	82	16	8.4	44	<2	180	1500	<2	<2	<2
GMW-O-15	07/13/10	580	250	---	---	---	110	7.5	11	27	<1	300	5100	<1	<1	1.5
GMW-O-15	08/12/10	710	370	---	---	---	120	4.1	10	34	<1	260	5300	<1	<1	1.5
GMW-O-15	09/20/10	620	500	---	---	---	120	3.3	13	24	<1	230	6000	<1	<1	1.4
GMW-O-15	10/05/10	14000	6000	---	---	---	1800	280	92	760	<20	3200	3000	<20	<20	35
GMW-O-15	12/22/10	28000	19000	---	---	---	3900	610	850	3000	<40	1900	1300	<40	<40	<40
GMW-O-15	01/12/11	12000	15000	---	---	---	1300	49	280	700	<20	430	12000	<20	<20	<20
GMW-O-15	02/24/11	12000	10000	---	---	---	700	450	310	1300	<10	970	4100	<10	<10	20
GMW-O-15	03/23/11	2400	4300	---	---	---	210	47	39	190	<2	310	3600	<2	<2	5.2
GMW-O-15	04/29/11	1200	1500	---	---	---	250	27	27	154	<2	350	3900	<2	<2	2.4
GMW-O-15	05/13/11	1300	1600	---	---	---	200	18	22	127	<2	350	6600	<2	<2	3.6
GMW-O-15	06/22/11	1800	1200	---	---	---	190	95	34	220	<1	310	6800	<1	<1	1.8
GMW-O-15	07/12/11	1000	970	---	---	---	150	17	14	97	<2	220	6400	<2	<2	<2
GMW-O-15	08/19/11	33000	550000	---	---	---	820	2200	610	4400	<50	290	9200	<50	<50	<50
GMW-O-15	09/22/11	3400	1000	---	---	---	480	290	58	320	<5	640	6800	<5	<5	10
GMW-O-15	10/13/11	3900	1600	---	---	---	530	290	73	460	<10	220	3200	<10	<10	<10
GMW-O-15	12/21/11	520	570	---	---	---	110	1.5	5.7	22	<2	79	5300	<2	<2	<2
GMW-O-15	01/10/12	470	1200	---	---	---	110	1.3	6.9	15	<1	86	4300	<1	<1	1.2
GMW-O-15	02/23/12	4800	6900	---	---	---	340	390	85	600	<5	110	4000	<5	<5	17
GMW-O-15	03/28/12	1300	---	120	---	---	230	68	13	110	<2	99	4600	<2	<2	<2
GMW-O-15	04/27/12	2100	---	1300	---	---	180	67	16	160	<1	49	4300	<1	<1	1
GMW-O-15	05/25/12	110000	---	24000	---	---	320	270	420	3400	<100	190	<1000	<100	<100	100
GMW-O-15	07/11/12	17000	---	13000	---	---	6700	63	120	270	<100	1500	1600	<100	<100	<100
GMW-O-15	08/29/12	190	---	89	---	---	73	1.2	3.3	8.1	<0.50	22	5300	<1	<1	<1
GMW-O-15	09/26/12	220	---	<50	---	---	53	0.74	3.7	7.3	<0.50	17	2900	<1	<1	<1
GMW-O-15	10/18/12	210	---	140	---	---	50	<0.50	3.3	5.9	<1	13	2600	<1	<1	<1
GMW-O-15	11/29/12	380	---	75	---	---	140	1.3	3	6.4	<2	33	3900	<2	<2	<2
GMW-O-15	12/26/12	1400	---	110	---	---	100	23	3.4	20	<0.50	22	3900	<1	<1	<1
GMW-O-15	01/15/13	1200	---	<50	---	---	240	29	16	45	<3	52	3100	<3	<3	<3

Attachment 6a

Historical Analytical Results for COPCs Detected in Groundwater
 Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Results reported in micrograms per liter (µg/L)																
Well	Date	TPH-g	TPH-fp	TPH-d	TPH-jp ₄	TPH-jp ₅	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-O-15	02/20/13	230	---	<50	---	---	59	<0.50	2.5	3.2	<1	14	3100	<1	<1	<1
GMW-O-15	04/12/13	460	---	110	---	---	89	2.3	4.6	5.5	<1	36	3600	<1	<1	<1
GMW-O-15	10/11/13	56000	---	88000	---	---	7600	2300	750	4100	<100	8000	7100	<100	<100	<100
GMW-O-15	10/27/15	120000	---	490000	---	---	12000	16000	2200	12000	<200	8800	<2000	<200	<200	210
GMW-O-15	04/14/16	370000	---	82000	---	---	5700	15000	4600	36000	<200	2800	3400	<200	<200	<200
GMW-O-16	11/27/96	---	---	---	---	---	570	67	14	360	<5	120	---	---	---	---
GMW-O-16	07/17/97	<100	---	<500	---	---	<0.50	<0.50	<0.50	<1	<0.50	310	---	---	---	---
GMW-O-16	01/06/98	<100	---	<500	---	---	<0.50	<0.50	<0.50	<1.5	<0.50	<5	---	---	---	---
GMW-O-16	05/20/98	<300	---	---	---	---	<0.50	<0.50	<0.50	<1	<0.50	76	---	---	---	---
GMW-O-16	11/13/98	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.7	---	---	---	---
GMW-O-16	05/07/99	<500	---	<500	---	---	0.66	<0.50	<0.50	0.72	<1	7.6	---	---	---	---
GMW-O-16	11/18/99	<416	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-16	05/17/00	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.8	---	---	---	---
GMW-O-16	11/30/00	<300	<100	---	---	---	0.8	<0.50	<0.50	<0.50	<0.50	0.6	---	---	---	---
GMW-O-16	05/10/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-16	04/10/02	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-16	10/22/02	<300	<100	---	---	---	1.6	0.98	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-16	04/09/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-16	10/07/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-16	04/22/04	<50	3600	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-16	07/20/04	---	<100	---	---	---	---	---	---	---	---	---	---	---	---	---
GMW-O-16	11/02/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-16	05/05/05	92	<100	---	---	---	1.6	<0.50	<0.50	<0.50	<0.50	110	---	---	---	---
GMW-O-16	08/02/05	57	<100	---	---	---	1.3	<0.50	<0.50	<0.50	<0.50	93	---	---	---	---
GMW-O-16	11/02/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	57	---	---	---	---
GMW-O-16	02/28/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	5.3	---	---	---	---
GMW-O-16	05/04/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	6.3	---	---	---	---
GMW-O-16	09/19/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.57	---	---	---	---
GMW-O-16	12/05/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-16	05/05/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-16	11/14/07	<50	1400	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-16	02/07/08	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.68	---	---	---	---
GMW-O-16	04/16/08	<50	<100	---	---	---	<0.50	1.2	0.59	5.5	<0.50	0.63	---	---	---	---
GMW-O-16	10/14/08	<50	<100	---	---	---	<0.50	<0.50	<0.50	0.6	<0.50	0.65	---	---	---	---
GMW-O-16	04/23/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.55	<10	<1	<1	<1
GMW-O-16	10/21/09	<50	250	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-16	03/16/10	<50	140	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-16	04/16/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-16	05/26/10	<50	120	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.88	<10	<1	<1	<1
GMW-O-16	07/13/10	<50	<100	---	---	---	0.73	<0.50	<0.50	<0.50	<0.50	1.9	<10	<1	<1	<1
GMW-O-16	08/12/10	<50	<100	---	---	---	0.5	<0.50	<0.50	<0.50	<0.50	2.3	<10	<1	<1	<1
GMW-O-16	09/20/10	<50	170	---	---	---	0.69	<0.50	<0.50	<0.50	<0.50	3.1	<10	<1	<1	<1
GMW-O-16	10/06/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.3	<10	<1	<1	<1
GMW-O-16	11/16/10	<50	160	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	4	<10	<1	<1	<1
GMW-O-16	12/22/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	2	<10	<1	<1	<1
GMW-O-16	01/11/11	<50	<100	---	---	---	0.52	<0.50	<0.50	<0.50	<0.50	0.94	<10	<1	<1	<1
GMW-O-16	02/24/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.67	<10	<1	<1	<1
GMW-O-16	03/23/11	<50	100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.6	<10	<1	<1	<1
GMW-O-16	04/12/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.3	<10	<1	<1	<1
GMW-O-16	05/13/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.8	<10	<1	<1	<1
GMW-O-16	06/22/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.9	<10	<1	<1	<1
GMW-O-16	07/12/11	<50	120	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.8	<10	<1	<1	<1
GMW-O-16	08/19/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.5	<10	<1	<1	<1
GMW-O-16	09/22/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	2.9	<10	<1	<1	<1
GMW-O-16	10/11/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	<10	<1	<1	<1
GMW-O-16	11/28/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.3	<10	<1	<1	<1
GMW-O-16	12/21/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	0.5	<0.50	1.8	<10	<1	<1	<1
GMW-O-16	01/09/12	<50	<100	---	---	---	<0.50	<0.50	<0.50	1.4	<0.50	3.4	<10	<1	<1	<1
GMW-O-16	02/23/12	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	2.3	<10	<1	<1	<1
GMW-O-16	03/28/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	2	<10	<1	<1	<1
GMW-O-16	04/18/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.79	<10	<1	<1	<1
GMW-O-16	05/25/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-16	06/15/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1

Attachment 6a

Historical Analytical Results for COPCs Detected in Groundwater
 Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Results reported in micrograms per liter (µg/L)																
Well	Date	TPH-g	TPH-fp	TPH-d	TPH-jp ₄	TPH-jp ₅	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-O-16	07/10/12	<50	---	<50	---	---	2.5	1.1	<0.50	0.7	<0.50	0.57	<10	<1	<1	<1
GMW-O-16	08/29/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-16	09/26/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-16	10/17/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	0.89	<0.50	0.7	<10	<1	<1	<1
GMW-O-16	11/29/12	<50	---	83	---	---	<0.50	<0.50	<0.50	0.56	<0.50	<0.50	<10	<1	<1	<1
GMW-O-16	12/26/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.5	<10	<1	<1	<1
GMW-O-16	01/15/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.95	<10	<1	<1	<1
GMW-O-16	02/20/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.3	<10	<1	<1	<1
GMW-O-16	04/10/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-16	10/10/13	170	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	24	<1	<1	<1
GMW-O-16	04/16/14	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-16	10/29/14	<50	---	<50	---	---	0.89	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-16	04/22/15	89	---	<50	---	---	2.5	<0.50	<0.50	<0.50	<0.50	<0.50	22	<1	<1	<1
GMW-O-16	10/22/15	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-16	04/14/16	<50	---	310	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	11/25/96	---	---	---	---	---	<0.50	<0.87	2.8	5.1	<0.50	<5	---	---	---	---
GMW-O-19	07/16/97	<100	---	<500	---	---	<0.50	<0.50	<0.50	<1	<0.50	<5	---	---	---	---
GMW-O-19	01/06/98	<100	---	<500	---	---	<0.50	<0.50	<0.50	<1.5	<0.50	<5	---	---	---	---
GMW-O-19	05/20/98	<300	---	---	---	---	<0.50	<0.50	<0.50	<1	<0.50	2	---	---	---	---
GMW-O-19	11/12/98	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	05/06/99	<500	---	<500	---	---	<0.50	<0.50	<0.50	<0.50	<1	0.51	---	---	---	---
GMW-O-19	11/18/99	<416	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	---	---	---	---
GMW-O-19	05/17/00	<300	180	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	09/19/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	11/07/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	01/30/02	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	04/09/03	<50	500	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	08/01/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	10/07/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	04/22/04	<50	1400	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	07/20/04	---	<100	---	---	---	---	---	---	---	---	---	---	---	---	---
GMW-O-19	11/02/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	05/05/05	510	110	---	---	---	110	<0.50	17	24.5	<1	150	---	---	---	---
GMW-O-19	08/02/05	160	<100	---	---	---	2.1	<0.50	1.2	<0.50	<0.50	19	---	---	---	---
GMW-O-19	11/02/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	02/28/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	05/04/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	12/05/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	05/05/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	11/15/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	04/16/08	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	10/14/08	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-O-19	04/23/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	10/20/09	<50	<200	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	03/15/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	04/16/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	05/26/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	07/13/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	08/12/10	<50	<100	---	---	---	0.52	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	09/20/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	10/06/10	<50	340	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	11/16/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	12/22/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	01/11/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	02/24/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	03/23/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	04/12/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	05/13/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	06/22/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	07/11/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	08/19/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	09/22/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	10/11/11	<50	110	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1

Attachment 6a

Historical Analytical Results for COPCs Detected in Groundwater
 Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Results reported in micrograms per liter (µg/L)																
Well	Date	TPH-g	TPH-fp	TPH-d	TPH-jp ₄	TPH-jp ₅	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-O-19	11/28/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	12/21/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	01/10/12	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	02/23/12	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	03/28/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	04/17/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	05/25/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	06/15/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	07/10/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	08/29/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	09/26/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	10/16/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	11/29/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	70	<1	<1	<1
GMW-O-19	12/26/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	0.52	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	01/15/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	02/20/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	04/09/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	10/09/13	110	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	04/15/14	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	10/29/14	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	04/22/15	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	10/22/15	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-19	04/14/16	<50	---	45 J	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-SF-7	11/25/96	---	---	---	---	---	<0.50	<0.50	<0.50	5.8	<0.50	<5	---	---	---	---
GMW-SF-7	07/11/97	<100	---	<500	---	---	<0.50	<0.50	<0.50	<1	<0.50	8.7	---	---	---	---
GMW-SF-7	01/02/98	<100	---	<500	---	---	<0.50	<0.50	<0.50	<1.5	<0.50	<5	---	---	---	---
GMW-SF-7	05/19/98	<300	---	---	---	---	<0.50	<0.50	<0.50	<1	<0.50	<0.50	---	---	---	---
GMW-SF-7	11/11/98	<300	<100	---	---	---	0.96	<0.50	0.5	1.3	<0.50	<0.50	---	---	---	---
GMW-SF-7	05/07/99	<500	---	<500	---	---	1	4.1	<0.50	1.8	<1	1.3	---	---	---	---
GMW-SF-7	11/18/99	350	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	200	---	---	---	---
GMW-SF-7	05/17/00	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	11/29/00	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	05/08/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	11/06/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	02/01/02	---	---	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	04/10/02	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.9	---	---	---	---
GMW-SF-7	10/22/02	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	2.5	---	---	---	---
GMW-SF-7	01/29/03	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	4.1	---	---	---	---
GMW-SF-7	04/09/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.73	---	---	---	---
GMW-SF-7	07/30/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	10/06/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	01/28/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	04/20/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	32	---	---	---	---
GMW-SF-7	07/19/04	550	<100	---	---	---	<1	<1	<1	<1	<2	680	---	---	---	---
GMW-SF-7	11/02/04	220	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	340	---	---	---	---
GMW-SF-7	02/02/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	05/04/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	08/02/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	11/01/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	02/27/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	05/02/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	09/18/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	12/05/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	03/13/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	05/05/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	08/30/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	11/13/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	04/16/08	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	10/14/08	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
GMW-SF-7	04/22/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-SF-7	10/21/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-SF-7	05/26/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-SF-7	10/06/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1

