



CH2M HILL, INC.
1000 Wilshire Boulevard
21st Floor
Los Angeles, CA 90017
Tel 213.538.1388
Fax 213.538.1399

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Mr. Paul Cho
Regional Water Quality Control Board,
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Subject: Results of August 2013 Soil Vapor Monitoring at the South-Central and Southeastern Offsite Areas of the SFPP Norwalk Pump Station, Norwalk, California

Dear Mr. Cho:

This letter report presents the results of the follow-up annual soil vapor monitoring conducted in August 2013 at the SFPP Norwalk Pump Station, located at 15306 Norwalk Boulevard, Norwalk, California (the site; Figure 1). The work was performed by CH2M HILL Engineers, Inc. (CH2M HILL) in accordance with the following work plan and work plan addendum:

- *Work Plan for Soil Vapor Monitoring, South-Central And Southeastern Off-Site Areas, Defense Fuel Support Point Norwalk, 15306 Norwalk Boulevard, Norwalk, California (SCP No. 0286B, Site No. 204DM00), prepared by AMEC Geomatrix, Inc. (AMEC) (formerly Geomatrix Consultants, Inc.), dated May 27, 2010.*
- *Work Plan Addendum for Soil Vapor Monitoring, South-Central and Southeastern Off-Site Areas, Defense Fuel Support Point Norwalk, 15306 Norwalk Boulevard, Norwalk, California (SCP No. 0286B, Site No. 204DM00), prepared by CH2M HILL, dated June 3, 2011.*

The project background, approach, and results of the August 2013 soil vapor sampling event are presented below.

Background

A soil vapor monitoring program was implemented at the site in July 2012 pursuant to a request made by the California Regional Water Quality Control Board, Los Angeles Region (RWQCB) in its letter dated March 30, 2010. As part of this program, 10 nested soil vapor monitoring probes (SVM-1 through SVM-10) were installed in the south-central and

southeastern offsite areas in accordance with the above-referenced work plans. Figure 2 shows the approximate location of the 10 probes. Each monitoring location consists of a soil vapor probe nest with probes installed at depths of approximately 5 and 15 feet below ground surface (bgs) in a single borehole. The probe installation and initial sampling event were conducted in July 2012 and the results were documented in the following report:

- *Results of Soil Vapor Monitoring at the South-Central and Southeastern Offsite Areas of the SFPP Norwalk Pump Station, Norwalk, California, prepared by CH2M HILL, dated November 30, 2012.*

One of the objectives of the 2012 investigation was to evaluate offsite soil vapor concentrations at depths of 5 and 15 feet bgs in areas overlying the current extent of dissolved-phase chemicals of potential concern (COPCs). Another project objective was to compare the analytical results to California Human Health Screening Levels (CHHSLs) if COPCs were detected in soil vapor. In order to achieve the project objectives, the 10 nested soil vapor monitoring probes were installed, sampled, and analyzed using a mobile and fixed laboratory for volatile organic compound (VOC) analysis. Laboratory analytical data were then compared to human health screening levels to evaluate the human health risk associated with detected COPCs.

Results of the 2012 investigation indicated the following:

- The concentrations of soil gas in samples collected from the 20 new soil gas probes were below CHHSLs under residential and commercial scenarios; therefore, there is no human health risk associated with exposure to COPCs in soil vapor. COPCs in soil vapor were not detectable at the laboratory detection limits provided by the onsite mobile laboratory; COPCs were detected in the two fixed laboratory soil vapor samples at concentrations near the laboratory detection limits, below the CHHSLs.
- Concentrations of COPCs detected in soil vapor during the 2012 investigation were lower than the concentrations used during the 2006 investigation (conducted by Geomatrix) to assess human health risks from vapor intrusion; therefore, vapor intrusion risks were either similar to or lower than the risks presented in the previously conducted human health risk assessment.

A technical meeting between Kinder Morgan Energy Partners, L.P. (KMEP) and RWQCB was held on December 14, 2012, and the results of the 2012 soil vapor investigation were presented. A reduction in the soil vapor monitoring frequency from semiannual to annual was recommended by the RWQCB since the concentrations of COPCs were below CHHSLs.

Environmental Support Technologies (EST) of Irvine, California, was retained by CH2M HILL to conduct the follow-up annual soil vapor sampling in August 2013. A mobile laboratory was utilized by EST for onsite laboratory analysis of soil vapor samples. Fixed laboratory samples also were collected and submitted to an offsite laboratory. The technical approach and analytical results are discussed below.

Approach

Soil vapor samples were collected on August 12 and 13, 2013. SFPP's soil vapor extraction (SVE) system was offline during this time (between July 16 and September 17, 2013), due to mechanical issues with the system's blower. The blower was replaced and the system has been online since that time. The SVE system downtime allowed the vadose zone to reach equilibrium before soil vapor sampling in the offsite areas commenced. Soil vapor sampling was performed by EST under the direction of CH2M HILL. The soil vapor probes at each monitoring point were purged and sampled in accordance with the recommended guidelines in the Department of Toxic Substances Control (DTSC) Advisory for Active Soil Gas Investigations (Advisory), dated April 2012 (DTSC, 2012). The sampling procedures for these activities, including purge volume, shut-in, and leak tests, are described below.

Purge Volume Test

Prior to sampling, a site-specific purge volume test was conducted with 1, 3, and 10 purge volumes at the deeper probe of monitoring point SVM-5. A default of three purge volumes was used for subsequent sampling in the deeper zones (15-foot depth) since target analytes were not detected during the step purge tests. A site-specific purge volume (three purge volumes) for soil gas sampling at 5 feet bgs was established during the 2006 soil gas investigation conducted by Geomatrix. Soil vapor was purged from each probe using a vacuum/pressure sampling pump calibrated to a flow rate of 200 milliliters per minute (mL/min). The use of a consistent low rate at each sample location limited stripping and ambient air intrusion. The purge volume for each probe was recorded in the field.

Shut-In Test

Prior to purging and sampling each soil vapor probe, a shut-in test was conducted to check for leaks in the aboveground sampling train (valves, tubing, and fittings from downstream to the top of the probe). A vacuum of approximately 100 inches of water (in-H₂O) was applied to the aboveground sampling train for a period of approximately 1 minute. No significant decreases in vacuum were reported during any of the shut-in tests conducted.

Leak Test

During purging and sampling at each soil vapor probe, a leak test was conducted using 2-propanol (a liquid tracer compound) to evaluate the potential for ambient air breakthrough or leaks in the sampling train. Prior to purging, the liquid tracer compound was applied to a paper towel and placed inside the vapor probe vaults and included in the method analyte list for soil vapor samples. Care was taken to prevent cross-contamination between the liquid tracer compound and the sampling train and sampling containers. The 2-propanol was not detected in any field (mobile) laboratory samples. Further discussion of the analytical results is presented in the Analytical Results section below.

Soil Vapor Sampling and Analysis

As described above, soil vapor sampling was conducted on August 12 and 13, 2013, after approximately 4 weeks of downtime for the SVE unit located in the south-central area of the site. The soil vapor probes from each monitoring point were purged and sampled using a vacuum/pressure sampling pump calibrated to a flow rate of 200 mL/min in accordance with recommended flow rates in the Advisory (DTSC, 2012).

Soil vapor samples were not collected from the shallow or deep probes at SVM-2, because it was discovered that the probes had been disturbed during recent paving of that area. The polyethylene tubing for both probes appeared to be cut and the sampling crew was not able to adequately secure the sample equipment to the probes. The probes were repaired by EST on September 9, 2013. Sampling of these probes may be conducted prior to the next planned sampling event in July 2014, pending a review of this report by the RWQCB.

Also, a soil vapor sample was not collected at the shallow probe at SVM-10 due to flow restrictions (excessive vacuum) observed during purging activities with a mechanical and hand-held sampling pump. An attempt will be made to sample this probe during the next planned sampling event in July 2014. The need for a replacement monitoring probe will be discussed with the RWQCB if further attempts to sample this probe are unsuccessful.

Soil vapor samples were collected using glass syringes and were analyzed at the EST onsite mobile laboratory for fuel constituents including benzene, toluene, ethylbenzene, total xylenes (BTEX); methyl tert-butyl ether (MTBE); tert-butyl alcohol (TBA); 1,2-dichloroethane (1,2-DCA); 1,2,4-trimethylbenzene; 1,3,5-trimethylbenzene; n-butylbenzene; sec-butylbenzene; isopropylbenzene; n-propylbenzene; and 2-propanol (leak test compound) using United States Environmental Protection Agency (EPA) Method 8260B. These constituents were identified as COPCs based on the results of the 2006 soil gas investigation.

Three confirmation soil vapor samples were collected in 1-liter Summa canisters at the shallow probe of SVM-5 and deeper probes of SVM-1 and SVM-4. The Summa canisters were submitted by CH2M HILL to Air Technology Laboratories, Inc., in City of Industry, California, for VOC analysis using EPA Method TO-15. Air Technology Laboratories was under subcontract to Advanced Technology Laboratories, Inc., of Las Vegas, Nevada. Additional soil vapor samples were collected in 1-liter tedlar bags for methane, oxygen, and carbon dioxide analysis using ASTM International (ASTM) Method D1946. These samples also were analyzed by Air Technology Laboratories. The analysis of methane, oxygen and carbon dioxide will assist with the evaluation of natural attenuation in the vadose zone.

In accordance with the Advisory (DTSC, 2012), field duplicate soil vapor samples were collected at a minimum frequency of 1 per every 20 soil vapor samples collected. Duplicate soil vapor samples were collected at the deeper probes of monitoring points SVM-4 and SVM-5. The duplicate samples were collected and analyzed in the same manner as the primary samples.

Analytical Results

Table 1 presents the analytical results for VOCs provided by the onsite mobile laboratory using EPA Method 8260B. The results are also shown in Figure 3. Laboratory analytical reports are provided in Attachment A. Toluene was the only COPC detected during sampling using the mobile laboratory. Toluene was detected in the deeper probe of SVM-5 at a concentration of 0.010 J micrograms per liter ($\mu\text{g}/\text{L}$). The “J” flag (or qualifier) indicates that the detected concentration is above the laboratory minimum detection limit (MDL) but below the laboratory reporting limit (RL). The mobile laboratory RLs are below future residential and commercial screening criteria calculated per DTSC methodology (DTSC, 2011).

Table 2 presents the analytical results for VOCs provided by the fixed laboratory using EPA Method TO-15. The laboratory analytical reports are provided in Attachment B. EPA Method TO-15 can achieve much lower detection limits than those provided by the mobile laboratory. The results presented in Table 2 are for samples collected from the shallow probe at SVM-1 and deeper probes at SVM-4 and SVM-5. Monitoring points SVM-4 and SVM-5 are located in areas overlying relatively high concentrations of dissolved-phase VOCs; SVM-1 is located along the western extent of the plume boundaries (Figure 3). As shown in Table 2, several COPCs were detected at SVM-4 and SVM-5, but at relatively low concentrations slightly above the laboratory MDL. Toluene was the only COPC detected at SVM-1. All detected COPCs are below human health screening levels under residential and commercial scenarios. The leak test compound (2-propanol) was detected in all three fixed laboratory samples, but at concentrations below the RL. Although 2-propanol was detected, the concentration is still less than 10 times the concentration of the RL. According to the Advisory, if a leak test compound is detected at a concentration 10 times or more above the laboratory RL, then corrective actions are required to be taken in order to confirm ambient air breakthrough or leaks in the sampling train. The concentration of the leak detection compound was below this level; therefore, no corrective action was required or performed.