Attachment 6a

Historical Analytical Results for COPCs Detected in Groundwater
 Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Results reported in micrograms per liter (µg/L)																
Well	Date	TPH-g	TPH-fp	TPH-d	TPH-jp ₄	TPH-jp ₅	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-SF-9	10/11/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	40	<1	<1	<1
GMW-SF-9	10/12/11	<100	1300	---	---	---	1.5	<0.50	<0.50	<0.50	<1	<0.50	<10	<1	<1	<1
GMW-SF-9	04/19/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	110	<1	<1	<1
GMW-SF-9	10/17/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	270	<1	<1	<1
GMW-SF-10	09/24/03	90	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	210	---	---	---	---
GMW-SF-10	10/10/03	100	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	120	---	---	---	---
GMW-SF-10	10/07/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-SF-10	04/14/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-SF-10	10/12/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-SF-10	04/19/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-SF-10	10/17/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
MW-8	11/26/96	---	---	---	---	---	4400	<30	<30	<80	<30	26000	---	---	---	---
MW-8	07/17/97	<100	---	520	---	---	<10	<10	<10	<20	<10	11000	---	---	---	---
MW-8	01/02/98	<100	---	<500	---	---	<0.50	<0.50	<0.50	<1.5	<0.50	14	---	---	---	---
MW-8	05/20/98	400	---	---	---	---	<2.5	<2.5	<2.5	<5	<2.5	554	---	---	---	---
MW-8	11/17/98	<300	<100	---	---	---	2.4	6	0.8	4.6	<0.50	55.6	---	---	---	---
MW-8	05/07/99	<500	---	<500	---	---	<0.50	<0.50	<0.50	<0.50	<1	52	---	---	---	---
MW-8	11/18/99	<416	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	7.2	---	---	---	---
MW-8	05/17/00	<300	170	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	3	---	---	---	---
MW-8	11/29/00	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	15	---	---	---	---
MW-8	02/06/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	380	---	---	---	---
MW-8	05/08/01	<300	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	430	---	---	---	---
MW-8	09/19/01	790	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1000	---	---	---	---
MW-8	01/30/02	1700	<100	---	---	---	<10	<10	<10	<10	<10	1900	---	---	---	---
MW-8	04/10/02	1500	<100	---	---	---	11	<10	<10	<10	<10	2200	---	---	---	---
MW-8	10/22/02	<300	<100	---	---	---	150	<10	11.5	<10	<10	750	---	---	---	---
MW-8	01/29/03	<300	<100	---	---	---	<1	<1	<1	<1	<1	190	---	---	---	---
MW-8	04/09/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	28	---	---	---	---
MW-8	07/30/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	13	---	---	---	---
MW-8	10/06/03	79	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	4.7	---	---	---	---
MW-8	01/28/04	100	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	4	---	---	---	---
MW-8	04/20/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.61	---	---	---	---
MW-8	07/19/04	80	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.95	---	---	---	---
MW-8	11/02/04	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
MW-8	02/02/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.8	---	---	---	---
MW-8	05/04/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	---	---	---	---
MW-8	08/02/05	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	2.4	---	---	---	---
MW-8	11/01/05	110	270	---	---	---	<0.50	<0.50	<0.50	4.2	<0.50	0.6	---	---	---	---
MW-8	02/27/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.65	---	---	---	---
MW-8	05/02/06	<100	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<1	1.1	---	---	---	---
MW-8	09/19/06	<100	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<1	1.6	---	---	---	---
MW-8	12/06/06	<100	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<1	0.61	---	---	---	---
MW-8	03/13/07	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
MW-8	05/04/07	<200	<100	---	---	---	<1	<1	<1	<1	<2	<1	---	---	---	---
MW-8	08/29/07	<200	<100	---	---	---	<1	<1	<1	<1	<2	<1	---	---	---	---
MW-8	11/13/07	<100	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<1	1.9	---	---	---	---
MW-8	02/07/08	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.7	---	---	---	---
MW-8	04/18/08	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	3.3	---	---	---	---
MW-8	10/14/08	<100	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<1	0.59	---	---	---	---
MW-8	04/23/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1	2000	<1	<1	<1
MW-8	10/21/09	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.69	570	<1	<1	<1
MW-8	05/27/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.62	<10	<1	<1	<1
MW-8	10/07/10	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.53	<1600	<1	<1	<1
MW-8	04/13/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1100	<1	<1	<1
MW-8	10/11/11	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	970	<1	<1	<1
MW-8	04/19/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	71	<1	<1	<1
MW-8	10/17/12	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	220	<1	<1	<1
MW-8	04/10/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
MW-8	10/10/13	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
MW-8	04/16/14	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
MW-8	10/30/14	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	2.9	<10	<1	<1	<1
MW-8	04/23/15	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	3.3	<10	<1	<1	<1
MW-8	10/23/15	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.51	<10	<1	<1	<1

Attachment 6a

Historical Analytical Results for COPCs Detected in Groundwater
 Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

Results reported in micrograms per liter (µg/L)																
Well	Date	TPH-g	TPH-fp	TPH-d	TPH-jp ₄	TPH-jp ₅	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
MW-8	04/14/16	<50	---	<50	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
PZ-7A	06/13/03	340	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<1	660	---	---	---	---
PZ-7A	09/24/03	160	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	390	---	---	---	---
PZ-7A	10/10/03	240	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	340	---	---	---	---
PZ-7A	08/02/05	---	---	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	4.8	---	---	---	---
PZ-7B	06/13/03	98	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	0.51	51	---	---	---	---
PZ-7B	09/24/03	61	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	67	---	---	---	---
PZ-7B	10/10/03	90	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	2.3	---	---	---	---
PZ-7B	08/02/05	---	---	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
PZ-8A	06/13/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	12	---	---	---	---
PZ-8A	09/24/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.7	---	---	---	---
PZ-8A	10/10/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	2.8	---	---	---	---
PZ-8A	08/02/05	---	---	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
PZ-8A	12/06/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
PZ-8B	06/13/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	31	---	---	---	---
PZ-8B	09/24/03	86	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	180	---	---	---	---
PZ-8B	10/10/03	310	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<1	440	---	---	---	---
PZ-8B	08/02/05	---	---	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
PZ-8B	12/06/06	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
PZ-9A	06/13/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
PZ-9A	09/24/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
PZ-9A	10/10/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
PZ-9A	08/02/05	---	---	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
PZ-9B	06/13/03	75	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	50	---	---	---	---
PZ-9B	09/24/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	7.9	---	---	---	---
PZ-9B	10/10/03	<50	<100	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	3.9	---	---	---	---
PZ-9B	08/02/05	---	---	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	---	---	---	---

Notes:

- TPH-g = total purgeable petroleum hydrocarbons quantified using a gasoline standard
- TPH-fp = total extractable petroleum hydrocarbons quantified using a site fuel product standard
- TPH-d = total extractable petroleum hydrocarbons quantified using a diesel standard
- TPH-jp₄ = total extractable petroleum hydrocarbons quantified as Jet Propellant 4
- TPH-jp₅ = total extractable petroleum hydrocarbons quantified as Jet Propellant 5

Xylenes = total of m,p-xylene and o-xylene when detected

1,2-DCA = 1,2-dichloroethane

DIPE = di-isopropyl ether

ETBE = ethyl tertiary butyl ether

MTBE = methyl tertiary butyl ether

TAME = tertiary amyl methyl ether

TBA = tertiary butyl alcohol

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

--- = not analyzed

b or HD = Chromatographic pattern was inconsistent with the profile of the reference fuel standard.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Attachment 6b

Historical Analytical Results for Miscellaneous VOCs Detected in Groundwater
 Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

		Results reported in micrograms per liter (µg/L)																							
Well	Date	1,1,2-Trichloroethane	1,2,4-Trichlorobenzene	1,2-Dibromo-3-Chloropropane	1,2-Dichloroethene	1,2-Dichloropropane	1,4-Dichlorobenzene	Acetone	Bromodichloromethane	Bromomethane	Dichloromethane	Methyl Ethyl Ketone	Tetrachloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Carbon Disulfide	Chloroform	Isopropylbenzene	Naphthalene	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	Trichloroethene
EXP-3	11/27/96	<0.5	△	△	<0.5	<0.5	<0.5	<10	<0.5	△	<0.5	<10	<0.5	△	△	<5	<0.5	<5	△	<5	<5	△	<5	<5	<0.5
EXP-3	07/10/97	△	<5	△	<5	<5	<10	<20	<5	△	<5	△	<5	△	△	30	<5	<5	△	<5	<5	△	<5	<5	<5
EXP-3	02/07/08	<1	<1	△	△	<1	<1	<50	<1	△	5.7	<10	<1	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1
EXP-3	10/10/11	<1	<2	△	△	<1	<1	<10	<1	△	<5	<10	<1	<1	<1	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
EXP-3	07/09/12	<1	<2	<5	△	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
EXP-3	04/16/12	<1	<1	△	△	<1	<1	<20	<1	△	<5	<10	<1	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1
EXP-3	07/09/12	<1	<1	△	△	<1	<1	<20	<1	△	<5	4.1 J	<1	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1
EXP-3	10/20/15	<0.5	<0.5	<1	△	<0.5	<0.5	<10	<0.5	<5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<1	<0.5	<0.5	<0.5
EXP-3	04/12/16	<0.5	<0.5	<1	△	<0.5	<0.5	<10	<0.5	<0.5	<5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<1	<0.5	<0.5	<0.5
GMW-36	07/10/97	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	44.2	△	△	△	△	△	△
GMW-36	01/09/98	△	6.4	△	<5	<5	<5	<100	<5	△	<20	<100	<5	150	92	<20	<5	<5	52	14	<5	9.8	<5	<5	<0.5
GMW-36	05/20/98	△	<20	△	<40	<20	<20	<200	<20	△	<200	<200	<20	<20	<20	<200	<20	<20	<200	<20	<20	<20	<20	<20	<20
GMW-36	05/17/00	<250	<250	<1300	△	<250	<250	<2500	<250	<250	<2500	<250	<250	550	<250	<2500	<250	<250	<2500	<250	<250	<250	<250	<250	<250
GMW-36	11/30/00	<1	<1	<5	△	<1	<1	130	<1	<1	<10	25	<1	1100	240	<10	<1	42	<1000	<1	120	3.8	4.7	<1	<1
GMW-36	02/06/01	<100	<100	<500	△	<100	<100	<1000	<100	<100	<1000	<1000	<100	1000	190	<1000	<100	<100	<1000	<100	<100	<100	<100	130	<100
GMW-36	05/10/01	<1	<1	<5	△	<1	<1	30	<1	<1	<10	<10	<1	490	66	<10	<1	12	140	<1	26	1.8	2.1	<1	<1
GMW-36	09/19/01	<25	<25	<130	△	<25	<25	<250	<25	<25	<250	<250	<25	400	64	<250	<25	<25	<250	<25	31	<25	<25	<25	<25
GMW-36	11/06/01	<50	<50	<250	△	<50	<50	<500	<50	<50	<500	<500	<50	1300	280	<500	<50	<50	740	<50	130	<50	<50	<50	<50
GMW-36	01/30/02	<250	<250	<1300	△	<250	<250	<2500	<250	<250	<2500	<250	<250	1100	280	<2500	<250	<250	<2500	<250	<250	<250	<250	<250	<250
GMW-36	04/10/02	<100	<100	<500	△	<100	<100	<1000	<100	<100	<1000	<1000	<100	1300	290	<1000	<100	<100	<1000	<100	110	<100	<100	<100	<100
GMW-36	07/30/02	<100	<100	<500	△	<100	<100	<1000	<100	<1000	<1000	<1000	<100	1500	330	<1000	<100	<100	<1000	<100	110	<100	<100	200	<100
GMW-36	12/06/06	<50	<200	<300	△	<50	<50	<1000	<50	<200	<200	<1000	<50	880	360	<250	<50	<50	310	<50	<50	<50	<50	<50	<50
GMW-36	03/13/07	<200	<800	<1200	△	<200	<200	<4000	<200	<800	<800	<4000	<200	1100	310	<1000	<200	<200	<800	<200	<200	<200	<200	<200	<200
GMW-36	05/05/07	<200	<800	<1200	△	<200	<200	<4000	<200	<800	<800	<4000	<200	1000	380	<1000	<200	<200	<800	<200	<200	<200	<200	<200	<200
GMW-36	08/29/07	<40	<160	<240	△	<40	<40	<800	<40	<160	<160	<800	<40	920	300	<200	<40	<40	350	<40	<40	<40	<40	<40	<40
GMW-36	02/20/08	<50	<200	<300	△	<50	<50	<1000	<50	<200	<200	<1000	<50	990	340	<250	<50	<50	300	<50	<50	<50	<50	<50	<50
GMW-36	04/16/08	<200	<800	<1200	△	<200	<200	<4000	<200	<800	<800	<4000	<200	1000	330	<1000	<200	<200	<800	<200	<200	<200	<200	<200	<200
GMW-36	10/16/08	<20	<80	<120	△	<20	<20	<400	<20	<80	<80	<400	<20	610	350	<100	<20	<20	200	29	<20	<20	<20	<20	<20
GMW-36	07/22/09	<50	<200	<300	△	<50	<50	<1000	<50	<200	<200	<1000	<50	450	110	<250	<50	<50	<200	<50	<50	<50	<50	<50	<50
GMW-36	03/16/10	<10	<40	<60	△	<10	<10	<200	<10	<40	<40	<200	<10	100	61	<50	<10	<10	74	<10	<10	<10	<10	<10	<10
GMW-36	04/16/10	<5	<20	<30	△	<5	<5	<100	<5	<20	<20	<100	<5	89	64	<25	<5	<5	35	9.9	5.5	<5	<5	<5	<5
GMW-36	07/13/10	<1	<2	<5	△	<1	<1	<10	<1	<2	<5	<10	<1	10	6	<2.5	<1	<1	<10	1.5	<1	<1	<1	<1	<1
GMW-36	08/12/10	<10	<40	<60	△	<10	<10	<200	<10	<40	<40	<200	<10	200	87	<50	<10	<10	86	<10	<10	<10	<10	<10	<10
GMW-36	09/20/10	<1	<10	<6	△	<1	<1	<20	<1	<4	<5	<20	<1	230	120	<5	<1	2	75	18	4.5	3.4	2.9	<1	<1
GMW-36	10/05/10	<20	<80	<120	△	<20	<20	<400	<20	<80	<80	<400	<20	420	120	<100	<20	<20	180	<20	25	<20	<20	<20	<20
GMW-36	11/23/10	<40	<160	<240	△	<40	<40	<800	<40	<160	<160	<800	<40	750	280	<200	<40	<40	<160	<40	65	<40	<40	<40	<40
GMW-36	12/22/10	<50	<200	<300	△	<50	<50	<1000	<50	<200	<200	<1000	<50	1300	520	<250	<50	<50	520	<50	98	<50	<50	<50	<50
GMW-36	01/12/11	<200	<800	<1200	△	<200	<200	<4000	<200	<800	<800	<4000	<200	12000	6800	<1000	<200	210	4000	370	650	250	290	<200	<200
GMW-36	02/24/11	<1	<4	<6	△	<1	<1	<20	<1	<4	<5	<20	<1	58	32	<5	<1	1.2	26	<1	3.5	<1	<1	<1	<1
GMW-36	03/23/11	<3	<12	<18	△	<3	<3	<60	<3	<12	<12	<60	<3	90	46	<15	<3	<3	49	<3	<3	<3	<3	<3	<3
GMW-36	04/29/11	<1	<2	<5	△	<1	<1	<10	<1	<2	<5	<10	<1	62	34	<2.5	<1	<1	39	9.3	1.7	1.1	<1	<1	<1
GMW-36	05/13/11	<20	<80	<120	△	<20	<20	<800	<20	<80	<80	<400	<20	220	84	<100	<20	<20	110	<20	<20	<20	<20	<20	<20
GMW-36	06/22/11	<1	<2	<5	△	<1	<1	<10	<1	<2	<5	<10	<1	9	3.1	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-36	07/29/11	<10	<40	<60	△	<10	<10	<200	<10	<40	<40	<200	<10	200	83	<50	<10	<10	74	<10	<10	<10	<10	<10	<10
GMW-36	08/19/11	<20	<80	<120	△	<20	<20	<400	<20	<80	<80	<400	<20	410	130	<100	<20	<20	170	<20	32	<20	<20	<20	<20
GMW-36	09/22/11	<5	<20	<30	△	<5	<5	<100	<5	<20	<20	<100	<5	210	76	<25	<5	<5	51	<5	6.9	<5	<5	<5	<5
GMW-36	10/13/11	<20	<80	<120	△	<20	<20	<400	<20	<80	<80	<400	<20	1000	320	<100	<20	25	290	27	100	<20	<20	<20	<20
GMW-36	11/23/11	<5	<20	<30	△	<5	<5	<100	<5	<20	<20	<100	<5	<5	<5	<25	<5	<5	<20	<5	<5	<5	<5	<5	<5
GMW-36	12/21/11	<1	<2	<5	△	<1	<1	<10	<1	<2	<5	<10	<1	8.2	5.6	<2.5	<1	<1	<10	<1	1.8	<1	<1	<1	<1
GMW-36	01/10/12	<1	<2	<5	△	<1	<1	<10	<1	<2	<5	<10	<1	3.3	2.6	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1

Attachment 6b

Historical Analytical Results for Miscellaneous VOCs Detected in Groundwater
 Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

		Results reported in micrograms per liter (µg/L)																							
Well	Date	1,1,2-Trichloroethane	1,2,4-Trichlorobenzene	1,2-Dibromo-3-Chloropropane	1,2-Dichloroethene	1,2-Dichloropropane	1,4-Dichlorobenzene	Acetone	Bromodichloromethane	Bromomethane	Dichloromethane	Methyl Ethyl Ketone	Tetrachloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Carbon Disulfide	Chloroform	Isopropylbenzene	Naphthalene	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	Trichloroethene
GMW-36	02/23/12	<200	<800	<1200	--	<200	<200	<4000	<200	<800	<800	<4000	<200	910	240	<1000	<200	<200	<800	<200	<200	<200	<200	<200	<200
GMW-36	03/28/12	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	3.2	3.2	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-36	04/27/12	<1	<4	<6	--	<1	<1	<20	<1	<4	<5	<20	<1	16	7.7	<5	<1	<1	10	<1	<1	<1	<1	<1	<1
GMW-36	05/25/12	<1	<4	<6	--	<1	<1	<20	<1	<4	<5	36	<1	<1	<1	<5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-36	06/15/12	<1	<2	<3	--	<1	<1	<10	<1	<2	<2	<10	<1	14	14	<2.5	<1	<1	<2	<1	<1	<1	<1	<1	<1
GMW-36	07/11/12	<5	<20	<30	--	<5	<5	<100	<5	<20	<20	<100	<5	300	160	<25	<5	<5	86	6	14	<5	<5	<5	<5
GMW-36	09/26/12	<5	<20	160	--	<5	<5	<100	<5	<20	<20	<100	<5	<5	430	<25	<5	<5	64	58	<5	15	<5	<5	<5
GMW-36	10/18/12	<5	<20	<30	--	<5	<5	<100	<5	<20	<20	<100	<5	330	250	<25	<5	<5	160	19	7.6	15	<5	<5	<5
GMW-36	11/29/12	<10	<40	<60	--	<10	<10	<200	<10	<40	<40	<200	<10	110	190	<50	<10	<10	90	21	<10	<10	<10	<10	<10
GMW-36	04/12/13	<400	<1600	<2400	--	<400	<400	<8000	<400	<1600	<1600	<8000	<400	34000	11000	<2000	<400	770	7900	1200	3700	1200	780	<400	<400
GMW-36	10/11/13	<200	<800	<1200	--	<200	<200	<4000	<200	<800	<800	<4000	<200	3400	820	<1000	<200	<200	1500	<200	330	<200	<200	<200	<200
GMW-36	10/28/15	<20	<80	<120	--	<20	<20	<400	<20	<80	<80	<400	<20	490	230	<100	<20	<20	<80	<20	<20	<20	<20	<20	<20
GMW-36	04/14/16	<20	<80	<120	--	<20	<20	<400	<20	<80	<80	<400	<20	730	300	<100	<20	<20	120	<20	<20	<20	<20	<20	<20
GMW-37	11/25/96	<0.5	<0.5	--	<0.5	0.58	1.4	<10	<0.5	--	<2	<10	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5
GMW-37	01/06/98	--	<0.5	--	<0.5	<0.5	<0.5	<10	<0.5	--	<2	<10	1.4	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	8.4
GMW-37	11/18/99	<1	<1	<1	--	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	<10	1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-37	05/17/00	<1	<1	<5	--	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	<10	1.6	<1	<10	<1	<1	<1	<1	<1	<1
GMW-37	11/30/00	<1	<1	<5	--	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-38	11/26/96	<0.5	<0.5	--	<0.5	<0.5	<0.5	<10	<0.5	--	<2	<10	<0.5	<0.5	<0.5	<2	<0.5	<0.5	0.93	<1	<0.5	<0.5	<0.5	<0.5	<0.5
GMW-38	04/10/02	<1	<1	<5	--	<1	<1	<10	<1	1.3	<10	<10	<1	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-39	11/29/00	<1	<1	<5	--	<1	<1	<10	<1	<1	<10	<10	<1	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-39	08/14/08	<1	<4	<6	--	<1	<1	<20	<1	<4	<5	<20	<1	<1	<1	<5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-39	04/22/09	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-39	10/07/10	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-39	04/13/11	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-39	10/11/11	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-39	04/19/12	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-15	10/16/08	<5	<20	<30	--	<5	<5	<100	<5	<20	<20	<100	<5	33	<5	44	<5	<5	<20	<5	10	<5	<5	<5	<5
GMW-O-15	04/16/10	<10	<40	<60	--	<10	<10	<200	<10	<40	<40	<200	<10	110	47	<50	<10	<10	43	<10	17	<10	<10	<10	<10
GMW-O-15	05/25/10	<2	<8	<12	--	<2	<2	<40	<2	<8	<8	<40	<2	16	7.2	<10	<2	<2	<10	<2	<2	<2	<2	<2	<2
GMW-O-15	07/13/10	<1	<4	<6	--	<1	<1	<20	<1	<4	<5	<20	<1	7.2	2.4	<5	<1	<1	<10	<1	1.1	<1	<1	<1	<1
GMW-O-15	08/12/10	<1	<4	<6	--	<1	<1	<20	<1	<4	<5	<20	<1	14	5.7	<5	<1	<1	<10	<1	1	<1	<1	<1	<1
GMW-O-15	09/20/10	<1	<4	<6	--	<1	<1	<20	<1	<4	<5	<20	<1	11	5	<5	<1	<1	<10	<1	1.3	<1	<1	<1	<1
GMW-O-15	10/05/10	<20	<80	<120	--	<20	<20	<400	<20	<80	<80	<400	<20	310	190	<100	<20	<20	170	<20	<20	<20	<20	<20	<20
GMW-O-15	12/22/10	<40	<160	<240	--	<40	<40	<800	<40	<160	<160	<800	<40	1100	300	<200	<40	<40	300	<40	87	<40	<40	<40	<40
GMW-O-15	01/12/11	<20	<80	<120	--	<20	<20	<400	<20	<80	<80	<400	<20	500	130	<100	<20	<20	170	<20	31	<20	<20	<20	<20
GMW-O-15	02/24/11	<10	<40	<60	--	<10	<10	<200	<10	<40	<40	<200	<10	570	190	<50	<10	17	150	14	68	<10	11	<10	<10
GMW-O-15	03/23/11	<2	<8	<12	--	<2	<2	<40	<2	<8	<8	<40	<2	98	36	<10	<2	2.8	28	4	10	<2	3	<2	<2
GMW-O-15	04/29/11	<2	<8	<12	--	<2	<2	<40	<2	<8	<8	<40	<2	33	11	<10	<2	<2	20	<2	3.2	<2	<2	<2	<2
GMW-O-15	05/13/11	<2	<8	<12	--	<2	<2	<80	<2	<8	<8	<40	<2	31	11	<10	<2	<2	<10	<2	3.1	<2	<2	<2	<2
GMW-O-15	06/22/11	<1	<4	<6	--	<1	<1	<20	<1	<4	<5	<20	<1	50	16	<5	<1	1.6	17	1.2	5.4	<1	1.1	<1	<1
GMW-O-15	07/12/11	<2	<8	<12	--	<2	<2	<40	<2	<8	<8	<40	<2	29	9.9	<10	<2	<2	12	<2	2.4	<2	<2	3.6	<2
GMW-O-15	08/19/11	<50	<200	<300	--	<50	<50	<1000	<50	<200	<200	<1000	<50	1300	410	<250	<50	<50	420	<50	130	<50	<50	<50	<50
GMW-O-15	09/22/11	<5	<20	<30	--	<5	<5	<100	<5	<20	<20	<100	<5	63	19	<25	<5	<5	<20	<5	5.5	<5	<5	<5	<5
GMW-O-15	10/13/11	<10	<40	<60	--	<10	<10	<200	<10	<40	<40	<200	<10	96	29	<50	<10	<10	<40	<10	<10	<10	<10	<10	<10
GMW-O-15	12/21/11	<2	<8	<12	--	<2	<2	<40	<2	<8	<8	<40	<2	9.4	5.3	<10	<2	<2	<10	<2	<2	<2	<2	<2	<2
GMW-O-15	01/10/12	<1	<4	<6	--	<1	<1	<20	<1	<4	<5	<20	<1	5.6	4.1	<5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-15	02/23/12	<5	<20	<30	--	<5	<5	<100	<5	<20	<20	<100	<5	170	58	<25	<5	5.2	62	6	20	<5	<5	<5	<5
GMW-O-15	03/28/12	<2	<8	<12	--	<2	<2	<40	<2	<8	<8	<40	<2	26	9.7	<10	<2	<2	<10	<2	<2	<2	<2	<2	<2
GMW-O-15	04/27/12	<1	<4	<6	--	<1	<1	<20	<1	<4	<5	<20	<1	73	35	<5	<1	1.8	29	2.3	5.3	1.1	2.2	<1	<1

Attachment 6b

Historical Analytical Results for Miscellaneous VOCs Detected in Groundwater
 Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

		Results reported in micrograms per liter (µg/L)																							
Well	Date	1,1,2-Trichloroethane	1,2,4-Trichlorobenzene	1,2-Dibromo-3-Chloropropane	1,2-Dichloroethene	1,2-Dichloropropane	1,4-Dichlorobenzene	Acetone	Bromodichloromethane	Bromomethane	Dichloromethane	Methyl Ethyl Ketone	Tetrachloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Carbon Disulfide	Chloroform	Isopropylbenzene	Naphthalene	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	Trichloroethene
GMW-O-15	05/25/12	<100	<400	<600	--	<100	<100	<2000	<100	<400	<400	<2000	<100	4100	1500	<500	<100	<100	1300	320	400	<100	180	<100	<100
GMW-O-15	07/11/12	<100	<400	<600	--	<100	<100	<2000	<100	<400	<400	<2000	<100	170	<100	<500	<100	<100	<400	<100	<100	<100	<100	<100	<100
GMW-O-15	08/29/12	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	2.8	1.7	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-15	09/26/12	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	2.4	1.3	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-15	10/18/12	<1	<4	<6	--	<1	<1	<20	<1	<4	<5	<20	<1	2.5	2	<5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-15	11/29/12	<2	<8	<12	--	<2	<2	<40	<2	<8	<8	<40	<2	3.3	<2	<10	<2	<2	<10	<2	<2	<2	<2	<2	<2
GMW-O-15	12/26/12	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	4.1	2.8	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-15	01/15/13	<3	<12	<18	--	<3	<3	<60	<3	<12	<12	<60	<3	11	7.4	<15	<3	<3	<12	<3	<3	<3	<3	<3	<3
GMW-O-15	02/20/13	<1	<2	<3	--	<1	<1	<10	<1	<2	<2	<10	<1	<1	<1	<2.5	<1	<1	<2	<1	<1	<1	<1	<1	<1
GMW-O-15	04/12/13	<1	<4	<6	--	<1	<1	<20	<1	<4	<4	<20	<1	1.1	<1	<5	<1	<1	<4	<1	<1	<1	<1	<1	<1
GMW-O-15	10/11/13	<100	<400	<600	--	<100	<100	<2000	<100	<400	<400	<2000	<100	1200	430	<500	<100	<100	450	<100	110	<100	<100	<100	<100
GMW-O-15	10/27/15	<200	<800	<1200	--	<200	<200	<4000	<200	<800	<800	<4000	<200	2000	530	<1000	<200	<200	840	<200	<200	<200	<200	<200	<200
GMW-O-15	04/14/16	<200	<800	<1200	--	<200	<200	<4000	<200	<800	<800	<4000	<200	28000	7300	<1000	<200	450	5300	1400	2200	290	760	<200	<200
GMW-O-16	11/27/96	<10	180	--	<5	<5	<5	120	<5	--	<20	<100	<5	190	65	<20	<5	10	43	12	17	5.7	<5	<5	<5
GMW-O-16	07/17/97	<0.5	<0.5	--	<0.5	<0.5	<0.5	<10	<0.5	--	<2	<10	<0.5	<0.5	<0.5	<2	<0.5	<0.5	0.55	<0.5	0.55	<0.5	<0.5	<0.5	<0.5
GMW-O-16	01/06/98	--	<0.5	--	0.78	<0.5	<0.5	<10	<0.5	--	<10	<10	3.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	1.8
GMW-O-16	04/10/02	<1	<1	<5	--	<1	<1	<10	3.1	<1	<10	<10	<1	<1	<1	<10	9.3	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-16	10/22/02	<1	<1	<5	--	<1	<1	<10	1.9	<1	<10	<10	<1	<1	<1	<10	4.1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-16	04/09/03	<1	<2	<5	--	<1	<1	<10	<1	<1	<5	<10	<1	<1	<1	<10	1.7	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-16	05/04/06	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	1.2	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-16	04/16/08	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	1.4	<1	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-16	07/12/11	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-16	10/17/12	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	1.2	<1	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-16	11/29/12	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-16	10/10/13	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-16	04/22/15	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-19	11/25/96	2.8	<0.5	--	<0.5	<0.5	<0.5	24	<0.5	--	<2	<10	<0.5	1.4	<0.5	<2	<0.5	<0.5	1	<1	<0.5	<0.5	<0.5	<0.5	<0.5
GMW-O-19	01/30/02	<1	<1	<5	--	<1	<1	<10	2.7	<1	<10	<10	<1	<1	<1	<10	4.9	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-19	04/09/03	<1	<2	<5	--	<1	<1	<10	1.1	<1	<5	<10	<1	<1	<1	<10	3.7	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-19	08/01/03	<1	<2	<5	--	<1	<1	<10	1.1	<1	<5	<10	<1	<1	<1	<2.5	3.8	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-19	10/07/03	<1	<2	<5	--	<1	<1	<10	<1	<1	<5	<10	<1	<1	<1	<2.5	2.5	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-19	04/22/04	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	1.4	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-19	05/05/05	<1	<4	<6	--	<1	<1	<20	<1	<4	<5	<20	<1	11	1.8	<5	<1	1.2	<10	<1	1.6	<1	<1	<1	<1
GMW-O-19	08/02/05	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	<1	<1	<10	<1	<1	<1	1.2	<1	<1
GMW-O-19	02/28/06	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	2.9	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-19	05/04/06	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	1.9	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-19	12/05/06	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	1.6	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-19	10/06/10	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-19	10/11/11	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-O-19	10/09/13	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-7	11/25/96	<0.5	<0.5	--	<0.5	<0.5	<0.5	16	<0.5	--	<2	<10	<0.5	<0.5	<0.5	<4	<0.5	<0.5	1.1	<1	<0.5	<0.5	<0.5	<0.5	<0.5
GMW-SF-8	11/22/96	<1	<1	--	<1	<1	<1	<20	<1	--	<4	<20	<1	<1	<1	<2	<1	<1	1.6	<2	<1	<1	<1	<1	<1
GMW-SF-8	01/06/98	--	<0.5	--	<0.5	<0.5	<0.5	<10	<0.5	--	<20	<10	0.59	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5
GMW-SF-8	11/01/05	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	1.2	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-8	02/27/06	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	1.1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-8	05/02/06	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	1.4	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-8	09/18/06	<1	<2	<3	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	3.4	<1	<2	<1	<1	<1	<1	<1	<1
GMW-SF-8	12/05/06	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	3.8	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-8	05/04/07	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	2.8	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-8	11/14/07	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	2.3	<1	<10	<1	<1	<1	<1	<1	<1