Table 3 presents the analytical results provided by the fixed laboratory for methane, carbon dioxide, and oxygen analysis using ASTM Method D1946. Laboratory analytical reports are provided in Attachment B. As mentioned in the previous section, the analysis of methane, oxygen, and carbon dioxide was used to assist with the evaluation of natural attenuation in the vadose zone. Natural attenuation can generally be defined as a reduction in contaminant mass in the environment by biological processes. As shown in Table 3, methane was not detected above the laboratory RL in any of the soil vapor samples, with the exception of the deeper probe at SVM-5 (0.0093 percent). Carbon dioxide and oxygen concentrations ranged from 0.045 to 6.3 percent, and 12 to 22 percent, respectively. The generally low concentrations of carbon dioxide and methane, and high concentrations of oxygen indicate that shallow soil media beneath the offsite areas are predominantly aerobic. Aerobic conditions in soil are favorable for natural attenuation of petroleum hydrocarbons.

Summary and Recommendations

Results for VOCs from the mobile laboratory analysis (EPA Method 8260) of samples collected in August 2013 from 17 probes were not above the mobile laboratory RLs. Mobile laboratory RLs for all samples were lower than the soil vapor screening levels (CHHSLs) for both current and future residential land use (Table 2). Toluene was the only COPC detected, but it was at a concentration below the laboratory RL (SVM-5, 0.001 J mg/L).

The fixed laboratory results for samples collected at SVM-4 and SVM-5 showed detections of BTEX and/or 1,2,4-trimethylbenzene. Toluene was the only COPC detected in the SVM-1 fixed laboratory sample. Most of the detections were below analytical RLs (J-qualified), and all detections were below the soil vapor screening levels (CHHSLs). Based on the results from this sampling event, no COPCs were identified at levels of concern in soil vapor. The generally low concentrations of carbon dioxide and methane, and high concentrations of oxygen indicate that shallow soil media beneath the offsite areas continued to be predominantly aerobic.

The next annual sampling event, tentatively scheduled for July 2014, will be incorporated as part of the baseline sampling event for the upcoming pilot testing activities in the south-central area of the site. Details of this sampling event are provided in the *Horizontal Biosparge System Construction and Pilot Test Work Plan* (CH2M HILL, 2013), submitted to the RWQCB on November 18, 2013.

If you have any additional questions regarding this report, please contact Dan Jablonski at (213) 228-8271, or Mr. Stephen Defibaugh, KMEP's Remediation Project Manager, at (714) 560-4802.

Sincerely,

CH2M HILL, Inc.



Dan Jablonski
Project Manager



John Lowe, CIH
Vapor Intrusion Consultant

Attachments

References

Tables

- 1 Mobile Laboratory Analytical Results – EPA Method 8260B
- 2 Fixed Laboratory Analytical Results – EPA Method TO-15
- 3 Fixed Laboratory Analytical Results – ASTM-D1946

Figures

- 1 Site Location Map
- 2 Soil Vapor Monitoring Probe Locations
- 3 Soil Vapor Analytical Results

Attachments

- A Mobile Laboratory Analytical Reports
- B Fixed Laboratory Analytical Reports

Distribution

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Tables

TABLE 1

Mobile Laboratory Analytical Results - EPA Method 8260B
 SFPP Norwalk Pump Station, Norwalk, California

Analyte	Unit	RL	SVM0101PV03	SVM0102PV03	SVM0301PV03	SVM0302PV03	SVM0401PV03	SVM0402PV03	SVM0501PV03	SVM0502PV01	SVM0502PV03	SVM0502PV10	Future Residential Soil Gas Screening Level ²	Future Commercial Soil Gas Screening Level ²
			8/12/2013 SVM-1 5-5.5	8/12/2013 SVM-1 14.5-15	8/13/2013 SVM-3 5-5.5	8/13/2013 SVM-3 15-15.5	8/13/2013 SVM-4 5-5.5	8/13/2013 SVM-4 14.5-15	8/12/2013 SVM-5 5-5.5	8/12/2013 SVM-5 ¹ 15.5-16	8/12/2013 SVM-5 ¹ 15.5-16	8/12/2013 SVM-5 ¹ 15.5-16		
1,2,4-Trimethylbenzene	µg/L	0.02	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	7.3	20.4
1,2-Dichloroethane	µg/L	0.02	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	0.12	0.39
1,3,5-Trimethylbenzene	µg/L	0.02	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	7.3	20.4
2-Propanol (leak test compound)	µg/L	0.29	<0.092	<0.092	<0.092	<0.092	<0.092	<0.092	<0.092	<0.092	<0.092	<0.092	7300	20440
Benzene	µg/L	0.02	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	0.08	0.28
Ethylbenzene	µg/L	0.02	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	0.97	3.27
Isopropylbenzene	µg/L	0.02	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	---	---
m,p-Xylenes	µg/L	0.02	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	730	2044
Methyl tert-butyl ether (MTBE)	µg/L	1.0	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	9.4	31.4
n-Butylbenzene	µg/L	0.02	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	---
n-Propylbenzene	µg/L	0.02	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	1043	2920
o-Xylene	µg/L	0.02	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	730	2044
sec-Butylbenzene	µg/L	0.02	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	---	---
tert-Butanol (TBA)	µg/L	20	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	---	---
Toluene	µg/L	0.02	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	0.010 J	0.010 J	0.010 J	0.010 J	313	876

Analyte	Unit	RL	SVM0601PV03	SVM0602PV03	SVM0701PV03	SVM0702PV03	SVM0801PV03	SVM0802PV03	SVM0901PV03	SVM0902PV03	SVM1002PV03	Future Residential Soil Gas Screening Level ²	Future Commercial Soil Gas Screening Level ²
			8/12/2013 SVM-6 6.5-7	8/12/2013 SVM-6 15.5-16	8/12/2013 SVM-7 7-7.5	8/12/2013 SVM-7 13.25-13.75	8/12/2013 SVM-8 5-5.5	8/12/2013 SVM-8 15-15.5	8/13/2013 SVM-9 5-5.5	8/13/2013 SVM-9 14.5-15	8/12/2013 SVM-10 15.5-16		
1,2,4-Trimethylbenzene	µg/L	0.02	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	7.3	20.4
1,2-Dichloroethane	µg/L	0.02	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	0.12	0.39
1,3,5-Trimethylbenzene	µg/L	0.02	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	7.3	20.4
2-Propanol (leak test compound)	µg/L	0.29	<0.092	<0.092	<0.092	<0.092	<0.092	<0.092	<0.092	<0.092	<0.092	7300	20440
Benzene	µg/L	0.02	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	0.08	0.28
Ethylbenzene	µg/L	0.02	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	0.97	3.27
Isopropylbenzene	µg/L	0.02	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	---	---
m,p-Xylenes	µg/L	0.02	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	730	2044
Methyl tert-butyl ether (MTBE)	µg/L	1.0	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	9.4	31.4
n-Butylbenzene	µg/L	0.02	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	---
n-Propylbenzene	µg/L	0.02	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	1043	2920
o-Xylene	µg/L	0.02	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	730	2044
sec-Butylbenzene	µg/L	0.02	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	---	---
tert-Butanol (TBA)	µg/L	20	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	---	---
Toluene	µg/L	0.02	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067	313	876

Notes

- µg/L = micrograms per liter
- RL = reporting limit
- FD = field duplicate
- <0.006 = not detected at the minimum detection level
- J = the analyte was positively detected but is estimated
- = not available

SVM0101PV03 = sample ID
8/12/2013 = sample date
SVM-1 = sample location
5-5.5 = sample depth in feet below ground surface

¹ 1, 3, and 10 volume purge step test conducted at SVM-5, 15.5 - 16 feet probe depth
² Screening levels in soil gas are derived from CHHSLs in indoor air using the attenuation factor for soil gas samples (DTSC, 2011, Table 2)
 SVM-2 was not sampled due to damage to the probe risers
 SVM-10 (shallow depth) was not sample due to flow restrictions

TABLE 2Fixed Laboratory Analytical Results - EPA Method TO-15
SFPP Norwalk Pump Station, Norwalk, California

Analyte	Unit	RL ¹	SVM0102PV03 8/12/2013 SVM-1 14.5-15	SVM0402PV03 8/13/2013 SVM-4 14.5-15	SVM0501PV03 8/12/2013 SVM-5 5-5.5	Future Residential Soil Gas Screening Level ²	Future Commercial Soil Gas Screening Level ²
1,2,4-Trimethylbenzene	µg/L	0.019	<0.00029	<0.00031	0.0010 J	7.3	20.4
1,2-Dichloroethane	µg/L	0.0080	<0.0020	<0.0021	<0.0021	0.12	0.39
1,3,5-Trimethylbenzene	µg/L	0.019	<0.0010	<0.0011	<0.0011	7.3	20.4
2-Propanol (leak test compound)	µg/L	0.024	0.0018 J	0.0053 J	0.0120 J	7300	20440
Benzene	µg/L	0.0063	<0.0012	0.0013 J	0.0018 J	0.08	0.28
Ethylbenzene	µg/L	0.0086	<0.00024	0.0020 J	0.0032 J	0.97	3.27
Isopropylbenzene	µg/L	0.0097	<0.0012	<0.0013	<0.0013	---	---
m,p-Xylenes	µg/L	0.0086	<0.0018	0.0041 J	0.0061 J	730	2044
Methyl tert-butyl ether (MTBE)	µg/L	0.0071	<0.0013	<0.0014	<0.0014	9.4	31.4
n-Butylbenzene	µg/L	0.011	<0.0013	<0.0014	<0.0014	---	---
n-Propylbenzene	µg/L	0.0097	<0.001	<0.0011	<0.0011	1043	2920
o-Xylene	µg/L	0.0086	<0.0011	0.0024 J	0.0047 J	730	2044
sec-Butylbenzene	µg/L	0.011	<0.0013	<0.0014	<0.0014	---	---
tert-Butanol (TBA)	µg/L	0.03	<0.00088	<0.00095	<0.00093	---	---
Toluene	µg/L	0.0075	0.0011 J	0.009	0.0094	313	876

Notes

µg/L = micrograms per liter

RL = reporting limit

J = the analyte was positively detected but is estimated

<0.0014 = not detected at the minimum detection level

--- = not available

SVM0501PV03 = sample ID**8/12/2013** = sample date**SVM-5** = sample location**5-5.5** = sample depth in feet below ground surface¹ Maximum reporting limit² Screening levels in soil gas are derived from CHHSLs in indoor air using the attenuation factor for soil gas samples (DTSC, 2011, Table 2).

TABLE 3

Fixed Laboratory Analytical Results - ASTM Method D1946
 SFPP Norwalk Pump Station, Norwalk, California

			SVM0101PV03 8/12/2013 SVM-1 5-5.5	SVM0102PV03 8/12/2013 SVM-1 14.5-15	SVM0301PV03 8/13/2013 SVM-3 5-5.5	SVM0302PV03 8/13/2013 SVM-3 15-15.5	SVM0401PV03 8/13/2013 SVM-4 5-5.5	SVM0402PV03 8/13/2013 SVM-4 14.5-15	SVM0501PV03 8/12/2013 SVM-5 5-5.5	SVM0502PV10 8/12/2013 SVM-5 15.5-16	SVM0601PV03 8/12/2013 SVM-6 6.5-7
Analyte	Unit	RL									
Carbon Dioxide	% v/v	0.01	0.25	0.2	0.28	0.27	0.24	0.43	0.16	0.22	0.21
Oxygen/Argon	% v/v	0.5	22	21	21	20	22	21	19	21	21
Methane	% v/v	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0093	<0.001

			SVM0602PV03 8/12/2013 SVM-6 15.5-16	SVM0701PV03 8/12/2013 SVM-7 7-7.5	SVM0702PV03 8/12/2013 SVM-7 13.25-13.75	SVM0801PV03 8/12/2013 SVM-8 5-5.5	SVM0802PV01 8/12/2013 SVM-8 15-15.5	SVM0901PV03 8/13/2013 SVM-9 5-5.5	SVM0902PV03 8/13/2013 SVM-9 14.5-15	SVM1002PV03 8/12/2013 SVM-10 15.5-16
Analyte	Unit	RL								
Carbon Dioxide	% v/v	0.01	0.14	0.92	0.045	0.23	0.18	0.82	5.6	6.3
Oxygen/Argon	% v/v	0.5	18	20	22	20	21	21	16	12
Methane	% v/v	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Notes

% v/v = percent volume by volume
 RL = reporting limit
 <0.001 = not detected at the reporting limit

SVM0101PV03 = sample ID

8/12/2013 = sample date

SVM-1 = sample location

5-5.5 = sample depth in feet below ground surface

Figures

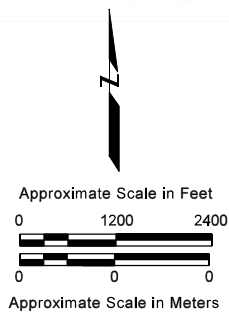
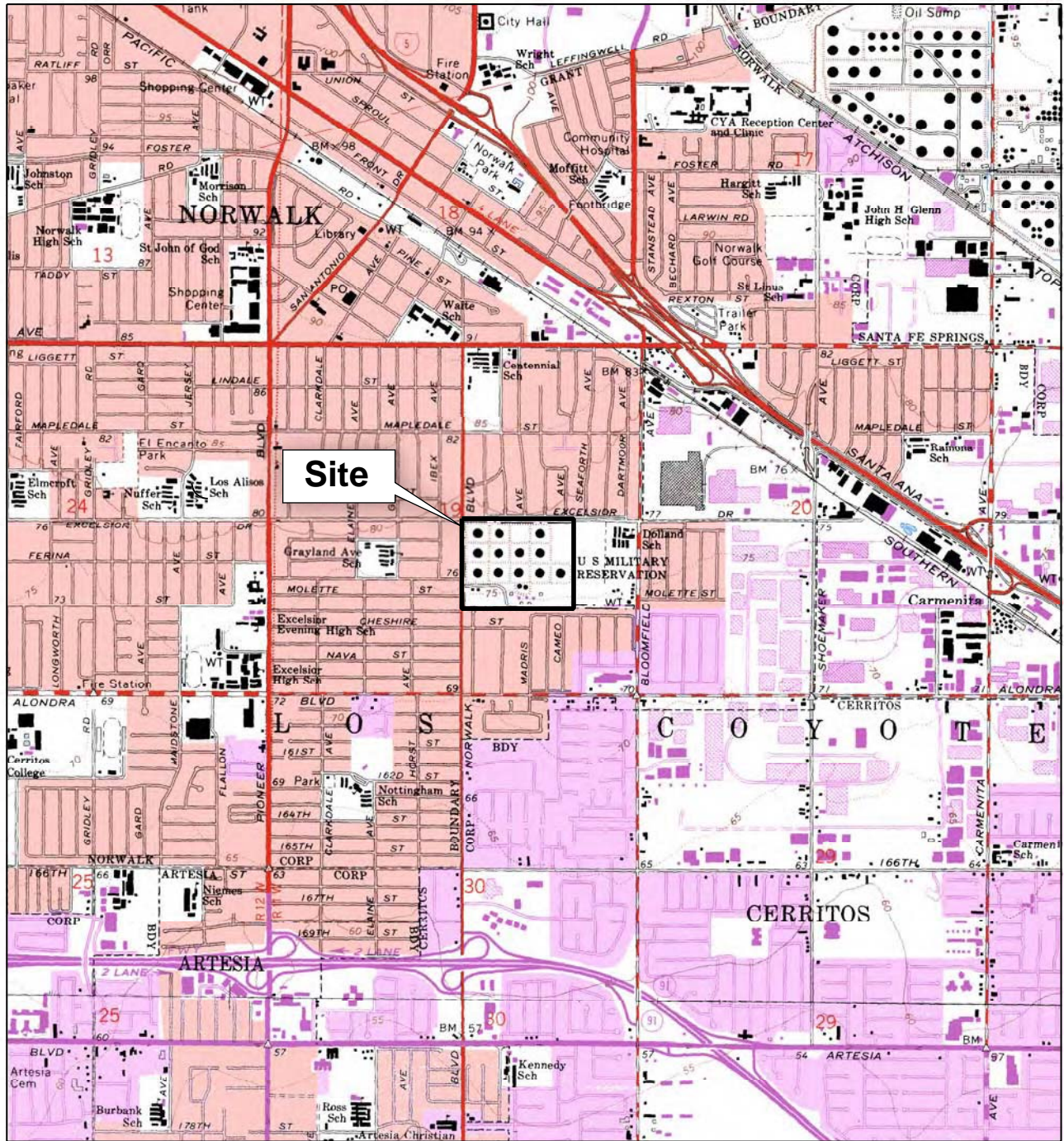
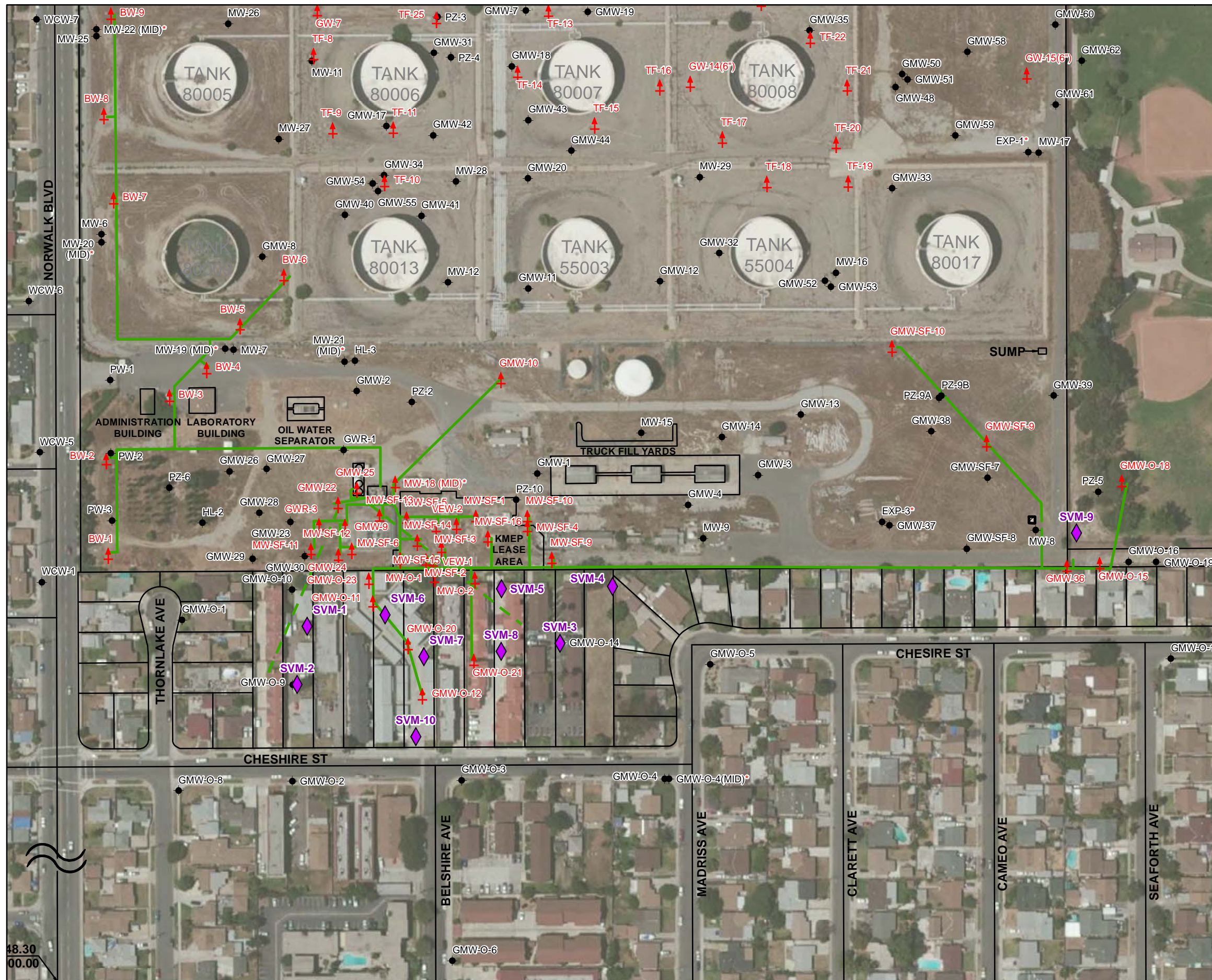


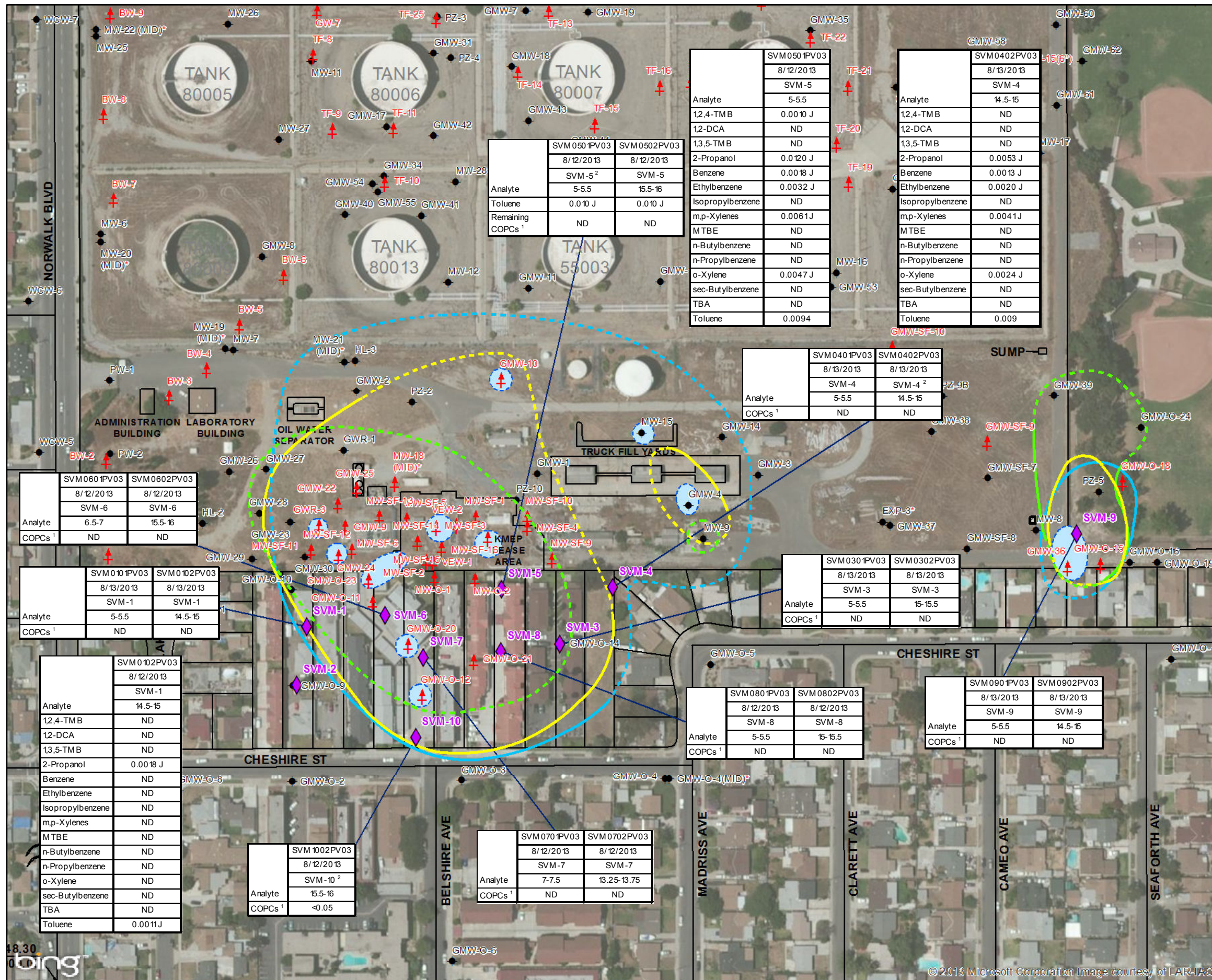
FIGURE 1
 Site Location Map
 SFPF Norwalk Pump Station
 Norwalk, California