Attachment 6b

Historical Analytical Results for Miscellaneous VOCs Detected in Groundwater
 Eastern 15-Acre Parcel, Defense Fuel Support Point, Norwalk, California

		Results reported in micrograms per liter (µg/L)																							
Well	Date	1,1,2-Trichloroethane	1,2,4-Trichlorobenzene	1,2-Dibromo-3-Chloropropane	1,2-Dichloroethene	1,2-Dichloropropane	1,4-Dichlorobenzene	Acetone	Bromodichloromethane	Bromomethane	Dichloromethane	Methyl Ethyl Ketone	Tetrachloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Carbon Disulfide	Chloroform	Isopropylbenzene	Naphthalene	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	Trichloroethene
GMW-SF-8	04/16/08	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	1.8	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-8	10/14/08	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	4.8	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-8	04/23/09	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	4.1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-8	10/21/09	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	3.3	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-8	05/26/10	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	2.2	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-8	10/06/10	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	2.1	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-8	04/12/11	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	1.8	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-8	10/11/11	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	2.2	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-8	04/17/12	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	1.9	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-8	10/16/12	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	1.3	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-8	04/15/14	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	1.2	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-8	10/29/14	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	<1	<1	<2.5	1.2	<1	<10	<1	<1	<1	<1	<1	<1
GMW-SF-9	10/12/11	<1	<4	<6	--	<1	<1	<20	<1	<4	<5	<20	<1	<1	<1	<5	<1	<1	<10	<1	<1	<1	<1	<1	<1
MW-8	11/26/96	<30	<30	--	<30	<30	<30	<500	<0.5	--	<100	<500	<30	140	<30	<100	<0.5	<30	68	<50	<30	<30	<30	<30	<30
MW-8	11/29/00	<1	<1	<5	--	<1	<1	<10	<1	<1	<10	<10	<1	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1
MW-8	11/01/05	<1	<2	<5	--	<1	<1	<10	<1	<2	<5	<10	<1	5.3	1.9	<2.5	<1	<1	<10	<1	<1	<1	<1	<1	<1

Notes:

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

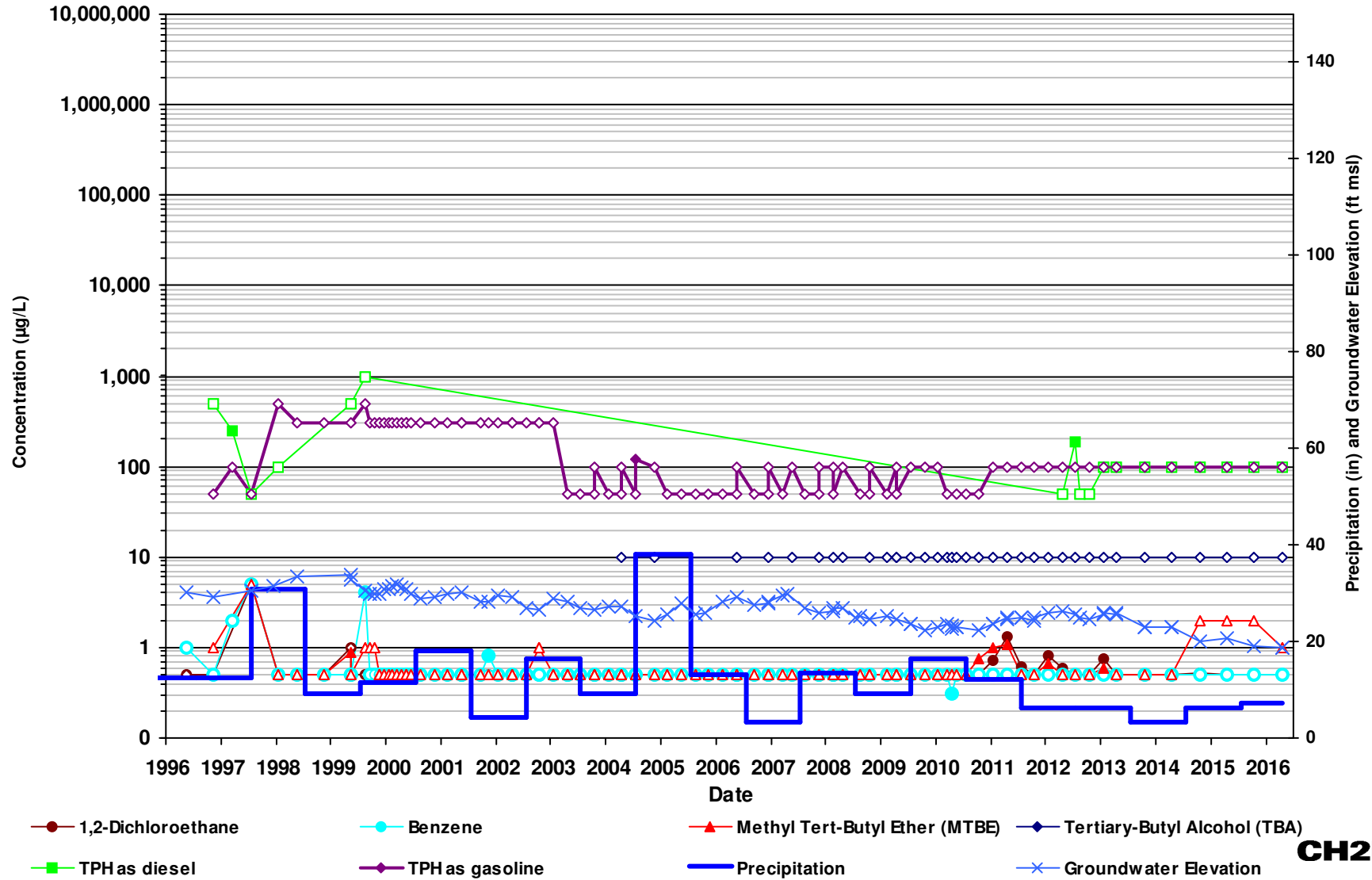
-- = not analyzed

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Attachment 7

Time Series Charts

EXP-3

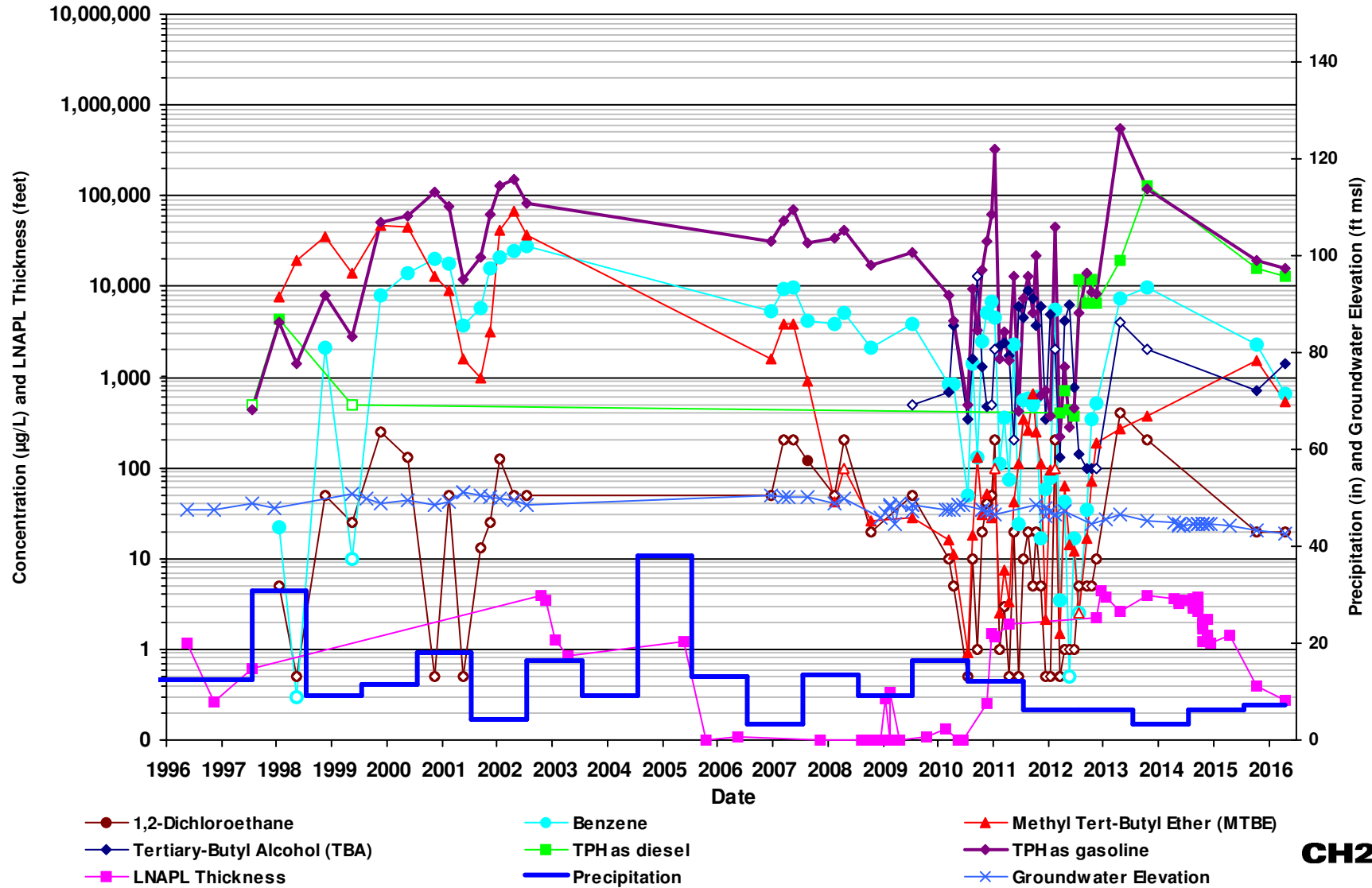


CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.

Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source: <http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

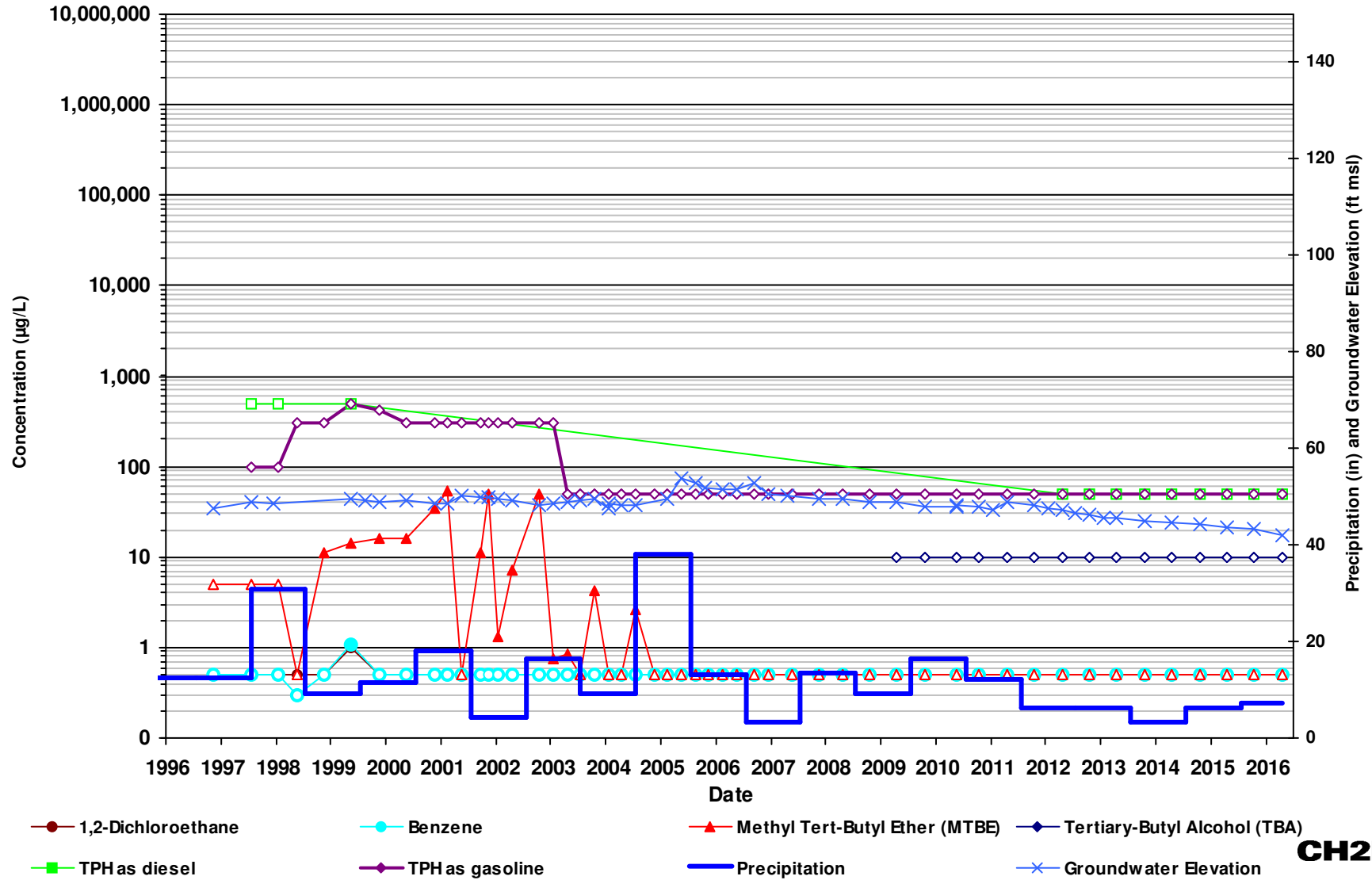
GMW-36



CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.
 Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source:
<http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