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



- LEGEND**
- ◆ Soil Vapor Monitoring Probe Location
 - Monitoring Well Location
Vapor extraction, groundwater extraction, total fluids, or free product extraction well used for site remediation
 - ↑
 - KMEP Remediation Piping Layout (above ground and below ground)
 - Horizontal Vapor Extraction Well Piping

FIGURE 2
Soil Vapor Monitoring Probe Locations
 SFPP Norwalk Pump Station
 Norwalk, California



LEGEND

- Monitoring Well Location
- Vapor extraction, groundwater extraction, total fluids, or free product extraction well used for site remediation

2013 Groundwater plume extents (South-central and Southeastern Areas)

- Estimated extent of dissolved total petroleum hydrocarbons (TPH) in groundwater based on data from April 2013; dashed where inferred
- Estimated extent of dissolved methyl tert-butyl ether (MTBE) in groundwater based on data from April 2013; dashed where inferred
- Estimated extent of dissolved benzene in groundwater based on data from April 2013; dashed where inferred
- Estimated extent of measurable light nonaqueousphase hydrocarbons (LNAPL, free product) on groundwater based on data from April 2013; dashed where inferred

Notes:

- COPCs =
 - 1,2,4-Trimethylbenzene (1,2,4-TMB)
 - 1,2-Dichloroethane (1,2-DCA)
 - 1,3,5-Trimethylbenzene (1,3,5-TMB)
 - 2-Propanol
 - Benzene
 - Ethylbenzene
 - Isopropylbenzene
 - m,p-Xylenes
 - Methyl Tert-Butyl Ether (MTBE)
 - n-Butylbenzene
 - n-Propylbenzene
 - o-Xylene
 - sec-Butylbenzene
 - Tertiary Butyl Alcohol (TBA)
 - Toluene
- Fixed laboratory samples collected at SVM-1, SVM-4 and SVM-5.
- ND = non-detect at the laboratory minimum detection limits

SVM0502PV03 = Sample ID
 8/12/2013 = Sample Date
 SVM-5 = Soil Probe Location ID
 15.5-16 = Sample Depth
 0.010 J = Result

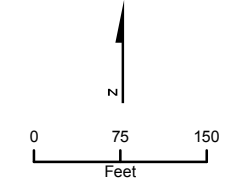


FIGURE 3
Soil Vapor Analytical Results
 SFPP Norwalk Pump Station
 Norwalk, California

Attachment A
Mobile Laboratory Analytical Reports



August 26, 2013

DAN JABLONSKI

CH2MHILL, LOS ANGELES

1000 Wilshire Blvd., 21st Floor

Los Angeles, CA 90017

RE: DEFENSE FUEL SUPPORT POINT, 15306 NORWALK BL'

Enclosed are the results of analyses for soil gas samples received by Environmental Support Technologies laboratory on 08/12/13 17:33-08/13/13 13:14. The analyses were performed according to the prescribed method as outlined by EPA 8260B. A shut in test was performed, leak test was performed, equipment blank was run, and selected purge volume was 3PV. If you have any questions concerning this report, please feel free to contact Project Manager.

Sincerely,

Dien Nguyen

Dien Nguyen

Laboratory Director

Environmental Support Technologies laboratories are certified by the California Department of Health Services (CDHS), Environmental Laboratory Accreditation Program (ELAP) No's. 2772, 2773, and 2767.

16510 Aston Street, Irvine, California 92606
Telephone: (949) 679-9500 Fax: (949) 679-9501



CH2MHILL, LOS ANGELES
1000 Wilshire Blvd., 21st Floor
Los Angeles, CA 90017

Project: DEFENSE FUEL SUPPORT POINT, 15306 NORWALK BLVD.
Project Number: EST2906
Project Manager: DAN JABLONSKI

Reported:
26-Aug-13 14:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Analyzed
Equipment Blank	3H31201-01	Air	12-Aug-13 07:05	12-Aug-13 07:21
SVM0502PV01	3H31201-02	Air	12-Aug-13 08:15	12-Aug-13 08:32
SVM0502PV03	3H31201-03	Air	12-Aug-13 08:45	12-Aug-13 08:59
SVM0502PV10	3H31201-04	Air	12-Aug-13 09:10	12-Aug-13 09:25
SVM0501PV03	3H31201-05	Air	12-Aug-13 10:00	12-Aug-13 10:16
SVM0801PV03	3H31201-06	Air	12-Aug-13 10:35	12-Aug-13 10:45
SVM0802PV03	3H31201-07	Air	12-Aug-13 11:00	12-Aug-13 11:20
SVM0701PV03	3H31201-08	Air	12-Aug-13 11:40	12-Aug-13 11:50
SVM0702PV03	3H31201-09	Air	12-Aug-13 12:00	12-Aug-13 12:16
SVM1002PV03	3H31201-10	Air	12-Aug-13 12:35	12-Aug-13 12:45
SVM0601PV03	3H31201-11	Air	12-Aug-13 13:10	12-Aug-13 13:25
SVM0602PV03	3H31201-12	Air	12-Aug-13 13:40	12-Aug-13 13:53
SVM0101PV03	3H31201-13	Air	12-Aug-13 14:20	12-Aug-13 14:33
SVM0102PV03	3H31201-14	Air	12-Aug-13 14:45	12-Aug-13 14:59
Equipment Blank	3H31301-01	Air	13-Aug-13 06:20	13-Aug-13 06:32
SVM0401PV03	3H31301-02	Air	13-Aug-13 07:30	13-Aug-13 07:43
SVM0402PV03	3H31301-03	Air	13-Aug-13 08:20	13-Aug-13 08:34
SVM0301PV03	3H31301-04	Air	13-Aug-13 09:00	13-Aug-13 09:14
SVM0302PV03	3H31301-05	Air	13-Aug-13 09:30	13-Aug-13 09:42
SVM0901PV03	3H31301-06	Air	13-Aug-13 11:25	13-Aug-13 11:37
SVM0902PV03	3H31301-07	Air	13-Aug-13 12:00	13-Aug-13 12:13

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



CH2MHILL, LOS ANGELES
 1000 Wilshire Blvd., 21st Floor
 Los Angeles, CA 90017

Project: DEFENSE FUEL SUPPORT POINT, 15306 NORWALK BLVD.
 Project Number: EST2906
 Project Manager: DAN JABLONSKI

Reported:
 26-Aug-13 14:35

Volatile Organic Compounds
Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Equipment Blank (3H31201-01) Air Sampled: 08/12/13 07:05 Analyzed: 08/12/13 07:21									
Benzene	ND	0.020	ug/l	1	33H1201	08/12/13	08/12/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	ND	0.020	"	"	"	"	"	"	
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		96.5 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.4 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.4 %	75-125		"	"	"	"	
SVM0502PV01 (3H31201-02) Air Sampled: 08/12/13 08:15 Analyzed: 08/12/13 08:32									
Benzene	ND	0.020	ug/l	1	33H1201	08/12/13	08/12/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	0.010	0.020	"	"	"	"	"	"	J
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		83.6 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		107 %	75-125		"	"	"	"	

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CH2MHILL, LOS ANGELES
1000 Wilshire Blvd., 21st Floor
Los Angeles, CA 90017

Project: DEFENSE FUEL SUPPORT POINT, 15306 NORWALK BLVD.
Project Number: EST2906
Project Manager: DAN JABLONSKI

Reported:
26-Aug-13 14:35

Volatile Organic Compounds
Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SVM0502PV01 (3H31201-02) Air Sampled: 08/12/13 08:15 Analyzed: 08/12/13 08:32									
<i>Surrogate: 4-Bromofluorobenzene</i>		89.8 %	75-125		33H1201	08/12/13	08/12/13	EPA 8260B	
SVM0502PV03 (3H31201-03) Air Sampled: 08/12/13 08:45 Analyzed: 08/12/13 08:59									
Benzene	ND	0.020	ug/l	1	33H1201	08/12/13	08/12/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	0.010	0.020	"	"	"	"	"	"	J
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		84.7 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		107 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		90.5 %	75-125		"	"	"	"	
SVM0502PV10 (3H31201-04) Air Sampled: 08/12/13 09:10 Analyzed: 08/12/13 09:25									
Benzene	ND	0.020	ug/l	1	33H1201	08/12/13	08/12/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	0.010	0.020	"	"	"	"	"	"	J
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	

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CH2MHILL, LOS ANGELES
 1000 Wilshire Blvd., 21st Floor
 Los Angeles, CA 90017

Project: DEFENSE FUEL SUPPORT POINT, 15306 NORWALK BLVD.
 Project Number: EST2906
 Project Manager: DAN JABLONSKI

Reported:
 26-Aug-13 14:35

Volatile Organic Compounds
Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SVM0502PV10 (3H31201-04) Air Sampled: 08/12/13 09:10 Analyzed: 08/12/13 09:25									
2-Propanol	ND	0.29	ug/l	1	33H1201	08/12/13	08/12/13	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>		77.9 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		108 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		89.8 %	75-125		"	"	"	"	
SVM0501PV03 (3H31201-05) Air Sampled: 08/12/13 10:00 Analyzed: 08/12/13 10:16									
Benzene	ND	0.020	ug/l	1	33H1201	08/12/13	08/12/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	0.010	0.020	"	"	"	"	"	"	J
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		86.2 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		110 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.8 %	75-125		"	"	"	"	

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CH2MHILL, LOS ANGELES
 1000 Wilshire Blvd., 21st Floor
 Los Angeles, CA 90017

Project: DEFENSE FUEL SUPPORT POINT, 15306 NORWALK BLVD.
 Project Number: EST2906
 Project Manager: DAN JABLONSKI

Reported:
 26-Aug-13 14:35

Volatile Organic Compounds
Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SVM0801PV03 (3H31201-06) Air Sampled: 08/12/13 10:35 Analyzed: 08/12/13 10:45									
Benzene	ND	0.020	ug/l	1	33H1201	08/12/13	08/12/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	ND	0.020	"	"	"	"	"	"	
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		88.8 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		101 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.7 %	75-125		"	"	"	"	
SVM0802PV03 (3H31201-07) Air Sampled: 08/12/13 11:00 Analyzed: 08/12/13 11:20									
Benzene	ND	0.020	ug/l	1	33H1201	08/12/13	08/12/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	ND	0.020	"	"	"	"	"	"	
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		90.6 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		102 %	75-125		"	"	"	"	

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 1000 Wilshire Blvd., 21st Floor
 Los Angeles, CA 90017

Project: DEFENSE FUEL SUPPORT POINT, 15306 NORWALK BLVD.
 Project Number: EST2906
 Project Manager: DAN JABLONSKI

Reported:
 26-Aug-13 14:35

Volatile Organic Compounds
Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SVM0802PV03 (3H31201-07) Air Sampled: 08/12/13 11:00 Analyzed: 08/12/13 11:20									
<i>Surrogate: 4-Bromofluorobenzene</i>		96.2 %	75-125		33H1201	08/12/13	08/12/13	EPA 8260B	
SVM0701PV03 (3H31201-08) Air Sampled: 08/12/13 11:40 Analyzed: 08/12/13 11:50									
Benzene	ND	0.020	ug/l	1	33H1201	08/12/13	08/12/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	ND	0.020	"	"	"	"	"	"	
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		97.4 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		100 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.1 %	75-125		"	"	"	"	
SVM0702PV03 (3H31201-09) Air Sampled: 08/12/13 12:00 Analyzed: 08/12/13 12:16									
Benzene	ND	0.020	ug/l	1	33H1201	08/12/13	08/12/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	ND	0.020	"	"	"	"	"	"	
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	

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Project: DEFENSE FUEL SUPPORT POINT, 15306 NORWALK BLVD.
 Project Number: EST2906
 Project Manager: DAN JABLONSKI

Reported:
 26-Aug-13 14:35

Volatile Organic Compounds
Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SVM0702PV03 (3H31201-09) Air Sampled: 08/12/13 12:00 Analyzed: 08/12/13 12:16									
2-Propanol	ND	0.29	ug/l	1	33H1201	08/12/13	08/12/13	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>		91.4 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.1 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.6 %	75-125		"	"	"	"	
SVM1002PV03 (3H31201-10) Air Sampled: 08/12/13 12:35 Analyzed: 08/12/13 12:45									
Benzene	ND	0.020	ug/l	1	33H1201	08/12/13	08/12/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	ND	0.020	"	"	"	"	"	"	
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		95.7 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		103 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.8 %	75-125		"	"	"	"	

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Reported:
26-Aug-13 14:35

Volatile Organic Compounds
Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SVM0601PV03 (3H31201-11) Air Sampled: 08/12/13 13:10 Analyzed: 08/12/13 13:25									
Benzene	ND	0.020	ug/l	1	33H1201	08/12/13	08/12/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	ND	0.020	"	"	"	"	"	"	
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		97.8 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.3 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %	75-125		"	"	"	"	
SVM0602PV03 (3H31201-12) Air Sampled: 08/12/13 13:40 Analyzed: 08/12/13 13:53									
Benzene	ND	0.020	ug/l	1	33H1201	08/12/13	08/12/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	ND	0.020	"	"	"	"	"	"	
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		89.7 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		105 %	75-125		"	"	"	"	

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Reported:
26-Aug-13 14:35

Volatile Organic Compounds
Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SVM0602PV03 (3H31201-12) Air Sampled: 08/12/13 13:40 Analyzed: 08/12/13 13:53									
<i>Surrogate: 4-Bromofluorobenzene</i>		93.7 %	75-125		33H1201	08/12/13	08/12/13	EPA 8260B	
SVM0101PV03 (3H31201-13) Air Sampled: 08/12/13 14:20 Analyzed: 08/12/13 14:33									
Benzene	ND	0.020	ug/l	1	33H1201	08/12/13	08/12/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	ND	0.020	"	"	"	"	"	"	
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		96.3 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.9 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %	75-125		"	"	"	"	
SVM0102PV03 (3H31201-14) Air Sampled: 08/12/13 14:45 Analyzed: 08/12/13 14:59									
Benzene	ND	0.020	ug/l	1	33H1201	08/12/13	08/12/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	ND	0.020	"	"	"	"	"	"	
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	

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Reported:
 26-Aug-13 14:35

Volatile Organic Compounds
Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SVM0102PV03 (3H31201-14) Air Sampled: 08/12/13 14:45 Analyzed: 08/12/13 14:59									
2-Propanol	ND	0.29	ug/l	1	33H1201	08/12/13	08/12/13	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>		96.0 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		102 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.1 %	75-125		"	"	"	"	
Equipment Blank (3H31301-01) Air Sampled: 08/13/13 06:20 Analyzed: 08/13/13 06:32									
Benzene	ND	0.020	ug/l	1	33H1301	08/13/13	08/13/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	ND	0.020	"	"	"	"	"	"	
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		96.9 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.0 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.6 %	75-125		"	"	"	"	

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26-Aug-13 14:35

Volatile Organic Compounds
Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SVM0401PV03 (3H31301-02) Air Sampled: 08/13/13 07:30 Analyzed: 08/13/13 07:43									
Benzene	ND	0.020	ug/l	1	33H1301	08/13/13	08/13/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	ND	0.020	"	"	"	"	"	"	
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		86.7 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		102 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.6 %	75-125		"	"	"	"	
SVM0402PV03 (3H31301-03) Air Sampled: 08/13/13 08:20 Analyzed: 08/13/13 08:34									
Benzene	ND	0.020	ug/l	1	33H1301	08/13/13	08/13/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	ND	0.020	"	"	"	"	"	"	
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		92.3 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.7 %	75-125		"	"	"	"	

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Reported:
26-Aug-13 14:35

Volatile Organic Compounds
Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SVM0402PV03 (3H31301-03) Air Sampled: 08/13/13 08:20 Analyzed: 08/13/13 08:34									
<i>Surrogate: 4-Bromofluorobenzene</i>		95.3 %	75-125		33H1301	08/13/13	08/13/13	EPA 8260B	
SVM0301PV03 (3H31301-04) Air Sampled: 08/13/13 09:00 Analyzed: 08/13/13 09:14									
Benzene	ND	0.020	ug/l	1	33H1301	08/13/13	08/13/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	ND	0.020	"	"	"	"	"	"	
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		90.8 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		101 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.9 %	75-125		"	"	"	"	
SVM0302PV03 (3H31301-05) Air Sampled: 08/13/13 09:30 Analyzed: 08/13/13 09:42									
Benzene	ND	0.020	ug/l	1	33H1301	08/13/13	08/13/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	ND	0.020	"	"	"	"	"	"	
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	

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Project: DEFENSE FUEL SUPPORT POINT, 15306 NORWALK BLVD.
 Project Number: EST2906
 Project Manager: DAN JABLONSKI

Reported:
 26-Aug-13 14:35

Volatile Organic Compounds
Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SVM0302PV03 (3H31301-05) Air Sampled: 08/13/13 09:30 Analyzed: 08/13/13 09:42									
2-Propanol	ND	0.29	ug/l	1	33H1301	08/13/13	08/13/13	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>		92.1 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.8 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %	75-125		"	"	"	"	
SVM0901PV03 (3H31301-06) Air Sampled: 08/13/13 11:25 Analyzed: 08/13/13 11:37									
Benzene	ND	0.020	ug/l	1	33H1301	08/13/13	08/13/13	EPA 8260B	
Ethylbenzene	ND	0.020	"	"	"	"	"	"	
Toluene	ND	0.020	"	"	"	"	"	"	
ortho-Xylene	ND	0.020	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020	"	"	"	"	"	"	
Isopropylbenzene	ND	0.020	"	"	"	"	"	"	
n-Butylbenzene	ND	0.020	"	"	"	"	"	"	
n-Propylbenzene	ND	0.020	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020	"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0	"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		87.8 %	75-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		107 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.8 %	75-125		"	"	"	"	

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CH2MHILL, LOS ANGELES
 1000 Wilshire Blvd., 21st Floor
 Los Angeles, CA 90017

Project: DEFENSE FUEL SUPPORT POINT, 15306 NORWALK BLVD.
 Project Number: EST2906
 Project Manager: DAN JABLONSKI

Reported:
 26-Aug-13 14:35

Volatile Organic Compounds
Environmental Support Technologies

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
SVM0902PV03 (3H31301-07) Air Sampled: 08/13/13 12:00 Analyzed: 08/13/13 12:13										
Benzene	ND	0.020		ug/l	1	33H1301	08/13/13	08/13/13	EPA 8260B	
Ethylbenzene	ND	0.020		"	"	"	"	"	"	
Toluene	ND	0.020		"	"	"	"	"	"	
ortho-Xylene	ND	0.020		"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.020		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.020		"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.020		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.020		"	"	"	"	"	"	
Isopropylbenzene	ND	0.020		"	"	"	"	"	"	
n-Butylbenzene	ND	0.020		"	"	"	"	"	"	
n-Propylbenzene	ND	0.020		"	"	"	"	"	"	
sec-Butylbenzene	ND	0.020		"	"	"	"	"	"	
Methyl tert-butyl ether (MtBE)	ND	1.0		"	"	"	"	"	"	
tert-Butanol (TBA)	ND	20		"	"	"	"	"	"	
2-Propanol	ND	0.29		"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		<i>108 %</i>		<i>75-125</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>97.4 %</i>		<i>75-125</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>75-125</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

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CH2MHILL, LOS ANGELES
1000 Wilshire Blvd., 21st Floor
Los Angeles, CA 90017

Project: DEFENSE FUEL SUPPORT POINT, 15306 NORWALK BLVD.
Project Number: EST2906
Project Manager: DAN JABLONSKI

Reported:
26-Aug-13 14:35

Volatile Organic Compounds - Quality Control Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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Batch 33H1201 - Volatiles

Blank (33H1201-BLK1)

Prepared & Analyzed: 08/12/13

Benzene	ND	0.020	ug/l						
Ethylbenzene	ND	0.020	"						
Toluene	ND	0.020	"						
ortho-Xylene	ND	0.020	"						
meta- and para-Xylenes	ND	0.020	"						
1,2,4-Trimethylbenzene	ND	0.020	"						
1,2-Dichloroethane	ND	0.020	"						
1,3,5-Trimethylbenzene	ND	0.020	"						
Isopropylbenzene	ND	0.020	"						
n-Butylbenzene	ND	0.020	"						
n-Propylbenzene	ND	0.020	"						
sec-Butylbenzene	ND	0.020	"						
Methyl tert-butyl ether (MtBE)	ND	1.0	"						
tert-Butanol (TBA)	ND	20	"						
2-Propanol	ND	0.29	"						
<i>Surrogate: Dibromofluoromethane</i>	2.43		"	2.50		97.0	75-125		
<i>Surrogate: Toluene-d8</i>	2.51		"	2.50		100	75-125		
<i>Surrogate: 4-Bromofluorobenzene</i>	2.41		"	2.50		96.3	75-125		

LCS (33H1201-BS1)

Prepared & Analyzed: 08/12/13

Benzene	11.6	0.020	ug/l	12.5		93.0	79-118		
Ethylbenzene	11.0	0.020	"	12.5		88.2	83-125		
Toluene	11.6	0.020	"	12.5		92.4	70-115		
ortho-Xylene	12.2	0.020	"	12.5		98.0	85-115		
meta- and para-Xylenes	24.1	0.020	"	25.0		96.3	83-115		
1,2,4-Trimethylbenzene	11.8	0.020	"	12.5		94.6	76-140		
1,2-Dichloroethane	12.3	0.020	"	12.5		98.1	75-131		
1,3,5-Trimethylbenzene	11.4	0.020	"	12.5		91.0	78-125		
Isopropylbenzene	11.7	0.020	"	12.5		93.5	85-116		
n-Butylbenzene	12.0	0.020	"	12.5		95.8	60-149		
n-Propylbenzene	11.3	0.020	"	12.5		90.2	77-129		
sec-Butylbenzene	12.0	0.020	"	12.5		95.8	78-128		
Methyl tert-butyl ether (MtBE)	31.8	1.0	"	25.0		127	85-135		

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CH2MHILL, LOS ANGELES
 1000 Wilshire Blvd., 21st Floor
 Los Angeles, CA 90017

Project: DEFENSE FUEL SUPPORT POINT, 15306 NORWALK BLVD.
 Project Number: EST2906
 Project Manager: DAN JABLONSKI

Reported:
 26-Aug-13 14:35

Volatile Organic Compounds - Quality Control
Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 33H1201 - Volatiles

LCS (33H1201-BS1)

Prepared & Analyzed: 08/12/13

tert-Butanol (TBA)	76.3	20	ug/l	125		61.0	61-159			
Surrogate: Dibromofluoromethane	12.5		"	12.5		100	75-125			
Surrogate: Toluene-d8	12.3		"	12.5		98.3	75-125			
Surrogate: 4-Bromofluorobenzene	12.1		"	12.5		97.0	75-125			

Duplicate (33H1201-DUP1)