GMW-37

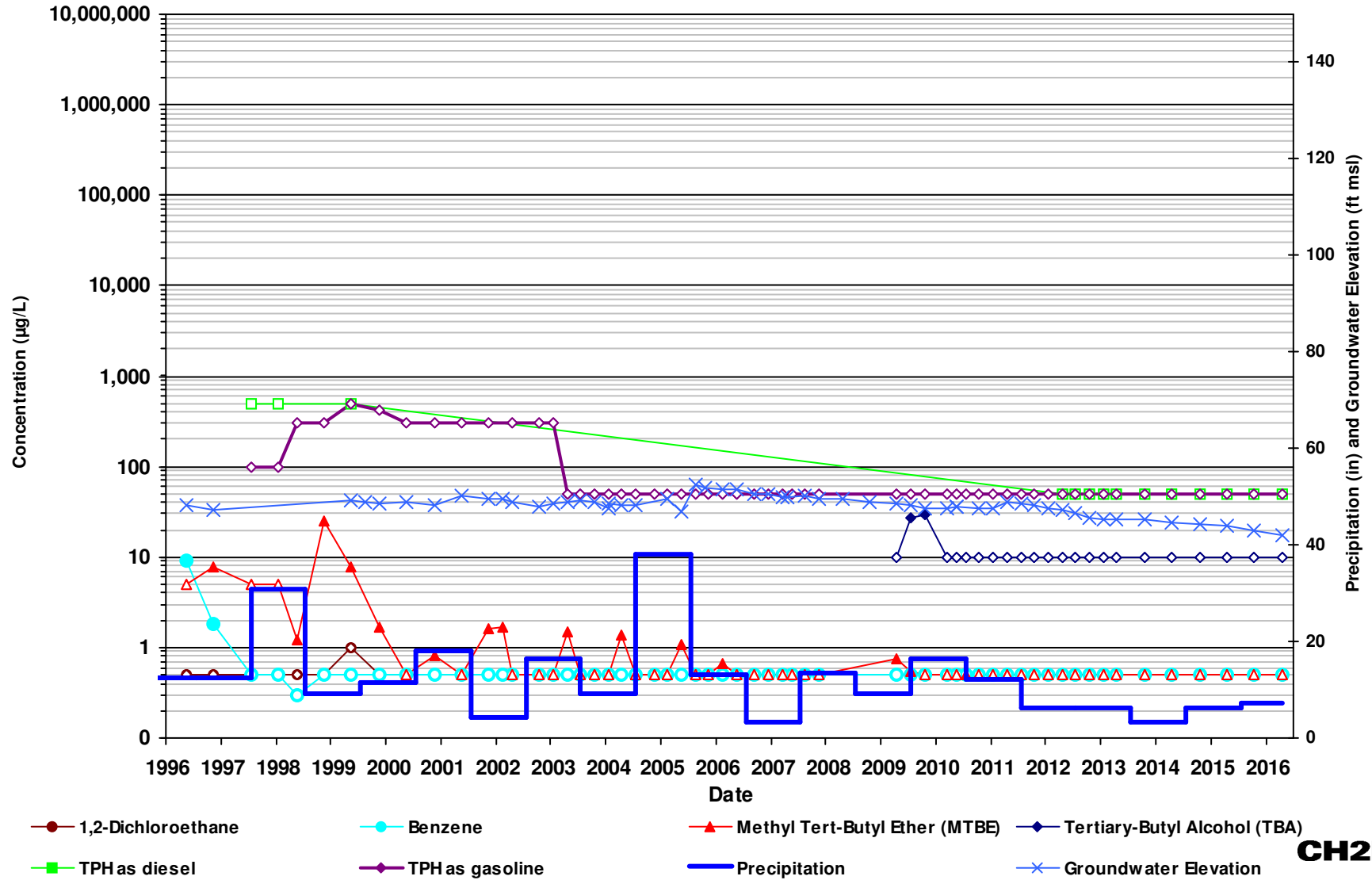


CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.

Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source: <http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

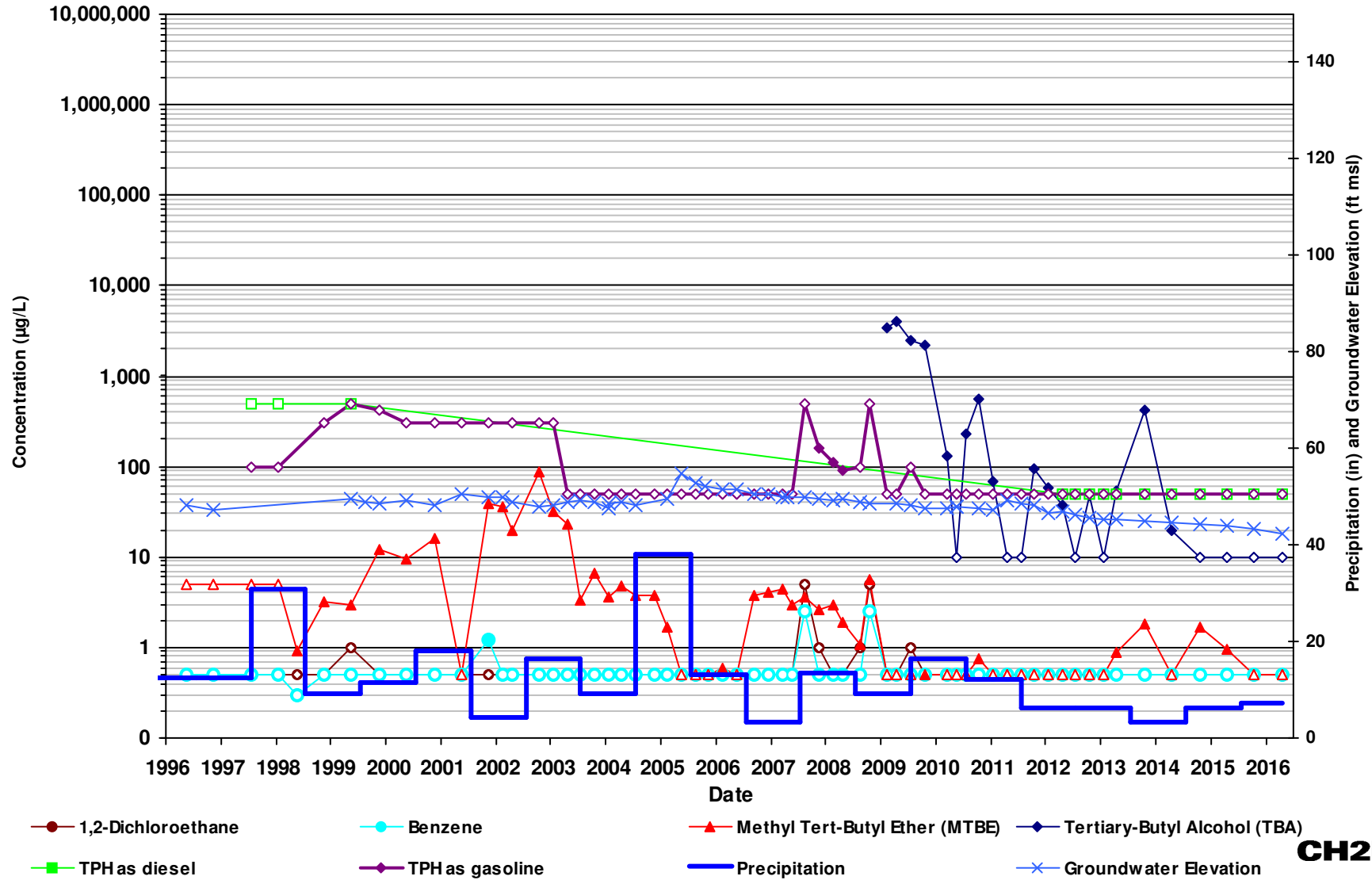
GMW-38



CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.
 Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source:
<http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

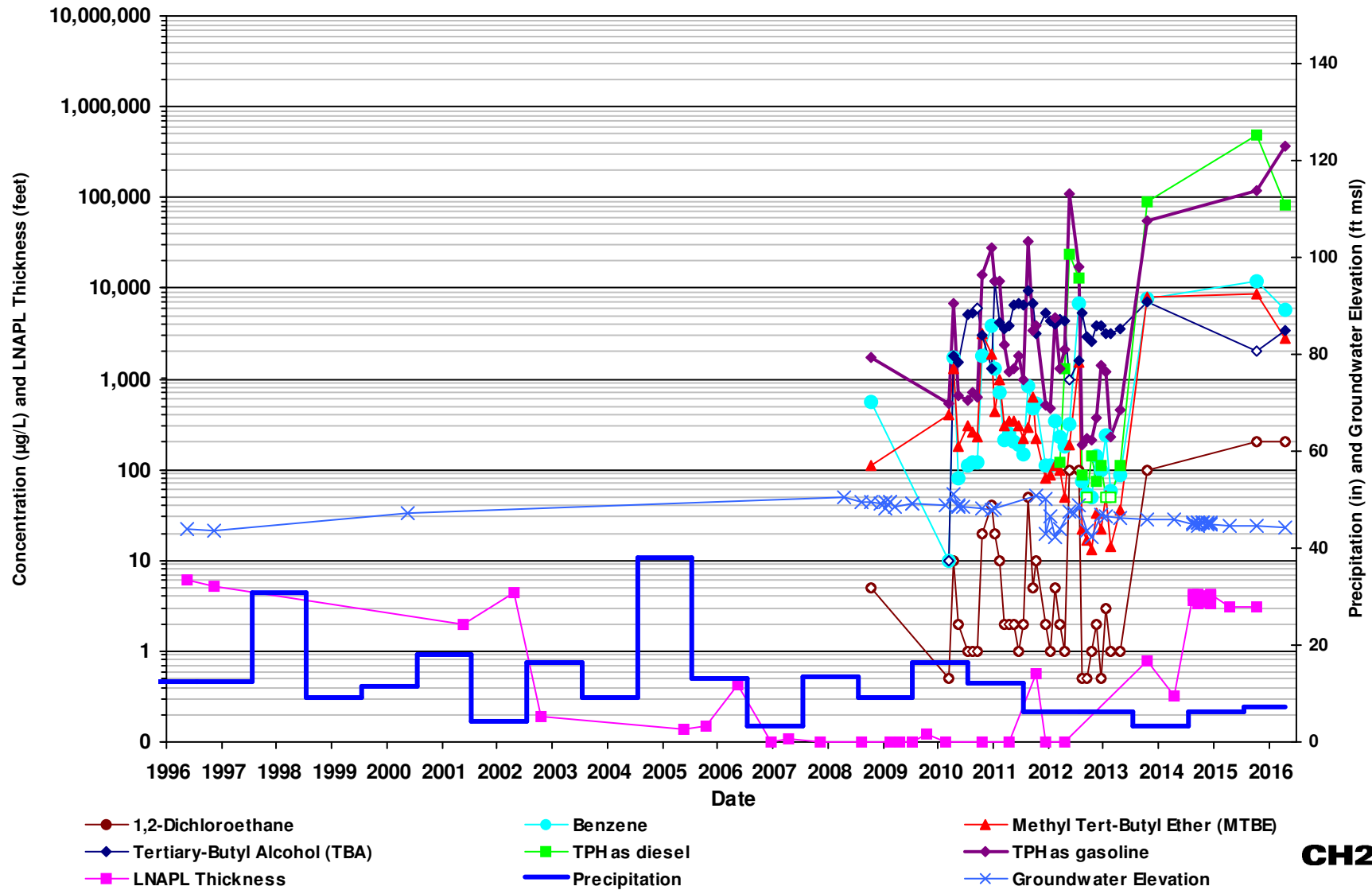
GMW-39



CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.
 Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source:
<http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

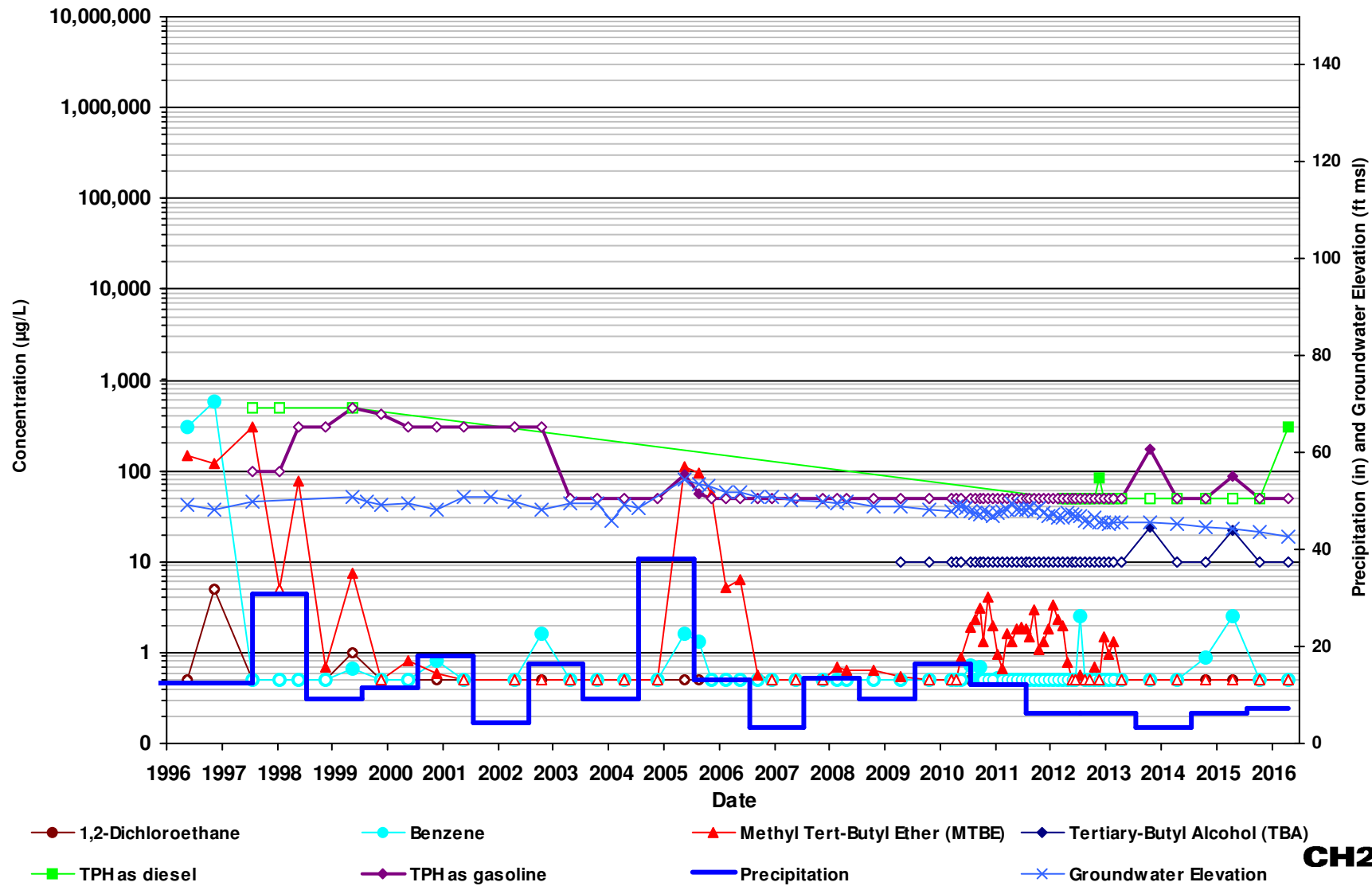
GMW-O-15



CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.
 Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source: <http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

GMW-O-16

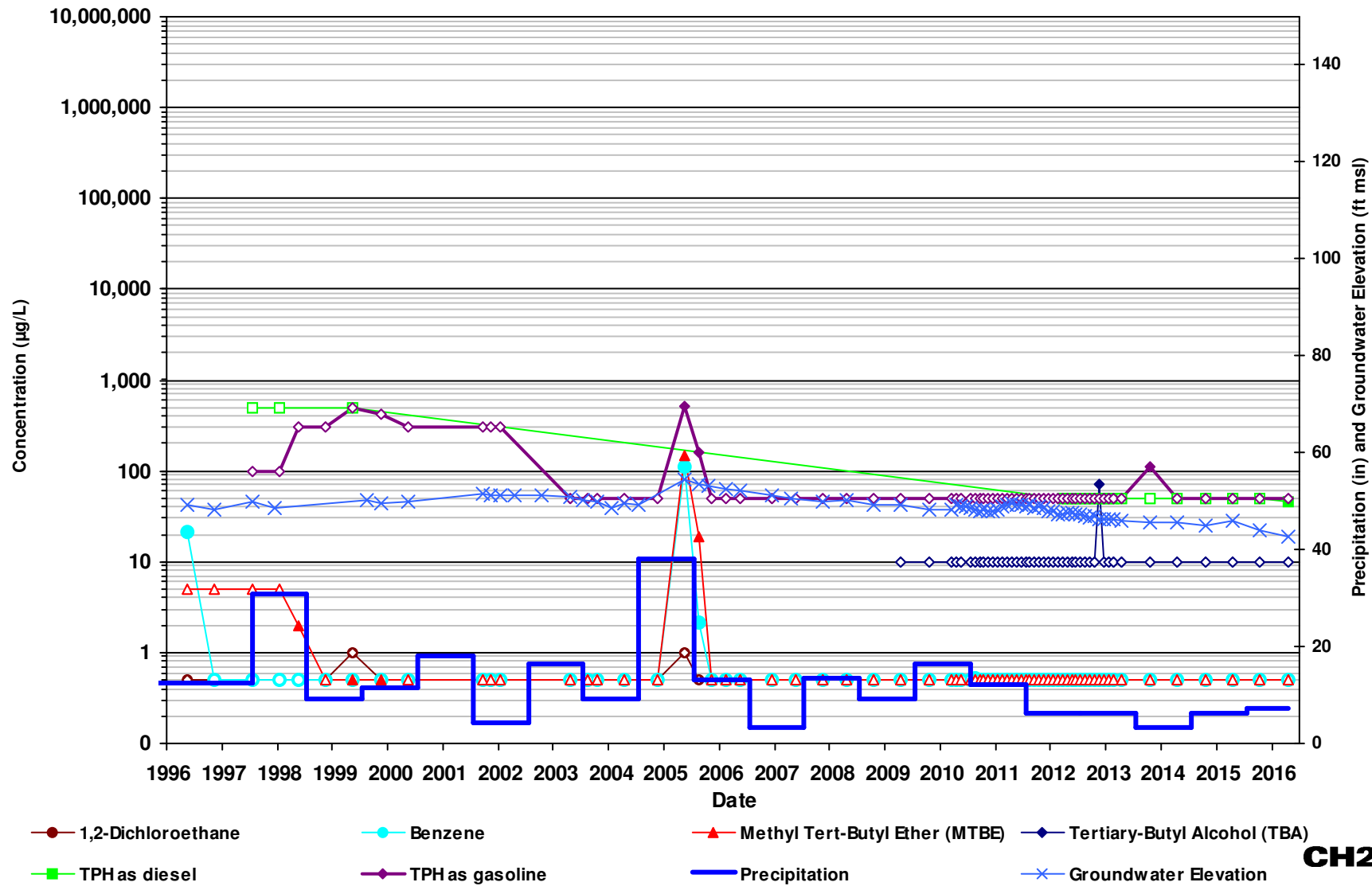


CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.

Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source: <http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

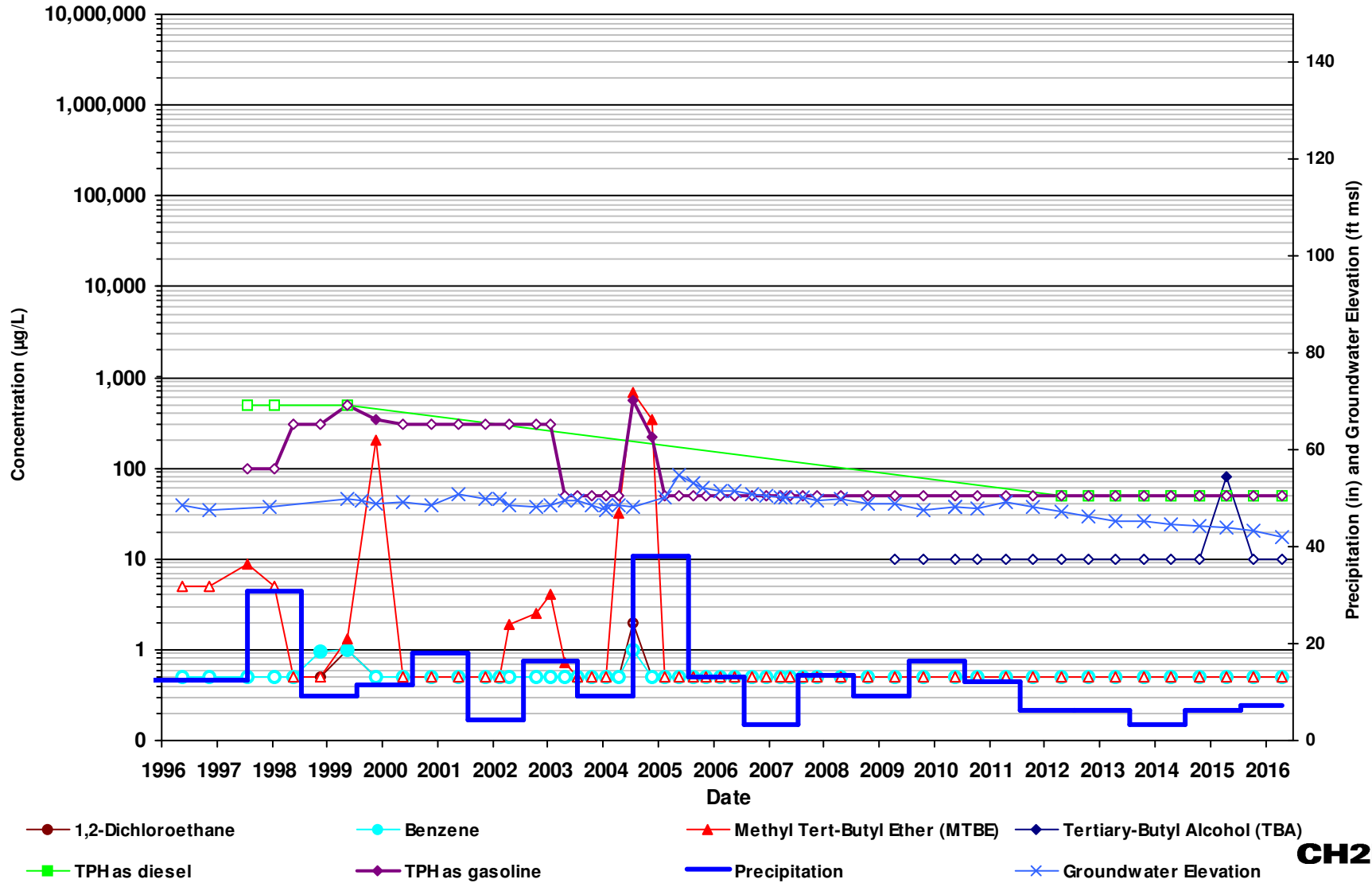
GMW-O-19



Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.

Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source: <http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

GMW-SF-7

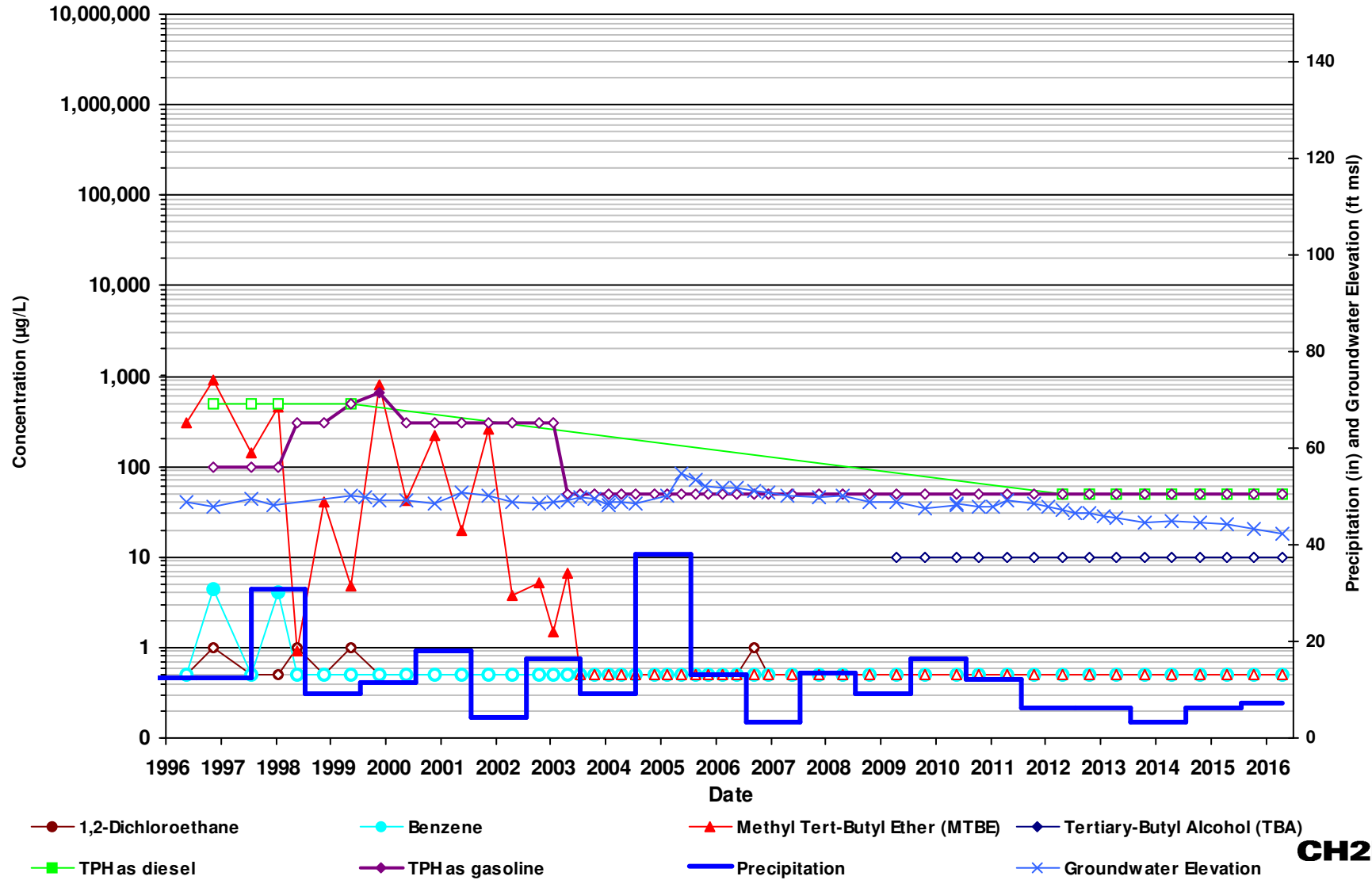


CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.

Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source: <http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

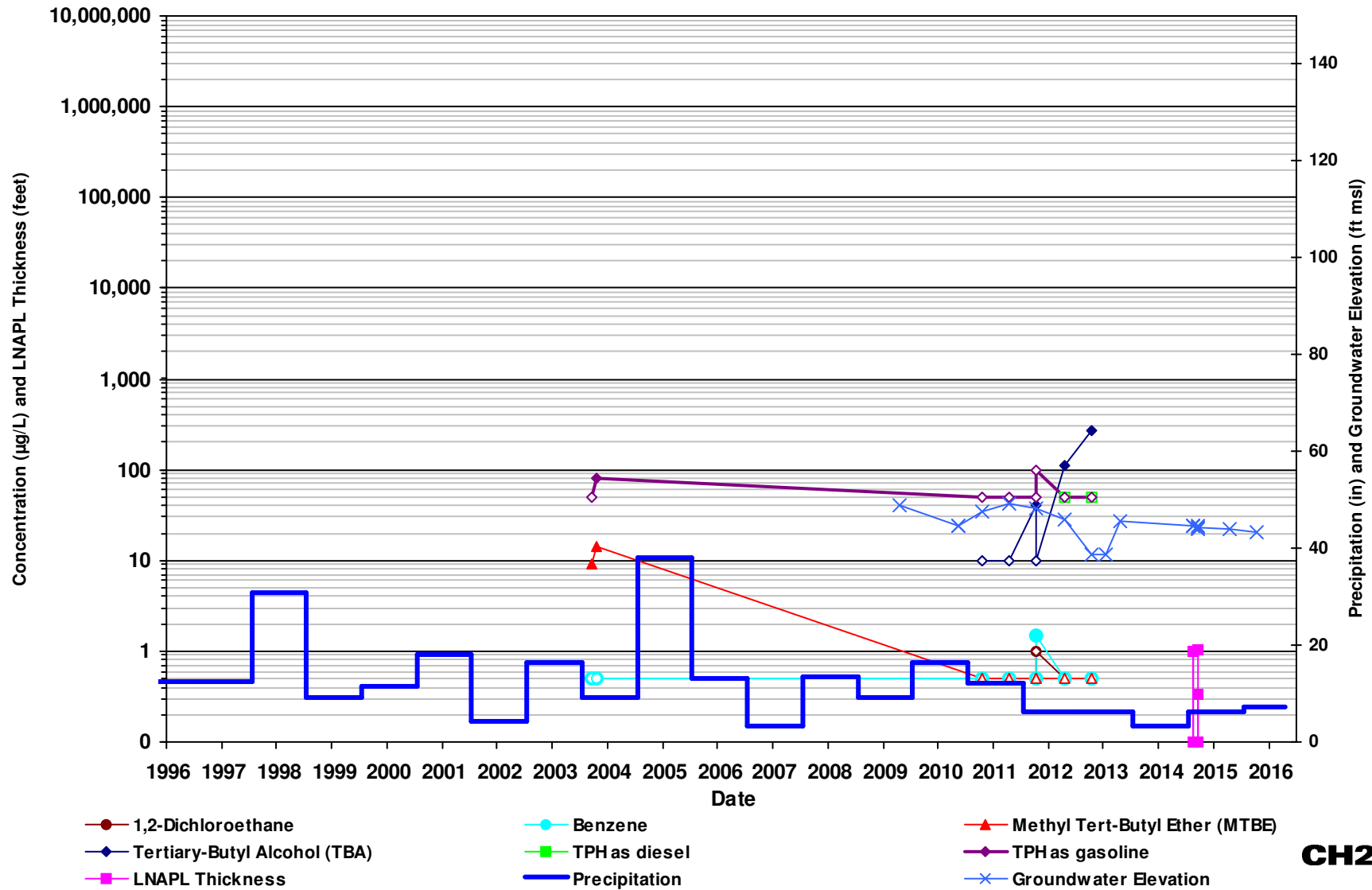
GMW-SF-8



CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.
 Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source:
<http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