Source: 3H31201-04

Prepared & Analyzed: 08/12/13

Benzene	ND	0.020	ug/l		ND				50	
Ethylbenzene	ND	0.020	"		ND				50	
Toluene	0.0100	0.020	"		0.0100			0.00	50	J
ortho-Xylene	ND	0.020	"		ND				50	
meta- and para-Xylenes	ND	0.020	"		ND				50	
1,2,4-Trimethylbenzene	ND	0.020	"		ND				50	
1,2-Dichloroethane	ND	0.020	"		ND				50	
1,3,5-Trimethylbenzene	ND	0.020	"		ND				50	
Isopropylbenzene	ND	0.020	"		ND				50	
n-Butylbenzene	ND	0.020	"		ND				50	
n-Propylbenzene	ND	0.020	"		ND				50	
sec-Butylbenzene	ND	0.020	"		ND				50	
Methyl tert-butyl ether (MtBE)	ND	1.0	"		ND				20	
tert-Butanol (TBA)	ND	20	"		ND				20	
2-Propanol	ND	0.29	"		ND				200	
Surrogate: Dibromofluoromethane	2.07		"	2.50		82.6	75-125			
Surrogate: Toluene-d8	2.64		"	2.50		105	75-125			
Surrogate: 4-Bromofluorobenzene	2.22		"	2.50		89.0	75-125			

Batch 33H1301 - Volatiles

Blank (33H1301-BLK1)

Prepared & Analyzed: 08/13/13

Benzene	ND	0.020	ug/l							
Ethylbenzene	ND	0.020	"							
Toluene	ND	0.020	"							
ortho-Xylene	ND	0.020	"							
meta- and para-Xylenes	ND	0.020	"							
1,2,4-Trimethylbenzene	ND	0.020	"							

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CH2MHILL, LOS ANGELES
 1000 Wilshire Blvd., 21st Floor
 Los Angeles, CA 90017

Project: DEFENSE FUEL SUPPORT POINT, 15306 NORWALK BLVD.
 Project Number: EST2906
 Project Manager: DAN JABLONSKI

Reported:
 26-Aug-13 14:35

Volatile Organic Compounds - Quality Control
Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 33H1301 - Volatiles

Blank (33H1301-BLK1)

Prepared & Analyzed: 08/13/13

1,2-Dichloroethane	ND	0.020	ug/l							
1,3,5-Trimethylbenzene	ND	0.020	"							
Isopropylbenzene	ND	0.020	"							
n-Butylbenzene	ND	0.020	"							
n-Propylbenzene	ND	0.020	"							
sec-Butylbenzene	ND	0.020	"							
Methyl tert-butyl ether (MtBE)	ND	1.0	"							
tert-Butanol (TBA)	ND	20	"							
2-Propanol	ND	0.29	"							
<i>Surrogate: Dibromofluoromethane</i>	2.42		"	2.50		96.9	75-125			
<i>Surrogate: Toluene-d8</i>	2.48		"	2.50		99.2	75-125			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.40		"	2.50		95.8	75-125			

LCS (33H1301-BS1)

Prepared & Analyzed: 08/13/13

Benzene	11.6	0.020	ug/l	12.5		92.4	79-118			
Ethylbenzene	10.8	0.020	"	12.5		86.7	83-125			
Toluene	11.6	0.020	"	12.5		92.5	70-115			
ortho-Xylene	11.9	0.020	"	12.5		95.0	85-115			
meta- and para-Xylenes	23.3	0.020	"	25.0		93.3	83-115			
1,2,4-Trimethylbenzene	11.3	0.020	"	12.5		90.3	76-140			
1,2-Dichloroethane	13.1	0.020	"	12.5		105	75-131			
1,3,5-Trimethylbenzene	11.0	0.020	"	12.5		88.3	78-125			
Isopropylbenzene	11.6	0.020	"	12.5		92.4	85-116			
n-Butylbenzene	11.7	0.020	"	12.5		93.8	60-149			
n-Propylbenzene	10.9	0.020	"	12.5		87.0	77-129			
sec-Butylbenzene	11.6	0.020	"	12.5		92.9	78-128			
Methyl tert-butyl ether (MtBE)	35.6	1.0	"	25.0		143	85-135			QL-H
tert-Butanol (TBA)	105	20	"	125		84.1	61-159			
<i>Surrogate: Dibromofluoromethane</i>	12.9		"	12.5		103	75-125			
<i>Surrogate: Toluene-d8</i>	12.3		"	12.5		98.3	75-125			
<i>Surrogate: 4-Bromofluorobenzene</i>	12.3		"	12.5		98.6	75-125			

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CH2MHILL, LOS ANGELES
 1000 Wilshire Blvd., 21st Floor
 Los Angeles, CA 90017

Project: DEFENSE FUEL SUPPORT POINT, 15306 NORWALK BLVD.
 Project Number: EST2906
 Project Manager: DAN JABLONSKI

Reported:
 26-Aug-13 14:35

Volatile Organic Compounds - Quality Control
Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 33H1301 - Volatiles

Duplicate (33H1301-DUP1)	Source: 3H31301-02			Prepared & Analyzed: 08/13/13						
Benzene	ND	0.020	ug/l		ND				50	
Ethylbenzene	ND	0.020	"		ND				50	
Toluene	ND	0.020	"		ND				50	
ortho-Xylene	ND	0.020	"		ND				50	
meta- and para-Xylenes	ND	0.020	"		ND				50	
1,2,4-Trimethylbenzene	ND	0.020	"		ND				50	
1,2-Dichloroethane	ND	0.020	"		ND				50	
1,3,5-Trimethylbenzene	ND	0.020	"		ND				50	
Isopropylbenzene	ND	0.020	"		ND				50	
n-Butylbenzene	ND	0.020	"		ND				50	
n-Propylbenzene	ND	0.020	"		ND				50	
sec-Butylbenzene	ND	0.020	"		ND				50	
Methyl tert-butyl ether (MtBE)	ND	1.0	"		ND				20	
tert-Butanol (TBA)	ND	20	"		ND				20	
2-Propanol	ND	0.29	"		ND				200	
<i>Surrogate: Dibromofluoromethane</i>	2.20		"	2.50		87.8	75-125			
<i>Surrogate: Toluene-d8</i>	2.63		"	2.50		105	75-125			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.39		"	2.50		95.6	75-125			

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CH2MHILL, LOS ANGELES
1000 Wilshire Blvd., 21st Floor
Los Angeles, CA 90017

Project: DEFENSE FUEL SUPPORT POINT, 15306 NORWALK BLVD.
Project Number: EST2906
Project Manager: DAN JABLONSKI

Reported:
26-Aug-13 14:35

Notes and Definitions

- QL-H The spike recovery was out high for the LCS and/or the LCSD; however the analyte was not detected in any of the analyzed samples.
- J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Attachment B
Fixed Laboratory Analytical Reports

August 26, 2013

Daniel Jablonski
CH2M HILL
155 Grand Avenue, Suite 1000
Oakland, CA 94612

TEL: (213)228-8271
FAX: (510) 622-9129

CA-ELAP No.:2676
NV Cert. No.:NV-009222007A

Workorder No.: N010793

RE: Norwalk Pump Station - KMEP

Attention: Daniel Jablonski

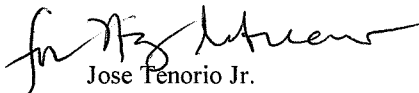
Enclosed are the results for sample(s) received on August 13, 2013 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

The attached report is the final hard copy pertaining to the subcontracted tests for the above project.

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

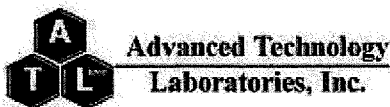
Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Jose Tenorio Jr.
Laboratory Director

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



3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Project: Norwalk Pump Station - KMEP
Lab Order: N010793

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.

Subcontracted Analyses:

Samples were subcontracted to Air Technology Laboratories- City of Industry,CA.





18501 E. Gale Ave., Suite 130
 City of Industry, CA 91748
 Ph: 626-964-4032
 FX: 626-964-5832

Project No.:
 Project Name: Norwalk Pump Station - KMFP
 Report To: Dan Jablonski
 Company: CH2M HILL
 Street: 1000 Wilshire Blvd. Ste 2100
 City/State/Zip: Los Angeles, CA. 90017
 Phone & Fax: 818-257-3630
 e-mail: djablon1@ch2m.com

CHAIN OF CUSTODY RECORD

TURNAROUND TIME
 Standard 48 hours
 Same Day 72 hours
 24 hours 96 hours
 Other: _____

DELIVERABLES PAGE: / OF 2
 Condition upon receipt:
 EDD Sealed Yes No
 EDF Intact Yes No
 LEVEL 3 Chilled _____ deg C
 LEVEL 4

BILLING
 P.O. No.:
 Bill to:

SAMPLE DATE	SAMPLE TIME	MATRIX	CONTAINER TYPE	ANALYSIS REQUEST			
				ASTM D	CO ₂	CO ₂	TO-15
8/12/13	0900	Air	Tedlar	X			
8/12/13	0943	Air	Suniva				
8/12/13	0950	Air	Tedlar	X			
8/12/13	1027		Tedlar	X			
	1055		Tedlar	X			
	1122		Tedlar	X			
	1156		Tedlar	X			
	1230		Tedlar	X			
	1310		Tedlar	X			
			Tedlar	X			

LAB USE ONLY	SAMPLE IDENTIFICATION
	SVM0502 PV10
	SVM0501 PV03
	SVM0501 PV03
	SVM0001 PV03
	SVM0802 PV03
	SVM0701 PV03
	SVM0702 PV03
	SVM1002 PV03
	SVM0601 PV03
	SVM0602 PV03

COMMENTS
 See Joanne for TO-15 Analysis List,
 PL & MDC.
 Same as 7/13/12 sample event.

AUTHORIZATION TO PERFORM WORK
 SAMPLED BY: _____ DATE/TIME: 8/13/13 1215
 COMPANY: CH2M HILL

RECEIVED BY
 RECEIVED BY: [Signature] DATE/TIME: 8/13/13 1215
 RECEIVED BY: [Signature] DATE/TIME: 8/13/13 1015

RECEIVED BY
 RECEIVED BY: _____ DATE/TIME: _____

METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS (Courier) ATLI Other _____

DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy

Preservation: H=HCL N=None / Container: B=Bag C=Can V=VOA O=Other Rev. 03 - 5/7/09



18501 E. Gale Ave., Suite 130
 City of Industry, CA 91748
 Ph: 626-964-4032
 Fax: 626-964-5832

Project No.:

Project Name: Norwalk Pump Station-KMEP

Report To: Dan Jablonski

Company: CH2M HILL

Street: 1000 Wilshire Blvd, Ste 2100

City/State/Zip: Los Angeles, CA, 90017

Phone & Fax: 818-257-3630

e-mail: djablon1@ch2m.com

LAB USE ONLY

SAMPLE IDENTIFICATION

SVM0101PV03
 SVM0102PV03
 SVM0102PV03
 SVM0402 PV03
 SVM0401 PV03
 SVM0402 PV03
 SVM0301 PV03
 SVM0302 PV03
 SVM0901 PV03
 SVM0902 PV03

AUTHORIZATION TO PERFORM WORK

COMPANY
 CH2M HILL
 COMPANY

DATE/TIME
 8/13/13 1215
 DATE/TIME

SAMPLED BY

RELINQUISHED BY

RELINQUISHED BY

RELINQUISHED BY

RECEIVED BY

RECEIVED BY

RECEIVED BY

DATE/TIME
 8/13/13 1215
 DATE/TIME

DATE/TIME
 8/13/13 1215
 DATE/TIME

DATE/TIME
 DATE/TIME

METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATLI Other

DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy

Preservation: H=HCl N=None / Container: B=Bag C=Can V=VOA O=Other Rev. 03 - 5/7/09

CHAIN OF CUSTODY RECORD

PAGE: 2 OF 2

TURNAROUND TIME

Standard 48 hours
 Same Day 72 hours
 24 hours 96 hours
 Other: _____

DELIVERABLES

Condition upon receipt:
 Sealed Yes No
 Intact Yes No
 Chilled _____ deg C

ANALYSIS REQUEST

BILLING

P.O. No.:

Bill to:

Method ASTM D 1946
 (Methane, CO2, O2)
 TO-15

SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION
8/12/2013	1415	TEDLAR AIR	AIR	N
8/12/2013	1442	TEDLAR AIR	AIR	N
8/12/2013	1431	SUMMA AIR	AIR	N
8/13/13	0804	Tedlar Air	Air	N
8/13/13	0733	Tedlar Air	Air	N
8/13/13	0752	Summa Air	Air	N
	0904	Tedlar Air	Air	N
	0925	Tedlar Air	Air	N
	1127	Tedlar Air	Air	N
	1203	Tedlar Air	Air	N

COMMENTS

See Joann for TO-15 CUSH, PL 1 MDLS.
 Same as July 13 2012 TO-15
 analysis.



Advanced Technology Laboratories
 3151-3153 W. Post Rd., Las Vegas, NV 89118
 www.atl-labs.com
 TEL: 7023072659 FAX: 7023072691

CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

Subcontractor:

ATL Air Labs
 18501 E. Gale Ave, Suite 130
 City of Industry, CA 91748

TEL: (626) 964-4032
 FAX: (626) 964-5832
 Acct #:

Field Sampler: None Specified

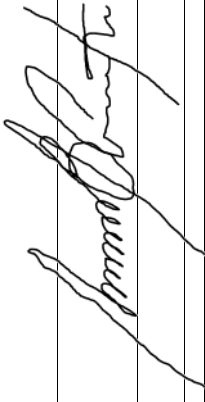
15-Aug-13

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests	
				ASTM D1946	EPA TO15
N010793-001A / SVM0502PV10	Air	8/12/2013 9:00:00 AM	AIRB	1	
N010793-002A / SVM0501PV03	Air	8/12/2013 9:43:00 AM	AIRC		1
N010793-003A / SVM0501PV03	Air	8/12/2013 9:50:00 AM	AIRB	1	
N010793-004A / SVM0801PV03	Air	8/12/2013 10:27:00 AM	AIRB	1	
N010793-005A / SVM0802PV03	Air	8/12/2013 10:55:00 AM	AIRB	1	
N010793-006A / SVM0701PV03	Air	8/12/2013 11:22:00 AM	AIRB	1	
N010793-007A / SVM0702PV03	Air	8/12/2013 11:56:00 AM	AIRB	1	
N010793-008A / SVM1002PV03	Air	8/12/2013 12:36:00 PM	AIRB	1	
N010793-009A / SVM0601PV03	Air	8/12/2013 1:10:00 PM	AIRB	1	
N010793-010A / SVM0602PV03	Air	8/12/2013	AIRB	1	
N010793-011A / SVM0101PV03	Air	8/12/2013 2:15:00 PM	AIRB	1	
N010793-012A / SVM0102PV03	Air	8/12/2013 2:42:00 PM	AIRB	1	
N010793-013A / SVM0102PV03	Air	8/12/2013 2:31:00 PM	AIRC		1
N010793-014A / SVM0402PV03	Air	8/13/2013 8:04:00 AM	AIRB	1	
N010793-015A / SVM0401PV03	Air	8/13/2013 7:33:00 AM	AIRB	1	
N010793-016A / SVM0402PV03	Air	8/13/2013 7:52:00 AM	AIRC		1
N010793-017A / SVM0301PV03	Air	8/13/2013 9:04:00 AM	AIRB	1	
N010793-018A / SVM0302PV03	Air	8/13/2013 9:25:00 AM	AIRB	1	

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#: N010793 For questions, call Marlon at (702)-307-2659. Please e-mail results to marlon@atl-labs.com by: Normal TAT

EPA TO15 Custom TAL; units in ug/L and ppbv; report with J values.
 ASTM D1946 CH4, CO2, and O2 only

Relinquished by: 	Date/Time: 8/13/2013 @ 17:52 hrs
Received by: _____	Date/Time: _____
Relinquished by: _____	Date/Time: _____
Received by: _____	Date/Time: _____



Advanced Technology Laboratories

3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 FAX: 7023072691

CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

Subcontractor:

ATL Air Labs
18501 E. Gale Ave, Suite 130
City of Industry, CA 91748

TEL: (626) 964-4032
FAX: (626) 964-5832
Acct #:

Field Sampler: None Specified

15-Aug-13

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests	
				ASTM D1946	EPA TO15
N010793-019A / SVM0901PV03	Air	8/13/2013 11:27:00 AM	AIRB	1	
N010793-020A / SVM0902PV03	Air	8/13/2013 12:03:00 PM	AIRB	1	

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#: N010793 For questions, call Marlon at (702)-307-2659. Please e-mail results to marlon@atl-labs.com by: Normal TAT

EPA TO15 Custom TAL; units in ug/L and ppbv; report with J values.
ASTM D1946 CH4, CO2, and O2 only

Relinquished by:	Date/Time
	8/13/2013 @ 1:52 hrs
Received by:	
Relinquished by:	

August 22, 2013

Advanced Technology Labs, Inc.
ATTN: Marlon Cartin
3151-3153 W. Post Rd.
Las Vegas, NV 89118



ADE-1461
EPA Methods TO-3,
TO14A, TO15 SIM & Scan,
ASTM D1946



LA Cert 04140
EPA Methods TO3, TO14A, TO15, 25C/3C,
RSK-175
TX Cert T104704450-09-TX
EPA Methods TO14A, TO15

LABORATORY TEST RESULTS

Project Reference: N010793
Lab Number: E081304-01/20

Enclosed are results for sample(s) received 8/13/13 by Air Technology Laboratories. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

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

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

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

EO81304-01120

CHAIN-OF-CUSTODY RECORD

Advanced Technology Laboratories

3151-3153 W Post Rd., Las Vegas, NV 89118

www.atl-labs.com

TEL: 7023072659

FAX: 7023072691



QC Level: RTNE

Subcontractor:

ATL Air Labs

18501 E. Gale Ave, Suite 130

City of Industry, CA 91748

TEL: (626) 964-4032

FAX: (626) 964-5832

Acct #:

Field Sampler: None Specified

15-Aug-13

Sample ID	Matrix	Date Collected	Bottle Type	ASTM D1946	Requested Tests	
					ASTM D1946	EPA TO15
-01- N010793-001A / SVM0502PV10	Air	8/12/2013 9:00:00 AM	AIRB	1		
-02- N010793-002A / SVM0501PV03	Air	8/12/2013 9:43:00 AM	AIRC		1	
-03- N010793-003A / SVM0501PV03	Air	8/12/2013 9:50:00 AM	AIRB	1		
-04- N010793-004A / SVM0801PV03	Air	8/12/2013 10:27:00 AM	AIRB	1		
-05- N010793-005A / SVM0802PV03	Air	8/12/2013 10:55:00 AM	AIRB	1		
-06- N010793-006A / SVM0701PV03	Air	8/12/2013 11:22:00 AM	AIRB	1		
-07- N010793-007A / SVM0702PV03	Air	8/12/2013 11:56:00 AM	AIRB	1		
-08- N010793-008A / SVM1002PV03	Air	8/12/2013 12:36:00 PM	AIRB	1		
-09- N010793-009A / SVM0601PV03	Air	8/12/2013 1:10:00 PM	AIRB	1		
-10- N010793-010A / SVM0602PV03	Air	8/12/2013 1:10:00 PM	AIRB	1		
-11- N010793-011A / SVM0101PV03	Air	8/12/2013	AIRB	1		
-12- N010793-012A / SVM0102PV03	Air	8/12/2013 2:15:00 PM	AIRB	1		
-13- N010793-013A / SVM0102PV03	Air	8/12/2013 2:42:00 PM	AIRB	1		
-14- N010793-014A / SVM0402PV03	Air	8/12/2013 2:31:00 PM	AIRC		1	
-15- N010793-015A / SVM0401PV03	Air	8/13/2013 8:04:00 AM	AIRB	1		
-16- N010793-016A / SVM0402PV03	Air	8/13/2013 7:33:00 AM	AIRB	1		
-17- N010793-017A / SVM0301PV03	Air	8/13/2013 7:52:00 AM	AIRC		1	
-18- N010793-018A / SVM0302PV03	Air	8/13/2013 9:04:00 AM	AIRB	1		
-19- N010793-019A / SVM0302PV03	Air	8/13/2013 9:25:00 AM	AIRB	1		

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#: N010793 For questions, call Marlon at (702)-307-2659. Please e-mail results to marlon@atl-labs.com by: Normal TAT

EPA TO15 Custom TAL; units in ug/L and ppbv; report with J values.
ASTM D1946 CH4, CO2, and O2 only

Relinquished by:	Date/Time: 8/13/2013 @ 1752 hrs
Relinquished by: _____	Date/Time: _____
Received by:	Date/Time: 8/15/13 1100
Received by: _____	Date/Time: _____

EO 813 04-01/20

CHAIN-OF-CUSTODY RECORD

Advanced Technology Laboratories

3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 FAX: 7023072691



QC Level: RTNE

Subcontractor:

ATL Air Labs
18501 E. Gale Ave, Suite 130
City of Industry, CA 91748

TEL: (626) 964-4032
FAX: (626) 964-5832
Acct #:

Field Sampler: None Specified

15-Aug-13

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests	
				ASTM D1946	EPA TO15
N010793-019A / SVM0901PV03	Air	8/13/2013 11:27:00 AM	AIRB	1	
N010793-020A / SVM0902PV03	Air	8/13/2013 12:03:00 PM	AIRB	1	

- 19
- 20

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO# N010793 For questions, call Marion at (702)-307-2659. Please e-mail results to marion@atl-labs.com by: Normal TAT

EPA TO15 Custom TAL; units in ug/L and ppbv; report with J values.
ASTM D1946 CH4, CO2, and O2 only

Relinquished by:	Date/Time
	8/13/2013 @ 1752 Hrs
Relinquished by:	Date/Time
	8/15/13 1120

Client: Advanced Technology Laboratories
Attn: Marlon Cartin
Project Name: NA
Project No.: N010793
Date Received: 08/13/13
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	E081304-01	E081304-03	E081304-04	E081304-05				
Client Sample I.D.:	N010793-001A / SVM0502PV10	N010793-003A / SVM0501PV03	N010793-004A / SVM0801PV03	N010793-005A / SVM0802PV03				
Date Sampled:	08/12/13	08/12/13	08/12/13	08/12/13				
Date Analyzed:	08/14/13	08/14/13	08/14/13	08/14/13				
QC Batch No.:	130814GC8A1	130814GC8A1	130814GC8A1	130814GC8A1				
Analyst Initials:	IR	IR	IR	IR				
Dilution Factor:	1.0	1.0	1.0	1.0				
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
Carbon Dioxide	0.22	0.010	0.16	0.010	0.23	0.010	0.18	0.010
Oxygen/Argon	21	0.50	19	0.50	20	0.50	21	0.50
Methane	0.0093	0.0010	ND	0.0010	ND	0.0010	ND	0.0010