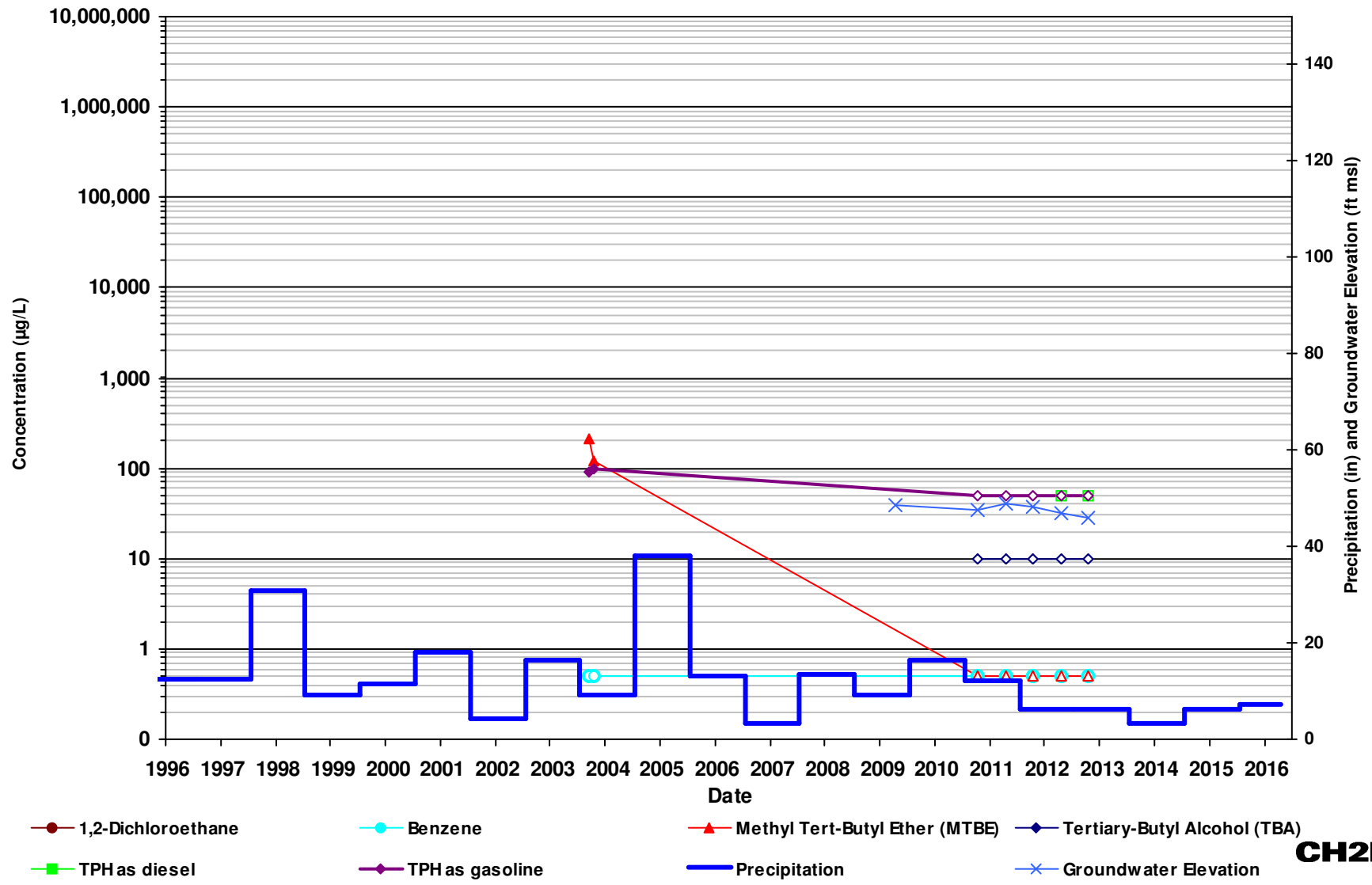
GMW-SF-9



CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.
 Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source:
<http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

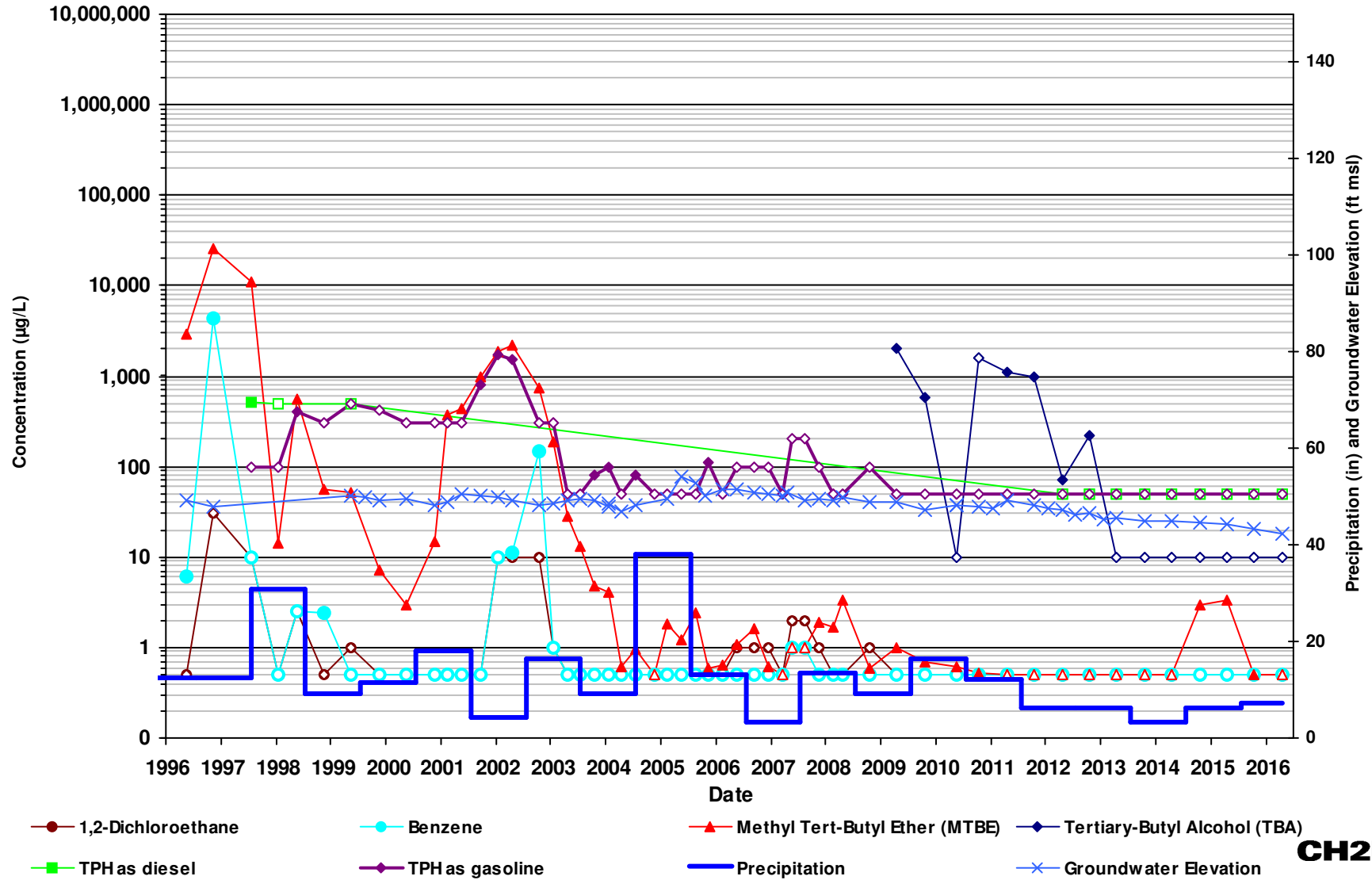
GMW-SF-10



CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.
 Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source: <http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

MW-8

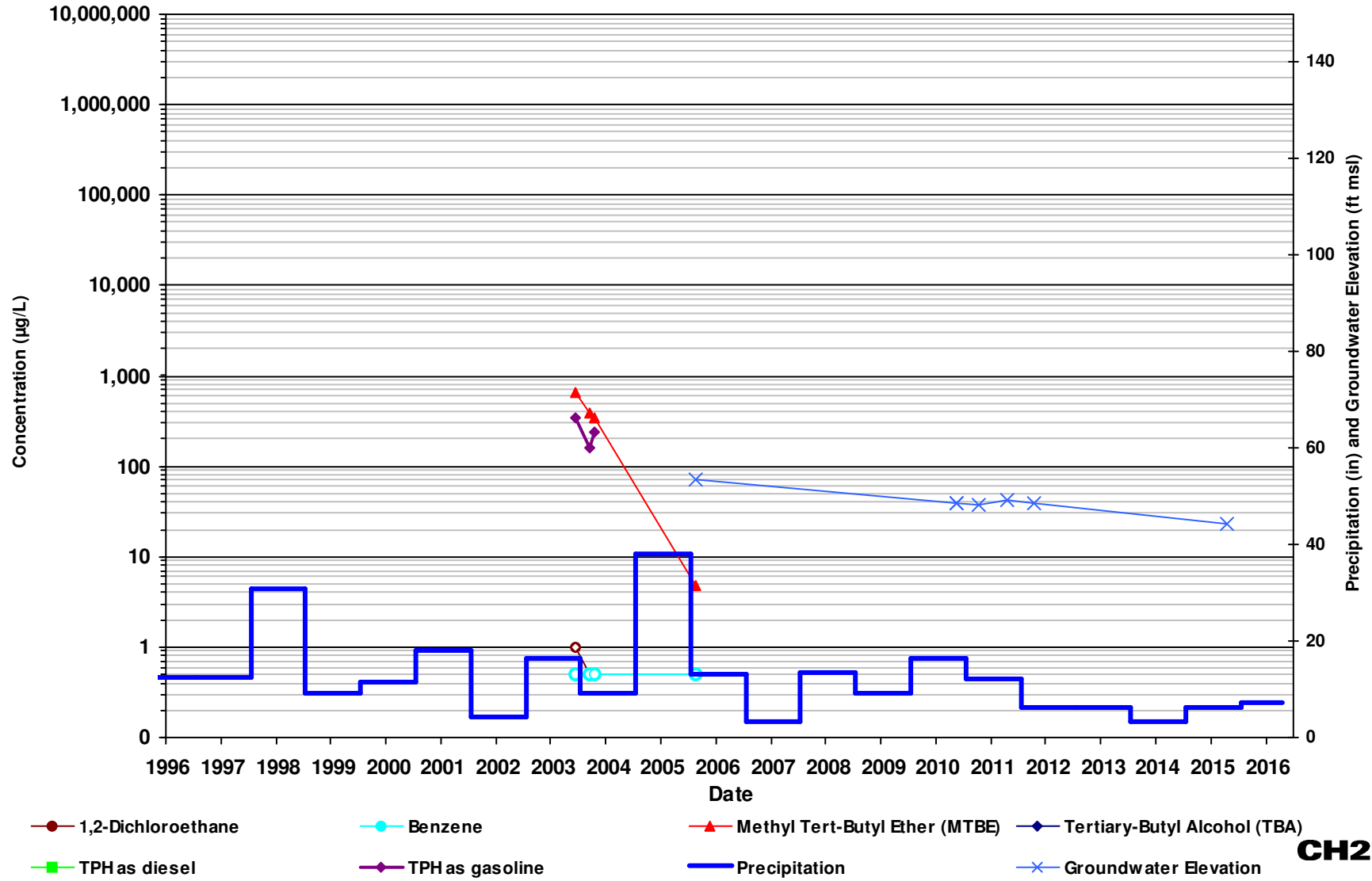


CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.

Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source: <http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

PZ-7A

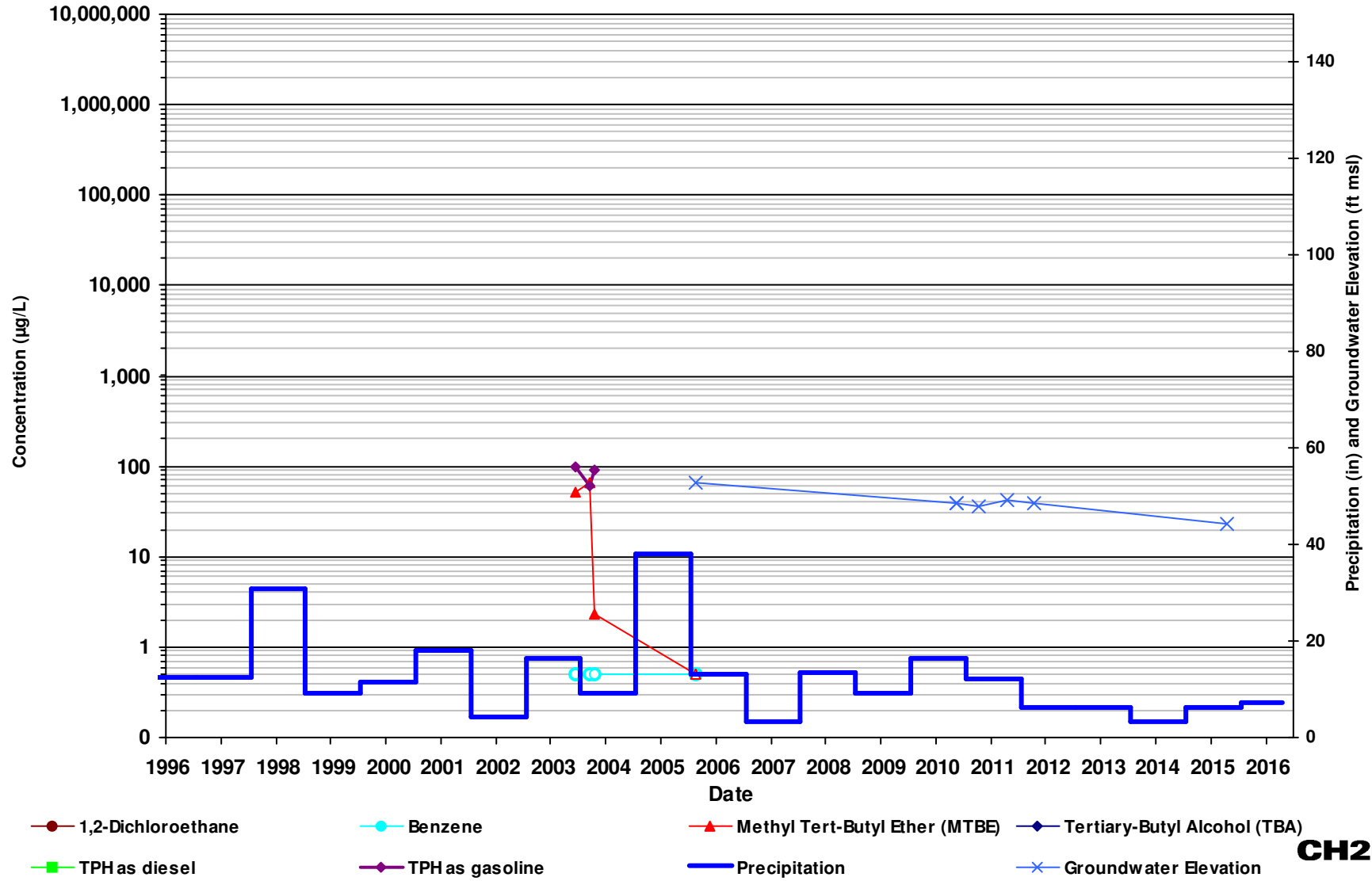


CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.

Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source: <http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

PZ-7B

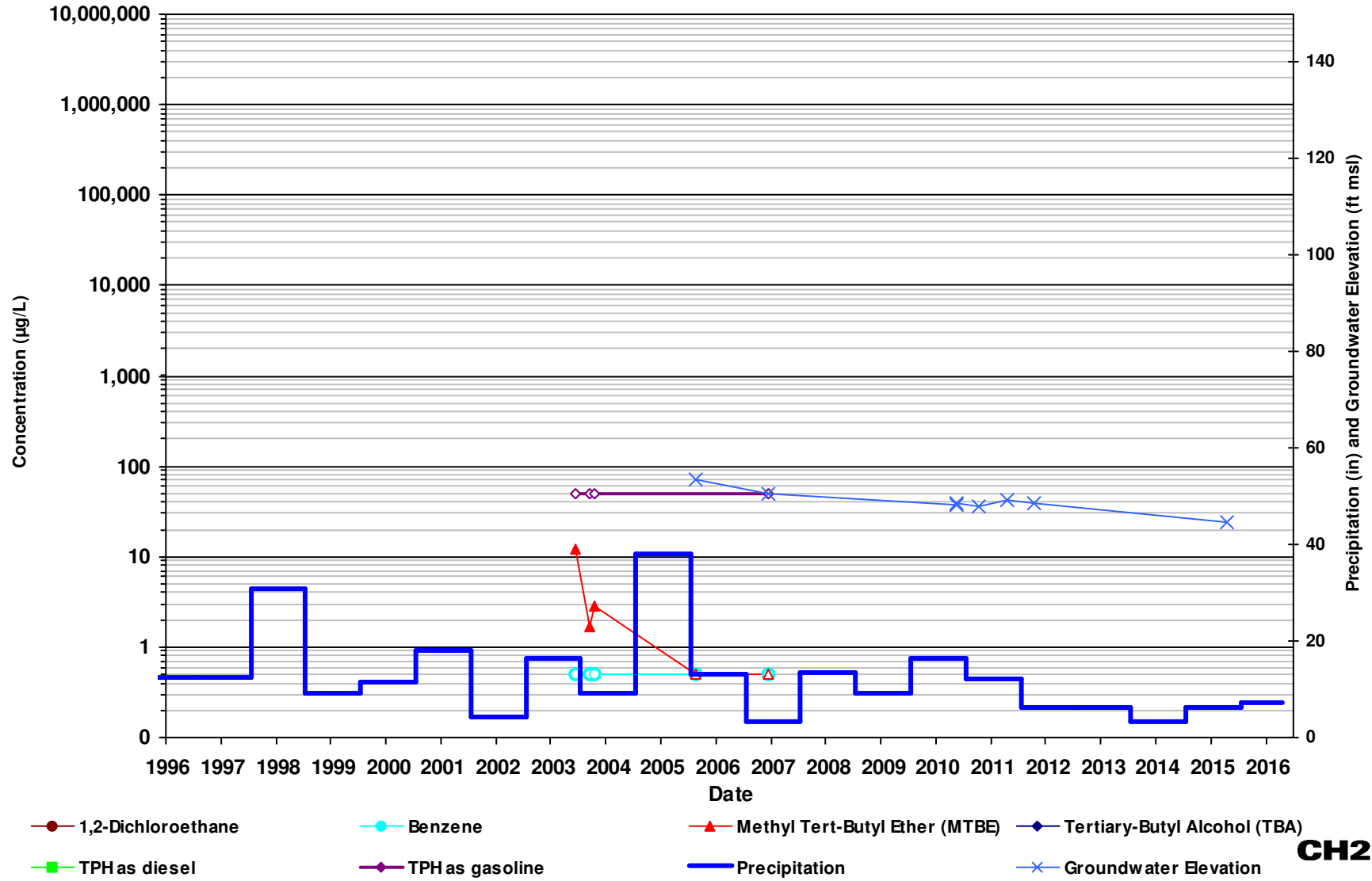


CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.

Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source: <http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

PZ-8A

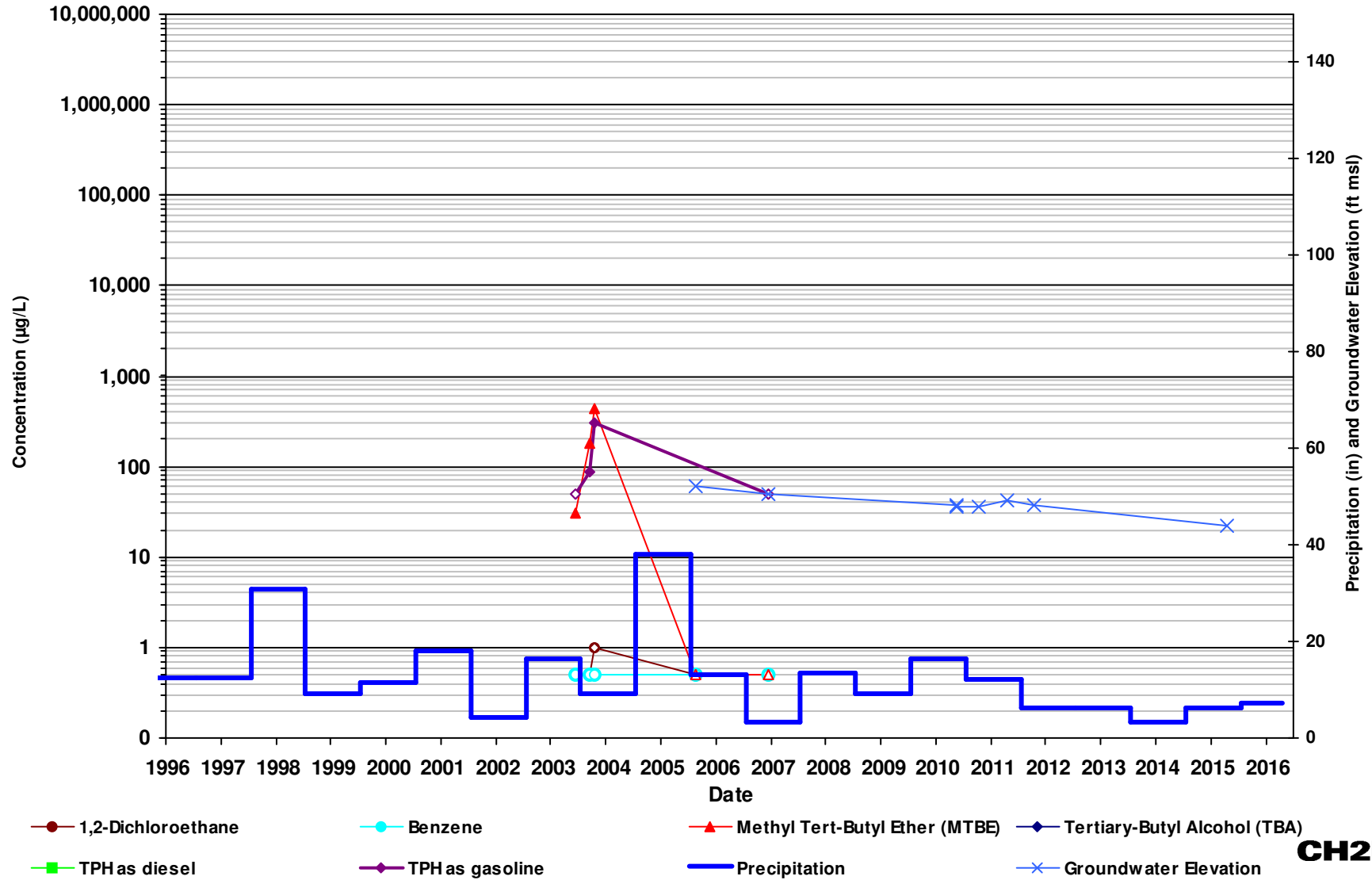


CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.

Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source: <http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

PZ-8B

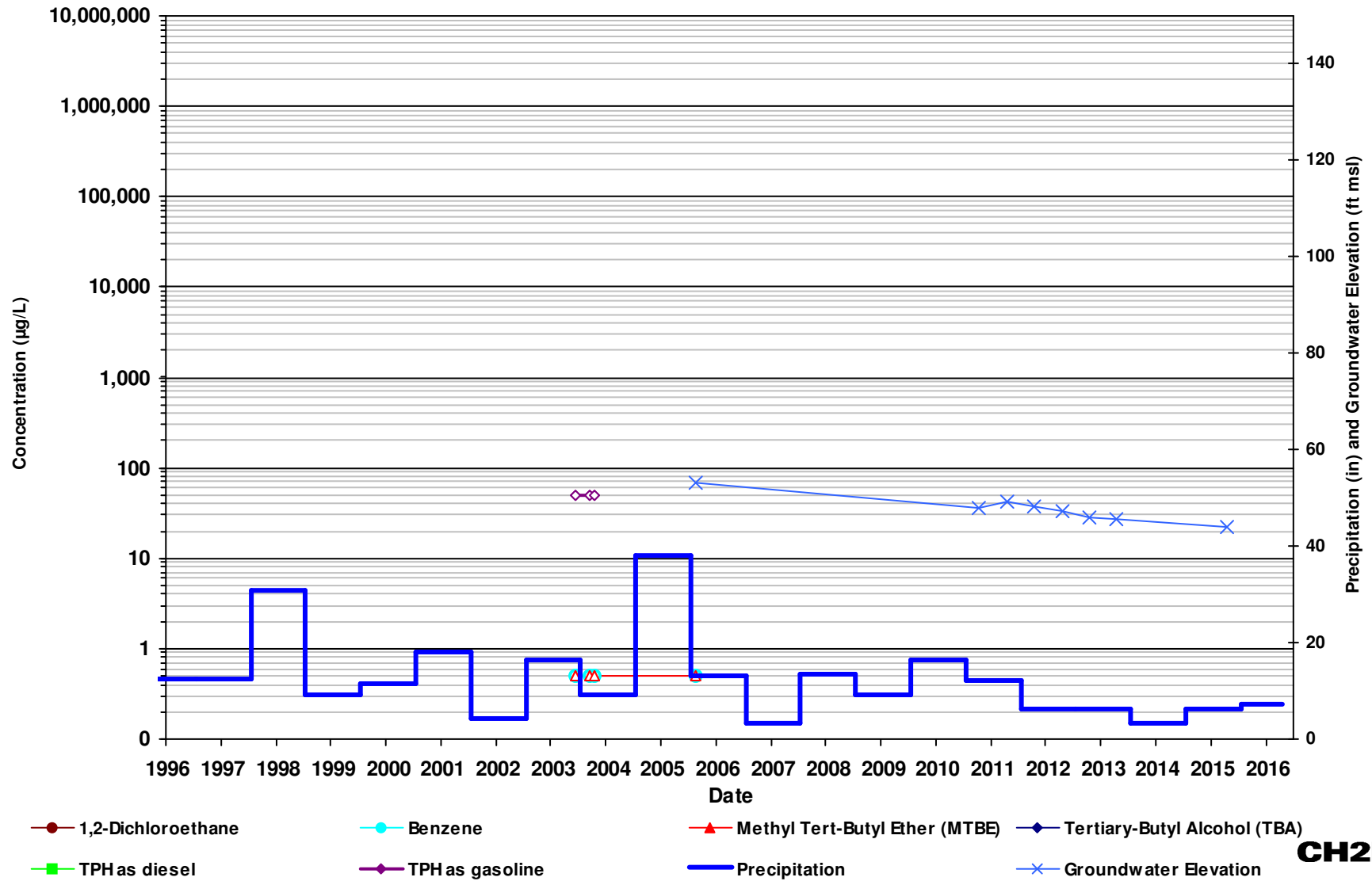


CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.

Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source: <http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

PZ-9A

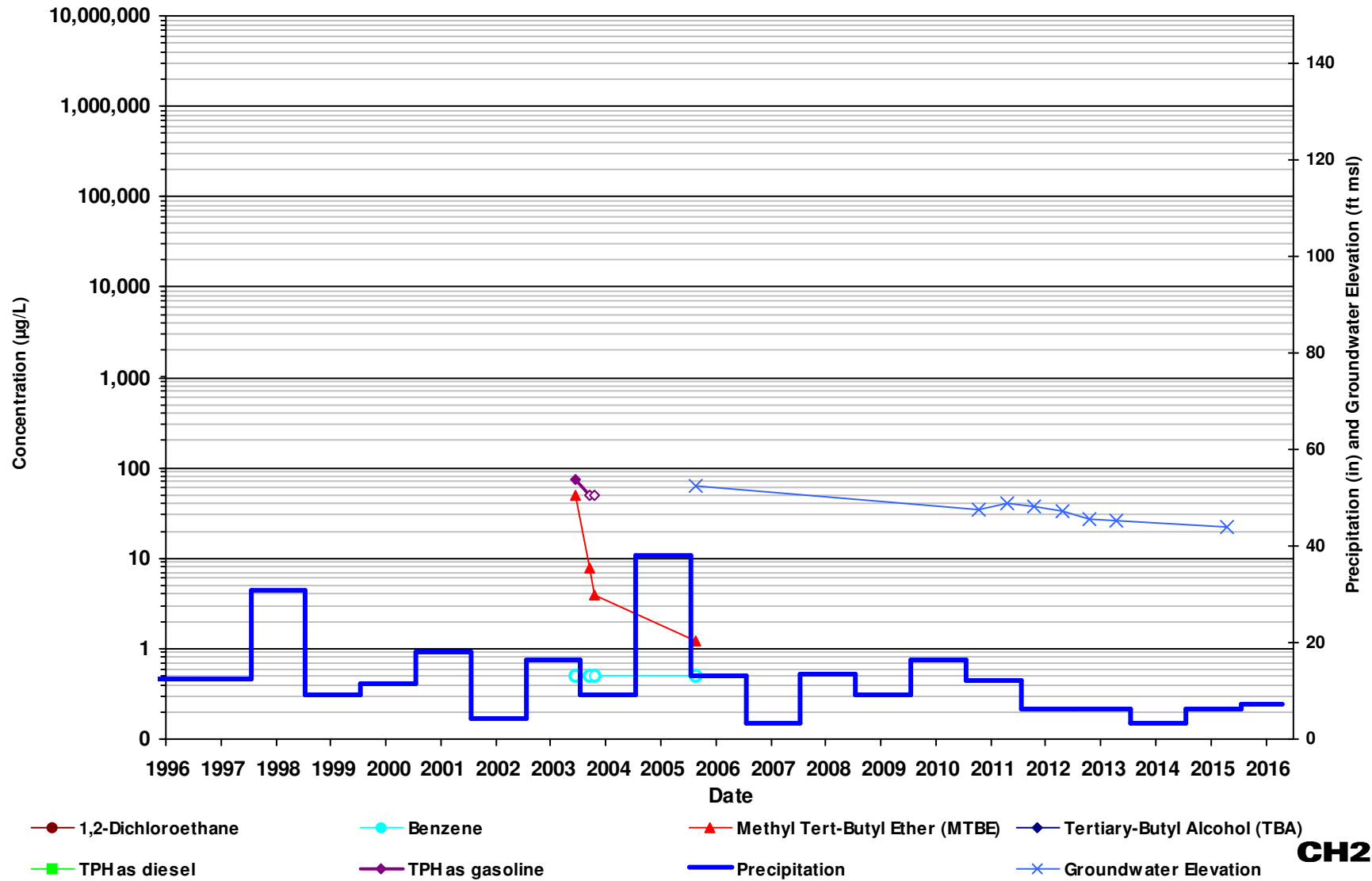


CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.

Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source: <http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

PZ-9B



CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.

Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source: <http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>