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

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date 8-27-13

The cover letter is an integral part of this analytical report



Client: Advanced Technology Laboratories
Attn: Marlon Cartin
Project Name: NA
Project No.: N010793
Date Received: 08/13/13
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	E081304-06	E081304-07	E081304-08	E081304-09				
Client Sample I.D.:	N010793-006A / SVM0701PV03	N010793-007A / SVM0702PV03	N010793-008A / SVM1002PV03	N010793-009A / SVM0601PV03				
Date Sampled:	08/12/13	08/12/13	08/12/13	08/12/13				
Date Analyzed:	08/14/13	08/14/13	08/14/13	08/14/13				
QC Batch No.:	130814GC8A1	130814GC8A1	130814GC8A1	130814GC8A1				
Analyst Initials:	IR	IR	IR	IR				
Dilution Factor:	1.0	1.0	1.0	1.0				
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Carbon Dioxide	0.92	0.010	0.045	0.010	6.3	0.010	0.21	0.010
Oxygen/Argon	20	0.50	22	0.50	12	0.50	21	0.50
Methane	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010

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

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date 8-21-13

The cover letter is an integral part of this analytical report



Client: Advanced Technology Laboratories
Attn: Marlon Cartin
Project Name: NA
Project No.: N010793
Date Received: 08/13/13
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	E081304-10	E081304-11	E081304-12	E081304-14				
Client Sample I.D.:	N010793-010A / SVM0602PV03	N010793-011A / SVM0101PV03	N010793-012A / SVM0102PV03	N010793-014A / SVM0402PV03				
Date Sampled:	08/12/13	08/12/13	08/12/13	08/13/13				
Date Analyzed:	08/14/13	08/14/13	08/14/13	08/14/13				
QC Batch No.:	130814GC8A1	130814GC8A1	130814GC8A1	130814GC8A1				
Analyst Initials:	IR	IR	IR	IR				
Dilution Factor:	1.0	1.0	1.0	1.0				
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Carbon Dioxide	0.14	0.010	0.25	0.010	0.20	0.010	0.43	0.010
Oxygen/Argon	18	0.50	22	0.50	21	0.50	21	0.50
Methane	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010

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

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date 8-21-13

The cover letter is an integral part of this analytical report



Client: Advanced Technology Laboratories
Attn: Marlon Cartin
Project Name: NA
Project No.: N010793
Date Received: 08/13/13
Matrix: Air
Reporting Units: % v/v

ASTM D1946									
Lab No.:	E081304-15		E081304-17		E081304-18		E081304-19		
Client Sample I.D.:	N010793-015A / SVM0401PV03		N010793-017A / SVM0301PV03		N010793-018A / SVM0302PV03		N010793-019A / SVM0901PV03		
Date Sampled:	08/13/13		08/13/13		08/13/13		08/13/13		
Date Analyzed:	08/14/13		08/14/13		08/14/13		08/14/13		
QC Batch No.:	130814GC8A1		130814GC8A1		130814GC8A1		130814GC8A1		
Analyst Initials:	IR		IR		IR		IR		
Dilution Factor:	1.0		1.0		1.0		1.0		
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL	
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
Carbon Dioxide	0.24	0.010	0.28	0.010	0.27	0.010	0.82	0.010	
Oxygen/Argon	22	0.50	21	0.50	20	0.50	21	0.50	
Methane	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	

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

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date 8-21-13

The cover letter is an integral part of this analytical report



Client: Advanced Technology Laboratories
Attn: Marlon Cartin
Project Name: NA
Project No.: N010793
Date Received: 08/13/13
Matrix: Air
Reporting Units: % v/v

ASTM D1946							
Lab No.:	E081304-20						
Client Sample I.D.:	N010793-020A / SVM0902PV03						
Date Sampled:	08/13/13						
Date Analyzed:	08/14/13						
QC Batch No.:	130814GC8A1						
Analyst Initials:	IR						
Dilution Factor:	1.0						
ANALYTE	Result % v/v	RL % v/v					
Carbon Dioxide	5.6	0.010					
Oxygen/Argon	16	0.50					
Methane	ND	0.0010					

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

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date 8-27-13

The cover letter is an integral part of this analytical report



QC Batch No.: 130814GC8A1


Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank	LCS	LCSD					
Date Analyzed:	08/14/13	08/14/13	08/14/13					
Analyst Initials:	IR	IR	IR					
Datafile:	14aug020	14aug017	14aug018					
Dilution Factor:	1.0	1.0	1.0					
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Carbon Dioxide	ND	0.010	97	70-130%	95	70-130%	1.3	<30
Oxygen/Argon	ND	0.50	102	70-130%	101	70-130%	1.5	<30
Methane	ND	0.0010	125	70-130%	125	70-130%	0.2	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: 
Mark J. Johnson
Operations Manager

Date: 8-27-13

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




Client: Advanced Technology Laboratories
 Attn: Marlon Cartin
 Project Name: NA
 Project No.: N010793
 Date Received: 08/13/13
 Matrix: Air
 Reporting Units: ug/L

EPA Method TO15

Lab No.:	E081304-02			E081304-13			E081304-16		
Client Sample I.D.:	N010793-002A / SVM0501PV03			N010793-013A / SVM0102PV03			N010793-016A / SVM0402PV03		
Date Sampled:	08/12/13			08/12/13			08/13/13		
Date Analyzed:	08/14/13			08/14/13			08/14/13		
QC Batch No.:	130814MS2A1			130814MS2A1			130814MS2A1		
Analyst Initials:	DT			DT			DT		
Dilution Factor:	1.9			1.8			2.0		
ANALYTE	Result ug/L	RL ug/L	MDL ug/L	Result ug/L	RL ug/L	MDL ug/L	Result ug/L	RL ug/L	MDL ug/L
t-Butyl Methyl Ether (MTBE)	ND	0.0070	0.0014	ND	0.0066	0.0013	ND	0.0071	0.0014
Benzene	0.0018 J	0.0062	0.0012	ND	0.0059	0.0012	0.0013 J	0.0063	0.0012
1,2-Dichloroethane	ND	0.0079	0.0021	ND	0.0074	0.0020	ND	0.0080	0.0021
Toluene	0.0094	0.0073	0.00093	0.0011 J	0.0069	0.00088	0.0090	0.0075	0.00095
Ethylbenzene	0.0032 J	0.0084	0.00026	ND	0.0080	0.00024	0.0020 J	0.0086	0.00026
p,&m-Xylene	0.0061 J	0.0084	0.0019	ND	0.0080	0.0018	0.0041 J	0.0086	0.0020
o-Xylene	0.0047 J	0.0084	0.0012	ND	0.0080	0.0011	0.0024 J	0.0086	0.0012
Isopropyl benzene	ND	0.0096	0.0013	ND	0.0090	0.0012	ND	0.0097	0.0013
n-Propyl Benzene	ND	0.0096	0.0011	ND	0.0090	0.0010	ND	0.0097	0.0011
1,3,5-Trimethylbenzene	ND	0.019	0.0011	ND	0.018	0.0010	ND	0.019	0.0011
1,2,4-Trimethylbenzene	0.0010 J	0.019	0.00030	ND	0.018	0.00029	0.00063 J	0.019	0.00031
sec-Butylbenzene	ND	0.011	0.0014	ND	0.010	0.0013	ND	0.011	0.0014
n-Butylbenzene	ND	0.011	0.0014	ND	0.010	0.0013	ND	0.011	0.0014
Isopropanol	0.012 J	0.024	0.0012	0.0018 J	0.023	0.0011	0.0053 J	0.024	0.0012
t-Butanol	ND	0.029	0.00093	ND	0.028	0.00088	ND	0.030	0.00095

Surrogate	Result	QC Criteria	Result	QC Criteria	Result	QC Criteria
1,2-Dichloroethane-d4	93%	70-130%	95%	70-130%	99%	70-130%
Toluene-d8	114%	70-130%	105%	70-130%	108%	70-130%
4-Bromofluorobenzene	96%	70-130%	94%	70-130%	90%	70-130%

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

Reviewed/Approved By: 
 Mark Johnson
 Operations Manager

Date 8-27-13

The cover letter is an integral part of this analytical report




Client: Advanced Technology Laboratories
 Attn: Marlon Cartin
 Project Name: NA
 Project No.: N010793
 Date Received: 08/13/13
 Matrix: Air
 Reporting Units: ppbv

EPA Method TO15

Lab No.:	E081304-02			E081304-13			E081304-16		
Client Sample I.D.:	N010793-002A / SVM0501PV03			N010793-013A / SVM0102PV03			N010793-016A / SVM0402PV03		
Date Sampled:	08/12/13			08/12/13			08/13/13		
Date Analyzed:	08/14/13			08/14/13			08/14/13		
QC Batch No.:	130814MS2A1			130814MS2A1			130814MS2A1		
Analyst Initials:	DT			DT			DT		
Dilution Factor:	1.9			1.8			2.0		
ANALYTE	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
t-Butyl Methyl Ether (MTBE)	ND	1.9	0.39	ND	1.8	0.36	ND	2.0	0.39
Benzene	0.57 J	1.9	0.38	ND	1.8	0.36	0.41 J	2.0	0.39
1,2-Dichloroethane	ND	1.9	0.51	ND	1.8	0.48	ND	2.0	0.52
Toluene	2.5	1.9	0.25	0.29 J	1.8	0.23	2.4	2.0	0.25
Ethylbenzene	0.73 J	1.9	0.059	ND	1.8	0.056	0.47 J	2.0	0.060
p,&m-Xylene	1.4 J	1.9	0.44	ND	1.8	0.42	0.95 J	2.0	0.45
o-Xylene	1.1 J	1.9	0.27	ND	1.8	0.25	0.55 J	2.0	0.27
Isopropyl benzene	ND	1.9	0.26	ND	1.8	0.24	ND	2.0	0.26
n-Propyl Benzene	ND	1.9	0.22	ND	1.8	0.20	ND	2.0	0.22
1,3,5-Trimethylbenzene	ND	3.9	0.22	ND	3.7	0.21	ND	4.0	0.22
1,2,4-Trimethylbenzene	0.21 J	3.9	0.062	ND	3.7	0.059	0.13 J	4.0	0.063
sec-Butylbenzene	ND	1.9	0.25	ND	1.8	0.24	ND	2.0	0.25
n-Butylbenzene	ND	1.9	0.25	ND	1.8	0.24	ND	2.0	0.26
Isopropanol	4.8 J	9.7	0.49	0.72 J	9.2	0.46	2.2 J	9.9	0.50
t-Butanol	ND	9.7	0.31	ND	9.2	0.29	ND	9.9	0.31

Surrogate	Result	QC Criteria	Result	QC Criteria	Result	QC Criteria
1,2-Dichloroethane-d4	93%	70-130%	95%	70-130%	99%	70-130%
Toluene-d8	114%	70-130%	105%	70-130%	108%	70-130%
4-Bromofluorobenzene	96%	70-130%	94%	70-130%	90%	70-130%

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

Reviewed/Approved By: 
 Mark Johnson
 Operations Manager

Date: 8-27-13

The cover letter is an integral part of this analytical report



QC Batch #: 130814MS2A1

Matrix: Air

EPA Method TO-14/TO-15											
Lab No:	Method Blank		LCS		LCSD						
Date Analyzed:	08/14/13		08/14/13		08/14/13						
Data File ID:	14AUG007.D		14AUG005.D		14AUG006.D						
Analyst Initials:	DT		DT		DT						
Dilution Factor:	0.2		1.0		1.0		Limits				
ANALYTE	Result ppbv	Spike Amount	Result ppbv	% Rec	Result ppbv	% Rec	RPD	Low %Rec	High %Rec	Max. RPD	Pass/Fail
1,1-Dichloroethene	0.0	10.0	10.4	104	10.4	104	0.5	70	130	30	Pass
Methylene Chloride	0.0	10.0	10.5	105	10.4	104	1.1	70	130	30	Pass
Trichloroethene	0.0	10.0	10.0	100	10.1	101	0.8	70	130	30	Pass
Toluene	0.0	10.0	10.4	104	10.3	103	1.3	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	10.6	106	10.6	106	0.4	70	130	30	Pass

RPD = Relative Percent Difference

Reviewed/Approved By:



Mark Johnson
Operations Manager

Date:

8-21-13

The cover letter is an integral part of this analytical report

